

ONE STOP SOLUTION FOR WIRES AND CABLES



Toll Free No: 1800 410 0000

www.kei-ind.com      /keicables

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Corporate Information

Board of Directors

Mr. Anil Gupta - Chairman-Cum-Managing Director
Mrs. Archana Gupta - Director
Mr. Akshit Diviaj Gupta - Whole-Time Director
Mr. Pawan Bholusaria - Director
Mr. K.G. Somani - Director
Mr. Vijay Bhushan - Director
Mr. Vikram Bhartia - Director
Mr. Rajeev Gupta - Executive Director (Finance) & CFO
Mr. Sadhu Ram Bansal - Director
Mrs. Shalini Gupta - Director
Dr. Rajesh Kumar Yaduvanshi - Director
Mr. Vinay Mittal - Additional Director

Bankers

Bank of Baroda
State Bank of India
Punjab National Bank
Union Bank of India
Axis Bank Limited
ICICI Bank Limited
INDUSIND Bank Limited
IDFC First Bank Limited
RBL Bank Limited
HDFC Bank Limited
DCB Bank Limited
IDBI Bank Limited
Kotak Mahindra Bank Limited
Bank of Bahrain & Kuwait B.S.C
DBS Bank Limited
YES Bank Limited

Year of Establishment

1968

Type of Company

PUBLIC LIMITED

Income Tax (PAN) No.

AAACK0251C

CIN No: L74899DL1992PLC051527

PF Regd. No:

| | |
|----------|----------------------------|
| Delhi | DL-2330 |
| Bhiwadi | RJ/8348 Dt.26.12.1996 |
| Silvassa | GJ/VAPI/45769 Dt.9.11.2001 |
| Chopanki | RJ/19828 Dt. 12/09/2008 |
| Pathredi | RJRAJ1737691000 |

Factory Regd. No.

| | |
|----------|----------|
| Bhiwadi | RJ/22219 |
| Silvassa | GJ/1472 |
| Chopanki | RJ/28507 |
| Pathredi | RJ 32222 |

GSTIN. No.

| | |
|------------------------|-------------------|
| Jammu and Kashmir | - 01AAACK0251C1ZL |
| Himachal Pradesh | - 02AAACK0251C1ZJ |
| Punjab | - 03AAACK0251C1ZH |
| Uttarakhand | - 05AAACK0251C1ZD |
| Uttar Pradesh | - 09AAACK0251C1Z5 |
| Bihar | - 10AAACK0251C1ZM |
| Assam | - 18AAACK0251C1Z6 |
| West Bengal | - 19AAACK0251C1Z4 |
| Jharkhand | - 20AAACK0251C1ZL |
| Odisha | - 21AAACK0251C1ZJ |
| Madhya Pradesh | - 23AAACK0251C1ZF |
| Gujarat | - 24AAACK0251C1ZD |
| Kerala | - 32AAACK0251C1ZG |
| Pondicherry | - 34AAACK0251C1ZC |
| Telangana | - 36AAACK0251C1Z8 |
| Rajasthan | - 08AAACK0251C1Z7 |
| Dadra and Nagar Haveli | - 26AAACK0251C1Z9 |
| Maharashtra | - 27AAACK0251C1Z7 |
| Karnataka | - 29AAACK0251C1Z3 |

Factory Area

| | |
|---------------------|---------------------------|
| Bhiwadi | 52447 sq. mtrs. (Covered) |
| Silvassa | 14595 sq. mtrs. (Covered) |
| Chopanki | 19188 sq. mtrs. (Covered) |
| Pathredi | 31082 Sq. mtrs. (Covered) |
| Total Built-up area | 102260 sq. mtrs. |

Organization Strength Total Nos. 6128

| | |
|-------------|------|
| Managerial | 700 |
| Supervisory | 1822 |
| Workmen | 3606 |



KEI at a Glance

Business

Established with the vision of changing the landscape of the electrical cable & wire industry in India, KEI has been a leader in the cables and wires industry for over 50 years. With a sharp focus on quality and service, the Company has been a frontrunner in adopting latest business practices and innovations in technology to deliver maximum value to its customers. Over the years, KEI has carved a niche for itself in the market. Its superior quality and service resonates the trust that its customers have placed in the Company. Backed by state-of-the-art technology and infrastructure, KEI, today, has a vast product portfolio ranging EHV (upto 400 kV), HT, LT and specialized Power, Control and Instrumentation cables along with vast range of Rubber Cables.

History

Established in 1968 as a partnership firm under the name Krishna Electrical Industries, with the prime focus of manufacturing cables for the Department of Telecommunications (DoT), the firm was later converted into a public limited company under the abbreviated trade name KEI Industries Limited. In the following years, KEI acquired Matchless Status as a company engaged in the manufacture of stainless steel wires and other electrical wires and cables. In 2010 KEI set foot into the manufacturing of EHV cables (up to 220 kV) in collaboration with Brugg Cables, a century old Swiss company. Since then, KEI has continuously received the Superbrand Award for Industry and Consumer Validation, each year. Also, KEI has been continuously rated for good corporate governance by CARE, since 2007.

Verticals & Clientele

KEI supplies a range of cables to a number of industries such as power, petrochemical, cement, steel, infrastructure telecommunication and fertilizer industries, among others. KEI is a registered vendor for both Indian and overseas EPC contractors like ABB, Siemens, BHEL, Areva, Alstom and McDermott to name a few and is registered as a vendor for more than 200 large Indian companies encompassing almost all industrial sectors.

Services

In addition to electrical cable and wire manufacturing, KEI has diversified its operations and now has a fully established EPC Division to execute turnkey projects for various utilities. KEI offers a comprehensive range of services, including engineering, consultancy and project management, ranging from conceptualising to commissioning for core sectors like Power (including renewable energy), Railways, Refineries, Petrochemicals, Mining, Cement, Steel, etc. It provides end-to-end customer solutions from engineering to designing, supply and installation of products.

Manufacturing

KEI has created a large infrastructure by strategically locating its three manufacturing units over a built-up area of 102260 sq. mtrs. presently however further expansion plans are in pipeline. KEI has four manufacturing units located at Bhiwadi, Chopanki, Pathredi and Silvassa. The current capacity stands at 48,00,000 kg per annum for stainless steel wire division, 10,500 km per annum for HT cables, 35,000 km per annum for LT power cables, 31,000 km per annum for control cables, 11,000 km per annum for instrumentation cables, 10,000 km per annum for rubber cable and 5,50,000 km per annum for house wires/flexible wires. To meet the increased demand for its products emanating from the power, industrial, infrastructure and housing and construction sectors, the company has planned a capacity expansion program for all of its products.



Exports

The company enjoys a presence across almost over 60 countries: UAE, Oman, Kuwait, Bahrain, Qatar, Saudi Arabia, Yemen, Iraq, Syria, Jordan, Algeria, Eritrea, Sudan, Kenya, South Korea, Philippines, Japan, China, Turkmenistan, Kazakhstan, Spain, Germany, Italy, Congo, Bangladesh, Sri Lanka, Nepal, Myanmar, Uganda, Tanzania, Mozambique, Rwanda, South Africa, Zambia, Namibia, Nigeria, Ghana, Togo, South Sudan, Mali, DR Congo, Somalia, Trinidad and Tobago, Grenada, Jamaica, France, Mauritius, Australia, Singapore, PNG (Papua New Guinea), Vietnam, Indonesia, Malaysia, Canada, Cyprus, Ethiopia, Iran, Mexico, New Zealand, Switzerland, UK, USA, West Indies. . The company drives almost 20% of its revenue from the overseas market.

Financial Performance of the Company

| Particulars | FY 23-24 | | FY 22-23 | | FY 21-22* | |
|--|-------------------|------------------|-------------------|------------------|-------------------|------------------|
| | (INR in Millions) | (\$ in Millions) | (INR in Millions) | (\$ in Millions) | (INR in Millions) | (\$ in Millions) |
| sale & other Income | 81,530.96 | 977.59 | 69,399.54 | 834.43 | 57,418.76 | 757.60 |
| Profit before interest, Depreciation & Tax | 8,865.53 | 106.30 | 7,338.33 | 88.23 | 6,035.79 | 79.64 |
| Less- Financial Charges | 439.10 | 5.26 | 347.06 | 4.17 | 403.93 | 5.33 |
| Depreciation | 613.55 | 7.36 | 570.79 | 6.86 | 554.54 | 7.32 |
| Profit before | 7812.88 | 93.68 | 6420.48 | 77.20 | 5077.32 | 66.99 |
| Provision for tax | 2,002.35 | 24.01 | 1,646.65 | 19.80 | 1,315.13 | 17.35 |
| Profit after tax | 5,810.53 | 69.67 | 4,773.83 | 57.40 | 3,762.19 | 49.64 |

Note: The dollar rate considered for conversion is FY 23-24 \$1 = NIR 83.40, FY 22-23 \$1 = NIR 82.17 & FY 21-22 \$1 = INR 75.79

* Previous Year figures have been regrouped / rearranged, wherever necessary

KEI Product Range

KEI has been a pioneer in design and manufacture of high-performance cables and wires. Its vast portfolio ,apart from EHV cables up to 400 kV. MV (medium voltage) and HT cables also includes control and instrumentation cables, rubber cables, thermocouple cables, zero halogen cables, braided cables, single and multi core flexible cables, housewire and stainless steel wires. By actively responding to changing customer demands and expectations, the company has expanded its distribution network and strengthened existing industrial product vertical.

Product & Solutions

- EHV Cables up to 400 kV
- HT Cables up to 33 kV- Dry Cured Process
- LT Power Cables-Copper / Aluminium Conductor PVC, XLPE & EPR
- LT Control Cables-Copper PVC, XLPE & EPR
- Screened / Unscreened Type PVC/PE/EPR/XLPE Instrumentation Cables
- Flexible & Housewires (Single & Multicore)
- Elastomeric (Rubber) Cables
- Railway Signaling Cables
- Fire Survival, Zero Halogen Cables
- Telephone Cables
- Automation Cables
- Welding Cables
- Submersible Cables / Winding Cables
- Ship Wiring Cable
- Mining Cable
- Cables for Offshore Installation
- Cables for Defence
- AB Cables
- Solar Cables
- EV Cables
- Medium Voltage Cover Conductor Cables

KEI

Wires and Cables
The power behind the power

ISO CERTIFICATES





MANAGEMENT SYSTEM CERTIFICATE

Certificate no.:
C706236

Initial certification date:
30 June 2011

Valid:
08 November 2023 – 29 June 2026

This is to certify that the management system of
KEI Industries Limited
SP 919, 920, 922, RIICO Industrial Area, Phase- III, Bhiwadi, District: Alwar - 301019,
Rajasthan, India
and the sites as mentioned in the appendix accompanying this certificate

has been found to conform to the Environmental Management System standard:
ISO 14001:2015

This certificate is valid for the following scope:
Design, development, manufacture, marketing and services of cables, wires & conductors (HT/EHV/LT, power, control, instrumentation), thermocouples, elastomeric cables, winding & flexible wires and stainless steel wires for wide range of applications



Place and date:
Barendrecht, 02 July 2024

For the issuing office:
DNV - Business Assurance
Zwolsseweg 1, 2994 LB Barendrecht,
Netherlands



Erie Koek
Management Representative

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.
ACCREDITED UNIT: DNV Business Assurance B.V., Zwolsseweg 1, 2994 LB, Barendrecht, Netherlands - TEL: +31(0)102922689. www.dnv.com/assurance



MANAGEMENT SYSTEM CERTIFICATE

Certificate no.:
C706235

Initial certification date:
30 June 2011

Valid:
08 November 2023 – 29 June 2026

This is to certify that the management system of

KEI Industries Limited

SP 919, 920, 922, RIICO Industrial Area, Phase- III, Bhiwadi, District: Alwar - 301019,
Rajasthan, India

and the sites as mentioned in the appendix accompanying this certificate

has been found to conform to the Occupational Health and Safety Management System standard:

ISO 45001:2018

This certificate is valid for the following scope:

Design, development, manufacture, marketing and services of cables, wires & conductors (HT/EHV/LT, power, control, instrumentation), thermocouples, elastomeric cables, winding & flexible wires and stainless-steel wires for wide range of applications

Place and date:
Barendrecht, 02 July 2024

For the issuing office:
DNV - Business Assurance
Zwolsseweg 1, 2994 LB Barendrecht,
Netherlands



Eric Koek
Management Representative

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.

ACCREDITED UNIT: DNV Business Assurance B.V., Zwolsseweg 1, 2994 LB, Barendrecht, Netherlands - TEL: +31(0)102922689. www.dnv.com/assurance



MANAGEMENT SYSTEM CERTIFICATE

Certificate no.:
C706237

Initial certification date:
12 December 2000

Valid:
08 November 2023 – 29 June 2026

This is to certify that the management system of
KEI Industries Limited
SP 919, 920, 922, RICO Industrial Area, Phase- III, Bhiwadi, District: Alwar - 301019,
Rajasthan, India

and the sites as mentioned in the appendix accompanying this certificate

has been found to conform to the Quality Management System standard:
ISO 9001:2015

This certificate is valid for the following scope:
Design, development, manufacture, marketing and services of cables, wires & conductors (HT/EHV/LT, power, control, instrumentation), thermocouples, elastomeric cables, winding & flexible wires and stainless-steel wires for wide range of applications



Place and date:
Barendrecht, 02 July 2024

For the issuing office:
DNV - Business Assurance
Zwloseweg 1, 2994 LB Barendrecht,
Netherlands



Erie Koek
Management Representative

Lack of fulfilment of conditions as set out in the Certification Agreement may render this Certificate invalid.
ACCREDITED UNIT: DNV Business Assurance B.V., Zwloseweg 1, 2994 LB, Barendrecht, Netherlands - TEL: +31(0)102922689. www.dnv.com/assurance

Zertifikat

Certificate



Zertifikat Nr. *Certificate No.*
R 60128460

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0001

| Ihr Zeichen <i>Client Reference</i> | Unser Zeichen <i>Our Reference</i> | Ausstellungsdatum <i>Date of Issue</i> |
|-------------------------------------|------------------------------------|--|
| | 0001--19600237 001 | 05.04.2018 <i>(day/mo/yr)</i> |

Genehmigungsinhaber *License Holder*
KEI INDUSTRIES LIMITED
SP- 919,920&922, PHASE-III,
RIICO INDUSTRIAL AREA,
BHIWADI, ALWAR, RAJASTHAN, 301019
India

Fertigungsstätte *Manufacturing Plant*
KEI INDUSTRIES LIMITED
SP- 919,920&922, PHASE-III,
RIICO INDUSTRIAL AREA,
BHIWADI, ALWAR, RAJASTHAN, 301019
India

Prüfzeichen *Test Mark*



Type Approved
Safety
Regular Production
Surveillance

www.tuv.com
ID 1111215406

Geprüft nach *Tested acc. to*
EN 50618:2014

**Zertifiziertes Produkt (Geräteidentifikation)
*Certified Product (Product Identification)***

**Lizenzentgelte - Einheit
*License Fee - Unit***

Cable (Electric Cables for Photovoltaic Systems)

| | | |
|-------------------------|--|----|
| Code designation: | H1Z2Z2-K | 25 |
| Cross section: | 1,5mm ² to 240mm ² acc. to IEC 60228:2004 Table 3 | |
| Trade mark: | KEI | |
| Rated Voltage: | AC 1.0/1.0 kV; DC 1,5 kV Conductor conductor, Conductor earth | |
| Ambient temperature: | -40°C to +90°C | |
| Max. Conductor temp.: | +120°C | |
| Material of insulation: | Halogen -free Silane cross- linkable compound | |
| Material of sheath: | Halogen -free Silane cross- linkable compound | |
| Color of insulation: | Black | |
| Color of sheath: | Black | |

*Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich betrachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.
This certificate is based on our Testing and Certification Regulation and states the conformity of the product with the standards and testing requirements as indicated above. Any additional requirements in countries where the product is going to be marketed have to be considered additionally. The manufacturing of the certified product is subject to surveillance.*

TÜV Rheinland LGA Products GmbH, Tillystraße 2, 90431 Nürnberg

Tel.: +49 221 806-1371 e-mail: cert-validity@de.tuv.com
Fax: +49 221 806-3935 http://www.tuv.com/safety



CERTIFICATE OF COMPLIANCE

Certificate Number E510985
Report Reference E510985-20200831
Issue Date 2020-SEPTEMBER-02

Issued to: KEI Industries Limited
 D-90, Okhla Industrial Area
 Phase – 1
 New Delhi Delhi 110020 INDIA

This certificate confirms that representative samples of

MEDIUM-VOLTAGE POWER CABLE
 Types MV-90 Cable, wet or dry locations, rated 5 to 35 kV

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 1072 - Medium-Voltage Power Cables
Additional Information: See the UL Online Certifications Directory at <https://iq.ulprospector.com> for additional information.

This *Certificate of Compliance* does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.


 Bruce Mahrenholz, Director North American Certification Program
 UL LLC



Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations/>

CERTIFICATE OF COMPLIANCE

Certificate Number E510985
Report Reference E510985-20210128
Issue Date 2021-MARCH-08

Issued to: KEI Industries Limited
D-90, Okhla Industrial Area
Phase - 1
New Delhi Delhi, 110020 IN

This certificate confirms that representative samples of MEDIUM-VOLTAGE POWER CABLE
See Addendum Page For Models

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 1072, Medium-Voltage Power Cables
Additional Information: See the UL Online Certifications Directory at <https://iq.ulprospector.com> for additional information.

This *Certificate of Compliance* does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program
UL LLC



Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations/>



National Accreditation Board for
Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

**QUALITY ASSURANCE LABORATORY, KEI INDUSTRIES
LTD**

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

**"General Requirements for the Competence of Testing &
Calibration Laboratories"**

for its facilities at

99/2/7, MADHUBAN INDUSTRIAL ESTATE, RAKHOLI, SILVASSA, DADRA AND NAGAR HAVELI, INDIA

in the field of

TESTING

Certificate Number: TC-8412

Issue Date: 16/04/2023

Valid Until:

15/04/2025

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Identity : KEI INDUSTRIES LTD.

Signed for and on behalf of NABL



N. Venkateswaran
Chief Executive Officer



National Accreditation Board for
Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

**QUALITY ASSURANCE LABORATORY - EHV, KEI
INDUSTRIES LIMITED**

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

**"General Requirements for the Competence of Testing &
Calibration Laboratories"**

for its facilities at

A-280/281/282/283/284, RIICO INDUSTRIAL AREA, CHOPANKI, BHIWADI, ALWAR, RAJASTHAN, INDIA

in the field of

TESTING

Certificate Number: TC-15068

Issue Date: 10/12/2024

Valid Until: 09/12/2028

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Entity: KEI Industries Limited

Signed for and on behalf of NABL



N. Venkateswaran
Chief Executive Officer



National Accreditation Board for
Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

**QUALITY ASSURANCE LABORATORY, KEI INDUSTRIES
LTD.**

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

**"General Requirements for the Competence of Testing &
Calibration Laboratories"**

for its facilities at

SP-919, 920, 922, RIICO INDUSTRIAL AREA, BHIWADI, ALWAR, RAJASTHAN, INDIA

in the field of

TESTING

Certificate Number: TC-6110

Issue Date: 31/07/2024

Valid Until: 30/07/2026

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Entity: KEI INDUSTRIES LTD.

Signed for and on behalf of NABL



N. Venkateswaran
Chief Executive Officer



REGISTRATION NO. Q1-4732

Certificate of Registration

The American Petroleum Institute certifies that the quality management system of

KEI INDUSTRIES LIMITED
SP- 919/920/922, Riico Industrial Area, Phase - III
Bhiwadi
India

has been assessed by the American Petroleum Institute and found to be in conformance with the following:

API Spec Q1, 9th Edition

The scope of this registration and the approved quality management system applies to the

Manufacture and Supply of Electric Cables for the Oil and Gas Industry

API approves the organization's justification for excluding
Design and Development; Servicing; Customer Property



Effective Date: OCTOBER 20, 2022
Expiration Date: OCTOBER 20, 2025
Registered Since: OCTOBER 20, 2022

Senior Vice President of Global Industry Services

This certificate is valid for the period specified herein. The registered organization must continually meet all requirements of API Spec Q1, *Specification for Quality Management System Requirements for Manufacturing Organizations for the Petroleum and Natural Gas Industry*, and the requirements of the Registration Agreement. Registration is maintained and regularly monitored through annual full system audits. This certificate has been issued from API offices located at 200 Massachusetts Avenue, NW Suite 1100, Washington, DC 20001-5571, U.S.A. It is the property of API and must be returned upon request. **To verify the authenticity of this certificate, go to www.api.org/compositelist.**

LPCB®

www.redbooklive.com

Certificate of Product Approval

Certificate Number: 1741a

Issue: 01



KEI Industries Ltd

SP:919, 920 & 922
 Riico Industrial Area, Phase III, Bhiwadi,
 District: Alwar - 301019
 Rajasthan, India

is authorised to use the LPCB mark in association with the product(s) listed in this certificate and appendix having complied with the requirements of the standard(s) detailed below:

Product(s)

Cable Types as listed below:
 KEI ELECTRIC CABLE

Standard(s) (see Appendix for details)

BS 7846:2015 Cat F2
 IEC 60331-21:1999

Select relevant text, type new text or hit spacebar.

Obada Piracha

Signed for BRE Global Ltd.

Obada Piracha
 Certification Manager

4 October 2023
 Date of Issue

4 October 2023
 Date of First issue



This certificate and appendix remain the property of BRE Global Ltd and is issued subject to terms and conditions (for details visit www.redbooklive.com/terms).

To check the validity of this certificate and appendix please visit www.redbooklive.com/check, scan the QR tag or contact us.

BRE Global Ltd, Garston, Watford, WD25 9XX
 T: +44 (0)333 321 8811 E: enquiries@breglobal.com

LPCB® is a registered trademark of the Building Research Establishment Ltd.



bre



SECTOR WISE CLIENTELE

SECTOR WISE CLIENTELE

| SECTOR 1 | INTERNATIONAL EPC'S | COUNTRY |
|-----------------|--|--|
| | ABB | INDIA |
| | AREVA | UAE, BANGLADESH |
| | SIEMENS | BANGLADESH, INDIA, QATAR, SRI LANKA |
| | SAMSUNG | INDIA |
| | LG | INDIA |
| | TOYO | INDIA |
| | TECHNIP | INDIA |
| | PETROFAC | UAE, INDIA |
| | ALSTOM | INDIA, FRANCE, MALAYASIA, SWITZERLAND, SHARJAH |
| | McDERMOTT | UAE |
| | MITSUI | INDIA |
| | ITOCHU | INDIA |
| | SKANSKA | INDIA |
| | PUNJ LLYODS | SINGAPORE, MALAYASIA, INDIA, QATAR |
| | SKIPPER ELECTRICALS | NIGERIA |
| | BHEL | IRAQ, MALAYASIA, INDIA |
| | LARSEN & TOUBRO | SRI LANKA, INDIA, UAE, OMAN, KUWAIT |
| | RELIANCE GROUP | INDIA |
| | DELHI METRO RAIL CORPORATION | INDIA |
| | IRCON | ETHIOPIA, INDIA |
| | STERLING & WILLSON | AFGANISTAN, INDIA |
| | ETA | SUDAN |
| | TECHNIMONT ICB PVT LTD. | UAE |
| SECTOR 2 | POWER AND TRANSMISSION | |
| | SUZLON ENERGY LIMITED | INDIA |
| | ENERCON | INDIA |
| | TATA POWER | INDIA |
| | ESSAR POWER | INDIA |
| | NATIONAL THERMAL POWER CORPORATION | INDIA |
| | JINDAL POWER | INDIA |
| | CEB, MAURITIUS | MAURITIUS |
| | POWER GRID CORPORATION OF INDIA | INDIA |
| | ENRON | INDIA |
| | BSES LTD | INDIA |
| | NUCLEAR POWER CORPORATION | INDIA |
| | INDIAN RAILWAYS | INDIA |
| | AHMEDABAD ELECTRICITY CO | INDIA |
| | SURAT ELECTRICITY CO | INDIA |
| | KARNATAKA POWER CO LTD | INDIA |
| | STATE ELECTRICITY BOARDS OF INDIA | INDIA |
| | Reliance | INDIA |
| | CESC | INDIA |
| | NHPC | INDIA |
| | FEDERAL ELECTRICITY & WATER AUTHORITY | UAE |
| | KAHRAMAA | QATAR |
| | SAUDI ELECTRICITY COMPANY | SAUDI ARABIA |
| | MEW | KUWAIT |
| | PEC | YEMEN |
| | EDD | BAHRAIN |
| | SIEMENS GAMESA Renewable Power Pvt Ltd | INDIA / TAMILNADU |
| | Vestas Wind Technology India Pvt.Ltd | INDIA |
| | Tamilnadu Transmission Corporation Limited | INDIA / TAMILNADU |

SECTOR WISE CLIENTELE

| SECTOR 1 | INTERNATIONAL EPC'S | COUNTRY |
|-----------------|--|-------------------|
| | STEEL AUTHORITY OF INDIA | INDIA |
| | ESSAR | INDIA |
| | TATA | INDIA |
| | NALCO | INDIA |
| | BALCO | INDIA |
| | HINDALCO | INDIA |
| | HIDUSTAN ZINC LIMITED | INDIA |
| | BIRLA COPPER | INDIA |
| | INDAL | INDIA |
| | MONNET STEEL | INDIA |
| | JINDAL VIJAYNAGAR | INDIA |
| | JINDAL STEEL & POWER | INDIA |
| | ISPAT | INDIA |
| SECTOR 4 | REFINERIES AND PETROCHEMICALS | |
| | INDIAN OIL CORPORATION LTD | INDIA |
| | BHARAT PETROLEUM CORPORATION LTD | INDIA |
| | INDIAN PETROCHEMICALS LTD | INDIA |
| | KOCHI REFINERIES LTD | INDIA |
| | CPCL | INDIA |
| | ESSAR | INDIA |
| | HINDUSTAN PETROLEUM CORPORATION LTD | INDIA |
| | NUMALIGARH REFINERIES LTD | INDIA |
| | BONGAIGAON REFINERIES LTD | INDIA |
| | HALDIA PETROCHEMICALS LTD | INDIA |
| | RELIANCE | INDIA |
| | CAIRN ENERGY | INDIA |
| | BORL | INDIA |
| | MITTAL (HPCL) | INDIA |
| | TAKREER | UAE |
| | KNPC | KUWAIT |
| | PDO | OMAN |
| | QP | QATAR |
| SECTOR 5 | OIL AND GAS | |
| | OIL & NATURAL GAS CORPORATION LTD | INDIA |
| | GAS AUTHORITY OF INDIA LTD | INDIA |
| | OIL INDIA LTD | INDIA |
| | INDIAN OIL TANKING | INDIA |
| | GASCO | UAE |
| SECTOR 6 | TELECOMMUNICATION | |
| | BHARAT SANCHAR NIGAM LTD | INDIA |
| | CYPRUS TELECOM | CYPRUS |
| | BASIC OPERATORS AND ENGINEERS | INDIA |
| | DEFENCE | INDIA |
| | RELIANCE INFOCOMM | INDIA |
| | AIRTEL | INDIA |
| | RELIANCE COMMUNICATION | INDIA |
| | VODAFONE | INDIA |
| | NXTRA DATA CENTRE | INDIA/MAHARASTHRA |
| | India International Convention & Expo Centre | INDIA / DELHI |

SECTOR WISE CLIENTELE

| SECTOR 7 | FERTILISERS | COUNTRY |
|-----------------|--|----------------|
| | NATIONAL FERTILISERS LTD | INDIA |
| | INDIAN FARMERS AND FERTILISERS CO-OPERATIVE LTD | INDIA |
| | KRISHAK BHARTI CO-OPERATIVE LTD | INDIA |
| | CHAMBAL FERTILISERS | INDIA |
| | ZUARI AGRO | INDIA |
| | RASHTRIYA CHEMICALS AND FERTILISERS | INDIA |
| | TATA CHEMICALS | INDIA |
| | HINDUSTHAN FERTILISERS CO LTD | INDIA |
| | GUJARAT STATE FERTILIZER CORPORATION | INDIA |
| | DEEPAK FERTILIZER | INDIA |
| SECTOR 8 | CEMENT | |
| | ACC LTD | INDIA |
| | LARSEN & TOUBRO | INDIA |
| | J. P. BELA CEMENT | INDIA |
| | TATA CEMENT | INDIA |
| | RAJ CEMENT | INDIA |
| | TCIL - TORO | UGANDA |
| | GUJARAT AMBUJA CEMENTS LTD. | INDIA |
| | ARM | KENYA |
| | RAS CEMENT | INDIA |
| | NIGERIA CEMENT | NIGERIA |
| | STAR CEMENT | UAE |
| | JEBEL ALI CEMENT | UAE |
| SECTOR 9 | SOFTWARE PARKS / PHARMACEUTICALS / HOSPITALS / MULTIPLEX / BANKS / HOTELS / PAINTS / CHEMICALS / OTHERS | COUNTRY |
| | INFOSYS SOFTWARE | INDIA |
| | 3 GLOBLE SERVICES | INDIA |
| | DELL COMPUTERS | INDIA |
| | WIPRO SOFTWARE | INDIA |
| | IBM COMPUTERS | INDIA |
| | SURYA IT PARK | INDIA |
| | INTEL COMPUTERS | INDIA |
| | VERITAS SOFTWARE | INDIA |
| | INTERNATIONAL KNOWLEDGE PARK | INDIA |
| | RANBAXY | INDIA |
| | CIPLA | INDIA |
| | RATIO PHARMA | INDIA |
| | BANNER PHARMA | INDIA |
| | MADRAS PHARMA | INDIA |
| | LOREAL COSMETICS | INDIA |
| | MAHAVEER HOSPITAL | INDIA |
| | WOCKHARD HOSPITALS | INDIA |
| | PVR MULTIPLEX | INDIA |

SECTOR WISE CLIENTELE

| | |
|-----------------------------------|-------|
| INOX MULTIPLEX | INDIA |
| ICICI BANK | INDIA |
| HSBC BANK | INDIA |
| DUETSCHKE BANK | INDIA |
| HDFC BANK | INDIA |
| ABN - AMBRO BANK | INDIA |
| CITY BANK | INDIA |
| COUNTRYWIDE FINANCIAL CORPORATION | INDIA |
| CAP GEMINI INDIA | INDIA |
| ITC | INDIA |
| HOTEL TAJ | INDIA |
| GOODLAS NEROLAC | INDIA |
| ASIAN PAINTS | INDIA |
| ACCENTURE - GODREJ | INDIA |
| JET AIRWAYS | INDIA |
| SAHARA | INDIA |
| MONSANTO | INDIA |
| MIND SPACE - HOUSING COMPLEX | INDIA |
| BIOCON | INDIA |
| TATA CONSULTANCY SERVICES | INDIA |
| KALA ACADEMY | INDIA |
| BALAKRISHNA TYRES | INDIA |
| GODFREY PHILIPS | INDIA |
| GLOBAL OILS & FATS | INDIA |

Performance and Approval Certificates





CERTIFICATION

TO WHOM SOEVER IT MAY CONCERN

This is to advise that we, M/s Brugg Kabel AG, Switzerland have signed a technical collaboration agreement for design, manufacture, testing of XLPE insulated cables 66kV / 110kV / 132kV / 220kV with M/s KEI Industries Ltd. D-90, Okhla Industrial Area, Phase-I, New Delhi 110020 with manufacturing units located at Bhiwadi Unit, SP-919/920, RICO Industrial Area, Phase-III, Bhiwadi, Dist. Alwar 301019, Rajasthan & Chopanki Unit, Plot-A 280/281/282, Chopanki, Dist. Alwar, Rajasthan 301019.

By virtue of this agreement, the complete manufacturing of High Voltage / Extra High Voltage cables covering voltage grades 66kV / 110 kV / 132kV / 154kV / 220kV shall be done as per Brugg's design and manufacturing systems and the product quality shall meet the required standards as per IEC 60840 / IS7098-III/ IEC 62067 as applicable. M/s. KEI Industries Ltd shall manufacture the above voltage class of cables under Licence from M/s. BRUGG KABEL AG, Switzerland.

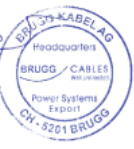
BRUGG KABEL AG's selected Type of Raw materials, designs of products, production procedures, Routine testing, Type testing and Prequalification testing etc. shall be adopted by M/s KEI Industries Ltd. manufacturing plants in India under supervision of BRUGG KABEL AG.

BRUGG KABEL AG will assist M/s KEI Industries Ltd. for preparation and execution of the Tests according to above stated standards.

For HV cable systems project of above voltage categories executed under this agreement, Brugg Kabel AG is prepared to assure back up support for successful operation for offered cable and accessories.

Markus Burger
CEO

Herbert Nyffenegger
Vice Director / Business Development



CH-5201 Brugg, Switzerland February 19th, 2010

Brugg Kabel AG, Klotenweg 28 - CH-5201 Brugg - Telefon +41 (0)56 660 33 33 Fax +41 (0)56 660 35 36 - E-Mail info@brugg.com www.brugg.com Ein Unternehmen der Gruppe BRUGG

Headquarters
Chief Engineer
Pathankot Zone
Pathankot - 145001

27058/XXXV/ 77 /E2(D)

11 Jun 2015

HQ CWE Pathankot

CWE Mamun

CWE Yol

CWE Jammu

M/s KEI Industries Ltd i.e. KEI Brand HT cable upto & incl 33 KVA,LT & Control Cables

1. A photocopy of E-2 Wks (Des) Sub Dte of Works Engineer-in-Chief's Branch Integrated HQ of MoD (Army) Kashmir House, Rajaji Marg, New Delhi-110 011 letter No. 43285/CMPT/447/ Des-2 dated 30 Jun 2014 is fwd herewith for your further necessary action pl.

(Jaish Kumar)
SE, SAG(NF)
Dir(Design &PIg)
For Chief Engineer

Encls: (As above)

Internal:-

E-8 Sec }
E-4 Sec } for info

STEEL AUTHORITY OF INDIA LIMITED ROURKELA STEEL PLANT, ROURKELA MATERIALS MANAGEMENT - PIVD

Vendor Registration Certificate

REF.NO. MM/REGN/ 4598/15495/882. DATED : 04-AUG-10
M/s. KEI INDUSTRIES LTD.
1ST FLOOR
33, DR. SUNDARI MOHAN AVENUE
NEAR PARK CIRCUS LADIES PARK
KOLKATA-700014

We have pleasure to register you as an approved vendor of RSP for th item(s) listed below :

| SL. NO | DESCRIPTION | PRODUCT CODE |
|--------|---|--------------|
| 1 | PVC INSULATED & SHEATHED LT POWER CABLE | 325/001/04 |
| 2 | PVC INSULATE ARMURED/UNARMURED LT CABLES. | 325/001/38 |
| 3 | WELDING CABLE | 325/001/35 |
| 4 | CONTROL CABLES | 325/002/01 |
| 5 | INSTRUMENTATION CABLE | 325/002/02 |
| 6 | ELASTOMER INSULATING FLEXIBLE CABLE 1100V | 325/045/01 |

| REGN. NO | VALIDITY | SUPPLIER CODE | STATUS OF FIRM | CATEGO |
|-------------------|-----------|---------------|----------------|--------|
| MM/REGN/004598/MO | 02-AUG-15 | 66211/01 | PRIVATE | |

- Note : i) We may not necessarily send all our enquires for these category of items as and when we are in the market. This registration does not guarantee award of contracts.
ii) We reserve the right to demand from you such sureties as may be necessary as an earnest of your fulfilling contracts / supply orders which we may award you.
iii) We may eliminate your name from our panel without assigning any reason.
iv) It may be your responsibility to apply for renewal of regn. on payment of stipulated renewal fee and production of requisite documents 90 days in advance before expiry of registration period to keep your name in the register of approved suppliers.
v) For Traders/Dealers the validity of the certificate is maximum for 3 Yrs, subject to submission of valid dealership certificate every year to PIVD section

Head of PIVD
RSP/SAIL/ROURKELA
(S. S. DAS)
AGM (MM) PIVD
SAIL, R.S.P. Rourkela



08-1044

TYPE TEST CERTIFICATE OF COMPLETE TYPE TEST

OBJECT Three-core power cable
TYPE 18/30 kV 3CX400SQMM CU/XLPE/SWA/PVC
Rated voltage, (U_n/U_m)₀ 18/30kV
Conductor cross-section 3x400 mm²
Conductor material Cu
Insulation material XLPE

MANUFACTURER KEI Industries Limited
New Delhi, India
CLIENT KEI Industries Limited
New Delhi, India
TESTED BY KEMA HIGH-VOLTAGE LABORATORY
Arnhem, the Netherlands
DATE(S) OF TESTS 17 December 2007 until 18 July 2008

The object, constructed in accordance with the description, drawings and photographs incorporated in this Certificate, has been subjected to the series of proving tests in accordance with

IEC 60502-2

This Type Test Certificate has been issued by KEMA following exclusively the STL Guides.
The results are shown in the record of Proving Tests and the oscillograms attached hereto. The values obtained and the general performance are considered to comply with the above Standard and to justify the ratings assigned by the manufacturer as listed on page 4.

The Certificate applies only to the object tested. The responsibility for conformity of any object having the same designations with that tested rests with the Manufacturer.

This Certificate consists of 35 pages in total.

© Copyright: Only integral reproduction of this Certificate is permitted without written permission from KEMA. Electronic copies in e.g. PDF-format or scanned version of this Certificate may be available and have the status "for information only". The sealed and bound version of the Certificate is the only valid version.

KEMA Nederland B.V.

P. C. Bus
KEMA T&D Testing Services
Managing Director
Arnhem, 22 September 2008



HARYANA VIDYUT PRASARAN NIGAM LIMITED

(Regd. office: Sector-6 Shakti Bhawan, Panchkula)

Office Of the

093134-72674


HVPNL Executive Engineer/Transmission System Division, HVPNL, Meh. Road, Gurgaon-122001

Date: 4th March 2011

To Whomsoever it may Concern

This is to certify that KEI Industries Limited, New Delhi has successfully supplied full quantity of 24.705 Kms. 66 KV (E). 1X1200 Sq.mm, Aluminum XLPE Cable against Purchase Order No. HDP-1776/REC-090/Xen/Project(S/Stn.) Date. 12.11.2010.

The Quality and service offered by KEI Industries Limited during Execution of above order is found good and satisfactory.


Executive Engineer,
TS Division HVPNL Gurgaon
Executive Engineer
T.S. Divn. HVPNL, Gurgaon



ಬೆಂಗಳೂರು ವಿದ್ಯುತ್ ಸರಬರಾಜು ಕಂಪನಿ ನಿಯಮಿತ
BANGALORE ELECTRICITY SUPPLY COMPANY LIMITED
(Wholly owned by Government of Karnataka Undertaking)

No: BESCOM/CM(T).BC-20/F.1059.06-07/CYS-109
Encl:

Corporate Office
K.R. Circle
Bangalore-560 001
Date: 28-09-06

OFFICIAL MEMORANDUM

Sub: Vendor approval for HT & LT UG Cable - Reg

Ref: 1) Technical Committee Meeting held on 14-9-06.
2) Firm's Ltr. dated 29/6/06

The firm namely M/s. KEI Industries Limited, Enwadli SP-920, RiICO, Industrial Area phase III Bhiwadi, District Alwar Rajasthan-301019 have requested for vendor approval for the 11 KV HT XLPE / PVC UG cables and 1.1 KV LT UG cables of various sizes. The firm have produced CPRT type test certificates for the following sizes of cables

1. 3 C x 200 Sq.mm HT cable, 1.1 KV 3.5 x 300 Sq.mm & 600/1000 volts 3 x 240 Sq.mm XLPE HT LT Power Cables.

The test certificates have been verified and found to be generally in conformity with the IS. The factory is also inspected and is found to have all the necessary infrastructure for manufacturing cables and is having all the testing facilities to conduct routine and acceptance test as per IS.

Approval is therefore hereby accorded for M/s. KEI Industries Limited, as approved vendors to BESCOM for supply of both 11 KV HT UG cable and 1.1 KV LT UG Cable of various sizes for use in MS buildings, Layouts etc. in BESCOM area. The validity of approval is upto Sept-2009. The prospective consumers who purchase the cables shall stand guarantee for the cables and it must be noted that normally the following sizes of cables are used in BESCOM.

-2-

- a) 11 KV HT UG cables of sizes 3 x 95, 3 x 240 & 3 x 400 Sq.mm
b) 1.1 KV LT UG cables of size 3 ½ x 120 Sq.mm, 3 ½ x 185 Sq.mm, 3 ½ x 240 Sq.mm and 3 ½ x 400 Sq.mm.


General Manager (Tech),
BESCOM

Copy to:-

The Chief General Managers (Elec), BMAZ/9RAZ/CTRAZ for information.
All General Managers, (C.O&M) Circles, BESCOM.
All Executive Engineers Elec., (C.O&M) Divisions, BESCOM.
M/s. KEI Industries Limited, Bhiwadi SP-920, RiICO, Industrial Area phase III Bhiwadi, District Alwar Rajasthan-301019

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR


No.JDA/CE/Elect/2006/D- 884

Dated 2

OFFICE ORDER

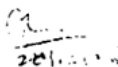
In accordance with the powers confirmed of the undersigned as per schedule of powers of JDA Circle Engineer-I hereby order that in JDA BSR part A Electric Work for HT/LT lines works Item No. 4 & 7 "Providing and Laying underground 33KV. → XLPE(HT) Cable" the Existing Printed Text "approved make ICC/NICCO/GLOSTAR ICC/TROPO-DOUR /TORRENT/POLYCAB" is to be Read/Printed as "Approved make ICC/NICCO/GLOSTAR/ICC/TROPODOUR/TORRENT/POLYCAB/KEI".

The above order is brought into the force with immediate effect in the jurisdiction of JDA.


Circle Engineer-I &
TA to Director(Engg.)
JDA, Jaipur

Copy to following for Information:-

1. Director (Engg.), JDA, Jaipur.
2. ACE-III/CE-II, JDA, Jaipur
3. ZE(Electrical)-I/II, JDA, Jaipur.
4. Guard File.


28/09/06
Circle Engineer-I &
TA to Director(Engg.)



ME

Micron Electricals

Govt. Licensed Class 1 Electrical Contractors & Engineers
Specialists in All Types of H.T. & L.T. Electrical Installations

K.S.T.: 70103148 C.S.T.: 70153140 Dated : 11-10-83 TIN : 2 9770084027 Licence No. 20 (Class 1)

Phone : 080-41902800(30 Lines)
080-23369776/785, 23315709
Fax : 080-23312487
E-mail : micronelec@dataone.in
micronelectricals@airtelbroadband.ir
Website : www.micronelectricals.com

3RD FLOOR, 'SOUNDARYA PARAMOUNT'
No. 83, 5TH CROSS, MALLESWARAM CIRCLE
BANGALORE - 560 003

REF. NO.: ME:2881:2006

DATE : 02/09/2006

M/s. KEI INDUSTRIES LIMITED,
101/102, Vastu Enclave
Andheri Pump House, Andheri (East)
MUMBAI - 400 093

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the orders have been executed satisfactorily for the supply of 110 Mtrs. 3C x 240Sqmm 33kV (E) HT XLPE cable for our project of Laxmi Cybercity, Hyderabad and 1030 Mtrs. 3C x 400 Sqmm 11KV (E) HT XLPE Cable for Bagmane Tech Park, Bangalore project, vide your Invoice No. 821 dt. 30/06/2006 and Invoice No.900 dt. 10/07/2006.

For MICRON ELECTRICALS

S.K. SEETHARAMU
MANAGING PARTNER



Date : 20.08.06

Subject: Approval of HT Cables upto 11 KV voltage level.

We have gone through the credentials alongwith (PR) test certificates subscribed to us for HT Cables and hence approved your KEI make HT Cables upto 11 KV voltage level for both E & UE types in our ongoing project at Muri site. This is just for your information.

Regards,

(DEVESH JHA)
Manager-Project & Electrical

Headquarters
Chief Engineer
Pathankot Zone
Pathankot - 145001

27058/XXXVI /E2(D)

11 Jun 2015

HQ CWE Pathankot

CWE Mamun

CWE Yol

CWE Jammu

M/s KEI Industries Ltd i.e. KEI Brand HT cable upto & incl 33 KVA,LT & Control Cables

1. A photocopy of E-2 Wks (Des) Sub Dte of Works Engineer-in-Chief's Branch Integrated HQ of MoD (Army) Kashmir House, Rajaji Marg, New Delhi-110 011 letter No. 43285/CMPT/447/ Des-2 dated 30 Jun 2014 is fwd herewith for your further necessary action pl.

Encls: (As above)

Internal-

E-8 Sec } for info
E-4 Sec }

(Jainesh Kumar)
SE,SAG(NF)
Dir(Design &Plg)
For Chief Engineer



Gujarat Narmada Valley Fertilizers Co. Ltd
(An ISO 14001 Company)

Regd. Office :
P.O. Naramadanagar-382 015,
Dist. Bharuch, Gujarat, India
Phone : (2642) 237471
Fax : (2642) 247122 / 247059
E-mail : nvratmani@gnfc.in

Date : 18/07/2006

M/s KEI Industries Ltd.
101-102, Vastu Shilp, Vastu Enclave
Jijamata Road, Andheri Pump House
Andheri (E), Mumbai - 400 093

Knd Attention : Mr. Vijay kajbaje, Dy.Manager. Mktg.

Dear sir,

Sub : Confirmation of Registration of your firm in our list of approved vendors.

Registration of Items : 1.1 KV PVC/XLPE LT Power and Control Cables

With reference to above, we are pleased to inform that our Vendor Evaluation Committee consisting of Senior Executives of GNFC has examined the Profile of your organization and considering core strengths of the organization, GNFC management has approved to include your organization in the list of approved vendors for the above items.

As per GNFC Management's decision, all the enquiries of items having value above Rs. five lacs are being floated through e-Tendering only. Your above approval is subject to your creating necessary facilities / infrastructure like computer with internet, Digital Signature Certificate (DSC), etc. for e-Tednering. For DSC and support for registration and filling e-Tender, etc. you may avail services of (n)Code Solution (A division of GNFC) Team as under or our LRA, M/s Amos Investments & Services, Ahmedabad (Mr. Samir Patel. Phone no : 079-64505050-1-2-3, e-mail : dsc@amosenterprise.com).

* Mr. Bhavin Patel - 9898589652 , * Mr. Kalpesh Sheth - 9898084419
* Mr. Rusnil Bhatt - 9327084190, * Mr. Keyur Parekh - 9879279117
* Mr. Dwiren Kantharia - 9426007087

Your organization will receive enquiries for above items as and when needs arises for the same at our end.

Thanking you.

Yours faithfully,
For G.N.F.C. Ltd.

M N Tirmak



Bharat Aluminium Company Limited

Project Site: Balco Nagar, KORBA - 495 034, Chhattisgarh State
 Tel: (07735) 241181, 242034, Fax: (07735) 241181, 242034, e-mail: mktg@balcoindia.co
 Mumbai Office: 66 67, Jolly Maker-II, 225, Nariman Point, Mumbai - 400 021
 Tel: (022) 2262 1562, Fax: (022) 2264 2335, Email: projectpurchase@balcoindia.com

M/s. KEI Industries Ltd.
 2/1 Kalibari Lane, Jadavpur,
 Kolkata.700-032

3rd April '04

Attn : Mr. Alok Saha
 Sub : Approval of KEI Make L.T Cable

Dear Sir,

In continuation to your letter reference no KEI/BALCO 2004, dated 20th March '04 we give our consent for the above after scrutinizing the documents submitted by you.

This approval is valid only for the cables having distinct marking of length, at every one (1) meter interval along with size & no. of cores.

Thanking You,
 For Balco Aluminium Smelter Project

A. Shome.

Eastern Coalfields Limited
 Office of the Chief General Manager
 Sonapur Bazzari Area

10.CGM/SBA/EM/06/ 2638

Dated, 16.12.2006

To
 The Chief General Manager (EM),
 ECL, Hars, Sonatoria.

Subj:- Performance report of 3 core, 3.3 KV grade
 M/s. KEI INDUSTRIES Ltd. 120 sq.mm. PVC Cable manufactured by
 M/s. KEI Industries Ltd., New Delhi.

Dear sir, Ref. Your letter No. ECL/CMO/ENG(EM)/UC/1814 dt. 22.

With reference to the above, the performance of the cable are given below.

The above cable is being used in pumping circuit as main cable. The current drawn is 240A to 270A in 550V. It is observed that the armour gets rusted after 18 months. After drawing 270A continuously, the cable does not get heated.

Performance is found to be satisfactory.

Yours faithfully,

Area Engineer (EM)
 Sonapur Bazzari Area



MAHARASHTRA STATE ELECTRICITY
 DISTRIBUTION COMPANY
 CENTRAL PURCHASE AGENCY
 ISO 9001:2000 Certified
 "Prakashgad", 1st Floor, Bandra (East), Mumbai - 51

SP/QC/Vendreg/acceptance/9500
 2006

Date: Tue Aug 29 18:02:39 PI

To,
 KEI INDUSTRIES LTD.
 SP-919/920, RIICO Industrial Area, Phase - III, BHWADI, 301109
 keiind@vsnl.com

Sub: Acceptance of the vendor registration and handing over the vendor kit there of.

Dear Sir,

Central Purchase Agency, MSEDCL is pleased to inform that, subsequent to your request for the registra and verification of the documents, your firm is hereby registered with the MSEDCL e-Tendering system participate in the e-Tendering process.

In view of the above you are requested to collect the vendor kit from the office of Executive Director (SI) 1st Floor, Prakashgad, Bandra (E), Mumbai 51 on any Thursday except holiday.

This is a computer-generated letter and does not require signature.

Executive Engineer (Stores)
 For Executive Director (Stores)



Tel: 26474211, 26472131, Fax: 26473429, Grams: COSGRIL
 Mumbai



L&T Electrical & Automation
 Projects

06th March, 2014

TO WHOMSOEVER IT MAY CONCERN

This is to certify that M/s KEI Industries Limited is our approved vendor for supply of HT & LT Cables for MUMBAI MONORAIL PROJECT (MMRDA)

We have always found M/s KEI Industries Limited maintaining high quality standards, timely deliveries, competitive prices and resourceful in meeting our urgent requirements.

We are using their cables for our MUMBAI MONORAIL PROJECT and have found the performance satisfactory till date. The major cables supplied are listed below.

| Item | Voltage Grade | Type | Quantity/Kms |
|------------------------------|---------------|--------|--------------|
| 1 Core x 400 | 22 kv (E) | 2XCFAY | 30.300 |
| 3 Core x 300 | 22 kv (E) | 2XCEWY | 33.440 |
| 3 Core x 240 | 22 kv (E) | 2XCEWY | 40.420 |
| 3 Core x 95 | 22 kv (E) | 2XCEWY | 1.010 |
| Power & Fire Survival Cables | 1.1 kv | | 89.000 |

The approximate lump sum values of the supplies of cables for monorail was arnd Rs 33 Cr.

For
 Larsen & Toubro Limited,

Parveen Satija
 Manager - ESE Projects



Larsen & Toubro Limited, Electrical & Automation, Electrical Systems & Equipment
 Northin Wing Level 2, Saki Vihar Road, Powai, Mumbai 400 072, Maharashtra, INDIA
 Tel: +91 22 67054120 Fax: +91 22 67051173 www.lnt.org

Registered Office:
 L&T House, N. M. Marg
 Belland Estate
 Mumbai - 400 001, INDIA



BSES Limited

Generation Division :
Dahanu Thermal Power Station
Village Agwan, Dist. Thane - 401 608
Phone : (02528)-24447, 48, 49, 50
Fax : (02528) - 22038, 22063, 22576

Ref : BSES/DTPS/SNB/12239

Date : March 23, 2000

TO WHOMSOEVER IT MAY CONCERN

This is to certify that M/s.KEI Industries Ltd. (formally known as Krishna Electrical Industries) having its registered office at D-90, Okhla Industrial Area, Phase-I, New Delhi - 110 020, supplied following FRLS cables against purchase order No.GEN-2264/GJB/92 dt.11/02/1993 for our 2 x 250 MW Dahanu Thermal Power Station which was commissioned in the month of March, 1995 at Dahanu, Maharashtra with the assistance of IERD Loan A/C No.3344-IN

POWER CABLES :
Single core upto 630 mm² conductor size multicore upto 300 mm² conductor size. Total Qty :- 188.00 Kms

CONTROL CABLES :
Maximum size of 20 core x 2.5 mm² Total Qty :- 431.00 Kms

INSTRUMENTATION CABLES :
Maximum of 12 Pair of 0.5 mm² & 1.5 mm² Total Qty :- 251.00 Kms

TOTAL ORDER Qty. =====> 870.00 Kms

The value of the above package was Rs.5.20 Crores (Rs.52 Millions Deemed Exports)

There are no complaints of above cables and are working satisfactory at our Dahanu Plant till date.

This letter have been issued as per the specific request of the party.

(S.N.Barde)

Dy.General Manager (O&M)

HEAD OFFICE : E-4 (ii) M.I.D.C. Area Marol, Andheri (E), Mumbai-400 093.



CERTIFICATE OF ENLISTMENT



This is to certify that the enlistment of M/s.KEI Industries Limited, D-90, Okhla Industrial Area, Phase -I, New Delhi -110020, India has been enlisted as an approved Vendor for providing following Services / products:

KEI Cables upto 33 kv, EY cables upto 11 kv, Control & Instrumentation Cables, Vertical Spunched Cables, Rubber Cables, Thermocouple Extension Cables, Fire Resistant Cables, C.R.G. CABLES - 66 kv/110 kv/132 kv /220 kv, The standard cables, Has been extended for a period of one year w.e.f. 16th April, 2014 and is in consonance with the terms elaborated in notification letter ref. E3D/CENG/12006 dt. July 1, 2014.

CONSTRUCTION INDUSTRY DEVELOPMENT BOARD
D. R. F. N. SWARUP
DIRECTOR GENERAL

EP.R.VEDANTHAM, B.E., F.I.E.,
CHIEF ENGINEER/THERMAL DESIGN
TAMIL NADU ELECTRICITY BOARD

5th FLOOR/WESTERN WING,
NPKRR MAALIGAI,
800,ANNA SALAI/MADRAS.2.

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the KEI Industries Ltd., New Delhi have supplied the cables as furnished below for Tamil Nadu Electricity Board.

1. P.O.No.50 dt.8.12.88 for value of Rs.90.54 lakhs (FRLS PVC Control cables for ETPS, TTPS). 170 Kms. The Unit commissioned on 31.3.91.
2. P.O.No.92 dt.19.5.89 for value of Rs.166.66 lakhs 145.5 Kms (Zero Halogen FRLS Instrumentation cables for TTPS, MTPS). The unit commissioned on 31.3.91.
3. P.O.No.277 dt.7.2.90 for value of Rs.29 lakhs 40 Kms (Zero Halogen FRLS Instrumentation Cable for MTPS).
4. P.O.No.74 dt.7.4.92 for value of Rs.566 lakhs 908.5 Kms (NMTTP-FRLS Power Cables, FRLS Control Cables). The unit commissioned on ^{October} 1994.
5. P.O.No.106 dt.4.12.92 for value of Rs.69.15 lakhs 37.5 Kms (Zero Halogen FRLS Instrumentation Cables for NMTTP). The unit commissioned on ^{October} 1994.

The cables are put into use and their performance is so far satisfactory.

(R.VEDANTHAM)

CHIEF ENGINEER/THERMAL DESIGN

DT.19.9.96

Essar Projects Limited



Essar House, P.O. Box No. 7569,
Mumbai, Mumbai-400 034, India.
Phone: (91-22) 495 0606
Fax: (91-22) 495 4318 20/12/99

TO WHOM SO EVER IT MAY CONCERN

THIS IS TO CERTIFY THAT M/S KEI INDUSTRIES LIMITED, D-90 OKHLA INDUSTRIAL AREA, PHASE-I, NEW DELHI-110020 HAS SUPPLIED US FRLS POWER AND CONTROL CABLES AGAINST P.O. NO. P07/4.37.27/L/165 DT. 12.01.95 FOR OUR 515 MW POWER PROJECT AT HAZIRA AS PER TATA CONSULTING ENGINEER'S SPECIFICATIONS & INSPECTION.

THE DETAILS OF THE CABLES SUPPLIED IS AS FOLLOWS:

POWER CABLES
TOTAL QUANTITY SUPPLIED : 159.00 KM
MAX. SIZE IN SINGLE CORE : 1000 SQ.MM
MAX. SIZE IN MULTICORE : 500 SQ.MM

CONTROL CABLES
TOTAL QUANTITY SUPPLIED : 187.50 KM
MAX. SIZE IN 2.5 SQ.MM : 61 CORE

TOTAL VALUE OF THE CONTRACT WAS RS. 442.71 LACS

THE SUPPLIES WERE MADE ON TIME AND THE PERFORMANCE OF THE CABLES HAVE SO FAR BEEN SATISFACTORY.

THE UNIT WAS COMMISSIONED PROGRESSIVELY IN OPEN CYCLE MODE FROM DEC'96 AND FULLY OPERATIONAL IN COMBINED CYCLE FROM MAY'97.

FOR ESSAR PROJECTS LIMITED

(K.C.KIND) 30/12/1999
SR. VICE PRESIDENT

THE TATA HYDRO-ELECTRIC POWER SUPPLY COMPANY LIMITED
THE ANDHRA VALLEY POWER SUPPLY COMPANY LIMITED
THE TATA POWER COMPANY LIMITED

TELEGRAM: "THERMAL"
TELEX: 011 72373 TECT IN

SUPPORT SERVICES CENTRE
TROMBAY GENERATING STATION
CHEMBUR, MUMBAI-400 074.


TEL: 566 2573 GENERAL
551 9483 ENGINEERING
551 1726 ADM/PERSONNEL
551 6273 CONSUMER RE.
551 1726 MATERIALS MGMT.

PERFORMANCE CERTIFICATE

TO WHOMSOEVER IT MAY CONCERN

This is to certify that M/s KEI Industries Limited, D-90, Okhla Industrial Area, Phase-I, New Delhi 110 020 has supplied us FRLS Power, Control & Instrumentation Cables totalling around Rs.3.0 crores for our various projects as per our list enclosed.

The cables are put into use and so far performance of the cables is satisfactory and delivery is as per schedule.


(Ms. C. BALIGA)
ASST GENERAL MANAGER

Date : 13th May 1996

Place: Bombay

Registered Office : Bombay House, Horni Mody Street, MUMBAI-400 001.

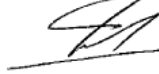
 **KRUPP INDUSTRIES INDIA**
formerly BUCKAU WOLF INDIA

upp Industries India Ltd.,Pimpri,Pune 411 018, India

TO WHOMSOEVER IT MAY CONCERN

This is to Certify that M/s KEI Industries Ltd., New Delhi, have supplied approx. 74KM of PVC Power Cables against our Purchase order No. BOHT/7897/93 Dt. 01.12.93 for 'Jaywada TPS. Project. We further certify that the Cables supplied are in successful operation for over five years.

KRUPP INDUSTRIES INDIA LIMITED


S. B. MOORTANTI
General Manager - Electrical

Company of the
upp Engineering
oup

Krupp Industries India Ltd.
Pimpri, Pune 411 018, India
Tel : +91(020)774401, Fax : +91(020)771100
E-Mail : krupp@supr01.vsnl.net.in

Registered Office : 154C, Mittal To
15th Floor, 210 Nariman Point,
Mumbai 400 021, India
Registration No. 11-055508.



तार / TELEGRAMS: MAAM, DURGAPUR
दूरभाष / TELEPHONE : 5261
टेलिक्स / TELEX 0205-207

माइनिंग एण्ड मशीनरी कारपोरेशन लिमिटेड
MINING AND ALLIED MACHINERY CORPORATION LTD.

(भारत सरकार का उद्यम / A Govt. of India Enterprise)
दुर्गापुर / Durgapur-713210, वर्धमान / Burdwan

संदर्भ सं. / Ref. No.....

दिनांक / Date 20/8/19C

TO WHOMSOEVER IT MAY CONCERN :

It is to certify that we have purchased from M/s. Krishna Electrical Industries, D-90, Okhla Industrial area, Phase-I, New Delhi- 110 00 20 approximately 250 K.M. of FRLS Armoured control cables from 1 core to 24 core, 2.5 mm² for Coal Handling Plant of Farakka Super Thermal Power Station, NTPC. The supplies have been made as per NTPC inspection and other engineering standards after successful type test and FRLS test.

For & on behalf of M A M C Ltd.


Dy. General Manager (Project).

पंजीकृत कार्यालय : दुर्गापुर-713210, Regd. Office : Durgapur-713210, पश्चिम बंगाल : West Bengal

Indian Oil Corporation Limited
Haldia Refinery
PO Haldia Oil Refinery
Dist- Midnapore, West Bengal-721008
Tel : 03224-282204/305041
Fax : 282141



Haldia Refinery

Dated February 8, 2008

To Whom It May Concern

This is to certify that KEI Industries Limited has supplied 5.5 KV grade (UE FRLS) 3c x 400sq.mm Aluminium Cable against PO RHRMGP1816/17619803 dt 09.07.2007

Quantity 5,103 KM vide KEI's Invoice no 72003790 & 72003802 DT. 24.11.2007


Sanjay Sen
Chief Materials Manager (UC)
Haldia Refinery

CC to : Mr. Alok Saha

Dy. General Manager - Eastern India,
KEI Industries Limited,
2/1 Kalibari Lane, Flat#1
Jadrapur, Kolkata - 700 032,
West Bengal.

Regd. Office : O.B. Al Viver Jung Marg, Bandra(East), Mumbai-400051 (India)



पंजीकृत कार्यालय : इंजीनियर्स इंडिया भवन, 1, भीकानजी कामा प्लेस, नई दिल्ली-110066
 Regd. Office : Engineers India Bhavan, 1, Bhikaji Cama Place, New Delhi-110066

Procurement Development Department

Ref: 4994/PDD/RE/K082 9th January, 2014

M/s KEI Industries Ltd.
 D-90, Okhla Ind. Area, Phase - I
 New Delhi - 110 020

Subject: Revalidation of Enlistment with EIL.

Dear Sirs,

We refer to your application on subject matter and are pleased to inform that your enlistment with EIL has been revalidated for the items as described below:

| Item Description | Material / Range |
|---|-----------------------------|
| - Cables - High Voltage - XLPE | Voltage grade: Upto 33kV(E) |
| - MV Power Cables - Fire Survival | --- |
| - Cables - Medium Voltage - Power - PVC | --- |
| - Cables - Control - PVC | --- |
| - Cables - Fire Alarm & Communication | --- |
| - Control Cables - Fire Survival | --- |
| - Thermo Couple Extension Cables | --- |
| - Signal Cables | --- |
| - Signal Cables - Fire Resistant | --- |

This enlistment is valid for your works located at :

- 1) SP 919-920, S22, RIICO Industrial Area, Phase III, Bhiwadi, Distt. Alwar - 301 019.
- 2) A280-284, RIICO Industrial Area, Chopanki, Bhiwadi Dist. Alwar - 301 019.

Please note that this enlistment is subject to satisfactory execution of orders in delivery and quality of above mentioned items when ordered for our various projects.

Further, it may be noted that any change in the product range, location of Works/Sales Office, Management/Organisation structure etc. shall be intimated to us immediately along with relevant document for our necessary action. In case, information to any of the above referred changes is not intimated timely, our enquiries may not reach you.

Enlistment with EIL shall not guarantee any regular flow of enquiries.

In the event of direct / indirect orders for EIL associated projects, materials will be supplied strictly as per the material / range / works as stated above including agreed responsibility matrix, if applicable, failing which your enlistment with EIL is liable to be cancelled.

The validity of this ENLISTMENT is upto 31st January, 2017.

You are advised to apply for revalidation "on-line", 6 months before expiry of the enlistment. Detailed procedures for revalidation can be seen on our website www.engineersindia.com.

Thanking you,

Very truly yours,

Rajeev Kumar
 (Rajeev Kumar)
 Dy. General Manager
 Procurement Development Department

उत्कृष्टता का आभार - हमारे कर्म DELIVERING EXCELLENCE THROUGH PEOPLE

फोन/Phone : +91-11-26762121 (EPABX)

ईमेल / Fax : +91-11-26187622

Visit us at <http://www.engineersindia.com>

E-mail : pd@eii.co.in

हिन्दी देस की एकता की कड़ी है।



मेटलर्जिकल एंड इंजिनियरिंग कन्सल्टन्ट्स (इंडिया) लिमिटेड
 भारत सरकार का संस्थान

METALLURGICAL & ENGINEERING CONSULTANTS (INDIA) LTD.
 A Government of India Enterprise

Ref.11.51.9181.47/v-1041/ PA7481

Dated : 27.02.1995

M/s. KEI Industries Ltd.,
 D-90, Okhla Industrial Area,
 Phase-1,
 New Delhi-110 020.

Sub : **Vendor Enlistment.**

Ref : Our letter No.11.51.9181.47/V-1041 dt.03.02.95

Dear Sirs,

We have examined the information sent by you regarding your products and your company has been enlisted in our Approved Vendor list for the following, including the products enlisted and informed vide our above referred letter.

1. Cable - Instrumental / Screen / Signal Cables
2. Cable - LT Power & Control Cables
3. Cable - Telephone Cables

We will contact you as and when the requirement for your products / services arises. In the meantime kindly keep us informed of new developments in your organisation.

Thanking you for your kind co-operation.

Yours faithfully,
 for Metallurgical & Engineering
 Consultants (India) Limited

J. S. Sambhr
 (J. S. Sambhr)
 Chief Contracts Manager
 CVDC

Ranchi - 834 002, Bihar, India, Phone : 0651-501002501216

Fax : (910-651-5022189, Telex : 0625-209/262/286 MECON IN Gram : MECON



हिन्दुस्तान पेट्रोलियम कॉर्पोरेशन लिमिटेड

(भारत सरकार का संस्थान) रजिस्टर्ड ऑफिस - 17, जयसिंह टाटा रोड, मुंबई 400 020

HINDUSTAN PETROLEUM CORPORATION LIMITED

(A GOVERNMENT OF INDIA ENTERPRISE) REGD. OFFICE - 17, JAMSHINGJI TATA ROAD, MUMBAI - 400 020

8, शूरी वल्लभदास मेम, फ्लैट नंबर नं. 155, फ्लैट 400 021,
 टेलीफोन : 2618031 धार : हिन्दुस्तान, टेलीफोन : 82133, 88770 धार : 022-2611822
 8, Shoori Vallabhdas Mem, Flat Box No. 155, Mumbai - 400 001,
 Tel. : 2618031 Telegum : Hindupet, Telex : 82133, 88770 Fax : 022-2611822
 email : info@hpcl.co.in

Ref: PUR/AS

24-Nov-99

Regn.No: 0035S0225

M/s. KEI Industries Ltd.
 21-A, Gopal Mansion, Guru
 Nanak Rd.,, Bandra (w),,
 Mumbai - 400 050.

Sub: Empanelment of Vendors

Dear Sir,

Reference your application against our Public Notice for empanelment of Vendors which appeared in various leading newspapers.

We are pleased to advise you that your name has now been registered/upgraded for the following jobs/supply items :-

Nature of Jobs/ Supply item : 19 Cables
 Financial limit : Upto 100 Lakhs
 Area of Operation : A

Please note that this registration does not confer any particular right on you and HPCL is not obliged to contact you for any or all of the requirement for the items for which you have been registered. Also this empanelment is subject to satisfactory execution of orders in delivery and quality of above mentioned jobs/supply items when ordered for our various projects. Your performance shall be periodically reviewed by us for continuation of your enlistment with HPCL.

Any change in your product range, location of Works/Sales Office, Management / Organisation Structure etc. should be intimated to us immediately quoting the above mentioned Registration No for our necessary action.

Thanking you,

Very truly yours

Ashok Singh
 ASHOK SINGH
 Manager Purchase & Vendor Mgmt

PUNJAB STATE ELECTRICITY BOARD
OFFICE OF THE CHIEF ENGINEER/RE&APDRP
F-2, SHAKTI VIHAR, PATIALA.

From

Chief Engineer/RE & APDRP
 F-2, Shakti Vihar, PSEB, Patiala

To

M/S KEI Industries Limited
 D-90, Industrial Okhla, Industrial Area,
 Phase -1, New Delhi.

Memo No. *411/99* /RCZ-404/Vol-V

Dated: *25/1/99*

Subject: Works Appraisal of M/S KEI Industries Limited, New Delhi for the supply of HT & LT cables.

The works appraisal of your firm has been carried out by Er. A.K.Verma, Dy. C.E./MS, PSEB, Patiala. Your firm has been recommended for the supply of HT & LT cables for PSEB works under HVDS schemes subject to acceptance of type test certificates.

A.K. Verma
 Dy. CE/RE/P,
 for CE/RE & APDRP,
 PSEB, Patiala.

CC:

1. Dy. CE/MS, PSEB, Patiala.
2. Sr.XEN/APDRP Amritsar, Jalandhar, Ludhiana, Patiala and Bathinda.

भारत पेट्रोलेियम कॉर्पोरेशन लिमिटेड
 भारत सरकार का उपकरण
 भारतीय 9001:2008 व 14001:2004 व
 18001:2007 अन्तर्गत प्रमाणित
 P & CS: 120521
 BHARAT PETROLEUM CORPORATION LTD.
 A Govt. of India Enterprise
 AN ISO 9001:2008 & 14001:2004 AND
 18001:2007 CERTIFIED REFINERY
 CHENNAI 600029 21st January 2015

M/s. KEI Industries Ltd
 Nirvan Corporate
 7th Floor, Opp. Aghadi Naagar
 Jijamata Road
 Andheri Pump House
 Andheri East
 MUMBAI – 400 093

Dear Sir,

Sub: Renewal of Registration

We refer to the documents submitted by you for renewal of your vendor registration with us in response to our letter on the above subject.

Upon Scrutiny of your documents, we are pleased to advise you that we have renewed your Vendor Registration with us as per the following details.

| CATEGORY |
|---|
| SUPPLY OF HT/LT CABLES / CONTROL CABLE (PVC / XLPE/ INSULATED) / INSTRUMENTATION / THERMOCOUPLE EXTENSION / INSTRUMENTATION ITEMS |


Please note that there will be no change in your existing Vendor code (i.e. 120521), which must be referred to in all future correspondence.

Further it may be noted that :

- Registration does not necessarily bind us for sending Enquiries/Placement of Orders on you which is at the sole discretion of BPCL.
- Continuation of registration is subject to satisfactory execution of our Orders by you with respect to Delivery, Quality of the job and other terms and conditions.
- Any change in company constitution, Management / Organization structure/set up, location of the works, etc shall be immediately intimated to BPCL.
- In case you do not respond to our "Request For Quotation" for three consecutive times, your registration is liable for cancellation.

Please sign and return the duplicate copy of this letter by the authorized signatory/ies as acknowledgement of this letter and your acceptance for our record.

Yours faithfully,
 for BHARAT PETROLEUM CORPORATION LIMITED


 SUNIL ADVANI
 SR. MANAGER (P & CS)
 मुख्य निदेशक (P & CS) : मुंबई, मुंबई - 400 074, फोन : 2552 4888/2552 4900/2553 3888/2553 3999, फॅक्स : 2554 2070
 प्रधान कार्यालय : भारत पेट्रो, अंधेरी पूर्व रोड, अंधेरी पूर्व, मुंबई - 400 001.

Mumbai Refinery: Mahul, Mumbai - 400 074, Tel: 2552 4888/2552 4900/2553 3888/2553 3999, Fax: 2554 2070
 Registered Office: Bharat Bhawan, 4 & S, Courtcherry Road, Ballard Estate, Mumbai - 400 001.



मंगलूर रिफाइनरी एण्ड पेट्रोकेमिकल्स लिमिटेड
 MANGALORE REFINERY AND PETROCHEMICALS LIMITED

(असल एण्ड नेचुरल गैस कॉर्पोरेशन लिमिटेड चो सल्लाख कंपनी) (A Subsidiary of Oil and Natural Gas Corporation Ltd)
 पंजीकृत कार्यालय : कुन्जलू पीएच, नारा काठोपलख, मंगलूर, रजि. ऑफिस: कुल्थोथूर पी.ओ. व्हा कॉलोनिया, मंगलूर, 575 030
 फोन: 0824 2270400, फॅक्स: 0824 2271404
 ई-मेल: mrepimr@mmpindia.com Website: www.mrpl.co.in
 "AN ISO 9001 AND 14001 CERTIFIED COMPANY"

Date : 12.03.2014

TO WHOMSOEVER IT MAY CONCERN

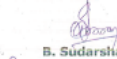
This is to certify LOA No.: SKG/6782-000-XT-MR-0230/25/105/P3-0116 dated: 01.04.2010 for ₹ 14,93,60,960.00 (Rupees Fourteen Crore Ninety Three Lakh Sixty Thousand and Nine Hundred Sixty only) was placed on M/s KEI Industries Limited, D-90, Okhla Industrial Area, Phase I, New Delhi-110020 for supply of the following sizes of HV Power Cables for Phase III Refinery Project of M/s MRPL, Mangalore-

| Item Sl. No | Item Description | UOM | Quantity |
|-----------------------|--|--------|---------------------|
| 1 | HV POWER CABLE, 33KV(E), 1C, 185 SQ.MM, CU CONDUCTOR, XLPE INSULATED, FLAT STRIP ARMOURED, PVC OUTER SHEATH, FR TYPE | METERS | 55000 |
| 2 | HV POWER CABLE, 33KV(E), 1C, 300 SQ.MM, CU CONDUCTOR, XLPE INSULATED, FLAT STRIP ARMOURED, PVC OUTER SHEATH, FR TYPE | METERS | 33500 |
| 3 | HV POWER CABLE, 33KV(E), 1C, 630 SQ.MM, CU CONDUCTOR, XLPE INSULATED, FLAT STRIP ARMOURED, PVC OUTER SHEATH, FR TYPE | METERS | 6000 |
| TOTAL QUANTITY | | | METERS 94500 |

This is to certify that M/s KEI Industries Limited have supplied the above quantity of cables by September 2010 and nearly 80% of the above supplied quantity of cables have been laid & commissioned and are working satisfactorily since December 2011 to till date progressively.

This certificate is issued on specific request by M/s KEI Industries Limited for participating in an International Contract for Cables.

For Mangalore Refinery and Petrochemicals Limited


 B. Sudarshan

General Manager (Project Phase III)
 "मंगलूर रिफाइनरी एण्ड पेट्रोकेमिकल्स लिमिटेड" (Project Phase III)
 मुख्य निदेशक (P & CS) : मुंबई, मुंबई - 400 074, फोन : 2552 4888/2552 4900/2553 3888/2553 3999, फॅक्स : 2554 2070
 प्रधान कार्यालय : भारत पेट्रो, अंधेरी पूर्व रोड, अंधेरी पूर्व, मुंबई - 400 001.
 Dille Office : LGF, Mercantile House, 15/16C, Market Street, Mumbai - 400 001. Ph: 011 23463100, Fax: 011 23463291
 Bangalore Office : MRPL opp. to HSSIDC Industrial Estate Rajajinagar, Bangalore 560 010. Ph: 080 22042200, Fax: 080 - 23505501
 Mumbai Office : Muker Tower, 7th Wing, 16th Floor, Cuffe Parade, Colaba, Mumbai - 400 005, Tel: 91 22 22173000, Fax: 91 22 22173233

दि फर्टिलिजर्स एण्ड केमिकल्स ट्रावन्कोर लिमिटेड
 THE FERTILISERS AND CHEMICALS TRAVANCORE LIMITED

A GOVERNMENT OF INDIA ENTERPRISE
 UDYOGAMANDAL DIVISION, UDYOGAMANDAL - 683 501, KOCHI, INDIA.
 PHONE: KOCHI (0484) 541106 TO 541109, 541872, 541873 GRAMS: UDYOGFACT TELEX: 0885-5007 FACT IN FAX: (0484) 532004
 Udyogamandal,
 27th October 99


TO WHOM SO EVER IT MAY CONCERN

This is to certify that M/s KEI INDUSTRIES LIMITED, New Delhi have supplied for our 900 TPD Ammonia Project, following Instrument Signal and Power cables for a total value of Rs.1.24 Crores against our Purchase Order No.3020 / 14-021 / 287 / 7177 dated 14-10-1995.

- Signal Cables (max. size 12 Triad X 20 AWG individual and overall shielded cables) : 88.40 Kms.
- Thermocouple Extension Cables (max. size 12 Pair X 20 AWG – KX and RX type) : 24.10 Kms.
- Power Cables (max. size 3 core X 150 sqmm) : 11.40 Kms.
- Heat Resistant 2 core X 16 AWG Special Cable : 0.20 Kms.

The 900 TPD Ammonia Project has been commissioned in March 1998 and the cables supplied by the above party have been performing satisfactorily till date.

For THE FERTILISERS AND CHEMICALS TRAVANCORE LIMITED, UDL – DIVISION.


 S. JAYATHIRAKAN,
 CHIEF ENGINEER,
 ELECTRICAL & INSTRUMENTATION,
 FACT – UDYOGAMANDAL DIVISION.

HEAD OFFICE AND REGISTERED OFFICE: ELOOR, UDYOGAMANDAL
 PETROCHEMICAL DIVISION, MARKETING DIVISION, FACT ENGINEERING AND DESIGN ORGANISATION (FEDO) UDYOGAMANDAL
 COCHIN DIVISION - AMBALAMEDU, FACT ENGINEERING WORKS (FEW) - PALLURUTHY

TATA CHEMICALS LIMITED
 MITHAPUR, OKHAMANDAL, GUJARAT STATE

GRAM : TATAKEM-MITHAPUR
 PHONE : – 0289922-2207/2225
 FAX : 028992-2227

MITHAPUR 361 345

OUR REF. : _____

Date 02.05.95

TO WHOM IF MAY CONCERN

This is to certify that M/s KEI Industries Ltd., New Delhi have supplied various types of control, signal and thermocouple compensating cables for various projects (cement plant, power plant & caustic soda) for Tata Chemicals Ltd. at Mithapur and fertilizer division at Babra, U.P. through consultant M/s. Sham-progetti, spa & PDIL for ammonia and urea plant. M/s. KEI have supplied following cables and the plants have been successfully completed.

- Control cables, 175 kms.
- Signal Cables, 95 kms.
- Thermocouple compensating cables, 25 kms.

The performance and quality of cables supplied is found to be good. Further we would like to add that M/s. KEI are regular supplier of control / signal cables to Tata Chemicals for various ongoing projects and the supply is affected in stipulated period.

(N. K. Adya)
 Corporate Manager, Instrumentation

REGISTERED OFFICE : BOMBAY HOUSE, 24, HORN MOODY STREET, BOMBAY-400 001.

Save Energy for Benefit of Self and Nation



Uttar Gujarat Vij Company Ltd.

CIN - U40102GJ2003SGC042906

No.UGVCL/SP/11/HT AB Cable/KEI/ 3258 Date: 14-8-15

TO WHOM SO EVER IT MAY CONCERN SUPPLY CERTIFICATE

This is to certify that M/s KEI Industries Ltd., Vadodara, have supplied the following size of HT Aerial Bunched Cable from their works at Bhiwadi, Rajasthan, against the following Purchase Orders placed by this office.

| Sl. No. | Purchase Order No. & Date | Item | Order Quantity (Kms.) | Supplied Quantity (Kms.) | Year of Supply |
|---------|--|--|-----------------------|--------------------------|----------------|
| 1. | UGVCL/SP/11/326/HT ABC/58 Date: 04/01/2011 | 3CX70mm2+70mm2 XLPE insulated HT Aerial Bunched Cable. | 4 | 4 | 2011-12 |
| 2. | UGVCL/SP/10-11/1/326/HT ABC/KEI/Repeat/825 Date: 21/03/2011 | 3CX70mm2+70mm2 XLPE insulated HT Aerial Bunched Cable. | 1 | 1 | 2011-12 |
| 3. | UGVCL/SP/10-11/1/381/HT ABC/KEI/3682 Dtd:13/12/2011 | 3CX70mm2+70mm2 XLPE insulated HT Aerial Bunched Cable. | 17 | 17 | 2011-12 |
| 4. | UGVCL/SP/458/1/KEI/1214 Date: 9.4.13 | 3CX70mm2+70mm2 XLPE insulated HT Aerial Bunched Cable. | 23 | 23 | 2013-14 |
| | | 3CX120mm2+100mm2 XLPE insulated HT Aerial Bunched Cable. | 6 | 6 | 2013-14 |
| 5. | UGVCL/SP/591/11KV HT AB Cable/14-15/KEI/5039 Date:15.12.14. | 3CX70mm2+70mm2 XLPE insulated HT Aerial Bunched Cable. | 12 | 12 | 2014-15 |
| | | 3CX120mm2+100mm2 XLPE insulated HT Aerial Bunched Cable. | 2 | 2 | 2014-15 |

This certificate is given to M/s KEI Industries Ltd as requested by them vide letter Dtd - 11.8.2015.

Yours faithfully,
For & on behalf of UGVCL., Mehsana
(S.R.Patel)
Chief Engineer (P&P)

To,
M/s. KEI Industries Ltd, 803, Siddharth Complex,
Nr, Hotel Express, RC Dutt Road, Vadodara- 390 007

Regd. & Corporate Office : Vignagar Road : Mehsana : 384 001 (North Gujarat)
Phone No: 02762- 222080-81 Fax No: 02762-223574/236256



07th June, 2014

TO WHOMSOEVER IT MAY CONCERN

This is to certify that M/s KEI Industries Limited is our preferred vendor for supply of HT, LT (Control & Power) and Fire Survival Cables along with Wires for Mumbai International Airport Limited - Terminal 2.

We have always found M/s KEI Industries Limited maintaining high quality standards, timely deliveries, competitive prices and resourceful in meeting all our requirements.

We have extensively used their various types of cables & wires at Mumbai International Airport Project (MIAL) and have found the performance satisfactory.

Total PO value till date is INR 26,46,10,554.00 for supply of Cables & ZHRF Wires to MIAL.

For Larsen & Toubro Limited,



Authorized Signatory

Larsen & Toubro Limited, Construction, Buildings & Factories
Head Office : Mount Road, Manipal, E. B. No. 979, Chennai - 600 089, INDIA
Tel : +91-44-2252 6000, 2252 8000 Fax : +91-44-2259 7288 www.LTncc.com
Site Office : Mumbai International Airport Project (MIAL) Site, Behind Sahar Police Station,
Sahar Airport, Andheri (East), Mumbai - 400 095, Tel : +91-22-2681 0342 Fax : +91-22-2681 0386

Registered Office:
L&T House, N. M. Marg
Bandra Estate
Mumbai 400 001, INDIA

SUZLON ENERGY LTD.

5th Floor, Godrej Millennium
9, Korangon Park Road, Pune - 411 001, India



+91-20-4022000, 4015760
+91-20-4022100, 4022200
pure@suzlon.com
www.suzlon.com

10/03/2005

TO WHOM SO EVER IT MAY CONCERN

THIS IS TO CERTIFY THAT M/S KEI INDUSTRIES LIMITED, HAVING ITS REGISTERED /HEAD OFFICE AT D-90,OKHLA INDUSTRIAL AREA, PHASE-I, NEW DELHI- 110 020 HAS MANUFACTURED AND SUPPLIED 1.1 KV GRADE ANNEALED TINNED COPPER CONDUCTOR, FLEXIBLE, MELINEX TAPPED EPR INSULATED, PCP SHEATHED (AS PER IS:9968 PART 1) RUBBER CABLES AGAINST OUR FOLLOWING PURCHASE ORDERS.

| P.O.NO. | CABLE SIZE | TOTAL QTY | P.O VALUE (Rs.) |
|---------------------------|---------------|-----------|-----------------|
| SEL/DMN/1250/000806/04-05 | 1Cx240 SQ.MM | 76626 | 830,48,134/- |
| SEL/DMN/1250/000809/04-05 | 1Cx120 SQ.MM | 25542 | |
| | 1Cx 50 SQ.MM | 12040 | |
| | 1Cx 185SQ.MM | 18060 | |
| | 1Cx 10 SQ.MM | 8084 | |
| | 1Cx 10 SQ.MM | 8084 | |
| | 1Cx 1.5 SQ.MM | 17028 | |
| | 1Cx 300 SQ.MM | 3010 | |
| SEL/DMN/1250/000538/04-05 | 1Cx240 SQ.MM | 48825 | 515,29,616/- |
| SEL/PWT/1250/000223/04-05 | 1Cx120 SQ.MM | 16225 | |
| | 1Cx 50 SQ.MM | 8290 | |
| | 1Cx185 SQ.MM | 11150 | |
| | 1Cx 10 SQ.MM | 5500 | |
| | 1Cx 10 SQ.MM | 5500 | |
| | 1Cx1.5 SQ.MM | 16875 | |
| | 1Cx 300SQ.MM | 875 | |

THE SUPPLIES HAVE BEEN MADE TO OUR DAMAN & PONDICHERRY UNITS AND THE PERFORMANCE OF THE CABLES HAVE SO FAR BEEN SATISFACTORY.

FOR SUZLON ENERGY

AUTHORISED SIGNATORY

M.S.E.B., C.P.A. MUMBAI

MAHARASHTRA STATE ELECTRICITY BOARD

Telephone: 642 2211
642 2131

Telex : 011 - 78293 MREB
011 - 78294 MSEB IN

FAX : 91 22 644 3749
91 22 640 1329

Gram : COSGRID

Central Purchase Agency,
Frakshgad, 1st floor,
Station Road G-9, Bandra
MUMBAI - 400 051.

SP/MISC/XI/10

To 13436-1

13 NOV 1987

M/s. KEI Industries Limited,
21-4, Gopal Mansion, Gurunank Road,
BANDRA (West), MUMBAI-400 050.

Sub :- Request for issue of certificate of supplies.

Ref :- Your letter No. KEI/97/BOM dtd. 10-11-97.

Dear Sirs,

With reference to the letter, regarding performance certificate for supply of cable against the order as indicated below :

| Order No. & Date | Description | Ordered & supplied quantity |
|---------------------------------------|---|-----------------------------|
| SP/T-1012/IBRD/10326 dtd. 29-7-95. | i) L.T.PVC Cable 3.5C x 300 sq.mm ii) L.T.PVC Cable 3.5C x 185 mm2 | 27 KM 58 KM |

According to the above said order is executed from 27-11-95 to 6-1-96 with value of Rs. 2,48,58,041/-. We have not received any adverse report so far. Hence performance of cable can be considered satisfactory.

Yours faithfully,

Executive Engineer (St.XI)
For Technical Director (St.)



TOYO ENGINEERING INDIA LIMITED

TOYO HOUSE, LAL BAHADUR SHASTRI MARG, KANJURMARG (WEST),
MUMBAI - 400 078. ● TEL. : (91-22) 579 9001 ● FAX : (91-22) 579 9061 / 62
INTERNET SITE : www.teil.com

July 04, 2001

TO WHOMSOEVER IT MAY CONCERN

This to certify that, M/s KEI Industries Limited having its office at D-90, Okhla Industrial Area, Phase-I, New Delhi has supplied us 148.600 K.M. of Halogen Free FRLS Instrument Signal, Thermocouple Extension, Control & Grounding Cables, valuing Rs. 140.81 Lacs for our IPL LPG Import/Export Facility Project at Haldia under inspection from M/s PDIL. The details of the order is as follows :

- A) **Instrument Signal Cables**
Max. Size : 12 Triad x 1.5 Sq. mm
- B) **Thermocouple Extension Cables**
Max. Size : 12 Pair x 20 AWG (KX)
- C) **Instrument Control Cables**
Max. Size : 3 Core x 25 Sq. mm.

Deliveries of the cables are as per the Project Schedule and so far performance of the same is found satisfactory.

For TOYO ENGINEERING INDIA LTD.,

B. N. CHAVAN
PROJECT MANAGER

DELHI OFFICE: UNITED COMMERCIAL BANK BLDG., 1ST FLOOR, PARLIAMENT STREET, NEW DELHI-110 001.
TEL.: (91-22) 371 1952



GUJARAT STATE FERTILIZERS & CHEMICALS LIMITED

Registered Office : P. O. Fertilizer Nagar - 391 750, Dist. Vadodara, Gujarat, India.

Phone : 372051, 372451
372651, 372751
372641
Fax : 0265-372966, 370119

05-01-2001

TO WHOMSOEVER IT MAY CONCERN

THIS IS TO CERTIFY THAT **M/S KEI INDUSTRIES LIMITED**, D-90, OKHLA INDUSTRIAL AREA, PHASE-I, NEW DELHI HAS SUPPLIED US ABOUT **200 KM**s OF FRLS BRAIDED CONTROL, INSTRUMENT SIGNAL AND COMPENSATING CABLES FOR OUR 1350 MTPD AMMONIA EXPANSION PROJECT, AT THE COST OF RS. 242 LACS VIDE OUR MAIN PURCHASE ORDER NO. GSFC/9413/AEP/736(D)/1177 DT. 21.03.1996 AND AMENDED THEREAFTER.

THE CABLES WERE DESIGNED, MANUFACTURED AND TESTED AS PER **LNDETICB** SPECIFICATIONS.

SO FAR THE PERFORMANCE OF THE CABLES IS FOUND TO BE SATISFACTORY.

FOR **GSFC LTD**

H.V. KACHHADIA
SR. MANAGER (Inst)



LARSEN & TOUBRO LIMITED

ENGINEERS
REGD. OFFICE:
137 House, Salim Salim Estate, Mumbai 40001

TELEPHONE : 22070000
TOLL FREE NO. : 850 1401, 850 1411
TELEX : 31 11053, 31 71094,
11 71095
FACSIMILE : 022-8501056, 1513

REPLY TO

Power Works
BANK VIHAR ROAD
P.O. BOX 8901
MUMBAI 400 072
9th NOV, 2000

IN REPLY
PLEASE QUOTE:

TO WHOMSOEVER IT MAY CONCERN

This is to certify that M/s. KEI INDUSTRIES LTD, D-90, OKHLA INDUSTRIAL AREA, PHASE-I, NEW DELHI- 110020 has supplied us COPPER FRLS POWER, CONTROL & INSTRUMENTATION CABLES for our 115MW IIPL, HALDIA COMBINED CYCLE POWER PLANT at a value of Rs. 33. 85 millions. The details are as follows.

| P.O.NO. | MAX. SIZE | QTY.- KM. |
|-----------------------------------|------------------|-----------|
| COPPER FRLS POWER CABLES | | |
| PGTX/585558/NKK/DSC DT.26.11.97 | 3.5C x 300 SQ.MM | |
| PGTX/585032/NKK/DSC DT.28.08.97 | 1C x 400 SQ.MM | |
| PGTX/585046/NKK/DSC DT.07.12.98 | 1C x 300 SQ.MM | 66. 047 |
| COPPER FRLS CONTROL CABLES | | |
| PGTX/585561/JF/DSC DT.08.12.97 | 37C x 1. 5 SQ.MM | |
| PGTX/585016/JF/DSC DT.24.06.98 | 24C x 1. 5 SQ.MM | 76. 149 |
| COPPER FRLS SIGNAL CABLES | | |
| PGTX/595001/JF/DSC DT.16.04.98 | 12T x 1. 5 SQ.MM | |
| PGTX/595033/JF/DSC DT.31.08.98 | 12P x 16AWG (KX) | 109. 001 |

The supplies were completed on time and the performances of the cables have so far been satisfactory.

The power plant was commissioned in open cycle mode in Jan, 2000 and fully operational in combined cycle from May, 2000.

FOR LARSEN & TOUBRO LTD.

P.K.SHAH, MANAGER, GTPB, ENGG.



REGIONAL OFFICES: P.O. BOX 519, CALCUTTA 700 071; P.O. BOX 622, NEW DELHI 110 015; POST BAG NO. 24, MADRAS 600 002; P.O. BOX 115, PUNE 411 008
BRANCH OFFICES: JAMSHEDPUR, BANGALORE, BARODA, BHILAI, BHOPAL, BHUBANESHWAR, CHANDIGARH, COIMBATORE,
DURGAPUR, HYDRABAD, JAMNESHAPUR, KOLCHI, LUCKNOW, MUMBAI, RAIPUR, PATNA, RAURKELA, VISAKHAPATNAM

PUNJ LLOYD LTD

REGISTERED &
CORPORATE OFFICE
PUNJ LLOYD HOUSE
17-18, NEHRU PLACE
NEW DELHI - 110 019
INDIA

TEL 4300 133
FAX 011 4200 111
E-mail : info@punjlloyd.com

Date: 17th October, 2000

TO WHOM SO EVER IT MAY CONCERN



This is to certify that KEI Industries Ltd., has supplied 87 Kms of Signal & Control and Thermocouple Extension Cables as per EIL Specification from their works at New Delhi & Bhiwadi vide our P.O. No. PROC/EIND07/140411 dated 31/08/1998 for our SRU Project at IOCL Mathura Refinery, which was commissioned in the month of December 1999. The Performance of Cables is satisfactory and there is no adverse report against the cables so far.

This letter have been issued on specific request of the vendor.

For PUNJ LLOYD LTD.

ABHIJIT GUHA
Sr. Manager - Materials

LARSEN & TOUBRO LIMITED

TELEPHONE: 0265-484083/83/6
TELEFAX: +91-0265-795 243/149

ENGINEERS
Registered Office:
L&T House, Ballist Estate, Bombay 400001

REPLY TO: GTFB Division
L&T-EPC Centre,
NH-8, Chikari, Baroda - 391740

REPLY PLEASE QUOTE: GTFB (V)PROC/VENREG/009/99

18/05/99

To,
M/s. KEI Industries Ltd.,
D-90, Okhla Industrial Area, Phase-I,
NEW DELHI - 110 020
Phone nos.: 011-6818840, 6818642
Fax No.: 011-6811959, 6817225

Kind Attn: Mr. S.K.CHADHA
Manager/Marketing

Dear Sir,

Sub: Registration as an approved Vendor

Ref: 1) Your letter No.KEI/REGN/BOM dtd.28th July, 1998
2) Your letter No.KEI/433F/99/L&T dtd.3rd May, 1999

With reference to the above, we are pleased to inform you that you are enlisted as one of approved Vendors with our GTFB Business Division, Vadodra of L&T Gr.-II Projects for the following products.

1. PVC/XLPE POWER CABLES -- UPTO 3.3 KV , 1000 SQ.MM (SINGLE CORE), 630 SQ.MM (MULTII CORE)
2. PVC CONTROL CABLES -- UPTO 1.1 KV, 0.5, 1.5 & 2.5 SQ.MM. UPTO 61 CORE.
3. INSTRUMENTATION CABLES -- 1.1 KV, 0.5, 1.5 & 2.5 SQ.MM
4. PVC/PE/THERMOUPLE EXTENSION/COMPENSATION CABLES -- 1.1 KV, 16AWG, 20AWG

Your application serial number is 069 and you are required to mention the same in your future correspondence. Your enlistment is valid up to 12-12-1999. We will consider for revalidation based on revalidation of your ISO 9002 Certification due by 12.12.1999.

The registration shall not bind Larsen & Toubro Ltd. to give you any priority or preference in the issue of enquiries and placement of purchase orders and does not guarantee that all or any of the enquiries for the above items would necessarily be sent to you. We also retain the right to review and cancel your registration at any time without assigning any reason, whatsoever, and without any liability on our part.

You are also required to intimate to us changes, if any, in postal address, contact phone numbers, fax numbers, in the constitution or working of your firm during the currency of registration of your firm with us. Copies of annual reports, financial statements, ITCC should be forwarded to us each year.

Thanking you,

Yours faithfully,
For LARSEN & TOUBRO LIMITED,

Y.S.PRASAD
SENIOR MANAGER (PROCUREMENT)
GTFB



ERCOM Consulting Engineers Pvt. Ltd

ERCOM HOUSE, C-1, C-Block, Community Centre, Naraina Vihar, New Delhi-110028 INDIA
(AN ISO-9001 COMPANY)

Ref: ERCOM/DL/ SUP/EC- 7490
Date: May 26, 2001

M/s. KEI Industries Ltd.
D-90, Okhla Industrial Area,
Phase-I,
New Delhi-110 020.

Kind Attn: Mr. Sanjay Mehra, Asstt. Manager (Marketing)

Dear Sirs,

Subject: Vendor Enlistment with ERCOM

Ref: Your Letter No. KEI/433H/01, dated 06-02-2001.

We have gone through the documents forwarded to us vide your above letter and are pleased to inform you that your company has been enlisted in our approved vendor list for the following items:-

| Sl. No. | Code | Item/Service description |
|---------|--------|-----------------------------|
| 1. | EE/042 | 1.1 KV grade power cables |
| 2. | EE/043 | 1.1 KV grade control cables |
| 3. | EE/044 | Instrument cables |

The validity of this enlistment is up to three years.

Regards,

Yours faithfully,
for **ERCOM Consulting Engineers Pvt. Ltd.**

(A.K. TIKU)
General Manager (Elect.)

BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)

Project Engineering
Management



Ref:

Date: 09.07.2012

To

M/s KEI INDUSTRIES LTD.
D-90, OKHLA INDUSTRIAL AREA, PHASE-I,
NEW DELHI 110020

Kind Attn: Mr. Gaurav Shanker Mathur (Asst. Manager-Marketing)

With reference to your request received vide e-mail dated 28.06.2012 for re-issuance of registration certificate, it may please be noted that M/s KEI INDUSTRIES LTD. with their registered office at D-90, OKHLA INDUSTRIAL AREA, PHASE-I, NEW DELHI 110020 and works at SP-919/920 RIICO Industrial Area, Phase-III, Bhiwadi, Dist Alwar- 301019, Rajasthan and A-280/281/282/283/284 RIICO Industrial Area, Chopanki, Dist. Alwar- 301019, Rajasthan is PEM registered vendor under **Permanent Category** having Vendor Code K027 for following packages:

- a) HT XLPE CABLES
- b) LT XLPE POWER CABLE
- c) LT PVC POWER CABLE
- d) LT PVC CONTROL CABLE
- e) SCREENED CONTROL CABLES
- f) LT XLPE CONTROL CABLE
- g) LT HRPVC POWER CABLES
- h) LT HRPVC CONTROL CABLES
- i) LT FIRE SURVIVAL CABLES
- j) BARE GROUND CONDUCTOR FOR BELOW GRD EARTHING
- k) BARE GROUND CONDUCTOR FOR ABOVE GRD EARTHING

The registered vendor has to comply vendor registration requirement as per BHEL policies and guidelines.

The above registration has the approval of the competent authority.

Thanking you,
For & on behalf of BHEL

(Manisha Gupta)
Sr. Engineer/VD

श्रीमान गौरव शंकर मथुरा (असि. मैनेजर-मार्केटिंग)
के.ए.के. इंडस्ट्रीज लि.,
डी-९०, ओखला औद्योगिक क्षेत्र, फेज-१,
नई दिल्ली-११००२०
फोन नं. ०११-६८१८८४०, ६८१८६४२
फैक्स नं. ०११-६८११९५९, ६८१७२२५
वेबसाइट: www.kei-wires.com

To,

M/s KEI Industries Ltd.,
New Delhi

K.A.: Sh. Munishwar Gaur

Dear Sir,

With reference to the Supplier Registration Form submitted by you & visit to Chopanki works for supplier assessment, kindly note that M/s KEI Industries Ltd. with works at 'A-280/281/282/283/284, RIICO Industrial Area, Chopanki, Alwar - 301019' already registered with TBG/BHEL under the permanent Code 'KR016' **have been approved** for enhancement of rating upto 220 kV for EHV cable under the same permanent code.

Regards,

Abhinav Gupta
Sr. Engineer (TBMM/SDC),
Transmission Business Group,
Bharat Heavy Electricals Limited,
Tower A, 5TH Floor, Advant Navis IT Business Park,
Plot No-7, Sector-142, Expressway Noida,
Noida-201305,
Dist:- Gautam Budh Nagar, U.P.
Ph. No.: 0120-6748460, 9818492681



"Celebrating 50 Years of Engineering Excellence (1964-2014)"

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BHEL/PEM
Power Project Engineering Institute,
HRD & ESI Complex,
Plot No. 25, SECTOR - 66A,
Noida - 201 301 (UP) INDIA

Phone: +91-120-4368794
Fax: +91-120-4329026

Regd. Office:
BHEL House
Sector-11
New Delhi - 110 009,
INDIA

Designers of Plants and Machinery for Petrochemicals and Man-Made Fibres

CHEMTEX ENGINEERING OF INDIA LTD.

Registered Office :
CHEMTEX HOUSE, HIRANANDANI GARDENS, MAIN STREET, POWAI, MUMBAI-400 076.

LTD.

Cable : CHEMTEXENG
Phone : 5784491 5784498 577299
Fax : 91-22-5753998

Our Ref. : VL / 97 / ZOK002

Date : 25-Nov-97

To : KEI INDUSTRIES LTD
D-90, PHASE-I,
OKHLA INDL. AREA,
NEW DELHI - 110020

Sub. : ENLISTMENT AS AN APPROVED VENDOR

Gentlemen :

We thank you for the keen interest evinced by you in getting enlisted with us as an approved vendor.

After having examined your application and reviewing the credentials, we are pleased to inform that you have been enlisted with CHEMTEX as an approved vendor, for the items described below :

| SR.NO. | ITEM DESCRIPTION | MATERIAL / RANGE |
|--------|------------------------|------------------|
| 1 | POWER CABLES | |
| 2 | CONTROL CABLES | |
| 3 | INSTRUMENTATION CABLES | |

Please note that this enlistment is subject to satisfactory execution of orders in delivery and quality of above mentioned items, if and when ordered on you for future projects handled by Chemtex.

You are advised to keep us informed of any change in the product range, location of works/sales office, management/organisation structure etc. Also ensure that relevant documents incorporating the changes are submitted to us as and when due.

Very truly yours,
CHEMTEX ENGINEERING OF INDIA LTD.


P. S. SAGARIK
General Manager (Procurement)



MAHARASHTRA STATE ELECTRICITY TRANSMISSION COMPANY LIMITED
OFFICE OF THE CHIEF ENGINEER (PROJECT & DESIGN)
TRANSMISSION PROJECT DEPARTMENT
5th FLOOR, PLT. NO. C-19, E-BLOCK,
PRAKASIMANGA, BANDRA - KURLA COMPLEX,
BANDRA (EAST), MUMBAI-400 051.

PHONE : (01) 922-2695130
FAX : 922-2695 8587
E-mail : ce@mahatransco.in

Ref No- MSETCL/CO/Prj.&Des./D&E-S3/DTF/Cable/ - 6986 Date: 26 MAY 2015

To,
SUYOG URJA PVT. LTD.
6, Fiji Bldg., Pacific Enclave,
Near Hiranandani Hospital,
Powai, Mumbai-400076.

Sub.: Approval of Guaranteed Technical Particulars and Quality Assurance Plan in respect of KEI make LT PVC Insulated FRLS Type Control/Power Cables for Establishment of 132/33 kV substation Pishor for 50 MW Wind Power Project At-Anjannadi, Dist-Aurangabad.

Ref.: 1) Your Letter No.: SUPLMH/Anjannadi/GTP_DRWG/CONTROL_CABLE/2904-001 Dtd-29.04.2015 received on 05.05.2015 to this office.
2) Our Email on 12th May 2015.

Dear Sirs,

We refer to your above mentioned letter under reference (1); vide which you have submitted the documents in respect of KEI make LT PVC Insulated FRLS Type Control/Power Cables. The Guaranteed Technical Particulars (GTPs) have been scrutinized in terms of our specifications/relevant standards and found to be generally in order and hence approved. You have not submitted Type Test Reports & Quality Assurance Plan. Hence you are requested to supply the same as per attached Quality Assurance Plan herewith. The details of approved Guaranteed Technical Particulars (GTPs) are furnished in Annexure-A.

One set of above approved Guaranteed Technical Particulars (GTPs) with corrections indicated by us in red ink is enclosed. It is requested to incorporate the changes and supply the Cables accordingly. You are requested to furnish copies of approved GTPs to our concern field offices.

The Quality Assurance Plan (QAP) approval accorded by our vide our Letter No. MSETCL/CO/PRJ.&DES./D&E-S3/TKC/T-1225/S&W/2709 dtd-24.02.2015 for LT PVC/ XLPE Insulated FRLS Type Cables (KEI make) has been verified. The same are found to be generally in order & hence applicable for this project also.

It is requested to submit the valid Type Test Reports for the same before commencement of supply. Otherwise dispatch instructions will not be issued.

E:\D&E S3\APPROVAL\S\SUYOGANIANNADE\Cable.docx

Page 1 of 3



Ref : PESMLTSM/CBL

Dated : 1997-05-03

M/s. KEI Industries Ltd.,
D-90, Okhla Industrial Area,
Phase - I,
New Delhi - 110 020.

Kind Attn : Mr. Sanjay Mehra - Asst. Manager (Mktg.)

Sub : Enlistment of Supplier for manufacture & supply of Power & Control Cables for Power Projects

Ref : Letter No. KEI/433(D)/97/ABB dated 18th Feb. '97

Dear Sirs,

We thank you for the interest shown by you in associating with us for the implementation of the various Power Projects being set-up / proposed to be set-up by us. We sincerely appreciate the efforts put in by your people in explaining to us the functioning of the various departments / groups in your organisation with regard to above mentioned package.

We are enclosing herewith a write-up on Supplier Classification process which is being adopted for the various packages being sublet by us. As can be seen from the enclosed document, we have kept ISO accreditation as one of the criteria for qualification of the supplier in the category Level-II, i.e. "Qualified". In all our EPC contracts, ISO/ ISO equivalent procedures is demanded by customers. It is just a matter of time that ISO accreditation will be considered as essential for EPC contractor as well as his suppliers. Hence, for you to be a "Qualified" supplier in such EPC projects, it is imperative for you to continue to have ISO accreditation.

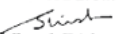
While for the present, we have decided to issue tender enquiries to both 'Approved' as well as 'Qualified' suppliers, we may add that in future, we are targeting to restrict tender enquiries only to the qualified suppliers. Further, a 'Qualified' supplier stands to gain advantage in a competitive situation, compared to an 'Approved' supplier.

We have taken note of the information given by your organisation and wish to inform you that for the present, we have classified you as a "Qualified" Supplier for PVC LT Cables & Control Cables.

As a 'Qualified' Supplier, we expect you will continue to endeavour attaining a very high standard of operation in your organisation, so as to meet the TQSR threshold for levels III & IV, i.e. Preferred / Partner, as envisaged in our Supplier Classification Process. Accordingly, we would request you to keep us updated on any process related changes / additions being made in your organisation to enable us to do the reassessment / requalification as may become necessary.

Thanking you,

Yours faithfully,
for Asea Brown Doveri Ltd.,


Suresh Krishna



प्रोजेक्ट्स एण्ड डेवलपमेंट इण्डिया लिमिटेड
(भारत सरकार का उपक्रम)
PROJECTS & DEVELOPMENT INDIA LIMITED
(A GOVT. OF INDIA UNDERTAKING)
PDIL BHAWAN, A-14, SECTOR-1, NOIDA-201 301
DISTT. GAUTAM BUDDH NAGAR, (U.P.) INDIA

PNMM/REG/N P0442
Date : 01.10.2009

M/s KEI INDUSTRIES LIMITED
D-90, OKHLA INDL. AREA, PHASE - I
NEW DELHI-110020

Subject : VENDOR REGISTRATION CERTIFICATE

Dear Sirs,

We are pleased to inform you that you have been enlisted with PDIL as an approved vendor for the item(s) described below:

| ITEM CODE | ITEM DESCRIPTION | MATERIAL / RANGE |
|-----------|-----------------------------------|------------------|
| 311801 | INSTRUMENT POWER & CONTROL CABLES | |
| 311802 | EXTENSION & COMPENSATING CABLES | |
| 810501 | HT POWER CABLE | Upto 33 KV |
| 810502 | LT POWER CABLES | |
| 810503 | CONTROL CABLE | |

Please refer the above reference number in all your future correspondence related to above subject. Kindly note that this enlistment is subject to satisfactory execution of orders in delivery and quality of above mentioned items when ordered for our various projects.

Further, it may be noted that any change in the product range, location of Works / Sales office, Management/ Organisation structure etc. shall be intimated to us immediately along with relevant documents for our necessary action. In case, information to any of the above referred changes is not intimated timely, the enlistment with us is liable to be cancelled. Your performance shall be reviewed for continuation of your enlistment with PDIL.

This registration is valid till 30.09.2014. You shall contact us at least 180 days in advance for revalidation of your registration with us, failing which, your name may be deleted from our vendors list.

Thanking You,

Yours faithfully,

(R. S. SAGARIK)
Chief Manager (Materials)



Regd. Office - PDIL Bhawan, A-14, Sector-1, Noida-201301
Phone : +91 - 120-2529842/3/4/5/1 Fax : +91 - 120-2520801, 2541493
E-mail : noida@pdil.in, pdilnoida@psnl.com
Other Office : Sindh, Baroda, Mumbai, Kolkata and Chennai
Visit us at : www.pdil.in

GOVERNMENT OF MAHARASHTRA
Office of the Chief Engineer (Elec.),
P.W.D. Deptt., Govt. of Maharashtra,
Bandhkan Bhavan, 3rd floor,
Marban Road, Fort,
Mumbai-400 001.

Website : www.mahapwd.com Telephone : (022) 22013415/16/17
Email :- elmumbai.ce@mahapwd.com Fax : (022) 22016900
No.CE/Elec./Desk-3/HDM/22 SEP 2014. Date :- 22 SEP 2014

To,
M/s. KEI Industries Ltd.
101/102/103, Vastu Shilp, Vastu
Enclave, Andheri Pump House,
Jijamata Road, Andheri (E),
Mumbai-400 093

Sub : Approval to use material on works carried out by Government of Maharashtra.
Ref : 1) Your Letter No.MUMDT/2013-14 Dated 19.03.2014
2) This Office Letter No. C.E.(Elec.)/Desk/3/224/2014 Date 25.03.2014
3) Factory Visit Dated 5.04.2014
4) Test Report of MSME Testing Station, Hyderabad - 500 018
Report No.1) 39231 Date - 05.09.2014, 2) 39230 Date - 05.09.2014

Sir,
The subject proposal submitted by you was examined by this office and now the undersigned is pleased to accord approval to the following materials for using it on works carried out by Government of Maharashtra W.E.F. the date of issue of this letter.


Name of material : " Wires & Cables "
Place of manufacture : SP 920, Phase-III, RICO Industrial Area, Bhiwadi, Distt :-(Awar)(Rajasthan)
301019
Brand Name : "KEI"
Technical Specifications of the Materials :

| Sl.No. | Name of Product | Validity |
|--------|---|------------------------------------|
| 1 | PVC insulated Wires & Cables for working voltage upto and including 1100V | Up to 31 st August 2017 |
| 2 | Crosslinked polyethylene insulated PVC sheathed cables : Part 1 for working voltage upto and including 1100V | |
| 3 | Crosslinked polyethylene insulated PVC sheathed cables : Part 2 for working voltage from 3.3 kV upto and including 38kV | |

Manufactured as per ISI No. : For item No. For item No 1) IS : 694-1990, 2) IS : 7098 (Part 1) : 1988 / IS : 1554 (Part 1) : 1988 For item No3) IS : 7098 (Part 2) : 1985 / IS 1554 (Part 2)
Whether having ISI No. : NO
License No. : Nil Validity : Nil
Whether covered by House hold Electrical : N.A.
Manufacturing Certificate No. : N.A.
Validity : N.A.
Authority to issue M.C. : N.A.

The above approval given subject to the performance of the material during this period remains satisfactory. In case of unsatisfactory performance; the approval accorded shall be with drawn forthwith.

Yours faithfully,


(S.A.Patil)
Chief Engineer (Elect.)
P.W.Deptt., MUMBAI-1.

Copy forwarded to Superintending Engineer Regional Elec. Circle MUMBAI / PUNE / AURANGABAD / NAGPUR / AMRAVATI / NASHIK for information.



BHARAT HEAVY ELECTRICALS LIMITED
(A Government of India Undertaking)
Boiler Auxiliaries Plant, Ranipet - 632406, INDIA
Phone : 04172 -254425,254533
Fax : 04172-241131
Email : gchandr@bhelrpt.co.in

PURCHASE DEPARTMENT
VENDOR REGISTRATION CERTIFICATE

RAF : PURCHASE

DATE : 14/12/02

TO
M/s **KEI INDUSTRIES LIMITED**
D-90, PHASE - I,
OIGLA INDUSTRIAL AREA
NEW DELHI 110020

Dear Sir,

We are pleased to inform you that your firm has been provisionally registered with Vendor Code 1265 for the supply of the following products / items, subject to the conditions stipulated below:

| DESCRIPTION OF ITEM | SPECIFICATION | VENDOR CODE |
|----------------------|---------------|-------------|
| CABLES LT POWER - AL | | 1265 |
| CABLES -CU CONTROL | | 1265 |

Please indicate your vendor code in all future Correspondence.
Thanking You,
for BHEL, RANIPET

MANAGER / PURCHASE
SUPPLIER DEVELOPMENT CELL

Condition :

- 1) Please note that this registration does not guarantee for award of any contract/order for the supply of above items.
- 2) This registration does not confer on the Vendor any right to demand mailing of enquiries

PRASAR BHARATI
(INDIA'S PUBLIC SERVICE BROADCASTER)

Office of the Superintending Engineer (Training)
Civil Construction Wing : All India Radio,
7th Floor, Sochtra Bhawan, CGO Complex,
Lodhi Road, New Delhi - 110 003.
Ph: 2428206, 2428251 Fax: 24284358
e-mail: estrainingcwg@yahoo.com.in
No. 1027/KEI/Dema/2014-15/565
M/s KEI Industries,
D-90, Okhla Industrial Area, Phase-I,
New Delhi-110020.



Dated: 28.05.2014
SA

Subject- Approval for " M/s KEI Industries, manufacturer of Wires from 0.5 sq. mm to 220 KV cable.

Sir,
M/s KEI Industries, New Delhi-20 has approached the Superintending Engineer (Trg.), CCW, AIR, New Delhi for approval of their products for use in the works being executed by CCW, AIR. Based on successful demonstration of their products and very informative presentation before Sr. Officers of CCW (SE/EE/SA/EO) on 21.05.2014 in CCW Training Institute, the following products of M/s. KEI Industries, New Delhi, have been recommended for approval:-

| Sl.No. | Description of items | Brand of products | Referenced to standards |
|--------|---|-------------------|---|
| 1 | HT Cable for EHV Cables (upto 220 KV), LT Cables, Instrumentation Cables, Rubber Cables & PVC House Wires & Flexible Cables. | KEI | IS : 694 : 1990 IS : 1554 (Part-I & II) IS : 7098 (Part-I & II) IS : 9960 IS : 14484 IS : 6784 |

Provisional approval is hereby accordingly conveyed for the above products for use in various works of Civil Const. Wing : All India Radio for a period of 2 years from the date of issue of this letter with the following terms & conditions :-

1. It should be ensured that the products should conform to relevant IS/BS/CPWD specifications. Change, if any should be got approved by competent authority, failing which the approval is liable to be cancelled.
2. The approval does not absolve the Executive/Supervisory staff from their responsibility for using correct quality products. It is only after they are satisfied about the quality and the performance, the products shall be used. Mandatory checks about the quality shall be carried out as per norms and the records of the same shall be maintained, as per usual practice in Govt. works.
3. The products shall be used only after satisfying various aspects vis-a-vis codes/ manufacturer's specifications/Sound Engineering Practices.
4. Further, continuation of the approval of the products will be decided on the basis of the mandatory feedback / performance report submitted by Superintending Engineers (IE) in case anyone using the products notices any defect/discrepancy, the same shall be reported immediately to the respective Superintending Engineer without waiting for the expiry of the period of two years.
5. As nominated, details of the required products e.g. drawings, samples, pricing etc. are available at the address given below:

M/S KEI Industries,
D-90, Okhla Industrial Area, Phase-I,
New Delhi-110020. Telephone No. 091-11-26818840,26818542
Fax No. 0091-11-26811550,26817225
e-mail : mumbai@mahapwd.maha.gov.in
: info@kei-ltd.com

6) Civil Construction Wing : All India Radio reserves the right to withdraw the approval at any time without assigning any reason.

This issues with the approval of competent authority.

(R.K.Dua)
Executive Engineer (Trg.)

Copy to:-

1. PS to CE, for favour of information of CE please.
2. SE/EL,CCW,AIR,DyChief/Okhla/Nagpur for information and necessary action at their respective end please.
3. SSW-I/SSW-III/CCW,AIR for information and necessary action at their end please.

Executive Engineer (Trg.)



नवीकान्त गोयल
सहायक (परियोजनाएं)
N. K. GOYAL
General Manager (Projects)

Date: 15th November 08
30

Sub: Acceptance of KEI makes cable for use in BSL expansion programme

- Ref: 1 Your letter no KEI/KOL/AS/06/2008/BS/PS/KG/APP/2509 dated 25.09.08
2. BSL Email to MECON, dated 10.11.08
3. Mecon Email to BSL, dated 12.11.08

This has reference to your letter regarding approval of additional vendor for supply of HT/LT Cables in Expansion programme of BSL.

BSL/MECON have examined your request. As KEI is the registered with MECON & accepted by SAIL (ISP) also, it is to inform you that KEI is accepted by BSL as additional vendor for supply of HT/LT Cables for projects in expansion programme.

Thanking you.

(N.K.Goyal)
GM (P) Elect. & Mills

To,
Alok Saha
DCM (Marketing)
KEI Industries Ltd.
Kolkata

स्टील ऑथोरिटी ऑफ इंडिया लि. बोकारो स्टील एंड स्टील सिटी - 827001, झारखण्ड, भारत
Steel Authority of India Limited, Bokaro Steel Plant, Bokaro Steel City - 827001, Jharkhand, India
दूरध्वनि : कालिका (06542) 240026 (ई. एच. टी.) / 803771 (भारत) (आवृत्ति) 06542-277893 (ई. एच. टी.) / 6880 (भारत)
Phone : Office (06542) 240026 (P&T), 803771 (Max), (Res.) 06542-277893 (P&T), 6880 (Max)
E-mail : nkgoyal123bokaro@yahoo.co.in
(Fax) 06542-240183

THE DURGAPUR PROJECTS LTD.



(A Government of West Bengal Undertaking)
Office of the Sr. Manager (C & D), Durgapur - 713202.
Regd. Office: Administrative Building, Durgapur-713201, Tata Fax: 0343-2556788, 2558251, 2555052

Ref. No. DPL/CD/503

Dated 22-06-2005...200

P.A.S

To
M/s. KEI Industries Ltd.,
2/1, Kalibari Lane, Jadavpur,
Kolkata - 700 032.

ATTN: MR. ALOKE SAHA,
C. M. MKTA.
Fax No: 033-2221-2629.

Sub: L.T. Power and Control Cables.

Dear Sirs,

We have gone through your Co's Profile where several documents pertaining to manufacture of L.T. Power and Control Cables serves the credibility of enlistment of "KEI" make Cables in our Vendors' List. We have approved KEI as approved vendor.

Thanking you,

Yours faithfully,
(S. S. Kar)
Sr. Manager (Elect.), C&D, DPL.

Kolkata Office : 1, Shakespear Sarani, Kolkata - 700 071. Tele Fax : 033-22823492



AVANT-GARDE ENGINEERS AND CONSULTANTS (P) LTD.

REGD. OFFICE : 68A PORUR KUNDRATHUR HIGH ROAD, PORUR CHENNAI-600 016
TEL. : 91-44-4827843, 4828532, 4828717, 18, 19, 20. FAX : 91-44-4828531
Email : avantgrade@vsnl.com Web Site : http://www.avantgrade-india.com

SSN/PORTAL/58341

M/s. KEI Industries Limited,
D-90, Okhla Industrial Area,
NEW DELHI - 110 020.

Kind Attn.: Mr. S.K. Chadha,
GM - Marketing.

Dear Sir,

Subject: Registering with AGEC as approved vendor.
Ref: Your Application for Enlistment for Vendors.

We are pleased to inform you that your application for enlistment of vendor had been processed and found acceptable. We declare that You are one of our Approved Vendors and we register you in our list of vendors at our web site: www.avantgrade-india.com

Presently your approval is for

1. Design, Manufacture and Supply of 3.3/1.1 kV Grade XLPE/PVC power, Control, Instrumentation, Signal & Thermocouple extension cables.

Enquiries will be sent after Client's approval, for various jobs to start with

For AVANT-GARDE ENGINEERS & CONSULTANTS (P) LTD.

J. Muraleedharan

(S. Sridharan) **J. MURALEEDHARAN**
General Manager - QA & C
AVANT - GARDE ENGINEERS AND
CONSULTANTS (P) LTD.
68-A, Kundrathur High Road,
PORUR, CHENNAI-600 116.

| | | | | |
|---|--|----------------------------|------------------|------------|
| Cognate | Biomass Power Plants | Mini Hydro Electric Plants | Renewable Energy | IPP / CIPP |
| | Visit www.avantgrade-india.com | | | |
| Vendors/Manufacturers/Suppliers/Promoters | | | | |

Division IV(O&M), Vidhyut Bhavan, 3rd Floor,
Aquem-Margao-Goa

Tel/Fax :- 0832-2735496 E-mail:- ecivgoa@gmail.com

No. EE-IV/O&M/Tech-Tender 05(11)/6769/11-12 Dated:- 23/12/2011.

By Regd AD / Hand delivery

ORDER

To,

M/s KEI Industries Ltd.,
101/102/103, Vastu Shilp, Vastu Enclave,
Andheri Pump House, Fijamata Road,
Andheri(E), Mumbai - 400 093.

Name of work- Supply of 40 Kms of 33 KV(E), 3C, 400 sq.mm, armoured, Aluminium XLPE Cable Type A2XWY for Elect. Dept., Govt. of Goa, Division IV, Margao, Goa.

Ref- (i) Our letter of acceptance bearing ref No. EE-IV/O&M/Tech Tender 05(11)/6692/11-12 dttd 20.12.11.
(ii) Performance guarantee submitted vide letter dttd. 23/12/2011

Sir,

In continuation to our letter of acceptance referred above, you are requested to supply 40Kms of 33KV, 3 core, 400 sq.mm, armoured Aluminium XLPE cable type A2XWY to the Sub-Divisional Engineer, Sub-Division-VI (O&M), Margao as per the schedule stated in the N.L.T by 09/07/2012.

You are also requested to attend this office to complete formal agreement within 15 days from date of issue of this letter.

Yours faithfully,

Peter Fernandes
(Peter Fernandes)

Executive Engineer-IV, O&M, Margao
For and on behalf of Governor of Goa



The West Bengal Power Development Corporation Limited

(A Government of West Bengal Undertaking)
Registered & Corporate Office:
New Secretariat Buildings
1, Kanan Sankar Roy Road, 5 Block, 5th Floor, Kolkata - 700 001
Ph: 2248-3217 (MD), 2213-1294 ED (Corp), 2248-6429 ED (P), 2248-6439 ED (Tech), 2248-3912
PAX: 2248-0944, 2248-2024, 2243-0523, Fax: (033) 2248-5436, 2216-3599
Internet Email: wbgpd@rediffmail.com

Ref No.: PDC/Corp/Su/MP/1/Vendor/

Date: 08.12.2005

M/s BHEL,
Project Management Group,
15th floor, Hindustan Times House,
Kasturba Gandhi Marg,
New Delhi - 110 001.

Attn: Mr. S. S. Singh, AGM (PMG)

Sub: Approval of vendor for Bought Out Electrical Items for Santaldih Thermal Power Station Extn. Unit - 5 (1x250 MW)

Ref: BHEL Letter no. 1) SMPS-BDT-WC-PE-0207 dated 30.11.2005

Dear Sir,

With reference to the letter no. SMPS-BDT-WC-PE-0207 dated 30.11.2005 of Mr. D Grover, SDGM (PSG), BHEL, we hereby accord our approval in line with decision arrived in the high level meeting held at New Delhi on 01.10.2005 in respect of different additional Sub Vendor for the following package as detailed below: -

| Sl. no. | Package | Name of Vendor Approved by WBPDC |
|---------|---------------------------|---|
| 1. | LT XLPE FRLS Power Cables | <ul style="list-style-type: none"> M/s Industrial Cables (India) Ltd. M/s Hindustan Vidyalay Products Ltd. M/s KEI Industries Ltd. |

You are requested to please take further necessary action from your end.

Thanking you,

Yours faithfully,

N. Saha
(N. Saha)
Executive Director(Tech)

Memo No.: PDC/Corp/Su/MP/1/Vendor/

Date: 08.12.2005

Copy to:

- The General Manager, STPS, WBPDC, Purulia, WB.
- Mr. S. S Samanta, Dy. General Manager, Corporate, WBPDC, Kolkata-1.
- Mr. B. Ghosh, Project Manager- STPP, DCPL, 24B Park Street, Kolkata-16.
- Mr. D. Grover, Sr. DGM (PSG), PEM, BHEL, BHEL House, Sizi Fort, New Delhi-110019

N. Saha
Executive Director (Technical)

| South Thermal Power Station | Santalaldih Thermal Power Station | Kolkata Thermal Power Station | Bokaro Thermal Power Project |
|---|---|--|---|
| 265-2684 6365, DGM (O) - 6884 6647, SC(MA) 2034 5463, Senior Manager (P&A) - 2684 5286, Senior Manager - 2684 5083, Genl. House - 2684 5301, Tel: 2684 6151 | GM-26227, Senior Manager (P&A)-26228, Senior Manager (P&A) - 26234, Electrical Control Room - 360228, Genl. House - 203421260293, Fax - 260217, STD Code - 3251 | Ph: GM 231116, DGM(O) - 231254, DGM(M) - 231256, DGM(S) - 231253, DGM(Acc) - 231296, Senior Manager (S&E) - 231265, Senior Manager (P&A) - 231268, Electrical Control Room - 231256, Genl. House - 231252, STD Code - 03228, Fax - 231280, Email: krcd@cal.mail.net.in | GM-220281, DGM(Coord.) - 220210, Senior Manager (P&A) - 220202, Genl. House (Bldg. no.) - 221952/21944, Tel: 220694, Fax - 220214, Email: ktpp@cal2.vsnl.in , STD Code - 23462 |

Santalaldih Thermal Power Project
Central Manager - 281355, STD Code - 03463



Maharashtra State Electricity Distribution Co. Ltd
 APDRP Section "Prakashgad" 5th Floor, Bandra (East)
 Mumbai - 400 051.
 Tel.: (0) 26474211
 Fax: (022) 26472868. E-Mail: ce_apdrp@yahoo.com
 Website: www.mahadiscom.in

o.CE/APDRP/30050

Date: 02-09-2006

0

he Chief Engineer,
 I.S.E.D.C.L., Amravati Zone, Akola/Aurangabad Zone, Aurangabad/
 oihapur Zone, Kolhapur/Nagpur Zone, Nagpur/Nagpur Urban Zone,
 agpur/ Nasik Zone, Nasik/Pune Zone, Pune/ Konkan Zone, Ratnagiri/
 eed Zone, Latur/Bhandup Urban Zone, Bhandup/Kalyan Zone, Kalyan.

**Sub: Inclusion of name M/s. KEI Industries Ltd.,
 Mumbai approved Vendor for supply of 11 kV,
 22 kV, 33 kV XLPE Cables.**

The Competent authority has approved to include the name
 'M/s. KEI Industries Ltd., Mumbai in Vendor list of APDRP for supply of
 kV, 22 kV, 33 kV XLPE Cables.

Chief Engineer (APDRP)



मेकॉन लिमिटेड (भारत सरकार का संस्थान)
MECON LIMITED (A GOVERNMENT OF INDIA ENTERPRISE)



पता/संचालक कार्यालय: (बी-2, बाराक, रांची, Jharkhand, India, 834/Phone : 0651-2483000, फोन/फैक्स : 0651-2482189/2482214
 ई-मेल/ई-मेल : ranchi@meconlimited.co.in, रंचि/ई-मेल/वेबसाइट : http://www.meconlimited.co.in

Ref.No.11.74.9181/CVDC/39/K-18V-1041

Date:15-OCT-14

✓KEI INDUSTRIES LTD
 33, Dr Sundari Mohan Avenue (1st floor)
 Near Park Circus Ladies Park
 KOLKATA 700014
 Tel:033 2286698/7224/ 7228 09830085169

Sub : Vendor Registration with MECON (Vendor code: V-1041)

Ref: Your letter No. KEI/KOL/MECON/SM/12-13 dated 07-JUL-12

Dear Sirs,

Kindly refer to your above mentioned letter. We are pleased to inform you that your company (BHIWADI works) is enlisted in our Approved Vendor List for the following, which is now valid till 05-FEB-17. This supercedes our earlier letter of even no dated 03/03/2014.

ELECTRICAL INSTRUMENTATION, TELECOM & SIGNALLING EQUIP. POWER DISTRIBUTION/SHOP ELECTRICS (CABLE & CABLES)

- 1 CABLE - EHT POWER CABLE (Upto 132 kV) - MANUFACTURER
- 2 CABLE - FLEXIBLE CABLE (As per IS 9968 Part 1 & Part II upto 6.6 KV, IS-14494(Applied)
- 3 CABLE - HT POWER CABLE (Upto 66 KV)(Applied)
- 4 CABLE - INSTRUMENTATION/SCREENED/SIGNAL
- 5 CABLE - LT CONTROL CABLE
- 6 CABLE - LT POWER CABLE
- 7 CABLE - TELECOMMUNICATION (INCLUDING JELLY FILLED)
- 8 WIRES - DOMESTIC WIRES

ERECTION CONTRACTORS (POWER DISTRIBUTION)

1 ERECTION CONTRACTORS (POWER DISTRIBUTION)

Please note that this enlistment is subject to satisfactory execution of orders in delivery and quality of above mentioned items when ordered for various projects.

Further it may please be noted that any change in the product, location of works/sales office, Management/Organisation structure etc. shall be intimated to us promptly along with relevant document for our necessary action, failing which our enquiries may not reach you and also your enlistment with us will be liable to be cancelled. Kindly keep sending your annual report every year. Your performance shall be periodically reviewed by us for continuation of your enlistment with MECON.

The above enlistment does not necessarily confirm issue of tender enquiries, which is at the sole discretion of MECON/MECON's client. It is your responsibility to apply for renewal of your registration at least 2 months in advance of expiry of this validity period.

Thanking you.

Yours faithfully
 For MECON LIMITED

Anjali Gang, DGM (PDC)
 (Anjali Gang, DGM (PDC))
 email: odcbranch@meconlimited.co.in
 Fax:0651-248 2189 Tel:0651-248 3394

Major Offices:

| | | | | |
|--|--|--|--|--|
| नई दिल्ली/New Delhi +91-11-2204 1201 (Phone) +91-11-2204 1214(Fax) delhi@meconlimited.co.in | मुंबई/Mumbai +91-22-2781 2155-58(Phone) +91-22-2781 2275(Fax) mumbai@meconlimited.co.in | कोलकाता/Kolkata +91-33-2282 2351-42(Phone) +91-33-2282 4441(Fax) kolkata@meconlimited.co.in | चेन्नई/Chennai +91-44-2626 1911(Phone) +91-44-2626 1474(Fax) chennai@meconlimited.co.in | बंगलूरु/Bangalore +91-80-2657 1661-63(Phone) +91-80-2657 6332(Fax) bangalore@meconlimited.co.in |
|--|--|--|--|--|

Tele: 23018582

Dy Dte Gen of Works (Design)
 Engineer-in-Chief's Branch
 Army HQ, Kashmir House
 DHQ PO, New Delhi-110 011

11593/ISI/64/E2 Des-1

12 Nov 2003

M/S KEI Industries Limited,
 3-90 Okhla Industrial Area, Phase-1,
 New Delhi-110 020

**USE OF ISI MARKED "KEI" BRAND
 ELECTRICAL CABLES IN DEFENCE WORKS**

1. Please refer your letter No. KEI/433K/03/MES/02 dated 06 Nov 03 and earlier correspondence on the subject.
2. Your firm had applied for use of "KEI" brand following types electrical cables in Defence Works:-

(a) PVC insulated (Heavy Duty) Electric cables for working voltages up to and including 1100 V, Insulation type A & C, Sheath type ST 1 & ST 2 armoured & unarmoured with copper & aluminium conductor including cables for low temperature applications excluding cables for use in mines, as per IS: 1554 (Part-1)-1988.

(b) PVC insulated cables, single/multicore, sheathed and unsheathed, for working voltages up to and including 1100V, with copper & aluminium conductors including cables for outdoor and/or low temperature applications, as per IS: 694-1990.

(c) XLPE insulated PVC sheathed cable for working voltages up to and including 1100 V, with aluminium conductor armoured/unarmoured including cable for low temperature conditions cat 01 but excluding cables for use in mines, as per IS: 7098 (Pt-1)-1988.

(d) PVC insulated (HD) cables for working voltages up to 3.3 KV, with aluminium/copper conductors sheathed, armoured & unarmoured including cables for use in mines and excluding low temperature conditions, Insulation Type -A and Sheath Type ST-1, as per IS 1554 (Part-2)- 1988.

3. It is seen that all above-mentioned products are BIS approved & ISI marked and the firm is ISO 9001:2000 Certified Company. Hence these products can be incorporated in Defence Works, on merits.

4. You may approach Zonal CEs / lower formations with your literature/price list accordingly.

निदेशक (राज्य)
 Director (Planning)
 संचालक निदेशक
 Director of Design
 ऑफिस डी.डी.जी. (डिज़ाइन)
 Offg DDGW (Des)
 for Eht-C

Copy to:-

- Chief Engineer
 - HQ Northern Comd
 - HQ Western Comd
 - HQ Central Comd
 - HQ Eastern Comd
 - HQ Southern Comd
- For kind information and necessary action please.

All Chief Engineers Zone- For information and necessary action please.

Telephone: 25094481 Extn 44123

Controllerate of Procurement
 Material Organisation
 Ghatkopar West
 Mumbai 400 086

Date: 29 Aug 03

MOPRVA/0299B/COM

M/s. KEI INDUSTRIES LTD
 Vastu Enclave - Vastu SHIP,
 101-102, Anandee Pump House
 Andheri (E)
 Mumbai - 400 093
 8/E

VENDORS REGISTRATION

1. Your request for registration with the Navy has been scrutinised and has been considered. It is however, observed that you are not registered with the Director, Directorate of Quality Assurance (Navy), West Block No.5, R.K.Puram Road, New Delhi 110 011.

2. Registration with DGQA(Navy), Delhi is mandatory for supply of items to MO(MB). Therefore, you may kindly take up the matter with DGQA(Navy), New Delhi and obtain registration. In the meanwhile, if there is any Tender Enquiry, tenders will be sent to you as and when requirement arises.

Yours faithfully,

[Signature]
 C.B.D. Bhatnagar
 DMSO II
 A.C.R.O (CB)
 E.C.R.O (CMB)



GUJARAT INDUSTRIES POWER COMPANY LTD.

Slpp/Matl **Fax & Courier** 15 December 2009

To,
M/S THE SINGHARENI COLLERIES COMPANY LIMITED
CORPORATE PURCHASE DEPARTMENT,
P.O. KOTAGUDEM COLLERIES-507101
KHAMMAM DISTRICT (A.P.)

Dear Sir,

REF YOUR LETTER CRP/PD/06/3580/T. NO. C060900174 DATED 30.11.2009

M/s KEI INDUSTRIES LIMITED is proven supplier for flexible trailing cable. They are supplying various cables to us.

Thanking you,

Yours faithfully,
For Gujarat Industries Power Company Limited

(S. P. SARA)
MANAGER (MATERIALS)

Registered Office & Vadodra Plant :
PO. Panchsheel, Dist. Vadodra 391 341 Gujarat - INDIA
Phone : EPABX (0794) 223214, 223130/31/32 **Fax :** 2231207
E-mail : pels@kei-india.com



Surat Lignite Power Plant :
Village : New Navoli, T. Mangal, Dist. Surat 394 110 Gujarat-INDIA
Phone : EPABX (0262) 9261063 to 261072 **Fax :** 261 073/74
E-mail : grs@slpp.com



04th February 2008

TO WHOMSOEVER IT MAY CONCERN

THIS IS TO CERTIFY THAT M/s KEI INDUSTRIES LIMITED HAS SUPPLIED THE FOLLOWING CABLES FOR M/s FOXCONN PROJECT AGAINST OUR PO # 40004389 DT. 03RD MAY 2007 & AMENDMENTS THEREOF.

- (1) 11KV(E) GRADE COPPER CONDUCTOR AS PER IS:7098/P/2/85 3C x 300 SQ.MM -1410 mtrs & 3C x 400 SQ.MM - 920 mtrs.
- (2) 11KV GRADE XLPE INSULATED COPPER CONDUCTOR - 65KMS OF ASSORTED SIZES.

THE CABLE SUPPLIES HAVE BEEN SATISFACTORY AND SUPPLIED TO US AS PER CONTRACTUAL DELIVERY DATES.

BOTH THE HT & LT CABLES HAVE BEEN COMMISSIONED AND THE PERFORMANCE OF THE SAME ARE FOUND SATISFACTORY.

Yours truly,
For ABB Limited

K Kannan
Project Manager



ABB LIMITED
BUILDING SYSTEMS
CENTURY PLAZA
1st Floor, 561-562, Mount Road,
Chennai, Chennai - 600 018.

पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



संस्थान कार्यालय : "सादामिनी" प्लॉट नं. 2, सेक्टर-29, गुरुगंज-122 001, हरियाणा
फोन : 2571700 - 719, फैक्स : 2571760, 2571761 एवं "नेटग्रिड"
Corporate Office : "Saudamini" Plot No. 2, Sector-29, Gurgaon-122 001, Haryana
Tel. : 2571700 - 719, Fax : 2571760, 2571761 Gram : "NATGRID"

Ref: C/QA&I/VA/Instrumentation Cable Date: 20.06.2011

M/s. KEI Limited,
D-90, Okhla Industrial Area,
Phase-I, New Delhi-110020.

Kind Attention: Shri. K. Sharma
Subject: Approval of Supplying Instrumentation Cable for POWERGRID Projects.

This has reference to your submission of documents for the subject matter. Based on the review of documents submitted by you we are agreeable to your request for supplying Instrumentation Cables from your works situated at SP-919,920,922 RIICO Industrial Area, Phase-III, Bhiwadi, Dist. Alwar, Rajasthan-301019. However, following have to be ensured by you.

- 1) Traceability should be maintained from raw material stage to the final stage.
- 2) Raw Material procured should be from POWERGRID approved sources.

Please note that item sourced from them meets the requirement of POWERGRID technical specification, approved drawing/data sheet including type testing, if any. In case of any abnormality in this regard is observed, we reserve the right to withdraw this approval with immediate effect.

This however does not absolve you of liabilities as per contract.

Thanking you,

Yours truly,


(Mahendra Saxena)
CM(QA & I)

CC: CM (IO - Gurgaon)



GOVERNMENT OF INDIA
MINISTRY OF DEFENCE

DIRECTORATE GENERAL OF QUALITY ASSURANCE
DIRECTORATE OF QUALITY ASSURANCE (NAVAL)

CERTIFICATE OF RENEWAL OF REGISTRATION /
REGISTRATION FOR ADDITIONAL ITEM


Reference No. 65/2015-29/DQAN-PI dated 17 Dec 2008
Registration Certificate Serial No. DQAN/29/2001
VAB 090109-12-2004

The registration accorded to M/s KEI Industries Ltd, New Delhi
M/s Registration Certificate mentioned above for manufacture supply of the following
items to Defence is hereby renewed for a further period of 5 years.

| S. No. | Description | Part No./QAN Cat No | Specification |
|--------|-------------|---------------------|---------------|
|--------|-------------|---------------------|---------------|

94 items as per enclosure I attached.

No. of items for which registration is renewed - three
No. of additional items for which vendor is now registered - One
Vendor's name - M/s KEI Industries
Registration No. & issuing of Vendor's-29 (MS-P) code - L dated 10-12-2001
This Certificate of renewal of registration is valid upto 09-12-2007.


Alexander Strath
Captain IN
Director

Date: 15 Feb 2011

Directorate of Quality Assurance (Naval)



UTTAR HARYANA BIJLI VITRAN NIGAM LIMITED
(A Government of Haryana Undertaking)
Registered Office: C-16, Vidyal Sadan, Sector-6, Panchkula, Haryana
Office of CGM/MD&C, UHBVN, Panchkula.
Email: cgmprdc@uhbvn@gmail.com Ph No. 0172-3019135

To
M/s KEI Industries Ltd.
D-90, Okhla Industrial Area, Phase-I,
New Delhi.

Memo No-Ch-93 /G-215/DD-II Dated:- 01/07/2015

Subject - Extension of empanelment up to 31.3.2016 as approved vendor of the Nigam for supply of material against turnkey works during 2015-16 - Power / Distribution Transformers manufacturers / Cables / Other materials XLPE, PVC, Wire V/S 33 kv to 37 kv

This has reference to your letter No. _____ dated _____ vide which you have submitted the required document / affidavit regarding 'No blacklisting & No Litigation status your firm.'

The empanelment of your firm up to 31.03.2016 shall be valid subject to compliance of the following conditions:-

- The material supplied should be in line with the approved GTP's / technical specification of the Nigam and any default on this account may lead to your De-empanelment.
- The supplied material if rejected twice by inspecting officer of the Nigam on account of poor quality / sub standard material, would lead to De-empanelment of the firm with immediate effect and without any notice.
- The inspecting officer should be provided with all T&P, measuring instruments / testing equipment to undertake quality check of the material. You are further requested to ensure that T&P / testing equipment offered should be certified for its calibration.

This is for your information please.

Chief General Manager/PD&C
UHBVN, Panchkula

CC:-

- S/S to Director/ Projects, UHBVN, Panchkula for information of Director/ Projects, UHBVN, Please.
- S/S to Director/ Projects, DHBVN, Hisar for information of Director/ Projects, DHBVN, Please.
- CE/OP UHBVN Panchkula & Rohtak
- CE/MA UHBVN Panchkula
- CE/Commercial UHBVN Panchkula
- CE/PD&C DHBVN Hisar
- All SES / OP UHBVN Panchkula
- All Xens under CGM/MD&C, UHBVN, Panchkula.
- Xen/ IT UHBVN, Panchkula for updating the list of empanelment firms on Nigam's website.

JHARKHAND STATE ELECTRICITY BOARD
Engineering Building, Dhurwa, Ranchi-4
Fax # 0651-2400799

LOI No. 93/2015
CE (S&P) 722/10-11

Dated: 20.07.11

From, S N Prasad
Chief Engineer (S&P)



To, M/s KEI Industries Limited,
33, Dr. Sundari Mohan Avenue
Kolkata-700 014. Tels # 033 2286-6696

Subj: Letter of intent for supply of ISI marked 33 kV, 3 Core, 400 sqmm. XLPE Cable.

Ref: NIT # 334/PR/ISRB/06-11

Dear Sirs,

With reference to your above offer against aforesaid NIT and subsequent correspondence, the Board to place an order with you for supply of 05 KM ISI marked 33 kV, 3 Core, 400 sqmm. XLPE Cable as per terms and conditions of the above NIT and as enumerated below:

- Name of material:** ISI marked 33 kV, 3 Core, 400 sqmm. XLPE Cable.
- Quantity:** 05 (Five) KM under ADP head.
- Price:** Landed unit rate of Rs. 15,35,485.03 (Rs. fifteen lac thirty five thousand four hundred eighty five and three) only on FIRM price per KM. The total cost of procurement of 05 KM comes to Rs. 76,77,425.15 (Rs. seventy six lac seventy seven thousand four hundred twenty five and paise fifteen), which is inclusive of all Taxes, Duties, freight etc, but excl Insurance Charge, Entry Tax.
- Insurance:** Insurance will be arranged by the Board.
- Payment:** Payment of the value of the materials will be made by Dy. Director of Accounts (HQ), JSRB, Ranchi as per clause no. 25 of the above NIT.
- Delivery:** The materials are to be delivered within 30 (thirty) days of issue of P.O. However, early delivery will be appreciated.
- Penalty:** The above delivery shall be guaranteed under penalty clause of the above NIT.
- Security & Agreement:** You shall have to deposit security @ 2% (Two percent) of the ordered value at the execution of agreement and the amount of security shall be deposited with Dy. Director of Accounts (HQ) Ranchi either in cash or in shape of Bank Draft/Bank Guarantee valid for the guaranteed period, prior to the Agreement.

You are requested to please confirm your acceptance within three days and deposit your amount with valid power of attorney for execution of the contract agreement within seven days from the date of LOI.

The detailed purchase order shall be issued after execution of the agreement. The agreement will be part of the P.O.

All other terms and conditions and technical specifications of the above NIT will also be applicable order.

Kindly acknowledge receipt of this letter.

Yours faithfully,
S N Prasad
Chief Engineer (S&P)



EASTERN BUILDING, 2nd Floor
15/1, Chowringhee Square, Kolkata - 700 089
Telephone 2231 9150 (6 Lines)
Fax (033) 2213 6502

Regd. Office : CESC HOUSE, Chowringhee Sq., Kolkata - 700 001.

PUR-38592-PB

19th May, 2011

KEI Industries Limited
33, Dr. Sundari Mohan Avenue
Kolkata-700014

Attn: Mr. Alok Saha

Dear Sirs,

**Letter of Intent for supply of
1.1 KV Grade LT Power Cables
For FY 2011-12**

With reference to your Offer no. KEI-KOL/CEC/11-12/Q-070 dated 6th May, 2011, and subsequent negotiations through your email reference: KEI-KOL/CEC/SM/11-12 dated 17th May, 2011, we are pleased to place this Letter of Intent for supply of the following sizes of 1.1 KV grade LT Power Cables:

| Sl. No. | Description | Qty. (Km) (May 2011 - June 2012) | All-inclusive landed price (Rs. Per Km) |
|---------|---|-------------------------------------|--|
| 1. | 1.1 KV grade, XLPE insulated, stranded Aluminium conductor cable, inner sheath of lapped plastic tape, single layer of galvanized steel strip armoured, PVC overall sheathed, conforming to IS:7098 (Part 1), 1998 with latest amendments | 50 | 1,04,000/- |
| 2. | 3½ core x 25 sq.mm | 45 | 2,03,000/- |
| 3. | 3½ core x 70 sq.mm | 30 | 3,88,000/- |
| 4. | 3½ core x 150 sq. mm | 110 | 6,00,000/- |
| 5. | 3½ core x 240 sq. mm | 25 | 10,61,000/- |

Total Value : Rs. 11,85,00,000 /- (all-inclusive)
(Rupees Eleven Crores Eighty Five Lacs only)

Visit us at www.cesc.co.in



स्टील अथॉरिटी ऑफ इंडिया लि. - इस्को इस्पात संयंत्र
STEEL AUTHORITY OF INDIA LTD. - ISCO STEEL PLANT

(A Government of India Enterprise)
संयंत्र इंजीनियरी एवं विकास संभाग
PLANT ENGINEERING & DEVELOPMENT DIVISION
DUMURJATI (राज्य) PIN : 713325, W. B. (वर्तमान समय)
Telephone (दूरभाष नं): (0341) 2240256, 2240585
Fax No (फैक्स नं): (0341) 2240287
ई-मेल (E-mail): pedd.project@gmail.com
संयंत्र संयंत्र



Ref. No: PEDD/EXPN B-BPP/450 10528

Date: 03.09.08.

To,
S G A. Dasgupta,
General Manager, SBU Steel,
M/s. McNally Bharat Engg. Co. Ltd.,
4, Mangue Lane 4th Floor,
Kolkata-700001.

FAX NO. 033 - 2248 0340/5016

Dear Sir,

Sub: 2.5 Mtpa New Stream Expansion of ISP,
Approval of Additional Vendors for
By Product Plant - (Package No. 05)

This has reference to your letter no. MBE/S-07605/BPP/067 dtd. 21.08.08 regarding approval of additional vendors for supply of H.T. Power Cables in By Product Plant.

We have examined your request and inform you that ISP accepts M/s. KEI Industries Ltd. for supplying H.T. Power Cable in By Product Plant (Pkg No. 05) without prejudice to the terms and conditions of the contract. This approval is also extended to other packages being executed by you under Expansion & Modernisation Plan of ISP.

This approval does not relieve McNally Bharat Engg. Co. Ltd., from their responsibility of achieving performance level of the systems etc. plant as stipulated in the contract.


Thanking you,

Yours faithfully,
For SBU - ISCO STEEL PLANT
S. G. BOSH
D.G.M.(PROJ.)


c.c: Sri Pinak Baran Banerjee,
G.M. & HOD(Proc. Purchase),
M/s. McNally Bharat Engg. Co. Ltd.,
4, Mangue Lane 4th Floor,
Kolkata-700001.

FAX NO. 033 - 2248 0340/5016

This refers to your fax dtd. 21.08.08 on the above subject.



**NUMALIGARH
REFINERY
LIMITED**
A GOVERNMENT OF INDIA UNDERTAKING



Date: 05/02/2008.

To Whom It May Concern

This is to certify that KEI Industries Limited has supplied 11 KV (E) grade 3core x 240 sq. mm copper Cable against PO No.4500002757 dt. 20/02/2007.

Quantity 4.09 KM vide KEI's invoice no 72000791/72000848

The delivery and quality assurance of the Cables are found to be satisfactory.

[Signature]
A.P. CHAKRABORTY
(Chief Manager Projects)
Numaligarh Refinery Ltd.
P.O. Numaligarh, Dist Golaghat,
Assam.


CC to: Mr. Alok Saha.
Dy. General Manager - Eastern India.
KEI Industries Limited,
2/1 Kalibari Lane, Flaz#1
Jadavpur, Kolkata - 700 032,
West Bengal.

CC to: Mr. Kaushik Moitra
KEI Industries Limited,
Regional Sales Executive - North East
Guwahati -

Head Office: Patnagar, P.O. Numaligarh Refinery Complex, Dist. Golaghat, Assam, Pin - 786 208, Fax - 0379-265214, EPMER - 0379-260-683/1294/415, Commercial Dept. - Phone - 0379-260643/260647/260638 Fax - 0379-265514 Email - com@kei.co.in

| | | |
|---|---|--|
| HEAD OFFICE a Tower, G.S. Road, ahmed - 791 005 no. (0361) 2252270 no. (0361) 2252288 e-mail - info@kei.co.in | COORDINATION OFFICE Tolly House, 8 th Floor, 15-17, Tolly Marg New Delhi - 110 001 (India) Phone: (011) 3728411, 3343962 Telefax: 3735412 E-mail: numaligarh@kei.co.in | KOLKATA OFFICE Gilancer House, B-Block, 1 st Floor, 3, Naraj Subhas Road, Kolkata - 700 001 Phone: (033) 2212676 / 2212362 (2) Telefax: (033) 221 2361 E-mail: info@kei.co.in |
|---|---|--|

Bharat Heavy Electricals Limited
(A Govt. of India Undertaking)



Date: 09.07.2012

Project Engineering Management

Ref: To

M/s KEI INDUSTRIES LTD.
D-90, OKHLA INDUSTRIAL AREA, PHASE-I,
NEW DELHI 110020

Kind Attn: Mr. Gaurav Shanker Mathur (Asst. Manager-Marketing)

With reference to your request received vide e-mail dated 28.06.2012 for re-issuance of registration certificate, it may please be noted that M/s KEI INDUSTRIES LTD. with their registered office at D-90, OKHLA INDUSTRIAL AREA, PHASE-I, NEW DELHI 110020 and works at SP-919/920 RIICO Industrial Area, Phase-II, Bhiwadri, Dist Alwar- 301019, Rajasthan and A-280/281/282/283/284 RIICO Industrial Area, Chopanki, Dist. Alwar- 301019, Rajasthan is PEM registered vendor under **Permanent Category having Vendor Code K027** for following packages:

- a) HT XPLE CABLES
- b) LT XLPE POWER CABLE
- c) LT PVC POWER CABLE
- d) LT PVC CONTROL CABLE
- e) SCREENED CONTROL CABLES
- f) LT XLPE CONTROL CABLE
- g) LT HRPVC POWER CABLES
- h) LT HRPVC CONTROL CABLES
- i) LT FIRE SURVIVAL CABLES
- j) BARE GROUND CONDUCTOR FOR BELOW GRD EARTHING
- k) BARE GROUND CONDUCTOR FOR ABOVE GRD EARTHING

The registered vendor has to comply vendor registration requirement as per BHEL policies and guidelines.

The above registration has the approval of the competent authority.

Thanking you,
For & on behalf of BHEL

[Signature]
09/07/2012
(Manisha Gupta)
Sr. Engineer/ VD

विद्युत भारत लिमिटेड, कोलकाता कारखाना संकुम, नए दिल्ली में स्थित है। यह एक सरकारी उद्यम है।
हमारे पास 28000 से अधिक कर्मचारी हैं।
हमारे पास 1500 से अधिक शाखाएँ हैं।
हमारे पास 1500 से अधिक शाखाएँ हैं।
हमारे पास 1500 से अधिक शाखाएँ हैं।
हमारे पास 1500 से अधिक शाखाएँ हैं।

| | | |
|--|--|--|
| BHEL / PEM Power Project Engineering Institute, HID & PSE Complex, Plot No. 25 SECTOR - 1A, Noida - 201 301 (UP) INDIA | Phone: +91-120-4368794 Fax: +91-120-4329226 | Regd. Office: BHEL House San Feet New Delhi - 110 001, INDIA |
|--|--|--|

Tele: 25673339

40048/ 44 /E4

CWE(AF) Chandigarh
CWE(AF) Ambaia
CWE(AF) Bikaner
CWE(AF) Palam
GE (I) AF Gurgaon

Headquarters
Chief Engineer (AF) WAC
Pin Code -900638
C/O 56 APO
15 Jan 2008

APPROVAL OF PRODUCT

- 1 M/S KEI INDUSTRIES LIMITED D-90, OKHLA INDUSTRIAL AREA, PHASE-I NEW DELHI-110020 has been approved of their Products KEI Brand manufacturer of POWER, CONTROL, INSTRUMENTATION, FRLS and ABC cables of various sizes up to 66KV by Chief Engineer for use of their product on trial basis.
- 2 You may use of this Product in your area on trial basis.
- 3 The feed back of their Performance report of the product should be intimated to this HQ for further incorporation of product in our area
- 4 The should be disseminated up to GE level
- 5 The approval does not absolve the executive/supervisory staff from their responsibility for using correct quality product. It is only after they are satisfied about the Quality and ne performance the product will be used. Mandatory checks about the quality will be carried out as laid down and the record of the same maintained.

[Signature]
(A K Gupta)
SE
Dir E/M
for Chief Engineer
for Chief Engineer (AF) WAC
for Chief Engineer (AF) WAC

Copy to -

M/S KEI INDUSTRIES LIMITED
D-90, OKHLA INDUSTRIAL AREA,
PHASE-I NEW DELHI-110020


Ref your letter No Nil dt 14 Dec 2007
You are requested to contact the various
CWE's/GE under our area for uses of
your product in Defense works

Tele: 011-2681840, 2681642
26815558, 26815569



ANSAL BUILDWELL LTD.
(AN ISO 9001:2000 CERTIFIED COMPANY)

4020 OFF 418 Upper 4th Floor, Panchsheel Building, 7, Tolly Marg, New Delhi - 110 021
Ph: 23303601, 23303602, Fax: 91 233 0649, 23309500
E-Mail: ansalbuildwell@ansal.com, info@ansalbuild.com, Website: www.ansalbuild.com




REF -ABL-2006 Date: 25th April, 2006

M/S KEI INDUSTRIES LTD
D-90, OKHLA INDUSTRIAL AREA
PHASE - I,
NEW DELHI - 110020.

KIND ATTENTION : MR KAPIL KUMAR PURI

Sub:- Approval For Cables and Wires of KEI Brand

Dear Sir,

Based on the documentation and personal interview the following makes as approved for use of our on going works and future projects.

1. HT cable upto 33KV
2. Low tension Copper/Aluminium Conductor PVC & XLPE Power Cables
3. Low Tension PVC & XLPE Control Cables.
4. Flexible & House Wires (Single & Multicores)
5. Fire Survival Zero Halogen Cables.
6. FRLS/FRR/HFR/110FR/1DPE-Power Control & Instrumentation Cables.

Thanking you,

Yours faithfully
FOR ANSAL BUILDWELL LTD

[Signature]
(R RAJAGOPALAN)
GENERAL MANAGER (Services)

CC : Commercial Department



CENTRAL POWER DISTRIBUTION COMPANY OF A.P. I

PERFORMANCE CERTIFICATE

(TO WHOM SO EVER IT MAY CONCERN)

This is to certify that M/s. KEI Industries Ltd., 3-6-760, C-1, Suvama Soukhra, Street No. 13, Himayathnagar, Hyderabad - 29 have supplied 3C x 400 Sq.mm XLPE Cable against the following purchase orders placed. The supplies were completed in time and the cables are all good.

| Sl. No. | P.O. No. & Date | Qty. Ordered | Qty. Supplied |
|---------|---|--------------|---------------|
| 1. | P.O.No. CGM/P&MM/E-21/STN-48/ PM-2270/07, Dt:27-01-2007. | 2.0 KM | 2.037 KM |
| 2. | P.O.No.CGM/P&MM/E.21/STN-48/PM-2270/ Repeat PM-2326/07, dt. 24-04-2007. | 2.5 KM | 2.587 KM |

for CHIEF GENERAL MANAGER/P&

C:\del\mmod\KEI\Performance\KEI.doc

DC INDUSTRIAL PLANT SERVICES PRIVATE LIMITED

White House, 2nd Floor
119, Park Street, Kollam - 700 016
Tel: 2226-3172 / 7225 / 8253 / 8231 / 9173
Fax: 2209-5138
E-mail: mail@dupps.com
Website: http://www.dupps.com



To Whom It May Concern

This is to certify that KEI Industries Limited has supplied 7.102 Kms. of 3 Core X 185 mm. 6.35/11 KV (E) Grade Armoured Heavy Duty XLPE Insulated Stranded Aluminium Conductor Cable for our WBPDC, Sagardighi TPS (2X300 MW, Unit # 1 & 2) Ash Hand Plant & Ash Water Recovery Plant against our P.O. Nos. 25P06/E/24E/1002/C dt 14.03.07 and 26P01/E/24E/1003/C dated 14.03.07 vide Invoice Nos. 72000860 to 864 dt 09.06.2007.

The delivery schedule and quality assurance of the Cables are found satisfactory.

DC INDUSTRIAL PLANT SERVICES (P) LTD.

S. SANYAL
SR. GENERAL MANAGER (ELECTRICAL)

Date : January 31, 2008

cc. KEI/KOLKATA : Attn. Mr. ALOK SAHA.

Road Office, 210, PARK ST., KOLKATA 700016, INDIA (PH) : 2249-1000 (TOLL FREE) FAX : 2242-2042 / 7187 / 3358 (Cable) : ASKDEVCOS

C. S. T.-GB-5386845 Dt. 24-4-06
U.P.T.T.-GB-0487546 Dt. 24-4-06

Contractor Licence - GD-425
Mob : 9810527187
Ph : 0120-2719829
Fax : 0120-2724423
e-mail : capitelectech_1000@rediffmail.com



CAPITAL ELECTECH PVT. LTD.
ENGINEERS & CONTRACTORS
Deals In : All kinds Electric Goods

Cor. Off. : B-163, SWARAN JAYANTI PURAM, GHAZIABAD. (U.P.)

Ref. No. CEPLR/APDRP/KEI/14-15/138 Dated 13-05-2014

SUPPLY ORDER

To,
KEI Industries Ltd.
102, Saran Chamber-2,
Park Road, Lucknow.

Kind Attn: Mr. Manoj Sharma(0993553704)

Dear Sir,

We are pleased to place a supply order of following Material for R-APDRP-SCADA Project at EDC Jhansi (DVVNL).

| Sr. No. | Particular | Qty. in Km | Unit Price in Rs. | Total Price in Rs. |
|---------------------|-------------------------------------|------------|-------------------|------------------------|
| 1 | 11KV XLPE 3X120sq.mm. Cable Armored | 55.150 | 544000.00 | 30001600.00 |
| 2 | 11KV XLPE 3X185sq.mm. Cable Armored | 119.000 | 705000.00 | 83895000.00 |
| 3 | 11KV XLPE 3X300sq.mm. Cable Armored | 1.820 | 990000.00 | 1801800.00 |
| 4 | 11KV XLPE 3X500sq.mm. Cable Armored | 33.000 | 335000.00 | 11055000.00 |
| 5 | 33KV XLPE 3X400sq.mm. Cable Armored | 22.000 | 1688000.00 | 37136000.00 |
| 6 | 33KV XLPE 3X300sq.mm. Cable Armored | 30.800 | 1463000.00 | 45060400.00 |
| TOTAL AMOUNT | | | | 20,89,49,800.00 |

2. COMMERCIAL TERMS & CONDITIONS

2.1 SCOPE OF WORK

Your scope of work shall be limited to design, manufacturing, testing and ex-works supply of equipments as per the Bill of Qty & Price schedule, approved GTP & drawings.

2.2 PRICE BASIS

The above mentioned prices will remain firm during the period of complete supply of mention items.

2.3 TAXES & DUTIES

Above rates are inclusive of all Duties & Taxes including any inspection charges if applicable and FORD at Site.

2.4 TERMS OF PAYMENT

- (a) 5% interest free advance of Total Value of PO after Drawing & GTP approval.
- (b) Balance payment against 60 days PDC from date of receipt of entire material at site.

2.7 DELIVERY & MANUFACTURING PROCESS

Will be settled after approval of GTP and Drawing. Material will be delivered at Jhansi.

2.8 CONTRACT DRAWINGS & MANUALS

You shall submit the 3 sets of GTP, GA Drawing, Foundation plan, Schematic diagram, wiring table and the BOM to UPPCL on our behalf we will do all the supporting formalities required for submission of the same to department and you have to get the approval of GTP and Drawing by your own from the department. Along with the dispatch of equipments you will supply 4 sets of all the final approved drawings viz GTP, BOM, GA, Foundation plan, Schematic diagram, wiring table along with instruction manual for the testing & commissioning. You will also submit details of operation & maintenance manual.

Reg. Off. : Plot No. 44A, Block E, Vishwas Park, Uttam Nagar, New Delhi-110059 Tel. No. : 981131220

पूर्वोत्तर सीमा रेल
NORTH EAST FRONTIER RAILWAY

कार्यालय
व बिजली इंजीनियर
सीगाँव, मुंबाहाटी-781011

OFFICE OF THE
CHIEF ELECTRICAL ENGINEER
North East Frontier Railway
Malgang, Guwahati-781011
TEL No. : 936-257028 (DGT) (C)
23400 (RN) (C)
Fax No. : 0361-2696229 (C)

No. CL/W/29/PC

Dated 24-04-2007

To,
M/s KEI Industries Ltd.,
2/1 Kalibari Lane,
Jalpaiguri, Kolar - 700 032

(Attention : Mr. Alok Saha, GM East)

Dear Sir,

Sub. Performance certificate.

This is to certify that "KEI Brand" 33/11 KV HT XLPE Cable and LT 1.1 KV XLPE cable of various sizes are being supplied and commissioned by different contractors in number of stations in NE Railway against different contract agreement from time to time since a considerable period. These cables are being purchased by the Contractors through local Distributor/ Authorized dealer of "KEI Brand".

So for the performance of "KEI Brand" Cable is experienced to be satisfactory.

Yours faithfully,

(N. SARKAR)
24/04/07
Executive Electrical Engineer
for Chief Electrical Engineer



JSW Steel Limited
Salem Works
P. O. Postaneri, Mecheri
Mettur - Tal. Salem - Dist - 636 453
Tamil Nadu, India.
Phone : 04258 278400
Fax : 04258 278618
Website : www.jswin

Date: 17th March 2009

TO WHOMSOEVER IT MAY CONCERN

This is to certify that M/s. KEJ INDUSTRIES LIMITED have supplied the following HT cables for our project against PO No. 06/6/72/900086 dtd 21/04/06

| Sl.No | Item Description | Qty (Mtrs) |
|-------|---------------------------------|------------|
| 1 | 1C x 400 sq.mm, 11kV (UE) XLPE | 21000 |
| 2 | 3C x 240 sq.mm, 11kV (UE) XLPE | 16000 |
| 3 | 3C x 185 sq.mm, 11kV (UE) XLPE | 3500 |
| 4 | 3C x 240 sq.mm, 3.3kV (UE) XLPE | 2200 |
| 5 | 3C x 120 sq.mm, 3.3kV (UE) XLPE | 750 |
| 6 | 3C x 95 sq.mm, 3.3kV (UE) XLPE | 1500 |
| 7 | 3C x 70 sq.mm, 3.3kV (UE) XLPE | 1000 |

The above cables have been charged and commissioned for more than two years now and are in satisfactory operation.

K Kannan
Associate Vice President (Engg & projects)
JSW STEEL LIMITED., Salem Works



Regd. Office : Jindal Mansion,
5A, Dr. G Deshmukh Marg,
Mumbai - 400 026
Phone : 022-2351 3000
Fax : 022-2352 6400



झारखंड राज्य विद्युत् बोर्ड
Jharkhand State Electricity Board

N.O. 191 DT. 8/9/2008.

TO WHOM IT MAY CONCERN

This is to certify that JSEB have placed P.O. No. 15 dated 12.04.08 on M/s KEI, Kolkata for supply of 10.5 Kms 6.6/11 KV(E) Grade armoured XLPE FRLS, Aluminum conductor HT Power Cable of various sizes worth Rs 2.18 crores including taxes and freight for Patratu TPS.

Firm have delivered the material within stipulated period and quality of the materials are found satisfactory after site inspection.

(R.K. Choudhary)
Chief Engineer (Generation)



J.K. Electric Contractor
(A' Class Govt. Contractor & Order Suppliers)
Licence No. 974/A' Dt. 1991 - TIN No. 08211751207 - RET/1451/N-1490

Ref No. JKEC: _____ Date: _____

M/s KEI Industries Limited
D-90, Okhla Ind Area
Phase I, New Delhi.

Subj: Performance of KEI make 11KV/11KV/33KV XLPE cables.

Dear Sir,

Please find enclosed herewith the Performance Certificate of cables received from Jaipur Development Authority, Jaipur for various works executed by us. Cables laid of various sizes are as under:

- (a) 3-core x 185sqmm ALPE 11KV Grade Alu. Arm. Cable - 17 kms
- (b) 3-core x 185sqmm ALPE 11KV Grade Alu. Arm. Cable - 12 kms
- (c) 3-core x 300sqmm ALPE 33KV Grade Alu. Arm. Cable - 29 kms.

The performance of the cables laid by us is satisfactory.

Thanking you,

Yours truly,

For J.K. Electric Contractor

Encl: As above

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

TO WHOM SO EVER IT MAY CONCERN

certified that M/s J.K. Electric Contractor, 158-159, Mahendwas house, Nehru Bazar, Jaipur are Electrical 'A' Class Contractor and registered in "E-1" in JDA, Jaipur had executed the work of:-

| Scope of work | Work Order No. & Date | Main Component of Work | Financial Year |
|--|-----------------------|------------------------------|----------------|
| of existing HT/LT Lines | 49 1.02.05 | L.T. Cable = 16652 Mtr. | |
| laying U/G Cables from Nam Marg to Ajmeri Gate | | 11KV 3x185 Cable = 5683 Mtr. | 2005-2006 |
| on Bank Road, Jaipur. | | | |

Work is working satisfactorily.

Zonal Engineer
Jaipur Development Authority
Jaipur

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

TO WHOM SO EVER IT MAY CONCERN

Certified that M/s J.K. Electric Contractor, 158-159, Mahendwas house, Bazar, Jaipur are Electrical 'A' Class Contractor and registered in "E-I" in JDA. Jaipur and executed the following quantities against Work Orders mentioned below:-

| of work | Work Order No. & Date | Main Component of Work | Financial Year |
|--|-----------------------|--|----------------|
| Installation of 33 KV Charging post for JDA Residential Scheme Nagar, Jaipur. (Phase-III) | 379, 14.08.07 | 3C x 300 Sqmm, 33KV XLPE Cable = 12218 Mtr. 33KV O/D Joint = 8 Nos. 33KV S/T Joint = 34 Nos. | 2007-08. |
| Installation of 33 KV Double Circuit charging feeder from 132KV GSS Bansi V Scheme Kalpana Nagar, Jaipur | 381, 14.08.07 | 3C x 300 Sqmm, 33KV XLPE Cable = 10158 Mtr. 33KV O/D Joint = 4 Nos. 33KV S/T Joint = 12 Nos. | 2007-08 |

[Signature]
Zonal Engineer (Electrical)
Jaipur Development Authority
Jaipur

Palmers Green International Ltd.



Box 3689
Accra, Ghana
Tel: +233 21 220 309 / +233 21 12 44
Fax: +233 21 22 56 52 / +233 21 24 79



Ref: PGU/PO/Z N 76349/2005/1283

Date: 26/03/2006

To,
M/s. KEI Industries Ltd.
101 - 102 Vastu Shilp
Vastu Enclave
Andheri (E), Mumbai
India - 400093



Attn: Mr. S Sharma

Sub: Supply of 25Km 1 x 630 33 KV Aluminium XLPE Cable for Ghana against PO Number PO/Z N 76349/2005 dated 06/10/2005

Dear Sir / Madam,

With reference to the above mentioned Purchase Order, we would like to inform you that we have received the full quantity of 25 KM at our warehouse.

The cables have since been despatched to the various sites and the tests conducted on them while installation have been found to be satisfactory and no problems have been cited or reported.

This letter has been issued upon the request of KEI Industries Ltd.

For Palmers Green International Ltd.

[Signature]

Albert Parry
DMD - International Business

TO WHOM IT MAY CONCERN

This is to certify that we have used KEI make 33 kV (E) 630 sq. mm X 1 Core H.T. cable through M/s. Pradip Kumar Saha (Electrical Contractor) against C.A. No. CE(D)/ASEB/APDRP/CEC- Turnkey/06-07/20 dated 18.08.2007. Total Mtr, 1056.

We found KEI make cable satisfactory till now.

Thanks and Regards

[Signature]
P. C. Bhagabati
S.D.O.
ASEB, FANCY BAZAR ELECTRICAL SUB DIVISION.

TO
Mr. Ajok Saha
Dy. General Manager (Marketing)
KEI INDUSTRIES LIMITED,
2/1, KALIBARI LANE,
JADAVPUR KOLKATA - 700032,
Phone - 033 24294773

CC to
Mr. Kaushik Mehta
KEI INDUSTRIES LIMITED,
Regional Sales Executive North East,
Guwahati
Cell 0 9954255137.



MAHARASHTRA STATE POWER GENERATION CO. LTD. (MAHAGENCO)

(Formerly Maharashtra State Electricity Board)
Prakashgad, 2nd Floor, Bandra (East), Mumbai-400 051, India.
Tel. 26472131/26422211 Fax No. 26582627 Grams : COSGRID

Gr.IV/Misc/ 2 1 6 4 - -

Date: 15 FEB 20

WHOM SO EVER IT MAY CONCERN

This is to certify that M/s. KEI Industries Ltd., Mumbai have executed orders SP/L-001/04/0207/13850 dtd. 13-09-2007 & SP/L-001/T-0406/0706-4502 dtd. 07-04-2007 at office. M/s. KEI Industries Ltd., Mumbai have also registered in e-tendering process at its office for procurement of HT, LT XLPE/HRPVC/FRLS Control & Power Cables.

[Signature] 15/2/08
Superintending Engineer (St.Gen)
For Chief General Manager (Stores)

cc.iv: 120

GOVERNMENT OF ASSAM
OFFICE OF THE CHIEF ENGINEER-P.W.D(BUILDING), ASSAM
CHANDMARI::GUWAHATI-3

No. CE/BLD/ELECT/15/93/pt-IV/ 88
To: THE KEI INDUSTRIES LIMITED
33 DR. SUNDARI MOHAN AVENUE
1ST FLOOR KOLKATA-700014

Date: 14-12-2002

Sub: Approval of your electrical product

Ref.: Your letter No. KEI/KDL/ ASS/5M/09-10/0211 Dated: 2nd November 2009.

Dear Sir,

With reference to the above, I am to inform you that your following product has been provisionally approved for one year the date of issue of this letter. The approval will be cancelled at any time after receipt of complain against unsatisfactory performance of your products.

LIST OF MATERIALS

- i) PVC/XPLE insulated Power cable up to 33 KV Grade as per 1554/7098
- ii) PVC Flexible wires and cables as per IS 694.
- iii) FRIS/FR/FS/ZHFR cables and winding wires.
- iv) Submersible cables and winding wires.
- v) Armored PVC controlled cables as per IS: 1554(pt-1)-1988.
- vi) 132 KV grade cables as per IS 7098 (pt III).

The approval given above does not absolve APWT Engineers from their responsibility of exercising necessary checks in quality, rates and performance of the product while procuring and using the same.

Yours faithfully,

(Signature)
Addl. Chief Engineer, PWD (Elect.)
Assam, Chandmari, Guwahati-3

Memo No.: CE/BLD/ELECT/15/93/pt-IV
Copy to: 1) The Superintending Engineer, P.W.D. Guwahati Electrical Circle, Ghy -1 for information and necessary action.

- 2) The Executive Engineer, P.W.D., Guwahati/Jorhat/Tezpur/Kokrajhar Electrical Division for information and necessary action.
- 3) MR. ALOK SAHA General Manager (Mktg) KEI Industries Limited Kolkata for information and necessary action.

(Signature)
Addl. Chief Engineer, PWD (Elect.)
Assam, Chandmari, Guwahati-3

विद्युत विभाग अ.स.म. (आसिसम)

दिनांक: 28/01/2006

Date 24/09/2

TO WHOMEVER IT MAY CONCERN

to certify that we have used KEI Make 22kv (E) 3c x 185 Sqmm - 15 Km & 22 kv - 2 Km HT cables against PO No. 457/07 dt. 19/10/2007.

we charged the cables & performance of the cable found to be satisfactory till

(Signature)
Executive Engineer (Electrical)
Chinchwad Municipal Corporation
i-18, "C" Section Electrical Department,
Executive Engineer (E.)
C Ward,
Chinchwad Municipal Corp.

ईस्टर्न कोलफील्ड्स लिमिटेड
(कोल इंडिया लिमिटेड का एक अंग)



Eastern Coalfields Limited
(A Subsidiary of Coal India Limited)

NOTING SHEET

विभाग DEPARTMENT Area Engineering (EAM)'s
Area Office,
Sodepur Area (ECL)

दस्तावेज संख्या
File No.
समनवित्त विवरण
Drawing Clerk

दस्तावेज संख्या
Sheet No. ECL/SDPA/AE(EAM)/P/1
दिनांक दिनांक: 07/02/11
अधिकारी का नाम: Supdt. Engineer (I)
Sodepur Area,
Date 1- 16th February, 2011

विषय
Subject Performance Report of PVC DWA
Cable, 3 Core, 95² MM, 3.3 KV Grade
drawn by Sodepur Area on
dated 12-04-2004 & 07-05-2004
total length 506 Mtrs.

The above mentioned Cable was drawn by Sodepur Area during April'04 & May'04 and used in Partella/Patsahona Colliery.

The Performance Report of the Cable as known from the user Engineers (I) of the Colliery are found to be satisfactory.

This is for kind information and needful.

(Signature)
By, CE (EAM)/AE (EAM), 16/2/11

(Signature)
Supdt. Engineer (EAM),
Sodepur Area

General Manager,
Sodepur Area

(Signature)
6/1/07

Chief General Manager (EAM),
Sodepur Area

(Signature)
VP (M)
For your kind info pl.
17/2

ABB

Dated: May 9, 2007

TO WHOMSOEVER IT MAY CONCERN

This is to certify that M/S KEI INDUSTRIES LIMITED Have supplied 22 KV HT UG XLPE cables in different sizes for Wipro Pune Phase IV Project. The cables supplied are laid & charged and the same is working satisfactorily.

(Signature)
Sudarshan S. Bhat
Project Manager

ABB Limited

Address: 400, 1st Floor, Park Road, Bangalore-560001
Telephone: (01) 80 22940101, (01) 80 22940175
Registered Office and Executive Office: 2nd Floor, Park Road, Bangalore-560001
Telephone: (01) 80 22940104, (01) 80 22940118
Fax: (01) 80 22940118



GOVERNMENT OF INDIA-MINISTRY OF COMMUNICATIONS & IT
DEPARTMENT OF POSTS- CIVIL WING India Post
O/o The superintending Engineer (E), Postal Electrical Circle
1Ind Floor, Basavanagudi HPO Bldg, Bangalore- 560004
Tel :080-26675101(D), 080-26675104; FAX: 080-26675102

No. 25(236)/SEE/PEC/BGL/2015-16/ 50 M dated: 16.09.2015

OFFICE MEMORANDUM

Sub: Approval for brands for inclusion in NITs/Tenders

The following wires and cables manufactured by M/s KEI Industries Limited, D-90, Okhla Industrial Area phase-1, New Delhi-110020 are hereby approved for use in Electrical Divisions falling under control of SE(E), PEC, Bangalore

| Sl No | Description of items | Brand of the product |
|-------|----------------------|----------------------|
| 1 | LT Cables | KEI |
| 2 | PVC Insulated wires | KEI |
| 3 | Control cables | KEI |

The products are approved for a period of Two years from the date of issue of this order.

The approval does not absolve Department of posts Engineers from their responsibility of exercising necessary checks like quality, rates, and performance of the products while processing/using the same. Shortcomings/discrepancies of serious nature if observed while in use at site may be brought to the notice of this office.

This issued with the approval of competent authority.

Executive Engineer (P&D)
Postal Electrical Circle
Bangalore.

Copy to:

- The executive Engineer(E), Postal electrical Division, Bangalore/Mumbai/Jaipur.
- All Assistant Engineer(E)s, PESD under above divisions through EEs.
- M/s KEI Industries Limited, D-90, Okhla Industrial Area phase-1, New Delhi-110020

Executive Engineer (P&D)

TAMIL NADU POLICE HOUSING CORPORATION LIMITED
No: 132 E.V.R.Salai, Kilpauk, Chennai-10

Circular Memo No.CE/DB/372/2014

Date: 07.05.2014

Sub: TNPHC – HO – DB – M/s. KEI Industries Ltd., “KEI” make wires & cables – Renewal - intimation – Reg.

- Ref: 1. T.O.Circular Memo No.CE/DB/0079/2009 Dt: 19.03.2012
2. T.O.Circular Memo No.CE/DB/298/2013 Dt: 10.04.2013
3. M/s. KEI Industries Ltd., Lr.No.KEI/CHE/TNPHC/03/13-14 Dt:28.03.2014.

Handwritten notes:
12/5/14
M/s. KEI → TNPHC

The attention of all the SEs and EEs are invited to the reference 1st & 2nd cited wherein the following “KEI” brand products have already been included as one of the acceptable make for use in TNPHC works.

- Cross linked polyethylene insulated PVC sheathed cables; Part 1 For working voltage upto and including 1100V IS 7098:Part 1:1988.
- PVC insulated cables for working voltage upto and including 1100V with ISI Mark, IS 694:1990.

Now in reference 3rd cited, M/s. KEI Industries Ltd., have furnished relevant documents and requested renewal of their brand products to use in TNPHC works. After careful consideration their request is considered and renewal accorded for one more year to use their products in TNPHC works.

Further, it is informed that the Superintending Engineers/Executive Engineers should insist the field staff to get test certificate along with each consignment without fail. If the performance of the products seems to be unsatisfactory, the same should be brought to the notice of the undersigned with relevant record at once.

The receipt of the circular memo may be acknowledged by return of post.

Sd/...
Chief Engineer/TNPHC

To
All the SEs of TNPHC Ltd.,
All the EEs of TNPHC Ltd.,

Copy to: /order
M/s. KEI Industries Ltd.,
Flat No: 10, 1st Floor,
Rams Appartment,
No: 68, (Old No: 141)
Eldams Road, Teynampet,
Chennai – 600 018.

And the firm is requested to produce necessary test certificates along with each and every consignment. Also the firm is requested to produce ITC & STC every year to this office without fail.

Forwarded/ By Order
[Signature]
Srl.Grade Draughting Officer
15/5/14



Date: 15/05/14

To,
M/s. KEI INDUSTRIES LTD.
D-90 OKHLA INDUSTRIAL ESTATE, PHASE-I
NEW DELHI - 110020
Phone - 6818840/42

Dear Sir,
Subject: Letter of Appreciation

We are pleased to inform you that Haldia Petrochemicals Limited has been certified as ISO 9001:2000 Company by Certifying Agency DNV

As per ISO norms, vendors working with HPL need to be evaluated for their performance. Accordingly, we sorted out our most important vendors for the purpose of evaluation and your company is one of them. We are glad to announce here that you have been rated as “Excellent” based on your performance for the period 01.04.06 to 30.09.06.

We expect you to maintain this trend and also hope that you will put your best efforts for further improvement in your performance.

Thanking you and looking forward to a fruitful and healthy business relationship between your company and Haldia Petrochemicals Limited in years to come,

Very truly yours,
For Haldia Petrochemicals Limited

[Signature]
(Tannoy Dc)
GM - Materials



M/s Kanti Prasad Mittal

A CLASS CIVIL & ELECTRICAL GOVERNMENT CONTRACTOR

REF No. P/Noida/HTC/PE/KEI/14-15/147 DATED 16/06/14

KEI Industries Limited
D-90, OKHLA INDUSTRIAL AREA PHASE-II,
NEW DELHI - 110020, INDIA
Email:- info@kei-ind.com
Phone No. 011-2681 8840 / 8642 / 0242

Sub: Purchase Order for supply of 33kv HT Cables for PE-III (E/M) NOIDA.

Dear Sir,

This has reference to our discussion we are pleased to release our detailed P.O. on your firm for the supply of mention items as per the term & conditions mentioned below:-

| Sl. No. | Item Description | Qty(Mtrs.) | Rate per mtr. | Amount(Rs.) |
|---------|--|------------|---------------|-------------|
| 1. | 33kv 3C X 400 sqmm HT Cable as per NOIDA authority specification or Approved GTP | 1000.00 | 1750.00 | 1750000.00 |
| | | | | |
| | | | TOTAL | 1750000.00 |

1. **COMMERCIAL TERMS & CONDITIONS**

1.2 **PRICE BASIS**

The above mentioned prices will remain firm during the period of complete supply of mention items.

1.3 **TAXES & DUTIES**

ED/CST as per Included above rates are FOR (Destination) at Site NOIDA.

1.4 **TERMS OF PAYMENT**

- 5% Interest free advance of Total Value of PO after Drawing & GTP approval.
- Balance 95% payment against PDC of 60 days from date of dispatch of material at site.



Cont.....(2)

TIN No. : 09878500297
H. O. : 165, Gupta Colony, Transport Nagar, Meerut (U.P.)
C.S.T No. MR-5224807 Dt. 29-6-91
0121-2511749 Cell : 9897643615, 9412203616, Fax : 0121-2515547
Email : kpm_builders@yahoo.com, kpmbuilder@gmail.com
Website : www.kpminfra.com

के. आर. इंडस्ट्रीज लिमिटेड
(एन सीआर सी ईआर)
KEI AUTHORITY OF INDIA LIMITED
(Govt. of India Enterprise)

21/6/14
GIVEN TO
Mr. Manoj Khar
Notes
3/21
No. /SC/01/2007/189/1
5th June, 2007
902

M/s KEI Industries Limited,
D-90 Okhla Industrial Area,
Phase-I,
New Delhi - 110 020
Fax 011-26811959

Dear Sir,

Please refer to your letter no. KEI/Intro/2007/SCD dt. 28.052007 regarding request for registration/approval/empanelment for "KEI" make HT XLPE Cable upto 33 KV, LT Power & Control Cable, Flexible wires/cables, Instrumentation Cable, Rubber Cable, etc. for upcoming project for setting up of power plant. We have referred your letter to Centre for Engineering & Technology, Ranchi, (a unit of SAIL) for considering you in the said project. For detailed discussions, you may please contact at the following address:

Shri R. Bhargav,
DGM(Utility Services-Power),
CET,
Ranchi
Telephone No. 0651-2411195/93340402525(Cell)
Fax - 0651-2411171/2411167

Thanking you,

Yours faithfully,

(Signature)
General Manager (SAILCON)

के. आर. इंडस्ट्रीज लिमिटेड (अनुसूचित संस्था)। 10^{वां} फ्लोर, ओकला इंडस्ट्रियल एरिया, फेज-1, 110 020 नया दिल्ली।
SAIL Consultancy Division (An ISO 9001:2000 Organization) 10th Floor, SCOPE Minar, Laxmi Nagar District Centre, Delhi-110 092, INDIA
Phone : Off. : +91-11-22467360, 22831242 (D), Fax : +91-11-22464616

पंजीकृत कार्यालय : एन सी आर सी ई आर, प्लॉट नं. 76, ए. नं. 3-14-52/1, शुभोदया कॉलोनी, मंसूरबाद, वनास्थलीपुरम, हैदराबाद - 500 070।
Registered Office : KPM Builders, Local Road, P.O. Box 2045, Howrah-710 003, INDIA, Tel. : +91-11-24367015
अन्य कार्यालय : 14 लाइन्स। फोन : +91-11-24367015



Ref No.: LIB/VENDOR REG./2006-07 Date: March 1, 2007

To,

M/s. KEI INDUSTRIES LIMITED
101-102, Vastu Shilp,
Vastu Enclave, Jijamata Road,
Andheri Pump House,
Andheri(E), Mumbai-400093
Tel: 022-28239673

Sub: Confirmation of Vendor Registration

Dear Sir,

We acknowledge with thanks the receipt of your Letter along with Vendor Registration Form duly filled in and the payment of Rs.5000/- (Five Thousand Only) by C.No.599485 dated 29th January 2007 for Registration. We have noted all the details enclosed by you. We will circulate the same to the concerned departments and our clients as per their requirement. We are registering you as Authorized Vendor for HT Cables up to 33KV/ LT PVC, Instrumentation/ Rubber /FS Cables, Flexible Cables and House Wires, Speciality Cables Wiring and Mining Cables.

*VEN/MIT-LIB/ KEI INDUSTRIES / 2006-07-42

We are enclosing the official receipt for the above payment.

Thanking you,

Yours faithfully,

(Signature)
LIBRARIAN
MITCON, Pune.

Regd. Office : Kubera Chambers, SPW/1 nagar,
Pune 411005, INDIA. Tel. : 91-020-25533306, 25534322
Fax : 91-020-25533306
Email : mitconpune@gmail.com

Mumbai Office : Ground Floor, 'Kruparini', 9 Walchand Hirchand Marg,
Balfour Estate, Mumbai 400 001 Tel: 91-022-22624810
Tel/Fax : 91-022-22612594
Email : mitcon.mumbai@gmail.com

Pune Branch : Agriculture College Campus, Next to DIC Office,
Shilp Nagar, Pune 411005 Tel: 91-020-25533306, 25533041
Fax : 91-020-25530317 Email : vts@mitconindia.com
Email : mitcon@gmail.com

www.mitconindia.com



Government of India
Office of Superintending Engineer (Electrical)
Hyderabad Central Electrical Circle
Central Public Works Department
3rd Floor, Nirman Bhavan, Sultan Bazar, Koti,
Hyderabad - 500 095
Ph: 24657792; Telefax: 24653630



No.20/1/2013/HCEC/ 491

Dated 07 /06/2013.

To
M/S. KEI INDUSTRIES LIMITED,
Plot No.76, H.No.3-14-52/1, Shubodaya Colony,
Near Little Chums School,
Mansoorabad, Vanasthalipuram,
Hyderabad - 500 070.

Dear Sirs,

Sub: Approval of products "KEI" brand LT/HT/E.H.V./Wires & Flexible Cables/Power & Control Cables with ISI Mark of manufactured by M/S. KEI INDUSTRIES LIMITED, # 99/2/7, Madhuban Industrial Estate, Rakholi, Silvassa - 396 230, for inclusion in NITs - Reg.

Ref: Your letter No.Nil dated 22nd May, 2013.

With reference to the above cited letter, brand approval is hereby accorded for inclusion of products "KEI" brand LT/HT/E.H.V./Wires & Flexible Cables/Power & Control Cables with ISI Mark of manufactured by M/S. KEI INDUSTRIES LIMITED, # 99/2/7, Madhuban Industrial Estate, Rakholi, Silvassa - 396 230, for use in electrical works under this Circle.

The above said approval is subject to validity of certificate issued by Bureau of Indian Standards.

The above products approved for a period of 2 (two) years from the date of issue of this order. The firm should apply well in advance for renewal of the same before the expiry date of approval.

The approval does not absolve CPWD Engineers concerned from their responsibility of exercising necessary checks like quality, rate and performance of the product(s) while processing / using the same. Shortcomings / deficiencies of serious nature, if observed while in use at site may be brought to the notice of this office.

Yours faithfully,

(Signature)
(Kedar Ram)
Superintending Engineer(E)
HCEC, CPWD, Hyderabad.


Copy to:

1 to 3) All Executive Engineers (Electrical) under HCEC, CPWD, Hyderabad for information and necessary action. They are requested to incorporate the above brand products along with the already approved other brands in the list of preferred makes in the NITs approved by them.

4) The Executive Engineer (P)/Planning Branch in HCEC for similar action.

Superintending Engineer(E)

Vendor Rating


NIRMA LIMITED

10A HOUSE ASHRAM ROAD
MEDABAD GUJARAT AHMEDABAD.
Phone : +91-79-2754655-74
Fax : +91-79-2754662-1, +91-79-2754660-7
E-mail : procurement@nirma.co.in

Date: 30/03/2007

/R. Id / Party Cd: 8001005VR000006 / 36783
KEI INDUSTRIES LIMITED
J-7, KALINDI FLATS, PASHABAHI PARK RACE COURSE
CIRCLE
BARODA GUJARAT BARODA
Phone : 0295 6539710, 2339106
Fax : 0265 2334104
Email : nishimitra@eth.net

1: Madam/Sr.
2: Vendor Performance Rating Information.
3: Supplies of materials at ALINDRA

In reference to the above subject, we would like to inform you that we have referred your past supplies of materials at our above for a period from date 01/10/2006 to 31/12/2006 and the details of our rating formula and your performance rating are as follows:

QUALITY - 70% (B) DELIVERY - 20% (C) SERVICE - 10%

ABOVE 95% - EXCELLENT
86% TO 95% - VERY GOOD
76% TO 86% - GOOD
66% TO 76% - NEEDS TO IMPROVE
65% AND BELOW - NEEDS TO IMMEDIATE REVIEW

| Quality of materials (Rate of rejection) | Quality | Del | Gen | Total | Status |
|--|---------|-------|------|-------|-----------|
| Quality of materials (Rate of rejection) | 70.00 | 20.00 | 8.00 | 98.00 | Excellent |
| Timely Delivery | Del | 20.00 | | | |
| General Response | Gen | 8.00 | | | |
| Final Mark and Status | Total | 98.00 | | | Excellent |

As you obtained the total performance rating mark less than 65%, it means you have been failed on supplies of the material in quality, timely delivery & services, as committed by you with us. So we will compel to decide for further business with you.

As you obtained the total performance rating mark between 66% and 85%, there is need/scope for improvement: in quality, timely delivery of material. We will observe your next performance rating marks.

As you obtained the total performance rating mark between 86% and 95%, that means you need more efforts to improve the quality timely delivery of material to get the mark above 95% in future.

As you obtained the total performance rating mark above 95%, kindly keep it up and try to improve the quality, timely delivery of material to get maximum mark in future.

We are, therefore, requested to put your constant efforts for improvement quality, timely delivery and general response as per our agreement.

In meantime, if you have obtained the rating 85% and below as per our above performance rating, you may please arrange to visit our procurement office for a detailed discussion with Shri C.J. Patel (DGM - Purchases) in the matter, after getting a prior appointment from Mr. Kishore Trivedi, Ext. No. 120, (Contact nos. and address as above).

इंडियन ऑयल कॉर्पोरेशन लिमिटेड
इली रोड, बंगलूर, कर्णाटक - 561114
Indian Oil Corporation Limited
Barauni Refinery, P. O. : Barauni Oil Refinery
Bogusaraol, Bihar - 851114
Phone : 06243 - 240183-86 (4 Lines)
Telex : OILREIN, Fax : 06243-240150/240167

ISO 9001-2000, ISO 14001 & OHSAS 18001 Certified Refinery


Dec, 14th, 2006

TO WHOM IT MAY CONCERN

This is to certify that KEI Industries Limited has supplied 11 KV grade (UE) XLPE, 1C X 630 sq. mm. Copper cable against PO NO. RBRMMSE077/17452259 DTD. 17.08.2006

Quantity 2392 KM in 9 drums, vide KEI'S invoice No. B 002556 30.11.2006

Presently all the 9 drums are kept in store after physical inspection at our store.


G.M. PATEL
SRANMEL

जी.एम.पटेल
सीनियर मरचण्ट असेसक (मिनिमल)
इंडियन ऑयल कॉर्पोरेशन लि.
इली रोड, बंगलूर-851114 (बिहार)

CC : Mr. Alok Saha

Dy. General Manager- Eastern India
KEI Industries Limited,
2/1 Kalibari Lane, Flat#1
Jadivpur, Kolkata - 700 032
West Bengal.

Barauni Refinery - In Harmony with Nature
पेट्रोलेम कार्पोरेशन : इली रोड, बंगलूर, कर्णाटक (एडी), मुंबई-400061
Regd. Office : G-9, Atravali, Jang Naga, Barauni (Bihar) Mumbai-400 051 (India)

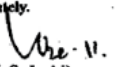
M.P. HOUSING BOARD
Paryawas Bhawan,
Mother Teresa Marg,
Bhopal (M.P.)

No. /MP/HB/08-09/ Dated, the /11/2008

Circular No. 31/08, Dated 19/11/2008

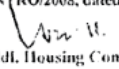
"KEI" Brand ISI Marked PVC Insulated Wires (Up to 1.1 KV Grade) as per IS 694-1990 manufactured by M/S KEI Industries Limited, D-90, Okhla Industrial Area, Phase-1, New Delhi-110020 is approved for use in the works of M. P. Housing Board for a period of one year on trial basis.

The approval given above does not absolve supervisory officers from their responsibility. These Insulated Wires should be used only if they satisfy about the quality & Specifications. The quality & performance standard shall be watched and deficiency if any should be intimated to Head Office immediately.


(V. S. Joshi)
Addl. Housing Commissioner,
M.P. Housing Board, H.O., Bhopal.

Endt No. 5811 /MP/HB/08-09/ Dated the 25/11/2008
Copy to:

- The P.S. to Housing Commissioner, MPHB, H.O., Bhopal
- The Addl. Housing Commissioner, MPHB, H.O., Bhopal
- The Dy. Housing Commissioner, (T / Y / A / M / CCR Cell / Etc.), MPHB, H.O., Bhopal.
- The Chief Accounts Officer / Chief Audit Officer / Chief Architect, MPHB, H.O., Bhopal.
- The Dy. Housing Commissioner, MPHB, Circle No.-1 / 2 / 3 Bhopal / Indore / Gwalior / Ujjain / Jabalpur / Rewa.
- The Executive Engineer, MPHB, Dn. 1-2-3-4-5 & 6 Bhopal / Hoshangabad / Sagar / Sagar Project / 1-2 Gwalior / Morena / Guna / Redensification Gwalior / Indore / Project Indore / Dhar / Khandwa / Ujjain / Ratlam / 1-2 Jabalpur / Balaghat / Katni / Chhindwara / Rewa / Satna / Sidhi / Chatrapur / CSR Cell. (H.O.) Bhopal.
- The Executive Engineer (Elect.), MPHB, Dn. Bhopal / Sagar Project / Indore / Jabalpur.
- M/S KEI Industries Limited, D-90, Okhla Industrial Area, Phase-1, New Delhi-110020 with reference to their letter No. KEI/INTRO/2008, dated 17/07/2008.


Addl. Housing Commissioner,
M.P. Housing Board, H.O., Bhopal.


SHARAT ENGINEERING COMPANY LIMITED


TO WHOM IT MAY CONCERN

This is to certify that KEI Industries Limited has supplied 570 Meters of A2XWY, 11KV, 3 Core X 185 Sq.mm Cable against our P.O. No. 10286 dated 27.11.2006 for our Sarshatali Coal Washery Plant, A/C ICML, a subsidiary of CESC Limited.

The delivery & the quality assurances of this cable so far has been found to be Satisfactory.

As the Plant has not been commissioned till date, the Performance of this cable is yet to be ascertained.


K.N. BANERJEE
GENERAL MANAGER-ENGG

Member of  WMA Group

CORPORATE & REGISTERED OFFICE : 4, MANDELA LANE, KOLKATA - 700 001

PRODUCT DIVISION :
P.O. MANDELA, DIST. DHANBAD, JHARKHAND - 826001
PH : (06543) 288991/173157/162096, 282000
FAX : (06543) 282006
Email : man@sharatengg.com
www.sharatengg.com

SOUTHERN REGIONAL OFFICE :
PLOT No. 21-A, BODDAMANGUNI INDUSTRIAL AREA, 2ND STAGE,
MAHARAJAPUR POST, BANGALORE - 560 046
PH : (0832) 2844 2849/40
FAX : (0832) 2811 8874

"Under jurisdiction of Bilaspur court only" Ph.(PBX) 242672-80, 240144, 240131, 2426241

साउथ ईस्टर्न कोलफिल्ड्स लिमिटेड
South Eastern Coalfields Limited

E&M Depart
 ए. एम. सी. लि
HQ-Bilas
 मुख्यालय, बिस्

Date : 13.8.2003

f. :SECL/BSP/E&M/559/1072-

Dy. Director General of Mines Safety (Electrical),
 Director General of Mines Safety,
ASH BHAWAN,
 Bilaspur,
 Jharkhand-826001.

Sub : Performance of 3.3 KV Grade 3 Core 50 Sq.mm Copper Conductor PVC double wire ST-1 Power Cable supplied by MS/KEI Industries Ltd, New Delhi.

Sir,

There is no adverse report received from user area on the performance of 3 Core 50 Sq.mm 3.3 KV Grade Copper Conductor PVC double wire armoured Cable ST-1 supplied by M/s. KEI industries Ltd, New Delhi. As such the performance is satisfactory.

This is for your kind information and needful action.

Yours faithfully,
CHIEF GENERAL MANAGER (E&M)
 SECL, BILASPUR

Copy to :
 E&M/P&B, SECL, Bilaspur.

Mr. G. Saha

KEI INDUSTRIES LIMITED

The West Bengal Power Development Corporation Limited
 (A Government of West Bengal Enterprise)
 Registered & Corporate Office: **Bijay Udayan Bhawan**,
 33, Dr. Sundari Mohan Avenue, 1st Floor,
 (Near Park Circus Ladies Park),
 Kolkata - 700 014.
 Phone : 2335 0518 (3rd Floor), 2335 3286 (2nd Floor),
 Fax: 2335 9454/9455. e-mail : sbpwrpd@vsnl.com

No. : PDC/Corp/SgTYP/5190 Date : 09.01.2009

To
 M/s KEI Industries Ltd.,
 33, Dr. Sundari Mohan Avenue, 1st Floor,
 (Near Park Circus Ladies Park),
 Kolkata - 700 014. Fax : 631-396 6097

Kind : Attn. Mr. Alak Saha, DGM - Marketing, Eastern India.

Sub : Performance Certificate against supply of HI Cables at Sagardighi TPS.

Dear Sir,

We are in receipt of your letter dated 2nd Dec. 2008 seeking feedback on the performance of the 3Core X 185 Sq. mm. 6.35/11 KV (E) Grade Armoured Heavy Duty XLPE Insulated Stranded Aluminium Conductor Cable supplied by you through M/s. DCPS of our Sagardighi Thermal Power Station.

This is to inform you that a portion of the cable was installed and charged in February 2008 and tested on 18.12.2008 and are under operation till date.

The performance of the cable is found satisfactory since then.

With regards,

Yours faithfully,
(Signature)
 (N. Saha)
 Director (Prog. & Opern.)

cc to Mr. S. L. Kalkar

| Regional Thermal Power Station | Regional Thermal Power Station | Regional Thermal Power Station | Subsector Thermal Power Project |
|--------------------------------|--------------------------------|--------------------------------|---------------------------------|
| Superior | Superior | Superior | Superior |
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कृषक भारती कोऑपरेटिव लिमिटेड
 डा. कुम्भार नगर, सुरत-394 515 (गुजरात-भारत)
KRISHAK BHARATI COOPERATIVE LIMITED
 P.O. KRIBHCO NAGAR, SURAT-394 515 (GUJARAT-INDIA)
 (Purchase Dept.)

दुपचा / Tel. : (0261) 2862762, 2862766 to 77
 फोन / Fax-Purchase : 91-0261-2861500
 फोन / Fax-General : 91-0261-2860283
 दूरलेख / Gram : कृष्णा-सूरत / KRIBHCO-SURAT
 Website : www.kribhco.net
 E-mail : sathe_cop@kribhcosurat.com

By Regd. Post

Dated 12.1.2009

RECEIVED IN
23 JAN 2009
KRIBHCO
PURCHASE DEPT.

HP/22NR/Proc./Press Adv. 2007

To,
 KEI INDUSTRIES LTD
 803 SIDHARTH COMPLEX
 NEAR HOTEL EXPRESS
 R C DUTT ROAD
 VADODARA
 390007

Sub : Vendor Registration.

Ref : Our Press Advertisement for Pre-qualification of suppliers published in January, 2007.

Dear Sirs,

With reference to above, we are pleased to inform you that your firm has been pre-qualified by Kribhco for supply of following items and you have been allotted Vendor code No. VE10520

| Sr. No. | Sub Group | Item Description |
|---------|-----------|--------------------|
| 1. | 2501 | L. T. Power Cables |

Please quote above Vendor code in all future correspondence. We shall contact you as and when we require these items in future.

Thanking you,

Yours faithfully,
 For Krishak Bharati Cooperative Limited
(Signature)
 (C.G. Sathe)
 Addl. General Manager (Commercial)

ISO 9001:2008 APPROVED BY NISO

KRIBHCO

ISO 9001:2008 APPROVED BY NISO

Jaipur Development Authority, Jaipur

Ref. No. 872 dt 13-11-06

Dated:- 10th Nov., 2006

TO WHOM SO EVER MAY CONCERN

It is Certified that M/s J.K. Electric Contractor, 158-169, House, Nehru Bazar Jaipur are Electric 'A' Class Contractor and Resigned in "E-1" in JDA, Jaipur and had Executed the Following Workers :-

| S.No. | Name of Work | Work order No. & Date | Main Components | Financial year |
|-------|---|-----------------------|--|----------------|
| 1. | S/D of Existing 11LV/Lt Laying U/G Cable /Electing PCC Pole at Goner Road, Jaipur | 328 Dated 21/04/06 | L.T. Pillar Box 15 No.11KV (E) HT XLPE 3 Core 185 Sq.mm-KEI Make Cable -8999 Mtrs. PCC Pole 10 Mtrs. 35 No. G O & D.O. 15 Sets | 2006-07 |

All system is Working Satisfactory.

(Signature)
Jaipur Development Authority
 Jaipur

VINAY GUPTA

To whomsoever it may concern

This is certify that M/s. KEI Industries Ljimited, has supplied various HT XLPE Cables against our purchase order no.SEF/2839 Dated 02.09.2006 Details of cables

| S.No. | Size of Cable | Voltage Grade | Qty (Km) |
|-------|-----------------|---------------|----------|
| 1 | 3 C X 185 SQ.MM | 11KV (E) | 42 Km. |

Further, this to certify that cable had laid & commissioned. Performance of the cables found satisfactory.

You're faithfully,

For Swastika Electricals and Fertilizers

Vinay Gupta
 Vinay Gupta
 Director

SWASTIKA ELECTRICALS & FERTILISERS

Jaipur : Opp. Nreham Hotel, Motilal Atal Road, JAIPUR, Phone : 91-141-2361106 / 2374267 Fax : 2372676 E-mail : swastika001@hotmail.com
 New Delhi : 1101, Gditi Tower, B-08, Netaji Subhash Place, New Delhi-34 Ph. / Fax : 91-11-47059503-04 E-mail : swastika001_dcl@airtelbroadband.in
 Bangalore : 243, 2nd Floor, Adh Complex, Chickpet Main Road, Bangalore-560 053 Phone : 91-80-22386369 Fax : 91-8022910246

VINAY GUPTA

To whomsoever it may concern

This is certify that M/s. KEI Industries Limited, has supplied various HT XLPE Cables against our purchase order no.SEF/1097/2005-06 Dated 14.02.2006 Details of cables

| S.NO. | Size Of Cable | Voltage Grade | Qty (KM) |
|-------|-----------------|---------------|------------|
| 1 | 3 C X 300 SQ.MM | 11KV (E) | 16 KM. |
| 2 | 3 C X 300 SQ.MM | 11KV (E) | 2 KM. |
| 3 | 3 C X 185 SQ.MM | 11 KV (E) | 25 KM |
| 4 | 3 C X 50 SQ.MM | 11 KV (E) | 3 KM |

Further, this to certify that cable had laid & commissioned. Performance of the cables found satisfactory.

You're faithfully
 For Swastika Electricals and Fertilizers

Vinay Gupta

Vinay Gupta
 Director

SWASTIKA ELECTRICALS & FERTILISERS

Jaipur : Opp. Nreham Hotel, Motilal Atal Road, JAIPUR, Phone : 91-141-2361106 / 2374267 Fax : 2372676 E-mail : swastika001@hotmail.com
 New Delhi : 1101, Gditi Tower, B-08, Netaji Subhash Place, New Delhi-34 Ph. / Fax : 91-11-47059503-04 E-mail : swastika001_dcl@airtelbroadband.in
 Bangalore : 243, 2nd Floor, Adh Complex, Chickpet Main Road, Bangalore-560 053 Phone : 91-80-22386369 Fax : 91-8022910246



**MAHARASHTRA JEEVAN PRADHIKARAN
 OFFICE OF THE SUPERINTENDING ENGINEER (M)**

Maharashtra Jeevan Pradhikaran
 Jalnarang Compound, Kopart,
 Thane (East)
 Telefax 022/25321788(Office)
 E-mail semechmjprhano@rediffmail.com

No./MJP/SE(M)/New Approval/ 312 /10. Date: 31 / 5 /2010.

To
 M/s.KEI Industries Ltd.,
 D-90, Okhla Ind.Area,
 Phase - 1 New Delhi-110020

Sub: Approval to "KEI" make cables in MJP.

Ref: 1) Your application for registration dated- 1.9.09

Dear Sir,

With reference to above, Maharashtra Jeevan Pradhikaran is pleased to accord approval to "KEI" make various types of cables in MJP, manufactured at your Bhiwadi, Rajasthan plant as under.

| | | |
|------|--|--|
| i) | Details of manufacturer with location of factory address | Factory Address : M/s.KEI Industries Ltd., SP-919,920,922 Riico Industrial area, Phase-3, Bhiwadi 301019, Dist. Alwar (Rajasthan) Phone No-01493-220106/221731 Fax- No-01493-221732 E-mail-monoikei@Satyanet.in |
| ii) | Make | "KEI" |
| iii) | Product range | HT/LT Cables, sub cables, control cable |
| iv) | Validity | Up to 30.6.2013 |

For further continuation/upgradation please submit your application along with a demand draft of Rs 30,000/-for SSI or Rs 50,000/-for Medium /Large Ind.in favour of "Maharashtra Jeevan Pradhikaran" of any nationalized bank payable at Mumbai only .Also submit following documents up to 31.5.2013.

Committee meeting

- 37 -

- 1]Performance certificate of end user duly notarized and atteted by your Co. from M.J.P./ Z.P./ G.S.D.A./M.I.D.C./CIDCO/MSEB or any such Corporate body (at least 3 certificates from Govt. Sector & two certificates from private sector.)
- 2) Valid B.I.S. License certificates (photocopy.)
- 3)] Current Price list.
- 4)]Latest authorized dealers list for Maharashtra.

Please note the continuation will be withdrawn in case of failure to provide proper after sales service.

Thanking you.

Yours faithfully

(M. Tejale)
 Superintending Engineer (M)

Copy submitted to the Chief Engineer, Maharashtra Jeevan Pradhikaran, Aurangabad/Nagpur/Nashik/Pune/Thane for favour of information please.

Copy forwarded with compliments to the Superintending Engineer (M), Maharashtra Jeevan Pradhikaran, Nagpur for information.

Copy forwarded with compliments to the (All) Superintending Engineer, Maharashtra Jeevan Pradhikaran Circle,, for information and necessary action.

Copy to master file.


Committee meeting

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मुंबई पोर्ट ट्रस्ट
MUMBAI PORT TRUST
यांत्रिकी अभियंता विभाग
MECHANICAL ENGINEERING DEPARTMENT

Code No. 800500430002

दुरध्वनी : 6656 5656
फोन : (91-22)2374 4277



मुख्य यांत्रिक अभियंता का कार्यालय
निर्माण भवन, पंचवटा मजला,
माझगाव, मुंबई - ४०० ०१०, इंडिया
CHIEF MECHANICAL ENGINEER'S OFFICE,
NIRMAN BHAVAN 5TH FLOOR, MAZGAON,
MUMBAI - 400 010, INDIA.

Tel. : 6656 5656
Fax : (91-22)23744277

No. CMEEF-2/G 2320 17 NOV 2009

To,
KEI Industries Ltd.,
101-103, Vastu Ship,
Vastu Enclave,
Andheri Pump House,
Jijamata Road,
Andheri (East),
Mumbai - 400 093, Fax No. 28258277

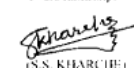
Dear Sir,

Sub: Enlistment as an approved vendor for wires and cables.

Ref: Your letter No. KEI/MUM/MP11-2009 dated 25.09.2009.

With reference to your request / application, we are pleased to inform you that you are enlisted as one of the approved vendor for supply of wires and cables as described in the enclosed statement. The approval has been granted on the basis of documents' information furnished by you.

- Mumbai Port Trust (MbPT) reserves the rights to revoke / suspend the aforesaid enlistment any time on the basis of periodic review.
- This approval shall not bind MbPT to give you any priority or preference in the issue of enquiry and placement of purchase orders and does not guarantee that all or any of the enquiries for the products would necessarily be sent to you.
- You are also requested to intimate to us changes, if any, in postal address, contact details, etc. from time to time.
- Changes if any, in the technical specifications, pricing, etc. shall also be intimated to MbPT from time to time.

Yours faithfully,

(S.S. KHARCHE)
EXECUTIVE ENGINEER (M)

DA - 1 Statement

मुंबई पोर्ट ट्रस्ट
MUMBAI PORT TRUST

STATEMENT ANNEXURE - I

Approval of 'KEI' brand cables for the use of MbPT for the following items.

| Sr.No. | Description of Item |
|--------|---|
| 1. | Cable (Power) PVC insulated, PVC sheathed with flat strips/ round wire Armoured 1 core, 2 core, 3 core, 3½ core, 4 core, 1100 volts grade/class copper conductor with ISI mark. |
| 2. | Core (Power) PVC insulated, PVC sheathed with flat/round wire Armoured 1 core, 2 core, 3 core, 3½ & 4 core, 1100 volts grade/ class, Aluminium conductor with ISI mark. |
| 3. | Cable XLPE (cross linked Poly Ethylene), insulated Aluminium conductor in all sizes of 6.35 KV/ 11 KV/22 KV grade with ISI mark |
| 4. | Control cable 1.5 mm ² and 2.5 mm ² solid strand PVC insulated and upto 61 cores PVC sheathed, Armoured and Unarmoured copper conductor with 1100 volts grade with ISI mark |
| 5. | Cable welding having Ethylene Propylene Rubber (EPR) or Poly Chloroprene (PCP) insulation with copper conductor. (HOFR type) upto 50 mm ² size with ISI mark |
| 6. | Instrumentation cable upto 50 pairs |
| 7. | Wire PVC insulated without sheath, single core 1100 volts grade with copper conductor, solid or multistranded with ISI mark |
| 8. | Wire flexible PVC insulated and PVC sheathed single core (multistranded) and multicore (multistranded) 1100 volts grade, copper conductor with ISI mark |
| 9. | Wire PVC insulated and PVC sheathed single core 1100 volts grade, copper conductor with ISI mark |

BSES

BSES Yamuna Power Limited
Shakti Kiran Building, Karkardooma,
New Delhi-110042, India
Tel: 011-2618-9999
Fax: 011-2618-9403
www.bsesdelhi.com

A joint venture of BSES Limited with Govt. of NCT, Delhi

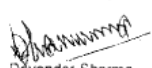
Date: 8th April 2010

TO WHOMSOEVER IT MAY CONCERN

This is to certify that KEI Industries Ltd, New Delhi has successfully supplied full quantity of 10KM, 1CX1000 sq mm, 66 KV (E) AL/ XLPE / LEAD ALLOY SHEATH Cable against Purchase order No. D01/23034639 Dated 31.07.2009

The Quality and service offered by KEI Industries Ltd during execution of above order found satisfactory.

Out of 10 kms of cables supplied, 7.5 kms have been laid and charged. The cables are in operation and working satisfactorily.


Devender Sharma
Head (CES)
B Block 3rd Floor
Shakti Kiran Building
Karkardooma
New Delhi


GOVERNMENT OF TAMIL NADU
PUBLIC WORKS DEPARTMENT
CERTIFICATE OF PRODUCT APPROVAL
No. 13A / 55 ASC / TABRS / dated 12.04.2017

The Assessment Committee constituted by the Government of Tamil Nadu under the Chairmanship of Engineer-in-Chief (Buildings), Public Works Department examined various aspects of the following products in its 55th meeting held on 22nd March 2017 and have accorded approval.

Products / Product Range → "KEI" Polyvinyl Chloride Insulated Unsheathed and Sheathed Cables/ Cords with Rigid and Flexible Conductor for Rated Voltages up to and including 1100V

Manufacturer / Company → M/s. KEI Industries Limited, Flat No.10, 1st Floor, Rams Apartment, No.68, (Old No.141) Eldams Road, Teynampet, Chennai-600018.

References → BIS License Number CM/L 7380172

Standards/ Specifications → IS 694:2010

Limitations → Approval is subject to validity and scope of BIS License for the product and compliance to the specification mentioned

Test results produced at the time of approval should be adhered to.

Any change of materials, manufacturing process, quality control routines that may affect the validity of this certificate should be notified to the Assessment Committee, PWD, Government of Tamil Nadu.

The certificate is valid from 12.04.2017 up to and inclusive of 11.04.2020 for a period of three years.


12.04.2017
GOVERNMENT OF TAMIL NADU


Member Secretary, Assessment Committee & Superintending Engineer, PWD, Planning and Designs Circle (Buildings), Chepauk, Chennai - 600 005.



Offshore Design Section,
Offshore Engineering Services
ISO: 9001-2008
OFFSHORE SUGGESTED VENDOR LIST
Rev 6.5 (April 03, 2013)

Rev No: 6.5
Discipline: All
Page: 34 of 43

| S.No | Product | Vendor Name | Country | | |
|---|--|---|-------------------|---------|----------------------|
| 12 | Lighting & Power Distribution Panel, AC DISTRIBUTION BOARD & DC DISTRIBUTION BOARD | a) Lagrand (India) | India | On Hold | |
| | | b) Indo Asian Switch Gear | India | | |
| | | c) Versatip Circuit Breaker Mfg. Pvt. Ltd. Mumbai | India | | |
| | | d) BCH Electric Ltd | India | | |
| | | e) Reunion Engg. Co. Mumbai | India | | |
| | | f) Fabricons, Mumbai | India | | |
| | | g) Siemens | Germany/India | | |
| | | i) HHI | Korea | | |
| | | j) Marine Electricals | India | | |
| | | k) HIECO | Korea | | |
| | | l) Schneider Electric India Pvt. Ltd. | India | | |
| | | m) Middle East Switch Gear Ltd | Sharjah | | |
| n) Cooper Crouse-Hinds | USA | | | | |
| o) R STAHL | Germany | | | | |
| 13 | Solar Power System | a) Central Electronics Ltd | India | On Hold | |
| | | b) BHEL | India | | |
| | | c) Tata BP Solar | India | | |
| | | d) BP Solar | Australia | | |
| | | e) Scorpak | UK | | |
| | | f) SICE s.r.l | Italy | | |
| | | g) SunPower Corporation | USA / India | | |
| | | a) Universal Cables, Satna, MP | India | | On Hold |
| | | b) INCAB | India | | |
| c) Cable Corporation of India | India | | | | |
| d) Polycab | India | | | | |
| e) Prysmian PowerLink Sri | Italy | | | | |
| f) BICC | Singapore | | | | |
| g) Associated Flexible & Wires Pvt. Ltd | India | | | | |
| h) KEI Industries Ltd | India | | | | |
| i) Nexans (Kukdong) | Korea | | | | |
| 15 | FRP Cable Trays | a) SSB Industries, Bangalore | India | On Hold | |
| | | b) Ercon, Jodhpur | India | | |
| | | c) General Composites Pvt Ltd | India | | |
| | | d) INDIANA, Mumbai | India | | |
| | | e) Enduro | USA | | |
| | | f) Sump Composites Pvt Ltd | India | | |
| | | g) Sintex Industries Ltd | India | | |
| | | h) Oglasend System | Malaysia | | |
| | | i) Kemrock Industries & Exports Ltd | India | | |
| | | 16 | Batteries (Ni-Cd) | | a) AMCO Power System |
| b) HBL Power systems Ltd | India | | | | |
| c) Amara Raja Batteries Ltd | India | | | | |
| 17 | Hazardous Area Lighting Fixtures | a) Baliga Lighting Equipment | India | On Hold | |
| | | b) Flexpro Electricals, Mumbai | India | | |
| | | c) FCG Flame Proof Control Gears Pvt. Ltd | India | | |
| | | d) FCG Power Industries Pvt. Ltd | India | | |
| | | e) Flameproof Equipments Pvt. Ltd | India | | |

Please refer the notes at the end of the list.

Indicates change from Rev 6.4

April 03, 2013



Life Insurance Corporation of India
Office of the Chief Engineer
25 Kasturba Gandhi Marg, New Delhi-110001

Engg/ Planning/ Approved Makes

Dated: 01.09.2011

M/s K E I INDUSTRIES LIMITED,
D - 90, Okhla Industrial Area, Phase I,
New Delhi 110020,

Dear Sirs,

Reg. **Enlistment of M/s "KEI Industries Ltd" for LIC works under Northern Zone**

We are pleased to inform you that the Competent Authority has approved enlistment of your "K E I" make for PVC insulated multistrand wires, PVC insulated /sheathed armoured cables, XLPE PVC insulated aluminium conductor cables under Northern Zone which includes Delhi, Haryana, Punjab, Himachal Pradesh, Rajasthan, Jammu & Kashmir areas.

The above approval has been granted initially for two years to be extended after getting feedback from our engineers. We will be free to test these products in any laboratory as per relevant ISI Codes. Your enlistment with LIC shall not bind LIC to give you any priority or preference in the issue of any enquiry & placement of purchase orders & does not guarantee that all or any of the enquiries for your products would necessarily be sent to you.

Yours faithfully,

[Signature]
Suptg Engineer.

आयु जीवित बीमा, जीवन बीमा (जीवित बीमा) (दुसरे भाग) 25, का. मार्ग, नई दिल्ली-110001
दूरभाष : 28644171, 28644180, फोन : 28644160; टेली : "जीवित बीमा", e-mail : lic_engg@licindia.com

Northern Zonal Office, Engineering Department, "Jeevan Prakash", (2nd Floor), 25, K.G. Marg, New Delhi-110001
Tel : 28644171, 28644180, Fax : 28644160; Telegram : "Jeevan Prakash"; e-mail : nz_engg@licindia.com



TAMIL NADU TRANSMISSION CORPORATION LTD,
CHENNAI DEVELOPMENT CIRCLE - I
TANTRANSCO, GUINDY, CHENNAI - 32

Scope of work: Supply, laying, Testing & Commissioning for a route length of 10.552 KM of 230KV, 1X1200sq.mm XLPE Aluminium UG cable and accessories, from 230 KV Ambattur Third Main Road SS to 230KV Thiruverkadu HGIS SS, under Turnkey basis.

Name of the Contractor: M/s KEI Industries Limited, Okhla Indl Area, New Delhi-110020.

Work Order Ref: LOA No.: CE/TR/SE/TR/II/EE/C/A3/F.T-1827/LOI-2646/D.25/15 dt. 26.02.2015.

This is to certify that M/s KEI Industries Limited, Okhla Indl. Area, New Delhi-110020, India., have supplied the following materials as per the Contract and successfully test charged on 18.08.2017 and commissioned the feeder with load on 08.01.2018 satisfactorily. The above feeder is in service without trouble till date.

| S.No | Items | Make | Quantities supplied |
|------|---|-------|---------------------|
| 1 | 230kV, 1CX1200 Sq.mm, Al, XLPE UG Cable | KEI | 32238m |
| 2 | 230kV, Normal Straight Through Joints | Brugg | 54nos |
| 3 | 230kV, Insulated Joints | Brugg | 15nos |
| 4 | 230kV, Outdoor Termination | Brugg | 06 nos |
| 5 | Optical Fibre Cable (24 Fibre) | Akash | 10893m |

[Signature]
SUPERINTENDING ENGINEER
CDC I/TANTRANSCO,
A-10.,Thiru.Vi.Ka.Industrial Estate,
Guindy/Chennai-600032.



TAMIL NADU HOUSING BOARD
CERTIFICATE OF PRODUCT APPROVAL

File No. QC/33979/2018 date 28.12.2018

The Chief Engineer (City), Tamil Nadu Housing Board has examined various aspects of the following products with reference to your letter No. Nil dated. 02.07.2018 and has accorded approval on 28.12.2018 on the following products in the works carried out by Tamil Nadu Housing Board Projects.

- | | | |
|---------------------------|----|--|
| 1. NAME OF THE COMPANY | :: | M/s. KEI INDUSTRIES LTD |
| 2. NAME OF THE PRODUCT | :: | 1. KEI WIRES, LT CABLES, HT CABLES |
| 3. BIS LICENCE | :: | 1. BIS License No.CM/L 7380172 dated 06.07.2018 Valid up to 30.06.2019. 2. BIS License No.CM/L 7566489 dated 10.10.2017 Valid up to 28.9.2019. 3. BIS License No.CM/L 8738194 dated 11.10.2017 Valid up to 31.07.2019. |
| 4. STANDARD SPECIFICATION | :: | 1. IS 694:2010 2. IS 7098: Part 1 1988 3. IS 7098: Part 2 2011 |
| 5. PWD APPROVAL | :: | 1. PWD No.13A/55 ASC/TABRS/dated 12.04.2017 valid up to 11.04.2020 2. PWD No.13B/55 ASC/TABRS/dated 12.04.2017 valid up to 11.04.2020 3. PWD No.13C/55 ASC/TABRS/dated 12.04.2017 valid up to 11.04.2020 |
| 6. TEST REPORTS | :: | 1. Test Report obtained from ERADA vide test report No.RP-1516-012207 dated 30.06.2015 2. Test Report obtained from ERADA vide test report No.ICWRW000912507-a dated 21.04.2012 3. Test Report obtained from CPRI vide test report No.CPRI/RTLCL2014T215 dated 29.01.2015. 4. Test Report obtained from CPRI vide test report No.CPRI/RTLCL2014T215 dated 29.01.2015. |



RASHI STEEL AND POWER LTD.

(Formerly Known as Rashi Strips Pvt. Ltd.)

BF-1, First Floor, Opp. Axis Bank, Rajiv Plaza, Bilaspur 495 001 (C.G.)
Ph. : +91 7752 408405 Fax : +91 7752 235923 E-mail : rashistrips@gmail.com

PURCHASE ORDER 10000000
P.O. No: RSPL/ PO1314 /10182 Date: 21/10/13

VENDOR: KEI Industries Limited
Near Maharashtra School 103, Misal Layout Nagpur-440014 IN
Email ID: rashistrips@gmail.com
Contact Person: Ajay Krishna Sharma, Vishesh Dixena
Contact No: 7898986915, 7879845015,
Fax No: +91 7752 2359 Tel No: +91 7752 408405
TIN No: 22944302094 CST No: 22944302094
ECC No: AAECR6450QEM001 Excise Range: BILASPUR
Excise Division: BILASPUR Excise Commission: RAIPUR

We are pleased to inform you that we have found your offer competitive & are here under placing our order for the following items:

| Sl. | Item Description | Make/TS | QTY | UoM | Rate | Total Amount |
|-----|--|-----------------------------------|--------|-----|--------|--------------|
| 1 | PVC Type A Insulated Core Twisted FRLS Instrument Cable (2 Pair X1.5 Sq.mm) | KEI Make Stranded(Class) | 2,000 | Mtr | 90.97 | 181,940.00 |
| 2 | PVC Type A Insulated Core Twisted FRLS Instrument Cable (4 Pair X1.5 Sq.mm) | KEI Make Stranded(Class) | 1,500 | Mtr | 141.15 | 211,725.00 |
| 3 | PVC Type A Insulated Core Twisted FRLS Instrument Cable (8 Pair X1.5 Sq.mm) | KEI Make Stranded(Class) | 2,000 | Mtr | 242.00 | 484,000.00 |
| 4 | PVC Type A Insulated Core Twisted FRLS Instrument Cable (12 Pair X1.5 Sq.mm) | KEI Make Stranded(Class) | 1,500 | Mtr | 343.96 | 515,940.00 |
| 5 | PVC Type A Insulated Multi Core FRLS Instrument Cable (2 Core X0.75 Sq.mm) | KEI Make Stranded(Class) | 2,000 | Mtr | 39.29 | 78,580.00 |
| 6 | PVC Type A Insulated Multi Core FRLS Instrument Cable (3 Core X0.75 Sq.mm) | KEI Make Stranded(Class) | 1,500 | Mtr | 45.14 | 67,710.00 |
| 7 | PVC Type A Insulated Multi Core FRLS Instrument Cable (6 Core X0.75 Sq.mm) | KEI Make Stranded(Class) | 5,000 | Mtr | 64.79 | 323,950.00 |
| 8 | PVC Type A Insulated Multi Core FRLS Instrument Cable (8 Core X0.75 Sq.mm) | KEI Make Stranded(Class) | 1,000 | Mtr | 76.97 | 76,970.00 |
| 9 | Cu ARMoured Cable 3 Core X 2.5 Sqmm | KEI Make Stranded(Class 2) | 2,500 | Mtr | 72.85 | 182,125.00 |
| 10 | Cu ARMoured Cable 4 Core X 2.5 Sqmm | KEI Make Stranded(Class 2) | 10,000 | Mtr | 89.27 | 892,700.00 |
| 11 | Cu ARMoured Cable 5 Core X 1.5 Sqmm | KEI Make Stranded(Class 2) | 1,500 | Mtr | 76.27 | 114,405.00 |
| 12 | Cu ARMoured Cable 4 Core X 4 Sqmm | KEI Make Stranded(Class 2) | 1,500 | Mtr | 128.46 | 192,690.00 |
| 13 | Cu ARMoured Cable 4 Core X 6 Sqmm | KEI Make Stranded(Class 2) | 5,000 | Mtr | 173.00 | 865,000.00 |
| 14 | Cu ARMoured Cable 4 Core X 16 Sqmm | KEI Make Stranded(Class 2) | 5,000 | Mtr | 374.29 | 1,871,450.00 |
| 15 | Cu ARMoured Cable 3 Core X 2.5 Sqmm | KEI Make Stranded(Class 2) | 3,000 | Mtr | 66.88 | 200,640.00 |
| 16 | Cu UNARMoured Cable 1 Core X 6 Smm | KEI make,1.1 KV Single/Multi Core | 500 | Mtr | 32.99 | 16,495.00 |
| 17 | Cu UNARMoured Cable 3 Core X 2.5 Smm | KEI make,1.1 KV Single/Multi Core | 2,500 | Mtr | 47.77 | 119,425.00 |
| 18 | AL ARMoured Cable 16.0 sq. mm x 3 core | KEI Make Stranded(Class) | 8,000 | Mtr | 62.43 | 499,440.00 |
| 19 | AL ARMoured Cable 16.0 sq. mm x 4 core | KEI Make Stranded(Class) | 3,000 | Mtr | 75.49 | 226,470.00 |
| 20 | AL ARMoured Cable 120.0 sq. mm x 3.5 core | KEI Make Stranded(Class) | 1,000 | Mtr | 298.69 | 298,690.00 |

Registered Office : A-184, Meerla Bagh, New Delhi - 110 082



RASHI STEEL AND POWER LTD.

(Formerly Known as Rashi Strips Pvt. Ltd.)

BF-1, First Floor, Opp. Axis Bank, Rajiv Plaza, Bilaspur 495 001 (C.G.)
Ph. : +91 7752 408405 Fax : +91 7752 235923 E-mail : rashistrips@gmail.com

PURCHASE ORDER 10000000
P.O. No: RSPL/ PO1314 /10182 Date: 21/10/13

VENDOR: KEI Industries Limited
Near Maharashtra School 103, Misal Layout Nagpur-440014 IN
Email ID: rashistrips@gmail.com
Contact Person: Ajay Krishna Sharma, Vishesh Dixena
Contact No: 7898986915, 7879845015,
Fax No: +91 7752 2359 Tel No: +91 7752 408405
TIN No: 22944302094 CST No: 22944302094
ECC No: AAECR6450QEM001 Excise Range: BILASPUR
Excise Division: BILASPUR Excise Commission: RAIPUR

We are pleased to inform you that we have found your offer competitive & are here under placing our order for the following items:

| Sl. | Item Description | Make/TS | QTY | UoM | Rate | Total Amount |
|-----|---|--------------------------|-------|-----|----------|--------------|
| 21 | AL ARMoured Cable 35.0 sq. mm x 3 core | KEI Make Stranded(Class) | 2,500 | Mtr | 97.80 | 244,500.00 |
| 22 | AL ARMoured Cable 150.0 sq. mm x 3 core | KEI Make Stranded(Class) | 2,500 | Mtr | 307.91 | 769,775.00 |
| 23 | AL ARMoured Cable 95.0 sq. mm x 3 core | KEI Make Stranded(Class) | 2,500 | Mtr | 206.28 | 515,700.00 |
| 24 | AL ARMoured Cable 240.0 sq. mm x 3 core | KEI Make Stranded(Class) | 2,000 | Mtr | 479.72 | 959,440.00 |
| 25 | AL ARMoured Cable 70.0 sq. mm x 4 core | KEI Make Stranded(Class) | 1,500 | Mtr | 206.64 | 312,960.00 |
| 26 | AL ARMoured Cable 70.0 sq. mm x 3 core | KEI Make Stranded(Class) | 2,500 | Mtr | 165.27 | 413,175.00 |
| 27 | SI UNARMoured Cable 1 Core X 150 Sqmm | KEI Make Stranded(Class) | 500 | Mtr | 1,213.21 | 606,605.00 |

Registered Office : A-184, Meerla Bagh, New Delhi - 110 082



RASHI STEEL AND POWER LTD.

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BF-1, First Floor, Opp. Axis Bank, Rajiv Plaza, Bilaspur 495 001 (C.G.)
Ph. : +91 7752 408405 Fax : +91 7752 235923 E-mail : rashistrips@gmail.com

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Email ID: rashistrips@gmail.com
Contact Person: Ajay Krishna Sharma, Vishesh Dixena
Contact No: 7898986915, 7879845015,
Fax No: +91 7752 2359 Tel No: +91 7752 408405
TIN No: 22944302094 CST No: 22944302094
ECC No: AAECR6450QEM001 Excise Range: BILASPUR
Excise Division: BILASPUR Excise Commission: RAIPUR

We are pleased to inform you that we have found your offer competitive & are here under placing our order for the following items:

| Sl. | Item Description | Make/TS | QTY | UoM | Rate | Total Amount | |
|-----|---------------------------------------|--------------------------|-----|-----|----------|--------------|---------------|
| 28 | SI UNARMoured Cable 1 Core X 240 Sqmm | KEI Make Stranded(Class) | 500 | Mtr | 1,919.49 | 959,745.00 | |
| | | | | | | Total | 12,202,245.00 |
| | | | | | | S.Tax/Excise | 1,464,269.40 |
| | | | | | | Edu.Cess | 29,285.41 |
| | | | | | | H.Edu.Cess | 14,642.70 |
| | | | | | | CST | 39,406.48 |
| | | | | | | Freight | 0.00 |
| | | | | | | Grand Total | 13,749,848.99 |

Commercial Terms and Conditions
Price: Fixed Taxes & Duties: ED@12.36 % + CST@1% / ED@12.36%
Freight: FOR Delivery: Delivery Within 6-10 Weeks From Date Of LOI.
Payment Term: PT 10%Agnt. ABG,10%Agnt. PBG,80% Agnt. Usance LC Of 30 Days After Material Recd At Site.

Amount in words: Rs. One Crores Thirty Seven Lacs Forty Nine Thousand Eight Hundred Forty Eight And Ninety Nine Paise Only

General Terms and Conditions

- Time is essence of this order and delivery must be made as per delivery schedules unless otherwise differed by us writing.
- Delivery of goods should be within the delivery time frame as mentioned above, failing of which the order will be cancelled.
- In the event, the supplier fails to deliver the goods of the ordered quality or deliver different and /or sub-standard make/quality, the company reserves right to reject the material and inform the supplier to lift the material from our stores at his own cost. Incoming freight, if any, paid for these shall also be recovered. Breakage/loss if any during transit due to poor packing or handling shall be to supplier's account.
- Please ensure that separate invoices are raised for each Delivery Challan and submitted in DUPLICATE along with delivery of the goods.
- Please mention our Purchase Order No. in all your correspondence and invoices & Delivery Challans for prompt action.
- Please ensure that your CST/TIN/TAN/IEC Nos. are mentioned on your invoices.
- ARBITRATION: All disputes or differences whatsoever arising between the parties out of or in relation to work/supply of work order/purchase order or effect to dis-contract or breach thereat shall be settled amicably. However, if the parties are unable to solve them amicably, the same shall be finalized by arbitration and reconciliation. The award may in pursuance thereof shall be final and binding on the parties.
- DELIVERY: All disputes of differences whatsoever arising between the parties out of or in relation to work/supply of work order/purchase order or effect to dis-contract or breach thereat shall be settled amicably. However, if the parties are unable to solve them amicably, the same shall be finalized by arbitration and reconciliation. The award may in pursuance thereof shall be final and binding on the parties.
- LD Clause will be applicable from 11th week from date of LOI. For delay in delivery 0.5% of Total PO Value Per week of delay or part thereof, subject to maximum of 5% of total PO Value.
- Delivery Schedule - 50% of total individual materials (Qty) should be supply within 15th to 20th Nov 2013 & Bal. mat. Qty. Within 20th Dec 2013.
- For QTY, MAKE, Technical specification and All Terms & condition please refer Annexure 1,2,3 attached with PO.

FOR Rashi Steel and Power Ltd

Printed from SAP Business One

Authorized Signatory

Registered Office : A-184, Meerla Bagh, New Delhi - 110 087

MUNICIPAL CORPORATION OF GREATER MUMBAI

No. Ch.E. / M&E / 2748 of 04 AUG 2014

Office of the
Chief Engineer (Mechanical & Electrical),
Engineering HUB Building, 1st Floor,
Dr.E.Mosses Road, Worli Naka, Worli,
Mumbai - 400 018,
Tel.No.24958001-8101 Ext.
2028, 2071
E-Mail: cemcnpd@gmail.com
aspl@5.mc@mcgm.gov.in

To,
M/s KEI Industries Limited
101/102/103, Vastu Shilp,
Vastu Enclave, Jijamata Road,
Andheri Pump House,
Andheri (East), Mumbai-400093.

Subject :- Approval of upgradation of "KEI" brand cables & wires in 1st category.

Reference : KEI/MUM/DT/2013-14 dated 2/8/2013.

Gentlemen,

This is to inform you that the following products manufactured by you at the manufacturing unit at Silvassa plant are approved and included in the 'Unified Schedule of Rates for M&E-2013' of MCGM.

| Sr.No. | I.S. No. | Product |
|--------|---------------------------|--|
| 1. | I.S.694/1990 | PVC insulated copper conductor, pvc sheathed/FRLS sheathed/cables & Flexibles.& Aluminium/copper pvc wires. |
| 2. | I.S.7098/Part-I & II/1988 | XLPE insulated Armoured/unarmoured & pvc sheathed/FRLS sheathed Aluminium/ copper conductor cables / III cables ranging from 6.6 KV to 132 KV. |
| 3. | I.S.1554/Part-I/1988 | PVC insulated Armoured/unarmoured & pvc sheathed/FRLS sheathed Aluminium/copper conductor cables. |

INTEGRATED COAL MINING LIMITED

6, Church Lane (1st Floor), Kolkata - 700 001
 Telephone Nos : (033) 2210 8558-82 (5 Lines)
 Fax : (033) 2210 8556
 E-mail : icml@kolkata.icmlindia.com

ICMLWQ/079/10-11

Dated: 27th September, 2010

KEI Industries Ltd.
 33, Dr. Sandani Mohan Avenue, 1st Floor
 Kolkata-700014

WORK ORDER

Sub: Power Supply arrangement at Sarshatal Open Cast Mines - Supply of HT, LT and Control Cables

- Ref: 1) Our NIO no. ICML/G.H.I./JX/2010-11 dated 07.06.2010 for HT, LT and Control Cable
 2) Our Specification no. TCE 5967A-EL-PCA-730-01
 3) Your offer no. KEI-KOL/ICML/10-11/Q-135/R) dated 24.08.2010 for supply of HT, LT and Control Cables
 4) Final negotiation meeting held on 18.09.2010
 5) Your revised offer no. KEI-KOL/10-11/ICML/Q-135R dated 18.09.2010 based upon Negotiation meeting held on 18.09.2010 for supply of HT, LT and Control Cables

Dear Sirs,

With reference to the above, this is to convey the acceptance of your offer for supply of HT, LT and Control Cables as per our tender specification and BOQ and settled terms & conditions in connection with Power Supply arrangement at Sarshatal Open Cast Mines:

I. SCOPE OF SUPPLY:

HT, LT and Control Cables as per specification and BOQ attached in Annexure - 1

II. SUMMARY OF PRICES

| Sl. No | Description | Amount (Rs) |
|--------|--|--------------------|
| 1 | a. Total Price for the supply of HT, LT and Control Cables as per specification and BOQ attached in Annexure - 1 inclusive of taxes, duties and freight & insurance charges. | 1,39,48,568 |
| | Total = | 1,39,48,568 |
| | (Rs. One Crore Thirty Nine Lakh Forty Eight Thousand Five Hundred and Sixty Nine only) | |



Bhillo Ka Beda, Amberi, NH 76, Udaipur

Ref.: PMCH/14-15/1234

Date: 19/03/2015

TO WHOMSOEVER IT MAY CONCERN

Performance Certificate

This is to certify that M/s KEI Industries Ltd D-90 Okhla Industrial Area, Phase-1, New Delhi-110020 has supplied FR (Homecab) wire, Multicore flexible, LT Control & Power cables, HT Cables for a value of nearly 3.5 crore against our various purchase orders for our Pacific Medical College & Hospital, Bhillo Ka Beda, Udaipur (Raj.) and Pacific Institute of Medical Sciences, Umerda, Udaipur (Raj.) during 2012 to 2015.

The performance of their Product (Wires & Cables) is satisfactory and there is no adverse report against the product so far.

(Rahul Agajwal)
 Secretary

PACIFIC MEDICAL COLLEGE & HOSPITAL

(Promoters Tirupati Balaji Educational Trust)
 4, Fatehpura, Udaipur | Phone: +91-294-3920000 | +91-96729 78500 | Fax: +91 294 2401508
 Email: pmchrfb@pacifcomdco.ac.in



वर्षाभ्यां आरंभितं महामंडलम्
 वर्षाभ्यां आरंभितं महामंडलम्
 LIC - LIC GENERAL INSURANCE CO. OF INDIA

Ref: Engg/WZO/Elect.

dt. 23.08.2013

M/s KEI Industries Limited
 101/102/103 Vastu Shilp
 Vastu Enclave
 Jijmata Road
 Andheri Pump House
 Andheri (East)
 Mumbai 400 093

Dear Sir

Re: Approval of 'KEI' brand wires and cables

We are pleased to inform you that as per your request the competent authority has approved inclusion of 'KEI' brand of wires and cables in our approved list of electrical materials to be used in our works under Western Zonal Office which consists state of Maharashtra, Gujarat and Goa.

You are requested to be in touch and forward us the latest price lists and updation if any in terms of product/range/prices etc. from time to time.

Yours faithfully

Dy. Chief Engineer



KERALA STATE ELECTRICITY BOARD LIMITED

(O/o the Executive Engineer, Transmission Division, Kazhakkuttom, Kazhakkuttom P.O., Thiruvananthapuram)

Phone: 0471-2414838, 9446008107. E-mail - eedtpvm @ bsnl.in.

PERFORMANCE CERTIFICATE

Certified that M/S KEI INDUSTRIES LTD, D-90, PHASE-1 OKHLA INDUSTRIAL AREA NEW DELHI - 110 020 has successfully completed the supply, laying testing and commissioning of the cable 33 KV 3 C X 300 sq mm XLPE UG cable QTY-24.518 KMS along with accessories like Pre-moulded type straight joints. Pre-moulded type outdoor end terminations Turn-key basis on July-2013. The work was awarded to M/S KEI by the Chief Engineer (Transmission South), VB, TVM. Vide W.O. No. 4/CE(TS)/2012-13 Dt 3-08-2012 for our Sub Transmission Project from 110 KV substation NEDUMANGAD to VITHURA (IISER CAMPUS) Substation under this Division

The above 33 KV UG XLPE Cable system has been charged and working satisfactorily since October 2013.

Kazhakkuttom

Did-22.01.2015

EXECUTIVE ENGINEER

(Signature)
 Thiruvananthapuram
 Transmission Division
 Kazhakkuttom, Pin-686 002



पश्चिम क्षेत्रीय कार्यालय, "योगेश्वर", ज्वेलर बिमा मार्ग, मुंबई - 400 021.

दूरभाष : 022-66598000

पश्चिम क्षेत्रीय कार्यालय, "योगेश्वर", ज्वेलर बिमा मार्ग, मुंबई - 400 021.

दूरभाष : 022-66598000

Western Zonal Office, "Yogakshema", Jeweler Bima Marg, Mumbai - 400 021.

Tel: 022 - 66598000

APPROVED MAKE OF MATERIALS AND EQUIPMENTS
THE MATERIALS/ EQUIPMENTS TO BE INCORPORATED IN THE WORKS SHALL
CONFORM TO ANY OF THE FOLLOWING APPROVED MAKES.

- | | | |
|-----|--|--|
| 1 | Transformers | : Crompton/ Kirloskar/ETE/ ITL/ Voltamp/ KEL/ Bharat Bijlee/ INTRANS/ TELK/ AREVA |
| 2 | H.T Breaker Panel | : Schneider Electric/ Crompton Greaves/ Jyothi Limited/ ABB Limited/ Siemens Limited/ Areva |
| 3 | Gang Operating Switches | : Metropolitan/ Trans Electrical/ Golden |
| 4 | Lighting Arrestors | : W.S Insulators/ KEL/ Lamco/ Areva/ Schneider Electric |
| 5 | Moulded Case Circuit Breakers [MCCB] | : Larsen & Toubro/ GE Power/ Schneider/ Control & Switch Gear/INDO ASIAN/ABB/ Siemens |
| 6 | Air Circuit Breakers | : Larsen & Toubro/ Siemens/ Control & Switch Gear/ GE Power/ Schneider Electric/ABB |
| 7a) | Lighting Fixtures (Indoor) | : Philips/ Crompton/ Bajaj/GE lighting/ Wipro/ Asian/ K-lite |
| 7b) | Lighting Fixtures (Outdoor) | : Bajaj/ Crompton/ GE lighting / Philips/ Wipro/ K-lite/ Pasolite |
| 8 | Fluorescent tubes/ lamps | : Philips/GE/Wipro/OSRAM/Surya |
| 9 | Switch fuse units and Isolators | : Crompton/ Siemens/ Larsen & Toubro/ Cutler Hammer/ Control and Switch Gear/ ELCON/ Schneider Electric/ ABB/ GE/ Areva / Indo Asian |
| 10 | Changover Switches | : Control and Switch Gear/ ELCON/ Schneider Electric/GE/Areva/ Indo Asian |
| 11 | Metal clad socket with sheet steel enclosure [Industrial type] | : Crompton/ Cutler-Hammer/ Easun/ Havell's/GE Power/Schneider/ L&T/ Siemens/Control & Switch Gear/ ABB/ Indo Asian |
| 12 | Copper conductor PVC insulated wires (with ISI mark) | : Cobra/ Finolex/ Havell's/ L&T/ Indo Asian |
| 13 | Aluminium conductor PVC insulated wires (with ISI mark) | : SBEEL/ Ravi Cab/ WIN Cab/ Polycab/ Incab/ Benteq |
| 14 | Miniature Circuit Breakers | : MDS/Indo Asian/ Schneider Electric/ ABB/ L&T / Havell's/ Siemens/ Legrand |
| 15 | HT/LT/Control Cables | : Gostec/RPG-Asian/ Universal/ ICL/ INCAB/ NICCO/ Havell's/ Ralison/ Primecab/CCV/ Gems Cab/ KEI |
| 16 | Telecommunication Cables | : HCL/ DELTON/ Finolex/ Karnataka Telephone cables / Dooravani / Havell's |
| 17 | Fan Fixtures | : Crompton/Khaitan/Almonard/Usha/Bajaj/ Orient |
| 18 | Steel Conduits | : Any make with ISI mark (BIS certification) |

[Signature]
 FOR ISSUING OFFICER:

 SIGNATURE OF CONTRACTOR:

DIRECTORATE OF ELECTRICAL ENGINEERING



INTEGRATED HEADQUARTERS
 MINISTRY OF DEFENCE (NAVY)
 'D' WING, SENA BHAVAN
 NEW DELHI - 110 011
 FAX : 011-23011212

FAX MESSAGE

| | | | |
|--------------------------|--|--------|--------------------|
| TO | M/S CABLE CORPORATION OF INDIA LTD, MUMBAI (ATTN. MR. SK DESHMUKH, MANAGER (SALES)) | FAX NO | 022-86144111/13/14 |
| TO | M/S UNIVERSAL CABLES LTD, NEW DELHI (ATTN. MR. SANDEEP KUMAR, SR. MANAGER (MARKETING)) | FAX NO | 011-23711581 |
| TO | M/S KEI INDUSTRIES LTD, NEW DELHI (ATTN. MR. DEEPAK MANCHANDA) | FAX NO | 011-26811959 |
| FILE | EE/03/9620 | DATE | 09 FEB 11 |
| TOTAL NO. OF PAGES : ONE | | | |

INFORMATION ON CABLES - INDIAN NAVY

- THE CABLES SUPPLIED TO INDIAN NAVY SHIPYARDS (FOR USE ONBOARD IN SHIPS) ARE REQUIRED TO BE STORED FOR CONSIDERABLE PERIOD (SOMETIMES EXTENDING TO 5-8 YEARS) PRIOR ONBOARD USE. FURTHER, THESE CABLES ARE REQUIRED TO PERFORM SATISFACTORILY FOR 20-25 YEARS DEPENDING UPON THE MAIN SYSTEM.
- AT PRESENT, THE CABLE MANUFACTURERS DO NOT SPECIFY SHELF LIFE/ TOTAL LIFE OF THE CABLE. EVENTHOUGH, IMPORTANT CABLE PARAMETERS LIKE INSULATION RESISTANCE ETC ARE CHECKED BEFORE LAYING OF CABLES, SOME DEGRADATION IN CABLE PROPERTIES DUE TO EXTENDED STORAGE/ IMPROPER STORAGE CONDITIONS CANNOT BE COMPLETELY RULED OUT. IT IS HEREFOR INTENDED TO PROMULGATE GUIDELINES ON STORAGE/ REQUALIFICATION OF CABLES.
- IN VIEW OF THE ABOVE, IT IS REQUESTED THAT DETAILS/ COMMENTS REGARDING FOLLOWING BE FORWARDED TO HQ MOD(N)/DEE BY 20 FEB 11: -
 - RECOMMENDED MAX SHELF LIFE OF CABLE
 - EXPECTED TOTAL LIFE OF CABLE
 - RECOMMENDED STORAGE CONDITIONS
 - STORAGE PERIOD BEYOND WHICH REQUALIFICATION OF CABLES SHOULD BE UNDERTAKEN
 - RECOMMENDED PROCEDURE FOR REQUALIFICATION OF CABLES
- REGARDS.

DRAFTED BY

[Signature]
 (SS SANDHU)
 CDR
 INFF

RELEASED BY

[Signature]
 (ANUPRASTOGI)
 CAPTAIN
 INFF



IRCON INTERNATIONAL LIMITED
 Civil, Mechanical, Electrical, Communications and Turnkey Contractors
 (A Govt. of India Undertaking)

NO.IRCON/ELECT/GEN/69
 Date: 29th Jan' 2013

PERFORMANCE CERTIFICATE

TO WHOM IT MAY CONCERN

This is to certify that M/s KEI Industries Ltd., have supplied Copper FRLS type with XLPE Insulated cables, 1.545 Kms of 26 /45 KV Grade 1c x 240 sq.mm, 0.883 Kms of 18 / 30 KV Grade 3c x 400 sq.mm and 2.160 Kms of 1 c x 240 sq.mm 3.3 KV Grade cables as per IEC 60840 & IEC 60502 Part-2 against our Purchase Order No. IRCON/5010/DMRC/ELECT/BE-8/HT CABLES/28/B Dt. 08-06-2009 of Rs. 58,42,709.00 for Delhi Metro Rail Project, Contract BE-8.

The cables have been used and so far performance of the cables is satisfactory.

For IRCON INTERNATIONAL LTD

[Signature]
 (Dr. Subhash Chand)
 General Manager/Elect



IRCON INTERNATIONAL LIMITED
 Civil, Mechanical, Electrical, Communications and Turnkey Contractors
 (A Govt. of India Undertaking)

NO.IRCON/ELECT/GEN/69
 Date: 29th Jan' 2013

PERFORMANCE CERTIFICATE

TO WHOM IT MAY CONCERN

This is to certify that M/s KEI Industries Ltd., have supplied Copper conductor XLPE Insulated FRLS Sheathed 9.225 Kms of 3.3 KV Grade UE 1c x 630 sq.mm and 3.131Kms of 11 KV Grade (E) 3c x 300 sq.mm cables as per IS : 7098 Part-2 on 30-9-2007 against our Purchase Order No. IRCON/ELECT/5011/KMRC/CABLES/08 Dt. 12-7-2007 of Rs. 3,89,79,880.00 for Kolkata Metro Rail Project.

The cables have been used and so far performance of the cables is satisfactory.

For IRCON INTERNATIONAL LTD

[Signature]
 (Dr. Subhash Chand)
 General Manager/Elect





DATED-05/04/2013

TO WHOMSOEVER IT MAY CONCERN

THIS IS TO CERTIFY THAT M/S KEI INDUSTRIES LIMITED HAVE D-90, OKHLA INDUSTRIAL AREA, PHASE-I, NEW DELHI SUPPLIED THE FS CABLES FOR DMRC PROJECT. NEW DELHI. VIDE PURCHASE ORDER NO. PO/M/12-13/1339 DT. 27.12.2012, PO/M/12-13/1460 DT. 22.01.2013, PO/M/12-13/1537 DT. 07.02.2013, PO/M/12-13/1668 DT. 27.02.2013, PO/M/12-13/1746 DT. 12.03.2013, PO/M/12-13/1805 DT. 19.03.2013.

A) FS CABLES SIZES ARE:-
2.5 SQ.MM, 4 SQ.MM, 6 SQ.MM, 10 SQ.MM, 16 SQ.MM, 25 SQ.MM, 35 SQ.MM.
APPROX QUANTITY SUPPLIED:- 90000 METERS.

FURTHER THIS TO CERTIFY THAT ABOVE QUANTITY OF CABLES HAVE BEEN LAID, COMMISSIONED & THEIR PERFORMANCE IS FOUND TO BE SATISFACTORY TILL DATE.

AUTHORISED SIGNATORY

PASCHIM GUJARAT VIJ COMPANY LIMITED
REGD. & CORPORATE OFFICE:- "PASCHIM GUJARAT VIJ SEVA SADAN"
OFF NANA MAYA MAIN ROAD, LAXMINAGAR, RAJKOT-360004
CIN U40102GJ200356G042908
Telephone Nos:- 0281-2380425/427/2360182 Fax No:-0281-2368175
Website:-www.pgvcl.com E-mail:-proc.pgv@gmail.com

PGVCL/RJT/PROC/PERFORMANCE/ Date:
E-Mail: baroda@kei-ind.com **00 1373** **19 AUG 2015**

To,
KEI Industries Ltd.
803, Siddharth Complex,
Near Hotel Express,
R.C. Dutt Road,
Vadodara - 390007

Sub:- Performance Certificate
Ref :- Your letter No. KEI/339/2015 dtd. 11.08.15

As per your letter under reference details regarding orders placed by PGVCL for mentioned items i.e. 11 KV AB Cable vide letter under reference, details are as under.

| PO No. | Size | Order Qty. | Material supplied |
|---|----------|------------|-------------------|
| PGVCL/RJT/Proc/e-58293/11 KV AB Cable/379/KEI/39 dtd. 16.07.12 | 3Cx70-70 | 181 KM | 181 KM |
| PGVCL/RJT/Proc/e-58293/11 KV AB Cable/379/KEI/39 dtd. 16.07.12 | 3Cx95-80 | 10 KM | 10 KM |
| PGVCL/RJT/Proc/e-79981/11 KV AB Cable/524/KEI/615 dtd. 16.05.14 | 3Cx95-80 | 90 KM | 90 KM |

This is for your kind Information.

I/c Chief Engineer (Material),
PGVCL, Corporate Office, Rajkot.

Tele : 011-23019119
Fax : 011-23018524
E Mail : designengineersdelhi@gmail.com

E2 Wks (Design) Sub Dte
Directorate of Works
Engineer-in-Chief's Branch
Integrated HQ of MoD(Army),
Kashmir House, Rajaji Marg
New Delhi - 110011

43285/CMPT/ 447 /Des-2

30 Jun 2014

E-in-C's List 'A'
E-in-C's List 'B'

RENEWAL OF PRODUCT APPROVAL

- M/s KEI Industries Limited had approached this HQ for renewal of their products i.e. 'KEI' Brand HT Cable upto & including 33 KVA, LT & Control Cables (Copper/Aluminium Conductor for XLPE/PVC) including Rubber and Instrumentation Cables, House Wires and Flexible Wires (Single Core & Multi Core) for use in Defence Works.
- Approval in terms of policy letter No 43285/CMPT/E2 (Des-2) dated 15 Apr 2008 is hereby accorded for use of above mentioned products in Defence Works for a period of **Three year ie upto 29 Jun 2017**.
- Further continuation of the products will be decided thereafter, based on the mandatory feed back/performance report submitted by Zonal Chief Engineers. In case anyone using the product notices any defect/discrepancy, the same will be reported immediately without waiting for the expiry of the period of three years.
- The approval does not absolve the executive/supervisory staff from their responsibility for using correct quality product. It is only after they are satisfied about the quality and the performance, the product will be used. Mandatory checks about the quality will be carried out as laid down and the records of the same maintained.
- A brief of the products along with a copy of the literature is enclosed. Further specifications/details of the product like drawings, samples etc can be obtained from the manufacturer at the address given below :-
- The firm is required to give feedback on sales/supply of approved items to MES Contractors/Formations/Units on six monthly basis as per format given below:-

| S No | Name of Product | Supply to MES Contractor/ Formation/Unit | Location /Station | Date of Supply | Quantity Supplied | Amount (Rs) | Supply Order No | Remarks |
|------|-----------------|--|-------------------|----------------|-------------------|-------------|-----------------|---------|
| (a) | (b) | (c) | (d) | (e) | (f) | (g) | (h) | (i) |

7. The firm is required to submit a minimum of 05 No performance reports from the MES as per the format given opposite at the time of renewal, failing which their case will not be considered for renewal.

Address:-
M/s KEI Industries Ltd
D-90, Okhla Industrial Area Phase - 1,
New Delhi - 110020
Tele : 011-26818840/8642/0242
Fax : 011-26817225, 26811859
Email : deepak.manchanda@kei-ind.com
Website : www.kei-ind.com



(Sandeep Rawat)
Btg 1
DDGV (Des)
for E-in-C

Contact Persons : Mr Deepak Manchanda, GM (BD), (Mob) 09953571825
Mr Puneet Kumar, Asst Manager (Mktg), (Mob) 09873045073
Email : puneet.kumar@kei-ind.com

Copy to:-

M/s KEI Industries Ltd
D-90, Okhla Industrial Area Phase - 1,
New Delhi - 110020

Internal:-
TS to DG MAP, E2 (Army), E2 (Navy),
E2 (Air), E4, E6, E8, E2W (PPC), CCEs

- Please note that six monthly report is dispatched so as to reach this office on the first Monday of April and October every year. Nil supply/report will be assumed for the preceding six months in case of non-receipt of report.
- Further renewal of the firm/product will be decided based on above inputs and feedback received from some/all of the MES units/formations concerned.



स्टील अथॉरिटी ऑफ इंडिया लिमिटेड
STEEL AUTHORITY OF INDIA LIMITED
दुर्गापुर इस्पात संयंत्र
DURGAPUR STEEL PLANT

DSP/PUR/PC/REGN/09-10/001

05.11.09

To,
M/s KEI Industries Limited,
33, Dr. Sundar Mohan Avenue
1st Floor, (Near Park Circus Ladies Park)
Kolkata-700 014

Sub: Inclusion of KEI make Cables as approved vendor upto 66KV Grade
Ref: Your request vide letter no KEI/KOL/DSP/RM/09-10/001 DATED 09.10.09

Dear Sir,

This has reference to your letter regarding approval of additional vendor for supply of HT/LT Cables in Expansion Programme of DSP.

DSP/MECON has examined your request. As KEI is registered with MECON and accepted by SAIL/DSP also, it is to inform you that KEI is accepted by DSP as additional vendor for supply of HT/LT Cables upto 66 KV Grade for projects in Expansion Programme of DSP.

Thanking you,

Yours faithfully,

(D.Mondal)
AGM (MM-PP)
Durgapur Steel Plant

Copy to:
M/s MECON Ltd, Ranchi-834002....Kind Attn: Sri.Umesh Kumar

DHARAJ MOHANTY
Asst. General Manager
(Procurement)
Durgapur Steel Plant
DURGAPUR-713002

महाराष्ट्र गृहनिर्माण व क्षेत्रविकास प्राधिकरण
 MAHARASHTRA HOUSING AND
 AREA DEVELOPMENT AUTHORITY



No-MH/CE-I/EE-I/A/494/2014
 Date:- 25/07/2014

To,
M/S KEI Industries Limited
 101/102/103, Vastu Shilp,
 Vastu Enclave, Andheri Pump House,
 Jijamata Road, Andheri (E),
 Mumbai-400 093.

Sub :- Approval of your product for use in MHADA Works.
Ref:- Your letter No-KEI/MUM/DT/2013-14, Dated-02/06/2014

Sir,
 The following product manufactured by M/S KEI INDUSTRIES LIMITED. is here by approved for use in the works under MHADA

" KEI " Brand 1] PVC Insulated Cables for working Voltages upto and including 1100 V IS: 694:1990 2] PVC insulated (heavy duty) electric cable :Part 1 for working voltage up to and including 1100V ISI554(Part-1: 1988 3] PVC insulated (heavy duty) electric cable :Part 2 for working voltage from 3.3 kv up to and including 11kv ISI554(Part-2: 1988 4] Crosslinked polyethylene insulated pvc sheathed cables Part 2 for working voltage from 3.3 kv up to and including 33kv IS 7098:Part 2:1985

The approval is given as per following terms & conditions.
 1. The validity of this entlistment is for one year on experiment basis from the date of issue of this letter. However, the MHADA reserves the right to cancel the same.

गृहनिर्माण भवन, कलानगर, बान्दे (पूर्व), मुंबई - ४०० ०९९.
 दुसऱ्याची : ६६४० ४०००
 फॅक्स नं. : ०२२-२६९९ २०९६

Griha Nilman Bhavan, Kalanagar, Bandra (East), Mumbai-400 051.
 Phone : 6640 5000
 Fax No. : 022-2699 2058 Website : www.mhada.maharashtra.gov.in

- be kept valid and any changes in the same shall be intimated to this office.
- The approval has been granted on the basis of documents/ information furnished by you. The approval would be cancelled if any details are found in variance to the details already furnished during the inspection of manufacturing unit MHADA reserves the right to visit the manufacturing unit at any time.
- The registration shall not bind MHADA to give you any priority or preference in the issue of enquiry and placement of purchase orders and does not guarantee that all or any of the enquiries for the above items would necessarily be sent to you.
- The change in Postal address contact Phone No., Fax No., in the Constitution or working of your firm if any to be intimated to this office immediately.
- The applicant has to obtain the revalidation by applying 30 days prior to expiry of this registration.
- During the period of entlistment, if your company improve your product value by acquiring additional quality accreditations and/ or achieves better financial performance, then such changes shall be invariably informed to this office.
- This approval will be renewed further on request of the firm & depending upon the performance of product on MHADA works.

Yours Faithfully

 Chief Engineer-1 /A
 MHADA



Haryana PWD (B&R)
 O/O Superintending Engineer
 Electrical, Circle PW (B&R) Deptt., Karnal
 Email:- pwd-secarnal@bry.nic.in
 Phone no:- 0184-2266976
 Fax no:- 0184-2266975

To
 M/s KEI Industries Limited
 D-90, Okhla Industrial Area, Phase-I,
 New Delhi

Memo.No. 6077 /SR Dated:- 20-7-15

Sub :- Approval of Wires/LT Cables upto 1.1 KV/Aluminium copper cables, HT Cables upto 33 KV & AB Cables for use of Haryana Govt. PWD B&R Works.

As approved by the Committee constituted vide Chief Engineer (E&M) Chandigarh letter no. 345 dated 22.05.2015 and meeting held on dated 4-6-2015, the following items manufactured by your firm are allowed to be used in Haryana PW(B&R) Deptt.

| Sr. No. | Name of Item | Brand Name |
|---------|---|------------|
| 1 | Wires/LT Cables upto 1.1 KV/Aluminium copper cables, HT Cables upto 33 KV & AB Cables | KEI |

This approval is valid for one year only subject to satisfactory performance of the product and can be reviewed by the approval committee. The department will be at liberty to withdraw the approval at any time without assigning any reason.

CONDITIONS:-

- The price list /literature /drawing should be sent to the Deptt. Periodically as and when rates are revised by the firm.
- The approval of ISI marked products shall be valid till the validity of ISI certificate. The firms shall get their ISI certificate renewed from time to time. As soon as the ISI certificate expires the approval of product shall be automatically considered as withdrawn. However approval may be reviewed after submission of renewed ISI certificate.
- In case the companies/firms change their name/brand name of the product, same shall be intimated immediately other wise the approval shall be withdrawn as soon as it comes to the notice of department. In case approved models are discontinued or replaced with new models. The approval of the product shall be considered automatically withdrawn. New model shall have to be got approved a fresh.

- The firm shall ensure that there is no difference in quality, design, shape between the approved products and the product marketed by the company. In case, any change in quality, design, shape of the product is done, the department should be informed immediately. Further the firm shall maintain the quality of standards of its product range in conformity with the document already submitted, failing to do so will lead to the cancellation of this approval.
- The firm shall stand warranty to replace every/any items of its product range if found damaged/defective where so ever any needs arises at the inter stages without any condition.
- The firm shall assist the department on account of genuine trade marking, if any need arises for its confirmation at later stage.
- The department reserve the right to get any product tested at any time without any information to the firm and in case the quality of product supplied by the firm direct to the department or through any other source is not upto the mark, the same shall have to be replaced with the genuine quality of product and the firm/product can be black listed for future.

DA/ Nil

 Superintending Engineer
 Electrical Circle, PW (B&R) Deptt.,
 Karnal

KIND ATTENTION OF C.E.(E&M)

Endst.No. /SR Dated:-

Copy of above is forwarded to the Engineer-in-Chief, Haryana PWD B&R Deptt. Chandigarh for information.

DA/ Nil

 Superintending Engineer
 Electrical Circle, PW (B&R) Deptt.,
 Karnal

Endst.No. /SR Dated:-

Copy of above is forwarded to the Executive Engineer Elect. Divn. PWD B&R Branch Ambala/Gurgaon/Hisar/Karnal/Rohtak for information and necessary action. They should intimate immediately if there is any thing adverse to say regarding working performance of the product.

P.W.D. Dept., Govt. of Maharashtra,
Bandhkam Bhavan, 3rd floor,
Marzban Road, Fort,
Mumbai-400 001.

Website : www.mahapwd.com Telephone : (022) 22013415/16/17
Email :- elmumbai.ce@mahapwd.com Fax : (022) 22016900
No.CE/ Elec / Desk-3/HDM/ 227 /2014. Date :- 22 SEP 2014

To,
M/s. KEI Industries Ltd.
101/102/103, Vastu Shilp, Vastu
Enclave, Andheri Pump House,
Jijamata Road, Andheri (E),
Mumbai-400 093

Sub : Approval to use material on works carried out by Government of Maharashtra.
Ref : 1) Your Letter No.MUM/DT/2013-14 Dated 19.03.2014
2) This Office Letter No. C.E.(Elec.)/Desk3/224/2014 Date 25.03.2014
3) Factory Visit Dated 5.04.2014
4) Test Report of MSME Testing Station, Hyderabad - 500 018
Report No.1)39231 Date-05.09.2014, 2)39230 Date-05.09.2014

Sir,
The subject proposal submitted by you was examined by this office and now the undersigned is pleased to accord approval to the following materials for using it on works carried out by Government of Maharashtra W.E.F. the date of issue of this letter.


Name of material : " Wires & Cables "
Place of manufacture : SP 920, Phase-III, RICO Industrial Area, Bhiwadi, Distt -Alwar(Rajasthan)
301019
Brand Name : "KEI"
Technical Specifications of the Materials :

| Sl.No. | Name of Product | Validity |
|--------|---|------------------------------------|
| 1 | PVC insulated Wires & Cables for working voltage upto and including 1100V | Up to 31 st August 2017 |
| 2 | Crosslinked polyethylene insulated PVC sheathed cables - Part 1 for working voltage upto and including 1100V | |
| 3 | Crosslinked polyethylene insulated PVC sheathed cables - Part 2 for working voltage from 3.3 kV upto and including 33kV | |

Manufactured as per ISI No. : For item No. For item No 1) IS : 694-1990, 2) IS : 7098 (Part 1) : 1988 / IS : 1554(Part 1) : 1988 For item No3) IS:7098 (Part 2) : 1985 / IS 1554 (Part 2)
Whether having ISI No : NO
License No. : Nil Validity : Nil
Whether covered by House hold Electrical : N.A.
Manufacturing Certificate No. : N.A.
Validity : N.A.
Authority to issue M.C. : N.A.

The above approval given subject to the performance of the material during this period remains satisfactory. In case of unsatisfactory performance; the approval accorded shall be with drawn forthwith.

Yours faithfully,


(S.A. Patil)
Chief Engineer (Elect.)
P.W. Dept., MUMBAI-1.

Copy forwarded to Superintending Engineer Regional Elec. Circle MUMBAI / PUNE / AURANGABAD / NAGPUR / AMRAVATI / NASHIK for information.

VANDANA GLOBAL LTD.

Industrial Growth Centre, Phase-II, Siltara, Raipur-493111(C.G.)
Phone No. 07721-264244, 407250, 407755
Fax: 07721-264243, 407253,
E-mail: vjg@purchase@vandanaaglobal.com



PURCHASE ORDER

| VENDOR DETAILS | | INFORMATION | |
|------------------|------------------------------------|---|---------------|
| 21816 | KEI INDUSTRIES LTD | PLANT : TMT Rolling Mill | |
| D-90 | | PO NO. : 4530019520 | DT 14.02.2014 |
| | | AMD NO. : 0 | DT 14.02.2014 |
| | | FILE NO. : 140 | |
| NEW DELHI-110020 | | P.F.NO. : 3076880 | DT 14.02.2014 |
| DELHI | CONTACT : KATARIYA | OFFER NO. : | |
| | TELEMOB : 01126818840 / 9926123445 | CS NO. : | DT |
| | FAX : 01126818840 | OLD PO REF : NEW P.O. | |
| | E-MAIL : Kti.katariya@kei-ind.com | PRINT DATE & TIME : 14.02.2014 / 15:36:09 | |
| | TOP AUTHORITY/NEGOTIATOR : | | |

With reference to Verbal/telephonic discussions our Mr. **Rajesh Choudhary** had with you we are pleased to place our order on you for the following as per terms & conditions mentioned below :

| SL | CODE | DESCRIPTION | QTY | UOM | RATE | NET VALUE |
|----------------------|------|--|-----|-----|----------------------|------------|
| 01 | | 4CX2 SQMM 2XFY.1.1KV-LT POWER CABLES-CO | 400 | M | BASIC PRICE 280.00 | 33,600.00 |
| MAKE-KEI INDUSTRIES | | | | | | |
| Basic Price | | | | | | 112,000.00 |
| Discount % 70.00 | | | | | | 78,400.00 |
| Excise duty 12.960 % | | | | | | 4,152.96 |
| | | | | | | 4,152.96 |
| 02 | | 4CX4SQMM 2XFY.1.1KV-LT POWER CABLES-COPP | 350 | M | BASIC PRICE 389.00 | 40,845.00 |
| MAKE-KEI INDUSTRIES | | | | | | |
| Basic Price | | | | | | 136,150.00 |
| Discount % 70.00 | | | | | | 85,305.00 |
| Excise duty 12.960 % | | | | | | 5,048.44 |
| | | | | | | 5,048.44 |
| 03 | | 4CX6SQMM 2XFY.1.1KV-LT POWER CABLES-COPP | 200 | M | BASIC PRICE 543.00 | 32,580.00 |
| MAKE-KEI INDUSTRIES | | | | | | |
| Basic Price | | | | | | 106,600.00 |
| Discount % 70.00 | | | | | | 76,020.00 |
| Excise duty 12.960 % | | | | | | 4,026.89 |
| | | | | | | 4,026.89 |
| 04 | | 4CX10SQMM 2XFY.1.1KV-LT POWER CABLES-COP | 300 | M | BASIC PRICE 847.00 | 75,230.00 |
| MAKE-KEI INDUSTRIES | | | | | | |
| Basic Price | | | | | | 254,100.00 |
| Discount % 70.00 | | | | | | 177,870.00 |
| Excise duty 12.960 % | | | | | | 9,422.03 |
| | | | | | | 9,422.03 |
| 05 | | 4CX16SQMM 2XFY.1.1KV-LT POWER CABLES-COP | 200 | M | BASIC PRICE 1,221.00 | 73,260.00 |
| MAKE-KEI INDUSTRIES | | | | | | |
| Basic Price | | | | | | 244,200.00 |
| Discount % 70.00 | | | | | | 170,940.00 |
| Excise duty 12.960 % | | | | | | 9,054.93 |
| | | | | | | 9,054.93 |

For, Vandana Global Ltd.

Prepared by :  Authorised Signatory
Head Office: Vandana Bhawan, M.G. Road, Raipur-492001 Phone No. 0771-2535405, 4207777 & Fax: 0771-2535804, 4265491

PO NO. : 4530019520 DT : 14.02.2014

TOTAL 288,220.25

In Words : Rupees Two Lakh Eighty Eight Thousand Two Hundred Twenty and Twenty Five Paise ONLY


TERMS & CONDITIONS

- Price Basis : VGL Siltara
- Delivery Due On : 25.02.2014
- Freight : Paid Basis
- Mode of Despatch : YOUR SCOPE
- Insurance : Not Applicable
- Order Validity : ONE Month
- Order Validity Date : 30.03.2014
- Weightment : At VGL Siltara Raipur Weightment will be Final
- Analysis/Quality Test : Inspection Report of VGL will be FINAL.
- Penalty : Not Applicable.
- Payment Terms : 20% ADVANCE & BALANCE AGAINST P.I.
- Guarantee : FREE REPLACEMENT AGAINST MANUFACTURING DEFECTS.
- Specific conditions : EXCISE EXTRA-CST-NIL AGAINST C/ FORM.
- Challan Details : Kindly Provide Challan details in Bill.
- Billing : All bills are to be sent to VGL, Works only.
- Annexures Enclosed : 01 NO. (ANNEXURE-1) Printed overleaf.
- Billing Address : Purchase Department, VANDANA GLOBAL LTD. SILTARA.
- Challan details and Invoice : You are required to submit challan & invoice in Triplicate with all the details of P.O. material, qty etc failing which material will not be accepted.

OUR TAX DETAILS

LST No. : 10/03/59318/S DATE : 15.10.99
CST No. : 10/03/59317/C DATE : 15.10.99
EXC. RANGE : II, Civil Lines, RAIPUR(C)
ECC No. : AAACV2018EXM 001
DIVISION : Civil Lines, RAIPUR(C.G.) COMMISSIONERATE : RAIPUR(C.G.)
TIN No. : 22221901234

For, Vandana Global Ltd.

Prepared by :  Authorised Signatory
Head Office: Vandana Bhawan, M.G. Road, Raipur-492001 Phone No. 0771-2535405, 4207777 & Fax: 0771-2535804, 4265491

MARUTI BUSINESS PARK,

G.E. ROAD

Purchase Order



Business Unit : AVINASH DEVELOPERS PVT. LTD.-H/O : RAIPUR

| | | | |
|---------------|-----------------------------|----------------------------------|---|
| PO/KA TRADERS | Order No. FORADP/0818/14-15 | Mode of Transport | By Road |
| | Provisional PO Doc No.: | Delivery Address | AVINASH DEVELOPERS PVT. LTD.-H/O RAIPUR |
| | Order Date 18/02/2015 | Contact Person : Mr. Satish Ansh | Tele : 0832739647 |
| Pin: 492001 | Quotation No. | | |
| | Quotation Date | | |
| | Head Office: | | |


Please supply the following items in accordance with your Quotation and subject to following terms and conditions

| # | Item Code | Description | UNIT | Quantity | Rate | Amount | Indent No. | Delivery Dt |
|---|-----------|---|------|------------|--------|--------------------|--------------|-------------|
| 1 | -1297 | PVC INSULATED COPPER FR CABLE 1 SQMM BLACK | MTR | 27,990,000 | 5,000 | 139,950.00 | | 06-03-2015 |
| 2 | -1298 | PVC INSULATED COPPER FR CABLE 1 SQMM RED | MTR | 27,990,000 | 5,000 | 139,950.00 | | 06-03-2015 |
| 3 | -1299 | PVC INSULATED COPPER FR CABLE 1 SQMM YELLOW | MTR | 24,200,000 | 5,000 | 121,000.00 | | 06-03-2015 |
| 4 | -0031 | PVC INSULATED COPPER FR CABLE 1.5 SQMM BLACK | MTR | 26,280,000 | 7,440 | 195,523.20 | | 06-03-2015 |
| 5 | -0026 | PVC INSULATED COPPER FR CABLE 1.5 SQMM BLUE | MTR | 900,000 | 7,440 | 6,696.00 | | 06-03-2015 |
| 6 | -0030 | PVC INSULATED COPPER FR CABLE 1.5 SQMM GREEN | MTR | 25,380,000 | 7,440 | 188,827.20 | | 06-03-2015 |
| 7 | -0027 | PVC INSULATED COPPER FR CABLE 1.5 SQMM RED | MTR | 24,690,000 | 7,440 | 183,470.40 | | 06-03-2015 |
| 8 | -0032 | PVC INSULATED COPPER FR CABLE 1.5 SQMM YELLOW | MTR | 2,700,000 | 7,440 | 20,088.00 | | 06-03-2015 |
| 9 | -1445 | PVC INSULATED COPPER FR CABLE 1.5MM GREY | MTR | 2,880,000 | 7,440 | 21,427.20 | | 06-03-2015 |
| 10 | -0036 | PVC INSULATED COPPER FR CABLE 2.5 SQMM BLACK | MTR | 27,380,000 | 11,970 | 327,469.20 | | 06-03-2015 |
| 11 | -0276 | PVC INSULATED COPPER FR CABLE 2.5 SQMM GREEN | MTR | 26,880,000 | 11,970 | 249,933.00 | | 06-03-2015 |
| 12 | -0034 | PVC INSULATED COPPER FR CABLE 2.5 SQMM RED | MTR | 27,720,000 | 11,970 | 331,888.40 | | 06-03-2015 |
| 13 | -0316 | PVC INSULATED COPPER FR CABLE 4 SQMM BLACK | MTR | 3,780,000 | 17,840 | 67,435.20 | | 06-03-2015 |
| 14 | -0317 | PVC INSULATED COPPER FR CABLE 4 SQMM RED | MTR | 3,780,000 | 17,840 | 67,435.20 | | 06-03-2015 |
| 15 | -0719 | PVC INSULATED COPPER FR CABLE 6 SQMM BLACK | MTR | 18,300,000 | 26,900 | 493,884.00 | | 06-03-2015 |
| 16 | -0718 | PVC INSULATED COPPER FR CABLE 6 SQMM RED | MTR | 18,300,000 | 26,900 | 493,884.00 | | 06-03-2015 |
| BASIC | | | | | | 3,048,311.80 | | |
| ROUND OFF (+) | | | | | | 6.40 | | |
| Three Million Forty Nine Thousand Three Hundred Twelve Only | | | | | | Total Order Value: | 3,048,318.20 | |

For AVINASH DEVELOPERS PVT. LTD.

Prepared by :  Authorised Signatory
Remarks : Please Quote Order No./Item Code on all Bills/Challans
THIS PURCHASE ORDER IS SUBJECT TO JURISDICTION OF THE RAIPUR HIGH COURT ONLY.

AVINASH DEVELOPERS PVT. LTD.
MARUTI BUSINESS PARK,
NEAR DHULPURA PETROL PUMP,
G/E ROAD,
RAIPUR


Creating Lifestyles

Purchase Order

Business Unit: MARUTI LIFESTYLE : KOTA ROAD, BEHIND R.K MALL : G/E ROAD : RAIPUR

| | | |
|-------------------------------------|---|--|
| POJGA TRADERS Pin: 492201 | Order No: PO98LS999913-14 Previous PO Doc No: Order Date: 16/06/2013 Quotation No: Quotation Date: Kind Attention: | Mode of Transport: By Road Delivery Address: MARUTI LIFESTYLE KOTA ROAD, BEHIND R.K MALL G/E ROAD RAIPUR Contact Person: MR. JAGDEESH Tel: 885137899 |
|-------------------------------------|---|--|

Please supply the following items in accordance with your Quotation and subject to following terms and conditions

| # | Item Code | Description | Unit | Quantity | Rate | Amount | Order No | Delivery Dt |
|---------------------------|-----------|---|------|-----------|--------------|---------------------|----------------|-------------|
| 1 | 3725 | 11 KV HT CABLE 120 SQM X 3 CORE | MTR | 3,000.000 | 808.000 | 2,418,000.00 | INDMLS007965/1 | 26-10-2013 |
| | | 11KV 3COREX120SQMM -1C X 120SQMM MESSENGER AERIAL BUNCHED CABEL | | | | | | |
| 2 | 3726 | 11KV HT CABLE 240 SQM X 3 CORE | MTR | 200.000 | 1,017.000 | 203,400.00 | INDMLS007965/1 | 26-10-2013 |
| | | MAKE- KEI XLPE CABLE | | | | | | |
| | | BASIC | | | 2,621,400.00 | | | |
| Total Order Value: | | | | | | 2,621,400.00 | | |

Ruppes Twenty Six Lacs Twenty One Thousand Four Hundred Only

Terms & Conditions:
01) RATES ARE ED & VAT PAID
02) FOR TO SITE
03) JOB DETAILS SEND BY YOU.

For AVINASH DEVELOPERS PVT. LTD.
Authorized Signatory

Remarks : Please Quote Order No, Item Code and all Bill Chatters

THIS PURCHASE ORDER IS SUBJECT TO JURISDICTION OF THE RAIPUR HIGH COURT ONLY.


Bhilai Engineering Corporation Ltd 4/5 Industrial estate, Nandini Road Bhilai Chhattisgarh INDIA 490026
WEBSITE :

Tax invoice to be raised in the name of:
Bhilai Engineering Corporation Ltd 4/5 Industrial estate, Nandini Road Bhilai Chhattisgarh INDIA 490026
PHONE:

All Documents/Correspondence to be sent to:
Bhilai Engineering Corporation Ltd 4/5 Industrial estate, Nandini Road Bhilai Chhattisgarh INDIA 490026
PHONE:

PURCHASE ORDER

Order No. & Date : **PRJ/MAT/7339 08-APR-2014**

Supplier : **KEI Industries Ltd. (K110)**

Address : **SURVEY No 69277 Madhuban Ind. Estate Via-Raipur
Silvassa
Dadra and Nagar Haveli
INDIA 395030**

Our Statutory Info
PAN GIR No. : **AAAC89272C**
CST No. : **13/04/005C**
LST No. :
TIN No. : **2283300290**
ECC No. :
Excise Range : **Range-II**
Division : **II**
Service Tax Regn. :

Reference :
Your Qin Ref. No. KEI/M/JMD-2128/2013-14 R-2 did 05.04.2014 for BSP COB#11 Battery & CDCP Area. (As per billing schedule item)

Please supply/Provide services, the following items conforming to the specifications and terms/conditions given : Indian Rupee (INR)


| Sl. No | Part Number | Part Description | Del. Date | Quantity | UoM | Disc (%) | Unit Price | Amount | |
|--------|-------------|---|-----------|-----------|-----|----------|-------------------------------|---------------------|---------------------|
| 1 | 2801000078 | Power Cable 3.5 C X 70 sq mm, XLPE AL Armoured, 1.1 KV Grade LT | 10-MAY-14 | 2,400.000 | m | | 185.20 | 4,54,080.00 | |
| 2 | 2802000125 | Control cable 24 C X 1.5 sq mm, XLPE, Cu PVC sheathed, armoured, 1.1 KV Grade | 10-MAY-14 | 1,000.000 | m | | 242.90 | 2,42,900.00 | |
| 3 | 2801000078 | Power Cable 3.5 C X 120 sq mm, XLPE AL Armoured, 1.1 KV Grade LT | 10-MAY-14 | 2,000.000 | m | | 304.40 | 6,08,800.00 | |
| 4 | 2801000070 | 1.1 KV Grade, LT XLPE AL Armoured Power Cable 3.5 C X 185 sq mm | 10-MAY-14 | 700.000 | m | | 444.50 | 3,11,150.00 | |
| 5 | 2801000072 | Power Cable 3.5 C X 240 sq mm, XLPE AL Armoured, 1.1 KV Grade LT | 10-MAY-14 | 2,000.000 | m | | 554.60 | 11,09,200.00 | |
| 6 | 2802000003 | Copper Armoured Cable 3 C X 2.5 sq mm XLPE | 10-MAY-14 | 4,500.000 | m | | 65.80 | 2,96,100.00 | |
| 7 | 2801000045 | Power Cable 4 C X 15 sq mm, XLPE AL Armoured 5214 1.1 KV Grade LT | 10-MAY-14 | 4,225.000 | m | | 71.10 | 3,00,988.00 | |
| | | | | | | | Total | 33,22,628.00 | |
| | | | | | | | Basic Excise duty - No Convat | 10.00 % | 3,32,262.75 |
| | | | | | | | Ed Cess - No Convat | 2.00 % | 6,645.26 |
| | | | | | | | Higher Ed Cess - No Convat | 1.00 % | 3,322.63 |
| | | | | | | | Grand Total | | 36,64,859.00 |

₹(Rs.) Thirty-Six Lac Sixty-Four Thousand Eight Hundred Fifty-Nine And Zero Paise Only

(*) Delivery is the essence of the contract and you shall supply the material within stipulated delivery schedule.
(*) Supplier must insure that invoice is delivered at our above Address duly marked to Authorizer of this Purchase Order. Invoice delivered other than this address shall not be our responsibility and liability.

Prepared By : **PO Creator Group** Authorized By : **R K Wali** Hariish Agrawal
Purchase Order creator group 01 SVP Purchase

Registered office : Hathkhoh Industrial Area Bhilai Chhattisgarh India 490026
Page 1 of 2


Bhilai Engineering Corporation Ltd 4/5 Industrial estate, Nandini Road Bhilai Chhattisgarh INDIA 490026
WEBSITE :

All Documents/Correspondence to be sent to:
Bhilai Engineering Corporation Ltd 4/5 Industrial estate, Nandini Road Bhilai Chhattisgarh INDIA 490026
PHONE:

PURCHASE ORDER

Order No. : **PRJ/MAT/7339** Date: **08-APR-14** Billable

- Despatch Documents Required**
1) Consignee copy of consignment note. Delivery challan in duplicate. Duplicate for transporters copy for CENVAT credit, Packing list & Copy of Commercial Invoice.
2) Goods will be dispatched only on receipt of Despatch Clearance from us.
- Drawing Approval**
You will submit Cable data sheet for MECON approval within 03 days from the date of receipt of Purchase Order.
- Documents Required for Payment**
Invoice in Triplicate, Copy of Despatch Clearance, Erection and Commissioning
- Freight**
N/A
- Guarantee/Warranty**
To be borne by you.
The Cable shall have Warranty for Capacity, Performance & Reliability for a period of 12 months from the date of Commissioning or 18 months from the date of supply whichever is earlier.
- Inspection Documents Required**
Route Test Certificates, Type Test Certificate & Warranty Certificates required.
- Inspection Agency**
Our Representative / Customer's Representative / MECON Representative
- Mode of Payment**
Through LC.
- Packing Instruction**
Suitably packed to avoid any transit loss. Specific handling and storage instruction must be prominently marked on each Cable drum, Identification of each Cable Drum and consignment should also be marked.
- Place of Inspection**
At your works
- Terms of Payment**
100% payment with full taxes & duties shall be released against irrevocable letter of credit from nationalized Bank with 90 days usage and equal sharing of interest (45- 45 days credit) LC shall be open at the time of inspection of ordered material after cleared inspection. LC opening charges to our account and negotiation charges to your account.

Notes
CST-Nil against Form-C
All cables should be KEI Make only.
Delivery Schedule : 4 Weeks from the date of receipt of approved Cable data sheet.
You will take manufacturing action after receipt of approved Data sheet.
Please send order acceptance to Mr. Umesh Chandra, Email ID - umesh.chandra@bec-group.com, Mob no - 9922957214, within 3 working days after receipt of order.
Correspondence after order acceptance to be addressed to Mr. A.K.Soni, Email ID: ashwani.kumar@bec-group.com, Mob- 99229272506.
Contact Person of M/S KEI Industries Limited : Mr. Kohli (Sr.Manager-Nagpur-Division) Mob-09822473774 and Mr.Kirti Katariya (Manager-Marketing-Raipur) Mob-9926123445.

Jurisdiction:- The district court of Durg, Chhattisgarh shall have exclusive jurisdiction in all matters of dispute.
Arbitration :-
1) Any dispute arising out of the contract shall be settled through arbitration only.
2) The arbitration shall be governed by Arbitration and Conciliation Act 1996. The language of arbitration shall be English.
3) The sole arbitrator shall be appointed by the MD of M/s Bhilai Engineering Corporation Ltd. The venue of the arbitration shall be Bhilai.

(*) Delivery is the essence of the contract and you shall supply the material within stipulated delivery schedule.
(*) Supplier must insure that invoice is delivered at our above Address duly marked to Authorizer of this Purchase Order. Invoice delivered other than this address shall not be our responsibility and liability.

Prepared By : **PO Creator Group** Authorized By : **R K Wali** Hariish Agrawal
Purchase Order creator group 01 SVP Purchase

Registered office : Hathkhoh Industrial Area Bhilai Chhattisgarh India 490026

PURCHASE ORDER / WORK ORDER

CIN : **XXXXXXXXXXXXXXXXXXXX**
ECC NO. :
CGST NO. :
CGST DT. :
CST NO. :
CST DT. :
TIN NO. : **22421405475**
C I N : **U45203BH1991PLC062494**

77 DELFI INFRASTRUCTURES LTD.
SILTARA GROWTH CENTRE
INDUSTRIAL AREA, SILTARA
RAIPUR (C.G.)

LEGAM : TELEX/FAX :

DI#883 KEI INDUSTRIES LTD.
D-90 OHLA INDL AREA
PHASE - I
NEW DELHI-110020
PAN NO :

ORDER NO. **620426**
ORDER DT. **26/11/2014**
PRM NO. **000000/7**
PRM DT. **02/08/5000**

REFERENCE TO OUR ENQUIRY/YOUR QUOTATION NO. DT. YOU ARE
ED TO SUPPLY FOLLOWING MATERIALS AS PER GIVEN TERMS & CONDITIONS.

| AF CD. | DESCRIPTION | UM | RATE | QUANTITY | VALUE |
|---------------------|--------------------------------|-----|--------|----------|-------------------|
| 4499407 | 14C X 1.5 SQ.MM CU.CABLE | MTR | 170.00 | 7000.000 | 1190000.00 |
| 1004014 | 10CX1.5 SQ MM PVC COPPER CABLE | MTR | 128.00 | 1000.000 | 128000.00 |
| 844 PROJECTS | | | | | SMS-II |
| T O T A L | | | | | 1318000.00 |

REF: 1) OUR ENG. NO. DIL/MA-SMS2/LT-CABLE DT. 10.10.14
2) YOUR E-MAIL OFFER DATED 10.10.2014.
3) OUR E-MAIL MESSAGE DATED 04.11.2014.
4) YOUR E-MAIL MESSAGES DATED 06.11.2014.
5) YOUR E-MAIL MESSAGES DATED 13.11.14 & 21.11.14.

TECHNICAL SPECIFICATION :
1. 1 KV GRADE, ARMOURD COPPER CABLE, YWY, EXTRUDED PVC TYPE-A INSULATED. CONDUCTOR SHOULD BE STRANDED TINNED COPPER CONDUCTOR AS PER IS: 1554-1988.

PRICE BASIS: FIRM & F.O.R. AT OUR SITE/STORES AT SILTARA INCLUSIVE OF P&F CHARGES AND FREIGHT & TRANSIT INSURANCE CHARGES BUT EXCLUSIVE OF ED @

MS & CONDITIONS
VX :
DUTY :
ICE COVERED BY PARTY/US :
AMOUNT :
UNLOADING CHARGES :
FORWARDING CHARGES :
IN & COMMISSIONING :

DELIVERY AT :
DELIVERY SCHEDULE :

L DISCOUNT ON TTL VALUE :
PAYMENT TERMS :

SUBJECT TO CONFIRMATION WITHIN 15 DAYS FOR THE GIVEN DELIVERY TERMS.

PLEASE QUOTE OUR P.O. NO. & DATE ON YOUR DELIVERY CHALLAN & INVOICES.
EXCISE GATE PASS TO BE SENT ALONG WITH CONSIGNMENT NOTE
EXCISE G.P. NO. & DATE IN CHALLANS / INVOICES

MANAGER/PRESIDENT/DIRECTOR



JINDAL STEEL & POWER LIMITED (UNIT-I)

P-047 (A-14) (REV-03)

POST BOX NO. 16, KHARSIYA ROAD
RAIGARH - 496001 (C.G.), India
Ph: -07782-45 Fax: -07782-03
PURCHASE ORDER

Vendor: 13455
KEI INDUSTRIES LIMITED
99/27
MADHUBAN INDUSTRIAL ESTATE,
VILLAGE: RAKHOLI
SILVASSA - 396240
Dadra and Nagar Havn. India
Sales Person / Tel No : /
Fax:-0260 2645896/Email:-koti.ksteriya@kei-ind.com

PURCHASE ORDER No:4511019097
Purchase Order Date: 12.02.2015

Contact Person : BARUN KAFLEY(BLOCK
Email : @barun.kafley@jstpl.com
Phone No:Edm: 07782-227001-05/00257
Fax No 07782-227003
Mobile No:8827478039
LST NO. :011/RGHV/RGH0021/1/ DT:23.05.1991
CST NO.:RGHV/RGHV756-C DT: 05.12.1988
TIN NO.: 22484901419
Excise Plange : RAIGARH-I
Excise Division : RAIGARH(CO)
Excise Commissionerate : BILASPUR(CG)

Please supply the following material as per the terms and conditions mentioned below and as per attached annexure-01

| Item | Material # | Material Description | Qty | UOM | Unit Price | Discount | Net Amt (INR) |
|--|---------------------|-------------------------------------|-----------|-----|------------|----------|---------------|
| 10 | 1000001595 | WIRE,DOMESTIC,CU,PV C,1.5MM2# | 7,650.000 | M | 7.59 | | 58,063.50 |
| Item Text2 | | | | | | | |
| WIRE,APPLICATION:DOMESTIC WIRING MATERIAL CONDUCTOR COPPER MATERIAL INSULATION POLY VINYL CHLORIDE,CROSS SECTION CONDUCTOR:1.5MM2 | | | | | | | |
| MAKE:KEI | | | | | | | |
| HOME CAB FR:1.5 | | | | | | | |
| Taxes :ED12%EC2%HEC1%(CENVAT) CST NIL (FORM-C) | | | | | | | |
| Delivery Date | Delivery Qty | | | | | | |
| 30.03.2015 | 3,060.000 M | | | | | | |
| 30.05.2015 | 2,295.000 M | | | | | | |
| 30.06.2015 | 2,295.000 M | | | | | | |
| Unloading Point:General Plant (UNIT-1)RAIGARH | | | | | | | |
| 20 | 1000001594 | WIRE,DOMESTIC,CU,PV C,1.00MM2# | 4,140.000 | M | 5.09 | | 21,072.60 |
| Item Text2 | | | | | | | |
| WIRE,APPLICATION:DOMESTIC WIRING MATERIAL CONDUCTOR COPPER MATERIAL INSULATION POLY VINYL CHLORIDE CROSS SECTION CONDUCTOR:1.00MM2 | | | | | | | |
| KEI HOME CAB FR 1.00 SQMM. | | | | | | | |
| Taxes :ED12%EC2%HEC1%(CENVAT) CST NIL (FORM-C) | | | | | | | |
| Delivery Date | Delivery Qty | | | | | | |
| 30.03.2015 | 2,070.000 M | | | | | | |
| 30.07.2015 | 2,070.000 M | | | | | | |
| Unloading Point:General Plant (UNIT-1)RAIGARH | | | | | | | |
| 30 | 1000001592 | WIRE,DOMESTIC,CU,PV C,1C,2.5MM2# | 8,550.000 | M | 12.22 | | 104,481.00 |
| Item Text2 | | | | | | | |
| WIRE,APPLICATION:DOMESTIC WIRING MATERIAL CONDUCTOR COPPER,NUMBER OF CORE:1,C MATERIAL INSULATION POLY VINYL CHLORIDE,CROSS SECTION CONDUCTOR:2.5MM2 | | | | | | | |
| KEI HOME CAB FR 2.5SQMM | | | | | | | |
| Taxes :ED12%EC2%HEC1%(CENVAT) CST NIL (FORM-C) | | | | | | | |

for JINDAL STEEL & POWER LIMITED



Continuation Sheet...
PO No : 4511019097
Pur Op: 110

| Item | Material # | Material Description | Qty | UOM | Unit Price | Discount | Net Amt (INR) |
|---|---------------------|--|------------|-----|------------|----------|--------------------------|
| Delivery Date Delivery Qty | | | | | | | |
| 30.03.2015 4,275.000 M | | | | | | | |
| 30.06.2015 4,275.000 M | | | | | | | |
| Unloading Point:General Plant (UNIT-1)RAIGARH | | | | | | | |
| 40 | 1000001554 | CABLE,N- ARM,PVC,CU,3C,1.5MM2 .1KV# | 10,200.000 | M | 26.13 | | 266,526.00 |
| Item Text2 | | | | | | | |
| CABLE,NON ARMURED MATERIAL CONDUCTOR COPPER,NUMBER OF CORE 3C,CROSS SECTION,CORE:1.5MM2,ADDITIONAL INFORMATION:TRAILING CABLE,TYPE:FLEXIBLE | | | | | | | |
| Taxes :ED12%EC2%HEC1%(CENVAT) CST NIL (FORM-C) | | | | | | | |
| Delivery Date | Delivery Qty | | | | | | |
| 30.03.2015 | 5,100.000 M | | | | | | |
| 30.06.2015 | 5,100.000 M | | | | | | |
| Unloading Point:General Plant (UNIT-1)RAIGARH | | | | | | | |
| 50 | 1000001538 | CABLE,N-ARM,PVC,CU FLAT,3C,2.5MM2# | 1,800.000 | M | 42.95 | | 77,310.00 |
| Item Text2 | | | | | | | |
| CABLE, ELECTRICAL: TYPE: FLAT, NON-ARMURED, CONDUCTOR INSULATION: PVC, CONDUCTOR MATERIAL: COPPER, NUMBER OF CORE: 3 CORE, CONDUCTOR DIAMETER: 2.5 MM2 | | | | | | | |
| Taxes :ED12%EC2%HEC1%(CENVAT) CST NIL (FORM-C) | | | | | | | |
| Delivery Date | Delivery Qty | | | | | | |
| 30.03.2015 | 1,800.000 M | | | | | | |
| Unloading Point:General Plant (UNIT-1)RAIGARH | | | | | | | |
| 60 | 1000001590 | CABLE,N- ARM,FLEX,PVC,CU,4C,2. 5MM2# | 6,500.000 | M | 55.37 | | 359,905.00 |
| Item Text2 | | | | | | | |
| CABLE,NON ARMURED MATERIAL CONDUCTOR COPPER NUMBER OF CORE:4C,CROSS SECTION,CORE:2.5MM2, ADDITIONAL INFORMATION:TYPE:FLEXIBLE | | | | | | | |
| Taxes :ED12%EC2%HEC1%(CENVAT) CST NIL (FORM-C) | | | | | | | |
| Delivery Date | Delivery Qty | | | | | | |
| 30.03.2015 | 6,500.000 M | | | | | | |
| Unloading Point:General Plant (UNIT-1)RAIGARH | | | | | | | |
| | | | | | | | Net Value (INR) |
| | | | | | | | 867,358.10 |
| | | | | | | | BED |
| | | | | | | | 106,482.97 |
| | | | | | | | ECESS |
| | | | | | | | 2,129.64 |
| | | | | | | | HECESS |
| | | | | | | | 1,064.84 |
| | | | | | | | Gross Total |
| | | | | | | | 997,035.55 |

TOTAL AMOUNT IN WORDS : NINE LAKH NINETY-SEVEN THOUSAND THIRTY-FIVE AND FIFTY-FIVE PAISE ONLY

for JINDAL STEEL & POWER LIMITED

Page 2 of 3

(Authorized Signatory)

VANDANA GLOBAL LTD.

PO NO. : 4530019520 DT : 14.02.2014

TOTAL 288,220.25

In Words : Rupees Two Lakh Eighty Eight Thousand Two Hundred Twenty and Twenty Five Paise ONLY

TERMS & CONDITIONS

| | |
|--------------------------------|--|
| 1 Price Basis | :VGL Bittara |
| 2 Delivery Due On | :25.02.2014 |
| 3 Freight | :Road Basis |
| 4 Mode of Despatch | : YOUR SCOPE |
| 5 Insurance | : Not Applicable. |
| 6 Order Validity | : ONE Months |
| 7 Order Validity Date | :20.03.2014 |
| 8 Weightment | :At VGL,Siltara Raipur,Weightment will be Final |
| 9 Analysis/Quality Test | : Inspection Report of VGL will be FINAL. |
| 10 Penalty | : Not Applicable. |
| 11 Payment Terms | :20% ADVANCE & BALANCE AGAINST P.I. |
| 12 Guarantee | :FREE REPLACEMENT AGAINST MANUFACTURING DEFECTS. |
| 13 Specific conditions | :EXCISE EXTRA,CST-NIL AGAINST 'C' FORM. |
| 14 Challan Details | : Kindly Provide Challan details in Bill. |
| 15 Billing | : All bills are to be sent to VGL, Works only. |
| 16 Annexures Enclosed | : 01 NO. (ANNEXURE-I) : Printed overleaf. |
| 17 Billing Address | : Purchase Department, VANDANA GLOBAL LTD, SILTARA. |
| 18 Challan details and Invoice | :You are required to submit challan & invoice in Triplicate with all the details of P.O. material , qty etc failing which material will not be accepted. |

QUB TAX DETAILS

| | | | |
|--------------|-------------------------------|-------------------|--------------|
| LST No. : | 1003/5931/8/5 | DATE : | 15.10.99 |
| CST No. : | 1003/5317/C | DATE : | 15.10.99 |
| EXC. RANGE : | II, Civil Lines, RAIPUR(C.G.) | | |
| ECC No. : | AAACV016EXM 301 | | |
| DIVISION : | Civil Lines, RAIPUR(C.G.) | COMMISSIONERATE : | RAIPUR(C.G.) |
| TIN No. : | 22221801234 | | |

For, Vandana Global Ltd.

Prepared by: _____ Authorised Signatory
Head Office: Vandana Bhawan, M.G. Road, Raipur-492001 Phone No. 0771-2535405, 4207777 & Fax: 0771-2535804, 4265491



Larsen & Toubro Limited, Construction.

PB No 979, Mount-Poonamallee Road, Manapakkam, Chennai 600089, Tamilnadu, India

SCM Purchase Order - E4978PO4000012 - Project and Domestic - Dt.04-Mar-2014

| | | | |
|-----------------------------|---|-----------------------|--|
| Job | : LE19024 - PT - HJE-eBOP 2x600MW DB TPP,Chattisgarh,LT Power-IU | MR Number | : E4978EMR4000012 DT: 25-Jan-2014 |
| LST Reg No | : 11-01-5892-S, 14.08.2001 | CST Reg No | : 11-01-3432-C, 14.08.2001 |
| Our Ref | : E4978OPR4000015 DT: 01-Mar-2014 | Your Ref | : E4978OPR4000015/2 DT: 03-Mar-2014 |
| Vendor | : VKC00218 - KEI INDUSTRIES LIMITED D-90, OKHLA INDUSTRIAL AREA (PHASE - I) , NEW DELHI ,DELHI ,INDIA ,110020 ,MR.MANOJ KAKKAR , (011) 2691-6840 / 098209 , (011) 681-1359 Jaiind@vsnl.com ,AAACK0251C | | |
| Delivery Warehouse | : 1857 - eBOP 2x600MW DB TPP, Chattisgarh LT Power ,Larsen & Toubro Ltd ,eBOP 2x600MW DB TPP, Chattisgarh LT Power ,Vil : Baradamba, Dist: Janjgir - Champa ,Chhattisgarh ,India , | | |
| Delivery Period From | : 04-Mar-2014 To 30-Apr-2014 | LD Clause | : Applicable |
| Delivery Term | : AT OUR SITE STORES | Payment Centre | : Shared Service Centre - Accounting Center |
| Created By | : SANTANU SAMANTA DT: 04-Mar-2014 | Auth By | : DEVENDRA KUMAR SINGH DT:04-Mar-2014 DURGAPADA KUTTY DT:04-Mar-2014 |
| Remarks | : Excise Duty is exempted against FAC. All terms & Conditions shall remain same as per the attached documents, Annexure A & Annexure B. | | |
| Payment Terms | : Stage -1. 90.00% After the Receipt of Materials within 90 Days by Cheque Stage -2. 10.00% After the Submission of Performance BG within 90 Days by Cheque | | |

| Sl.No | Material | Amd No | UOM | Quantity | Basic Rate | Net Rate | Amount |
|------------------------|---|--------|-----|-----------|------------|----------|--|
| 1 | 732320042 1CX 4.0 SQMM PVC CU WIRE | 0 | m | 98000.000 | 18.82 | 18.8200 | 1844360.00 |
| 2 | 770837M07 1CX2.5 sq.mm PVC lighting wire | 0 | m | 74000.000 | 12.82 | 12.8200 | 949680.00 |
| Total Items : 2 | | | | | | | PO Net Value : (Indian rupee Twenty-Seven Lakh, Ninety-Three Thousand and Forty and Zero Paise Only) |

| Material Description | Tax Rate Components | Tax % | Value |
|--|--|-------|-------|
| 732320042 - 1CX 4.0 SQMM PVC CU WIRE | Sales Tax - Central Sale tax with Forms-C & E1 - CST with C Form @ 0% Dadra and Nagar Haveli | 0.00 | 0.00 |
| 770837M07 - 1CX2.5 sq.mm PVC lighting wire | Sales Tax - Central Sale tax with Forms-C & E1 - CST with C Form @ 0% Dadra and Nagar Haveli | 0.00 | 0.00 |



JAYASWAL NECO INDUSTRIES LIMITED (MINING DIVISION)

City office: Village :- Bankheta, Near at Doganoha, P.O. - Mitupara
Raigarh - 496 001 (C.G.)
Telephone. No. 09301949801, Fax : 07762 - 232958

Ref: JNIL /PUR/LOI/03/
Date: 18.11.2013

M/s KEI Industries Ltd,
E6, Anand Niketan
P.O. Shankar Nagar,
RAIPUR (C.G.) 492 007
Ph.No. 9926123445

Sub: Letter of Intent for supply of Mining Cable
Ref: Your e-mail offer dtd 17th October 2013

Dear Sirs,

With reference to the above and subsequent discussions we had with you, we are pleased to place our Letter of Intent on you for supply of following item as per the rates, terms and conditions mutually agreed

| S.No | Item description | Qty | Rate/unit | Total value |
|----------------------|---|------------|-----------|--------------|
| 1. | 3Cx50sq.mmPVC Copper Conductor cable 3.3KV grade, double Round wire armoured , DGMS approved. | 500 Mtrs | 1045.00 | 5,22,500.00 |
| 2 | 3Cx25sq.mmPVC Copper Conductor cable 3.3KV grade, double Round wire armoured , DGMS approved. | 1000 Mtrs. | 565.00 | 5,65,000.00 |
| Total basic value | | | | 10,87,500.00 |
| Excise duty @ 12.36% | | | | 1,34,415.00 |
| CST @ 2% | | | | 12,219.15 |
| Total value | | | | 12,34,134.15 |

Terms & Conditions

- a) Price basis : F.O.R. JNIL Mines site, Banjikhoh (Raigarh, C.G.)
- b) Excise duty : As above (Pls submit CENVAT documents alongwith materials)
- c) Sales Tax : As above.
- d) Delivery : Within 4-6 weeks (as early as possible)
- e) Freight : Inclusive
- f) Payment : 10% adv. Bal. 90% against P.L. on submission of proof of dispatch.
- g) Tolerance : Qty. tolerance +/-5% acceptable.
- h) Guarantee/Warranty: Std. Clause applicable

Contd..2

Site: Village - Banjikhoh, Tehasil- Gharghoda, Dist- Raigarh (C.G.)



JAYASWAL NECO INDUSTRIES LIMITED (MINING DIVISION)

City office: Village :- Bankheta, Near at Doganoha, P.O. - Mitupara
Raigarh - 496 001 (C.G.)
Telephone. No. 09301949801, Fax : 07762 - 232958

:2:

Please treat this LOI as our Purchase order for supply of above items and arrange to deliver the materials as per the schedule given in this order. Our formal purchase order confirming all terms & conditions will be sent to you shortly.

Please acknowledge receipt.

Thanking you

Yours faithfully,
For, JAYASWAL NECO INDUSTRIES LTD(CMD)

M. Mishra
AGM(Purchase & Stores)

Site: Village - Banjikhoh, Tehasil- Gharghoda, Dist- Raigarh (C.G.)

कार्यालय परियोजना संचालक
परियोजना क्रियाव्ययन इकाई, लोक निर्माण विभाग, निर्माण भवन,
तृतीय तल, अरेश हिल्स, भोपाल
आदेश क्रमांक 2440 / W/ Appl./ PIU/E&M/KEI/22/15-16 भोपाल दिनांक 29/7/15

विद्युत सामग्री अनुमोदन आदेश
म.प्र. शासकीय भवनों में विद्युत कार्य हेतु लोक निर्माण विभाग में प्रचलित विद्युत एच.ओ. आर. जो कि दिनांक 01-09-2014 से प्रभावी है, के आधार पर एवं विशिष्ट पुरिस्का के आधार पर M/s KEI Industries Ltd. D-90, Okhla Industrial Area Phase-I New Delhi द्वारा उत्पादित विद्युत सामग्री जिन पर "KEI" व्यावसायिक चिह्न अंकित हो ऐसे HT ,LT ,XLPE ,PVC , Submersible Cables & Wires को संलग्न उत्पाद अनुमोदन विवरण तालिका के अनुसार एतद् द्वारा विभाग में गठित समिति की अनुमोदन उपरत उपयोग हेतु अनुमोदन किया जाता है।

- 1- अनुमोदन निम्न शर्तों के अधीन मान्य होगा :-
विद्युत सामग्री की क्वालिटी, आकार अथवा अन्य कोई शिकायत यदि होती है तो अनुमोदन निरस्त किया जा सकता है।
 - 2- यह अनुमोदन जारी होने के दिनांक से तीन वर्ष या उत्पादों की आई.एस.आई. प्रमाण-पत्रों की वैधता जो पहले हो, तक मान्य होगा। इसके नवीनीकरण के लिए वैधता के एक माह पूर्व आवेदन करना होगा।
 - 3- समय-समय पर प्राइव् लिस्ट/केटलॉग/ड्राइंग आदि जब भी परिपत्रित होते हैं, इस कार्यालय को उपलब्ध करना होगा।
 - 4- बगैर कारण दर्शाए यह अनुमोदन निरस्त करने हेतु विभाग के पास अधिकार सुरक्षित होंगे।
 - 5- यह अनुमोदन भारतीय मानक ब्यूरो द्वारा जारी प्रत्येक विद्युत सामग्री का लाइसेंस नवीनीकरण होने पर ही मान्य होगा। नवीनीकरण के प्रत्येक प्रमाण-पत्रों की प्रति इस कार्यालय को उपलब्ध कराई जावे। अनुमोदित प्रत्येक सामग्री पर आई.एस.आई. चिह्न अंकित होना चाहिए।
- साहचर:- उत्पाद अनुमोदन विवरण तालिका

संयुक्त संचालक (वि/या)
परियोजना क्रियाव्ययन इकाई,
लोक निर्माण विभाग, निर्माण भवन,
तृतीय तल, भोपाल
पू.क.क्रमांक 2441 / W/ Appl./ PIU/E&M/KEI/22/15-16 भोपाल दिनांक 29/7/15
प्रतिलिपि:-

- 1- M/s KEI Industries Ltd. D-90, Okhla Industrial Area Phase-I New Delhi को उनके द्वारा प्रस्तुत पत्र के दिनांक 20-06-15 के संदर्भ में सूचनाएं।
- 2- अतिरिक्त परियोजना संचालक, लोक निर्माण विभाग, पी.आई.यू. भोपाल, इंदौर, जबलपुर, ग्वालियर, रीवा, सागर, छी और सूचनाएं।
- 3- अधीक्षण यंत्री, लो/नि/वि/वि/या, मण्डल भोपाल की ओर सूचनाएं।
- 4- संगामीय परियोजना यंत्री, लो/नि/वि/वि/या, ...
- 5- कार्यपालन यंत्री, लोक निर्माण विभाग वि/या संगीय क्रमांक-1,2 भोपाल /इन्दौर /उज्जैन / ग्वालियर/जबलपुर /रीवा /सागर/नया वि/या संगीय राज, परियोजना प्रशासन भोपाल की ओर सूचनाएं प्रेषित। कृपया आप अपने अधिनस्थ समस्त वि/या उपसंगीय कार्यालयों को सूचित करें।

साहचर:- उत्पाद अनुमोदन विवरण तालिका।
संयुक्त संचालक (वि/या)
परियोजना क्रियाव्ययन इकाई,
लोक निर्माण विभाग, निर्माण भवन,
तृतीय तल, भोपाल
PIU APPROVAL

PIU APPROVAL

कार्यालय परियोजना संचालक
परियोजना क्रियाव्ययन इकाई, लोक निर्माण विभाग, निर्माण भवन,
तृतीय तल, अरेश हिल्स, भोपाल उत्पाद अनुमोदन विवरण तालिका
संलग्न आदेश क्रमांक 2440 / W/ Appl./ PIU/E&M/KEI/22/15-16 भोपाल दिनांक 29/7/15

| स. क्र. | निर्माता का नाम तथा पता | व्यवसायिक चिह्न | अनुमोदित मद् की संचालित विशिष्टताएँ | आई.एस. कोड | बी.आई.एस. द्वारा प्रवर्तित तालिका क्रमांक | टिप्पणी |
|---------|--|-----------------|--|-----------------------------------|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | M/s KEI Industries Ltd. D-90, Okhla Industrial Area Phase-I, New Delhi | "KEI" | HT ,LT ,XLPE , PVC, Submersible Cables & Wires | IS:694:1990 IS:1554 P-1 : 1988 | CML-7380172 CML-7379995 | यह अनुमोदन जारी होने के दिनांक से तीन वर्ष एक मान्य होगा। |

संयुक्त संचालक (वि/या)
परियोजना क्रियाव्ययन इकाई,
लोक निर्माण विभाग, निर्माण भवन,
तृतीय तल, भोपाल
PIU APPROVAL

PIU APPROVAL

R.K.M POWERGEN PVT. LTD.
Old No.45 & New No. 14, Dr. Giriraj Road, T-Nagar, Chennai - 600 017
Phone : + 91 - 44 - 2815 8242 Fax: 2815 8243
E-Mail: rkmpowergen@gmail.com
Chennai TIN No : 33581562782

PURCHASE ORDER

| | | | |
|---|--|---|----------------------|
| Supplier Details | | PO No. : 14C0659 | Date: 16/12/2014 |
| M/s.KEI Industries Ltd, 99/27, Madhav Industrial Estate, Rakkah, Silvasa-396239 Mr Kiril Katariya kiril.katariya@kei-ind.com Mob-9926123465 Tin No-2660903629 | | Incent No : For Lighting Purpose. Your offer reference : Email quotation | |
| Destination | Mode of Dispatch | Delivery Schedule | Inspection |
| Our Site | By Road | First Lot Before 20th Balance Within 4Week | By RKMPL |
| Sl. No. | Item Description | UOM | Quantity |
| 1 | 3 core 2.5 sqmm 1.1KV -XLPE insulated multi strand armoured copper cable | Mtrs | 25,000.00 |
| Total Amount in Rs. | | | 23,02,500.00 |
| Tax & Duties: | | | |
| Discount | Length tolerance | ED | CST |
| Included | + 3% | Extra @ 10.3% | Nil Against 'C' Form |
| P & F | Insurance | Freight | |
| NIL | Your Scope | FOR Site | |

Terms & Conditions:

- Invoice to be raised in Triplicate and 1 set of Invoice along with Material Test Certificate / DC to be sent to Chennai-HIO & 1 set of all documents will be sent along with material.
- Payment Terms: 10% Advance, Balance 90% Payment proof of Dispatch document & 10% against delivery within 10 days.
- LD for delay in supply will be 1% of total order value per week subject to maximum of 10% of the total order value for the undelivered portion.
- Note -As per your given the GTP please despatch the materials only.
- General Terms & Conditions are attached as ANNEXURE - 1
- Material should be supplied in given dimensions, Grade and if any deviation found after supply the same shall have to be replaced by supplier on free of cost.
- Site Office Contact No: Mr.Sethu raman -952304564.
- Head Office Contact: Purchase department - 044-4629037/ Email: purchase.site@rkmpowergen.in

Billing & Delivery Address:
R.K.M POWERGEN PVT. LTD.,
Uchchinda Village,
Between Dhaba & Kharsia,
Tehsil - Dhaba, Jagjir Champa - Dist.,
Chhattisgarh - 495 692.
TIN No: 23471701928

For R.K.M POWERGEN PVT. LTD.
Authorized Signatory

VANDANA GLOBAL LTD.

Industrial Growth Centre, Phase-II, Silsara, Raipur-493111(C.G.)
Phone No:-07721-264244, 407250, 407755
Fax: 07721-264243, 407253,
E-mail: vjgpurchase@vandanaglobal.com



PURCHASE ORDER

| | |
|---|--|
| VENDOR DETAILS | INFORMATION |
| 2816 KEI INDUSTRIES LTD D-90 | PLANT : Fero Aloys PO NO. : 4530019033 AMD NO. : 0 FILE NO. : FAP-960 P.R.NO : 3016251 OFFER NO. : CS NO. : OLD PO REF : PRINT DATE & TIME : 18.01.2014 / 13:39:27 |
| NEW DELHI-110020 DELHI | DT 18.01.2014 DT 18.01.2014 |
| CONTACT : KATARIYA TELNOB. : 01126818840 / 01126818840 FAX : 01126818840 E-MAIL : info@kei-ind.com TOP AUTHORITY/NEGOTIATOR : | DT 18.01.2014 DT |

With reference to Verbal/telephonic discussions our Mr. Dhanshet Choudhary had with you we are pleased to place our order on you for the following as per terms & conditions mentioned below :-

| Sl. No. | CODE | DESCRIPTION | QTY | UOM | RATE | NET VALUE |
|--|------|------------------------------------|-------|-----|--------------------|------------|
| 01 | | Cable Al Ar XPLE 300 SQ.MM X 3.5 C | 250 | M | BASIC PRICE 980.70 | 170,175.00 |
| (HMC: 250 MTRS) MAKE : KEI | | | | | | |
| Basic Price 170,175.00 | | | | | | |
| Excess duty 12.300 % 21,033.63 | | | | | | 21,033.63 |
| Total 191,208.63 | | | | | | |
| 02 | | Cable Al Ar 16 SQ.MM X 3 C | 1,730 | M | BASIC PRICE 63.00 | 108,990.00 |
| (Sinner: 450Mtrs + HMC: 1280 Mtrs) MAKE : KEI | | | | | | |
| Basic Price 108,990.00 | | | | | | |
| Excess duty 12.300 % 13,471.17 | | | | | | 13,471.17 |
| Total 122,461.17 | | | | | | |
| 03 | | Cable Al Ar 35 SQ.MM X 3 C | 530 | M | BASIC PRICE 98.70 | 52,311.00 |
| (Sinner: 200 Mtrs + HMC: 330) MAKE : KEI | | | | | | |
| Basic Price 52,311.00 | | | | | | |
| Excess duty 12.300 % 6,465.94 | | | | | | 6,465.94 |
| Total 58,776.94 | | | | | | |
| 04 | | Cable Copper Ar 2.5 SQ.MM X 3 C | 680 | M | BASIC PRICE 67.50 | 45,900.00 |
| (Sinner: 350 Mtrs + HMC: 330 MTRS) MAKE : KEI | | | | | | |
| Basic Price 45,900.00 | | | | | | |
| Excess duty 12.300 % 5,673.24 | | | | | | 5,673.24 |
| Total 51,573.24 | | | | | | |
| 05 | | Cable Al Ar 35 SQ.MM X 3.5 C | 200 | M | BASIC PRICE 111.00 | 22,200.00 |
| (HMC: 200 MTRS) MAKE : KEI | | | | | | |
| Basic Price 22,200.00 | | | | | | |
| Excess duty 12.300 % 2,743.92 | | | | | | 2,743.92 |
| Total 24,943.92 | | | | | | |
| 06 | | Cable Copper Ar 5 C x 1.5 SQ.MM | 5,110 | M | BASIC PRICE 70.20 | 358,722.00 |
| (Sinner: 1800 Mtrs + HMC: 3310 Mtrs) MAKE : KEI | | | | | | |

For Vandana Global Ltd.
Authorized Signatory
Head Office: Vandana Bhawan, M.G. Road, Raipur-492001 Phone No. 0771-2535405, 4207777 & Fax: 0771-2535804, 4285491



समस्त सरकार
मुख्य इंजीनियर के कार्यालय (एस जेड) चण्डी
केन्द्रीय लोक - निर्माण विभाग
जी इण्डस्ट्री, तीसरा तल, राजजी भवन
बसंत नगर, चेन्नई-90.
Phone : 044-24900884 Fax: 04424901249,
E-mail ID - cpwdele@tn.nic.in

GOVERNMENT OF INDIA
OFFICE OF THE C. E. (SZ)-IV
CENTRAL PUBLIC WORKS DEPARTMENT
G WING, III FLOOR, RAJAJI BHAVAN
BESANT NAGAR, CHENNAI-90.
Phone : 044-24900884 Fax: 044-24901249
E-mail ID - cpwdele@tn.nic.in



No. 59(3)/CE(SZ)IV/2014/3725-26

Dated 14/11/2014

OFFICE MEMORANDUM

Sub: Approval for brands for inclusion in NIT/Tenders.

Chief Engineer, SZ(IV), CPWD, Chennai has approved the following **Wires & Cables** manufactured by **M/s KEI Industries Limited, D-90, Okhla Industrial Area, Phase-I, New Delhi-110020** for use in Electrical Divisions falling under the control of Southern Zone-IV.

| S.No. | Description Of Items | Brand of the product |
|-------|----------------------|----------------------|
| 1) | LT/HT Cables | KEI |
| 2) | PVC insulated wires | KEI |
| 3) | Control Cables | KEI |

- The above products are approved for a period of Two Years from the date of issue of this order which may be renewed after two years.
- SE(E)'s, EE, S & AE, s are required to incorporate the above brands along with the already approved other brands in the list of preferred makes in the NITs approved by them.
- The approval does not absolve CPWD Engineers concerned from their responsibility of exercising necessary checks like quality, rates & performance of the products while processing / using the same. Short comings / deficiencies of serious nature, if observed while in use at site may be brought to the notice of this office.

G. Balasubramanian
Executive Engineer (HQ)

Copy to:

- All SE(E)'s under this zone for circulation among field units.
- M/s KEI Industries Limited, D-90, Okhla Industrial Area, Phase-I, New Delhi-110020.

Executive Engineer (HQ)

DAKSHIN HARYANA SUIJ VITRAN NIGAM
Chief Engineer / PD&C
Vidvut Sadan, Vidvut Nagar, DHBVN, Hisar
Ph. 0316652 - 223187 FAX: 0316652 - 223181
E-mail : cpdc@dhbvn@gmail.com

To: M/s KEI Industries Ltd.,
D-90, Okhla Industrial Area,
Phase-1, New Delhi-110020
Fax: 011-26817225,
26811959
Email: epc@kei-ind.com

Memo no - Ch-159/200-51/vol-50/180 Dated- 27.02.2015

Subject- Empanelment as approved vendor for supply of various size of cables

Please refer to your request dated 22.01.2015 for empanelment as approved vendor of various size of cables In this regard, it is intimated that your firm M/s KEI Industries Ltd., N-83, D-90, Okhla Industrial Area, Phase-1, New Delhi-110020 has been considered for enlistment as approved vendor to supply following Rating/sizes of XLPE cables:-

- 33kV, 3 Core-from 95 sq mm to 300 sq mm
- 11kV, 3 Core-from 95 sq mm to 300 sq mm
- 11kV, 3 Core- 50 sq mm
- LT cables of sizes 3.5 core 95 sq mm, 3.5 core 120 sq mm, 3.5 core 150sq mm, 3.5 core 185 sq mm, 3.5 core 240 sq mm, 3.5 core 300 sq mm, 4 Core 16 sq mm and 2 core 0 sq mm.

However, LT cables of all other sizes are also considering for enlistment subject to condition of submission of valid type test of respective size of LT cable at the time of inspection.

The cables of above mentioned Rating/sizes are enlisted in DHBVN against turnkey work of the Nigam, subject to compliance of the following conditions:-

- The material supplied should be in line with the approved GTP's / technical specification of the Nigam and any default on this account may lead to your de-empanelment.
- The supplied material if rejected twice by inspecting officer of the Nigam / third party inspecting agency on account of poor quality / sub standard material would lead to De-empanelment of the firm with immediate effect and without any notice.
- The inspecting officer should be provided with all T&P, measuring instruments/ testing equipment to undertake quality check of the material. You are further requested to ensure that T&P / testing equipment offered should be certified for its calibration.

However, your empanelment as approved vendor will be with immediate effect and remain valid up to 31.03.2016.

This is for your information please.

Chief Engineer/PD&C,
DHBVN, Hisar

- Cc:-
- SPD to Director/Projects, DHBVN, Hisar for kind information of the Director, please
 - C.E./PROJ. URBAN, Panipat for kind information please
 - C.E./R&P-D&P, DHBVN, Hisar for kind information please
 - Chief Engineer/CP, DHBVN, Hisar/Delhi
 - Chief Engineer/MA, DHBVN, Hisar
 - AI/S Es (CP) under DHBVN
 - S.E./Const. DHBVN, Hisar
 - AI/KEI's under C.E/P&C
 - GM/IT, DHBVN, Hisar



Dated 09.01.2014

TO WHOMSOEVER IT MAY CONCERN

This is to certify that M/s KEI Industries Limited is our preferred vendor for supply of HT, LT, Instrument and Control, Fire Survival Cables and Special Cables for all our projects.

We have found KEI meeting our requirement of High Quality Standards, Timely Deliveries, Competitive and Resourceful in meeting our urgent requirements.

We have extensively used KEI manufactured cables for 2 major ONGC Projects executed by us i.e. ICP-R & HRD Platforms. The main PO Nos. for these projects are as mentioned below.

0000308_3 of ICP-R
1989-hrd-Pur-HV LV Cable/020 of HRD

The collective values of the cables supplied against PO's referred and various repeat PO's are in excess of INR 250,000,000.00

The cables are in use since last 5 years on ONGC ICP-R Platform and we have found the performance satisfactory.

Authorized Signatories

Vijay Lunawat
JGM Procurement



Regd. Office: Afcons House, 16, Shah Industrial Estate, Veera Desai Road, Azad Nagar P.O., Post Box No. 11978, Andheri (W), Mumbai-400 053.
Tel: +91-22-6719 1000 / 2673 0042 Fax: +91-22-2673 0047 / 2673 0026 | www.afcons.com
CIN No.: U45200MH1976PLC019335



WIN POWER INFRA PVT LTD.

(Formerly Win Power Marketing Pvt. Ltd)

Ref No: WPIPL/KEI/ADB/D.S/13-14/13
Date : 18.09.2013

To,
M/s. KEI Industries Ltd.
33, Dr. Sundari Mohan Avenue,
1st & 2nd Floor,
Kolkata-700014

Sub : Issue of Delivery Schedule.
Ref : Our Order No. 1) WPIPL/KEI/ADB/P.O/13-14/12(a) Dt. 18.09.13
2) WPIPL/KEI/ADB/P.O/13-14/13(a) Dt. 18.09.13
3) WPIPL/KEI/ADB/P.O/13-14/15 Dt. 18.09.13

Dear Sir,

With reference to above, we are enclosing herewith the delivery schedule of Materials in Annexure-I.

Therefore you are request to ensure the delivery schedule for timely completion of project.

Thanking you,
Yours faithfully,
For Win Power Infra Pvt. Ltd

Purchase Manager

GUWAHATI OFFICE: #2, Bye Lane-1, Aashram Road, South Sarania, Ulubari, Guwahati-781007, Assam.
Tel/ Fax: +91 361 2467634, Email: winpower.ghy@gmail.com

CORPORATE OFFICE:
Sripath House, B. H. Road, Jorhat-785001, Assam.
Tel: +91 376 2320988, Fax: +91 376 2321867
Email: sales@winpower.in, enquiry@winpower.in
Website: www.winpower.in

REGISTERED OFFICE:
08, Manish Palika, 20 Arsan Road
Charyapali, New Delhi-110002 (India)
Tel: +91 11 42078277, Fax: +91 11 42078277
Email: info@winpower.in



WIN POWER INFRA PVT.LTD (Formerly Win Power Marketing Pvt. Ltd)

No. WPIPL/KEI/ADB/P.O/13-14/13
Date: - 09.09.13

M/s KEI Industries Ltd.
33, Dr. Sundari Mohan Avenue,
1st & 2nd Floor,
Kolkata 700014

Kind Attention: - Mr. Jashobant SR.

Sub: - Purchase Order.
Ref: - Your Quotation No.KEI-KOL/WP/13-14/Q-0487(R1) dt. 07.09.13
Dear Sir(S),

Please arrange to supply the Materials for our ADB Packages under APDCL as per the rates, terms & conditions mentioned below:-

1. Scope of work : Supply of Materials as per APDCLs T.S including any addition /deletion during approval from APDCL.

| Sno | Particulars | Unit | Qty | Rate |
|-----|--------------------------------|------|-----|-------|
| 01. | 11KV XLPE Cable 3C x 185 Sq.mm | Mtr. | 600 | 667/- |

1. Taxes & Duties : Only CST @1% extra as per ADB guideline.
2. Price Basic : Above prices are firm till final delivery of above materials including any quantity variations if any. This also includes packing & forwarding. Actual transportation charges shall be borne by us.
3. Delivery : Immediate
4. Inspection : As per APDCL terms.
5. Quality/Specification : As per APDCL's approved specification. A copy of APDCL, s T.S is being enclosed.
6. Guarantee : 66 Months from the date of dispatch & 60 months from the date of commissioning.
7. Liquidated Damage/Breakage : Time is the essence of this order and you have to strictly adhere to the delivery schedule. In case any delay from your side and materials are found broken or damaged at the time of delivery, we have the right to impose liquidated damage @ 0.5% per week of delay or part thereof, subject to a maximum of 5% of the value undelivered portion of materials.

GUWAHATI OFFICE: #2, Bye Lane-1, Aashram Road, South Sarania, Ulubari, Guwahati-781007, Assam.
Tel/ Fax: +91 361 2467634, Email: winpower.ghy@gmail.com

CORPORATE OFFICE:
Sripath House, B. H. Road, Jorhat-785001, Assam.
Tel: +91 376 2320988, Fax: +91 376 2321867
Email: sales@winpower.in, enquiry@winpower.in
Website: www.winpower.in

REGISTERED OFFICE:
08, Manish Palika, 20 Arsan Road
Charyapali, New Delhi-110002 (India)
Tel: +91 11 42078277, Fax: +91 11 42078277
Email: info@winpower.in



WIN POWER INFRA PVT.LTD (Formerly Win Power Marketing Pvt. Ltd)

No. WPIPL/KEI/HVDS/P.O/13-14/12
Date: - 09.09.13

M/s KEI Industries Ltd.
33, Dr. Sundari Mohan Avenue,
1st & 2nd Floor,
Kolkata 700014

Kind Attention: - Mr. Jashobant SR.

Sub: - Purchase Order.
Ref: - Your Quotation No.KEI-KOL/WP/13-14/Q-0487(R1) dt. 07.09.13
Dear Sir(S),

Please arrange to supply the Materials for our HVDS Packages under APDCL as per the rates, terms & conditions mentioned below:-

1. Scope of work : Supply of Materials as per APDCLs T.S including any addition /deletion during approval from APDCL.

| Sno | Particulars | Unit | Qty | Rate |
|-----|--------------------------------|------|-----|-------|
| 01. | 11KV XLPE Cable 1C x 630 Sq.mm | Mtr. | 200 | 585/- |
| 02. | 11KV XLPE Cable 1C x 400 Sq.mm | Mtr. | 200 | 371/- |
| 03. | 11KV XLPE Cable 1C x 300 Sq.mm | Mtr. | 320 | 328/- |

1. Taxes & Duties : Only CST @1% extra as per HVDS(ADB) guideline.
2. Price Basic : Above prices are firm till final delivery of above materials including any quantity variations if any. This also includes packing & forwarding. Actual transportation charges shall be borne by us.
3. Delivery : Immediate
4. Inspection : As per APDCL terms.
5. Quality/Specification : As per APDCL's approved specification. A copy of APDCL, s T.S is being enclosed.
6. Guarantee : 66 Months from the date of dispatch & 60 months from the date of commissioning.
7. Liquidated Damage/Breakage : Time is the essence of this order and you have to strictly adhere to the delivery schedule. In case any delay from your side and materials are found broken or damaged at the time of delivery, we have the right to impose liquidated damage @ 0.5% per week of delay or part thereof, subject to a maximum of 5% of the value undelivered portion of materials.




GUWAHATI OFFICE: #2, Bye Lane-1, Aashram Road, South Sarania, Ulubari, Guwahati-781007, Assam.
Tel/ Fax: +91 361 2467634, Email: winpower.ghy@gmail.com

CORPORATE OFFICE:
Sripath House, B. H. Road, Jorhat-785001, Assam.
Tel: +91 376 2320988, Fax: +91 376 2321867
Email: sales@winpower.in, enquiry@winpower.in
Website: www.winpower.in

REGISTERED OFFICE:
08, Manish Palika, 20 Arsan Road
Charyapali, New Delhi-110002 (India)
Tel: +91 11 42078277, Fax: +91 11 42078277
Email: info@winpower.in

भारत सरकार GOVERNMENT OF INDIA
श्रम एवं रोजगार मंत्रालय MINISTRY OF LABOUR & EMPLOYMENT
खान सुरक्षा महानिदेशालय DIRECTORATE GENERAL OF MINES SAFETY
विद्युत अंचल ELECTRICAL CIRCLE
दक्षिण मध्य क्षेत्र, हैदराबाद SOUTH CENTRAL ZONE, HYDERABAD
 CGO Towers, 7th Floor, #704, Kavadi-guda, Secunderabad-500080
 Telephone: 040-27534502; Fax: 040- 27532504; e-mail dggscz@gmail.com



संख्या .द.म.अ./विद्युत/फी.त्र./2013/ 240 हैदराबाद, दिनांक 21st January, 2015

From:
 The Director of Mines Safety (Elec.)
 South Central Zone,
 7th Floor, CGO Towers,
 Kavadi-guda, Secunderabad – 500 080.

To:
 M/s. KEI Industries Limited,
 D-90, OKLHA Industrial Area, Phase-I,
 New Delhi – 110 020.

विषय: Permission for field trial of 1.1K V, 5 Core (3 Core x 35 mm² power core + 1 Core x 16 mm² pilot core + 1C x 16 mm² bare earth core) elastomeric insulated and sheathed flexible cable, type-FT-10 manufactured by M/s. KEI Industries Limited, New Delhi conforming to IS: 14494-1998 for use in belowground coal mines in India under Regulation 181(3) of the Coal Mines Regulations, 1957.

संदर्भ: HO Letter No.2075-78/EHQ, dated 12-9-2012 & Extension of Field Trial permission vide HO letter No. 79 dated 13.01.2015.

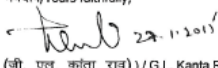
महोदय,

The permission under reference has been extended up to 12.09.2015 vide above cited reference. The field performance report was already submitted to Head Quarters with reference to the above permission issued originally.

The present lot of cable to be subjected under field trial shall be fully in compliance with the recommendations to facilitate the required diameter and design suiting to the plug and socket arrangements of the machine and gate-end box.

You are requested to inform this office regarding conduct of field trial of above item immediately giving the following details.

i) the name of the mine where the equipment has been installed for field trial purpose;
 ii) its date of installation and
 iii) purpose for which it is being used.

भवदीय/Yours faithfully,

 (जी. एल. कान्ता राव)/G.L. Kanta Rao
 खान सुरक्षा निदेशक (विद्युत)/Director of Mines Safety(Elect.)
 दक्षिण मध्य अंचल, हैदराबाद /South Central Zone, Hyderabad.
 /ksvs

Tele. 0181 2661597

Headquarters
 Chief Engineer Jalandhar Zone
 Military Engineer Services
 Jalandhar Cantt-144005

40016/ 606 /E4
 01 Jun 2013

Headquarter
 Commander Works Engineers
 Jalandhar Cantt


Headquarter
 Commander Works Engineers
 Amritsar Cantt

Headquarter
 Commander Works Engineers
 Ferozpur Cantt

APPROVAL OF PRODUCTS

- M/s KEI Industries Limited, New Delhi has approached this HQ for introduction of their products for use in Defence Works vide their letter No KEI/MKTG/2012-13/ dated 15.05.2013.
- The name of the firm for All type of electric wire and cables i.e multistrand single core copper wire, multi core flexible copper, submersible cables and all LT and HT cable aluminium and copper cable hereby approved in CE Jalandhar Zone for a period of two years.
- Further continuation of the products will be decided thereafter, on the basis of the mandatory feedback/performance report submitted by Zonal Chief Engineers. In case anyone using the product notices any defect/discrepancy, the same will be reported immediately without waiting for the expiry of Two years.
- The approval does not absolve the executives/supervisory staff from their responsibility for using correct quality product. It is only after they satisfied about the quality and the performance of the product will be used. Mandatory checks about the quality will be carried out as laid down and the records for the same maintained.
- Further specification/details of products can be obtained from the manufacturer at the address given below:-


M/S KEI Industries Limited
 D-90, Okhla Industrial Area,
 Phase-1,
 New Delhi -110020


 (A.R. Rishi)
 AAD E/M
 For Chief Engineer

Copy to:-
 M/S KEI Industries Limited
 D-90, Okhla Industrial Area,
 Phase-1,
 New Delhi -110020

स्वीड पोस्ट

S-29020/20/FTP/75(2)/2014/EHQ
 भारत सरकार/Government of India
 श्रम एवं रोजगार मंत्रालय
 Ministry of Labour & Employment
 खान सुरक्षा महानिदेशालय/
 Directorate General of Mines Safety



संख्या 127 /वि. मु., धनवाड, दिनांक 20-01-2014 2015

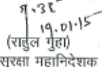
प्रेषक :
 खान सुरक्षा महानिदेशक
 खान सुरक्षा महानिदेशालय
 धनवाड - 826 016.


सेवा में
 श्री आलोक साहा - जेनरल मैनेजर
 मेसर्स के.इ.आई. इंटरप्रिज लिमिटेड
 डी-90, ओखला इंडस्ट्रियल एरिया
 फेज-1, नई दिल्ली-110 020.

विषय : 6.35/11 KV केबल का तेल खान में प्रयोग हेतु क्षेत्रीय परीक्षण अनुमति के संबंध में - निर्माता मेसर्स के.इ.आई. इंटरप्रिज लिमिटेड, नई दिल्ली-110 020.

महोदय,

उपरोक्त विषय से संबंधित क्षेत्रीय परीक्षण अनुमति पत्र अंग्रेजि किया जाता है ।

भवदीय,

 19.01.15
 (राहुल गुहा)
 खान सुरक्षा महानिदेशक



STEEL AUTHORITY OF INDIA LTD.
ALLOY STEELS PLANT, DURGAPUR

MATERIALS MANAGEMENT DEPARTMENT

Tel : 0343-2545301 Fax : 0343-2545301
 E-mail : purchasesp@gmail.com
 Website: www.saitenders.co.in


Ref : ASP/PUR/CO-ORD/VR/2013/384/9 Date : 27/06/13

To,
 KEI Industries Ltd.,
 D-90 Okhla Industrial Area,
 Phase-I, New Delhi-110020.

Sub: Registration of Vendors

With reference to your application for registration with ASP, we are pleased to inform you that you have been included as Registered vendor with us as per certificate enclosed.

Kindly acknowledge receipt.


 S. Singhal
 Asstt. General Manager (MM/P-SS)
 For General Manager (MM)

Encl: 1 no.Registration Certificate

ADITYA BIRLA
UltraTech

Dated 29.08.2019

TO WHOMSOEVER IT MAY CONCERN

This is to certify that M/s KEI Industries Limited have supplied 1.1 KV Aluminum XLPE Insulated Armoured Power Cables against our PO CPC/MUM/AEB/DHAR/PO-159/2017-18 DT 21.06.2017 to Dhar Cement Works. The following sizes of cables are mainly supplied:

| Sr. No | Cable Size | Qty (Mtrs) |
|--------|----------------------|------------|
| 1 | 3.5 C x 400 sq. mm | 10120 |
| 2 | 3.5 C x 300 sq. mm | 11103 |
| 3 | 3 C x 300 sq. mm VFD | 10145 |

The above cables have been laid and performance is satisfactory till date.

Thanking You

Yours faithfully
For UltraTech Cement Ltd
(Unit : Dhar Cement Works)

Sanjay Singh
Sanjay Singh
General Manager- Electrical

UltraTech
The Engineers' Choice

UltraTech Cement Ltd.
(Unit : Dhar Cement Works)

Corporate Identification Number (CIN) : L26940MH2000PLC028420
UltraTech Cement Ltd., Unit : Dhar Cement Works, Village : Toris, Taluk : Manawar - 454 446, Dist. : Dhar (M.P.) India P : +91 7794 233688 NW : www.ultratechcement.com
Registered Office : UltraTech Cement Ltd., 7th Floor, 2nd Phase, Akura Centre, Mahakali Caves Road, Andheri (E), Mumbai-400 093
T : +91 2266978000 | F : +91 2266928029

AFCONS
AFCONS INFRASTRUCTURE LIMITED

Shapoorji Pallonji

Date: 20th Aug, 2018

TO WHOM SO EVER IT MAY CONCERN

We hereby certify that M/s KEI Industries Ltd is one of our regular supplier for Cables and Wires.

We have procured substantial quantities of FRLSZH Wires, FRLSZH Power Control Cables and FRLSZH Fire Survival Cables from KEI, particularly for our Chennai Metro Rail Project-CMRL (POs value Approx. 25 Crore).

We are fully satisfied with the performance of their product. We will not hesitate to recommend their name for similar other projects.

We wish their steady and continuous success and looking forward for a long term business relationship.

For AFCONS INFRASTRUCTURE LTD

(Authorized Signatory)

Regd. Office: Afcons House, 16, Shah Industrial Estate, Veers Desai Road, Azad Nagar P.O., Post Box No. 11978, Andheri (W), Mumbai-400 053.
Tel: +91-22-6719 1000 / 2673 0042 Fax: +91-22-2673 0047 / 2673 0026 | www.afcons.com
CIN No.: U45200MH1976PTC039335

भारत पेट्रोलियम कॉर्पोरेशन लिमिटेड
भारत पेट्रोलियम कॉर्पोरेशन लिमिटेड
BHARAT PETROLEUM CORPORATION LTD.
A Gist of Indo Enterprise

VENDOR ENLISTMENT LETTER

VENDOR/REG/2020-21 DATE: 22.12.2020

M/s. KEI INDUSTRIES LIMITED
7 Th floor, NIRVAN Corporate, opp,
Aghadi Nagar, Hijamata Road,
Andheri (E) Mumbai-400093.

K.A. Mr. Umesh Kank / Mr. N.L.Parab
Landline no.-
Mobile no. - 9820390313 / 8879798315
E-MAIL: umesh.kank@kei-ind.com
narayan.parab@kei-ind.com

Dear Sir,

SUBJECT: ENLISTMENT AS AN APPROVED VENDOR

With reference to your request for vendor registration for the supply of HT cables, LT power, control, signal & instrumentation cables, we are pleased to inform you that your Registration as an approved Vendor has been validated as per details below:

- Items for which enlisted : All sizes of HT cables, LT power, control, signal And instrumentation cables
- Registration Number (SAP Vendor code) : 120521
- Period for which registration is valid : 5 Years, upto 25.05.2025

Further it may be noted that

- The registration does not confer any particular right on you and we are not obliged to contact you for any or all of the requirements of the items for which you have been registered.
- Validity of Registration is subject to satisfactory execution of the order/s (as & when placed by us on you) in respect of delivery, quality of the ordered items and other terms and conditions.

(Signature)
Page 1 of 2

CIDCO
WE MAKE CITIES

CITY AND INDUSTRIAL DEVELOPMENT CORPORATION OF MAHARASHTRA LIMITED
(CIN - U99999 MH 1970 SOC - 014574)

REGD. OFFICE: "NIRMAL", 2nd Floor, Nariman Point, Mumbai - 400 021.
PHONE : 00-91-22-6650 0900
FAX : 00-91-22-2202 2509

HEAD OFFICE: CIDCO Bhavan, CBD Belapur, Navi Mumbai - 400 614.
PHONE: 00-91-22-6791 8100
FAX : 00-91-22-6791 8166

Ref. No. CIDCO/EE (PA & R)/ Enlistment /Class-A/ 2022/06 Date 05.01.2022

To,
M/s. KEI Industries Ltd,
Nirvan Corporate, 7th Floor,
Opp. Aghadi Nagar, Pump House,
Rajmata Jijabai Road, Andheri (E),
Mumbai 400 093
E: umesh.kank@kei-ind.com /
narayan.parab@kei-ind.com
W: www.kei-ind.com
T: +91 22 28239673
M: 8879798315







Subject: Enlistment for Electrical Contractor.

Reference: Your application no. KEI/MUM/CIDCO/2020-21, dated 25.01.2021 received in the office of undersigned on 25.01.2021 for enlistment as Electrical Contractor in CIDCO Ltd.

Dear Sir,


With reference to your request, vide letter under reference above, we are pleased to inform you that, your name has been included in the approved list of enlisted Electrical Contractors of CIDCO, Electrical works category as indicated below:

| S. No | Name of Contractor | Category | Class | Eligibility limit up to in Rs |
|-------|-------------------------|------------------|-------|-------------------------------|
| 1 | M/s. KEI INDUSTRIES LTD | Electrical Works | A | Without Limit |


This Certificate is valid for **THREE (03) years**, i.e. from **05.01.2022 to 04.01.2025**. The present enlistment policy is under revision of Corporation & on approval, the policy will be implemented within Three (03) months & revised policy will be informed to you in due course of time. Consequent upon implementation of amended policy this enlistment certificate will no more be valid and fresh enlistment certificate in lieu of this will be issued to you. The revised enlistment certificate as per amended policy will be binding on you.

(Signature)
Page 1 of 2

In case of any corruption related complaints, please visit :
www.cidco.maharashtra.gov.in Click on Dakshata link



CIDCO
WE MAKE CITIES



CIDCO
WE MAKE CITIES

CITY AND INDUSTRIAL DEVELOPMENT CORPORATION OF MAHARASHTRA LIMITED
(CIN - 099999 MH 1970 SOC - 014574)

REGD. OFFICE:
"NIRMAL", 2nd Floor, Nariman Point,
Mumbai - 400 021.
PHONE : 00-91-22-6650 0900
FAX : 00-91-22-2202 2509

HEAD OFFICE:
CIDCO Bhavan, CBD Belapur
New Mumbai - 400 614.
PHONE: 00-91-22-6791 8100
FAX : 00-91-22-6791 8166

Ref. No. CIDCO/EE (PA & R)/P-2359/2023/ 229 Date: 09.08.2023

To,
M/s. KEI Industries Limited.,
D-90, Okhla Industrial Area,
Phase-1, New Delhi-110020,
India.
Contact Person- Mr. Umesh Kank
Mobile, 9820390313
Email: umesh.kank@kei-ind.com

Sub: Renewal of Registration as an Approved Vendor.
Ref: i) Earlier Enlistment certificate issued vide CIDCO/EE(PA&R)/P-1758/2022/168 dated 17.03.2022 valid up to 05.07.2023.
ii) Your application regarding renewal of vendor registration dated 29.05.2023.

Dear Sir,


With reference to your request /application on subject matter, we are pleased to inform you that, your registration as an approved vendor for our projects / works for the following products is approved herewith for a period of **Two (02) years**.

| Sr. No. | Product Description | Size/Range/Brand/Specification |
|---------|---------------------|---|
| 1 | Electrical Wires | Copper/aluminium/PVC Insulated Wires Flexible conductor cables for working voltage up to including 1100V as per IS 694 2010 (FR, FRESH,ZHFR,LSZH) |
| 2 | LT Cable | Copper/aluminium/conductor/PVC & XLPE Insulated PVC Sheathed Armored & Unarmored cables working voltage up to & including 1100V as per IS 1554 Part I as per IS 7098: Part 1:1988(FR, FRL,S,LSZH) |

Page 1 of 3

Executive Engineer (PA & REG.)
CIDCO Ltd.
Third Floor, CIDCO Bhavan,
CBD Belapur,
New Mumbai - 400 614.


In case of any corruption related complaints, please visit :
www.cidco.maharashtra.gov.in Click on Dakshata link



GSL CORPORATE IDENTITY NUMBER (CIN):
UG3032GA1967GG1000077

Registered Office & Yard: Vasco-da-Gama, Goa - 403 802, India.
All replies to be addressed to the Chairman & Managing Director

GOA SHIPYARD LIMITED
QUALITY ASSURANCE AND RELIABILITY DEPT
AN ISO 9001:2015, ISO 14001:2015, ISO 45001:2018
CERTIFIED COMPANY
(A GOVT. OF INDIA UNDERTAKING)
MINISTRY OF DEFENCE
VASCO-DA-GAMA, GOA - 403 802, INDIA





CERTIFICATION OF RENEWAL OF REGISTRATION

With reference to your letter dated 22/09/2022 and GSL certificate of renewal of registration No. G23/AP/2019-20/R-09, dated 05/10/2019, valid up to 04/10/2022.
The registration accorded to M/s. **KEI Industries Limited**, Nirvan Corporate, 7th floor, Opposite Aghadi Nagar, Pump House, Rajmata Jijabai Road, Andheri (E), Mumbai 400053, Vide registration certificate mentioned above for supply of items as indicated below, is hereby renewed for a further period of 03 years.

- > Supplier Registration Code : K00148
- > Financial Limit: 100 Crore
- > Registered as Supplier for:


| Sr. No. | Category of items | Item/Service Description |
|---------|-------------------|--------------------------|
| 1 | C-19 | Cables |
| 2 | DPO-55 | S.S. Wires |

The certificate of renewal of registration is valid up to 04/10/2025. Conditions of renewal of registration will be same as per the original certificate.

Thank you

(YATIN HEGDE DESSAI)
ADDL. GENERAL MANAGER
(TS)

GSLQAR/PROJ/2022-23/C-192
Date: 07.12.2022



हिन्दुस्तान पेट्रोलियम कॉर्पोरेशन लिमिटेड
(भारत सरकार का उपक्रम) रजिस्टर्ड ऑफिस : 17, जामशेडटाटा रोड, मुंबई - 400 020.
HINDUSTAN PETROLEUM CORPORATION LIMITED
(A GOVERNMENT OF INDIA ENTERPRISE) REGISTERED OFFICE: 17, JAMSHEDTATA ROAD, MUMBAI - 400 020.

8, मुरली वल्लभदास मार्ग, पोस्ट बॉक्स नं. 155, मुंबई - 400 001. दूरध्वनि - 2263 7000 • फोन - 022-2261 1822, ईमेल - mktghq@hpcil.co.in
8, Shoorji Vallabhdas Marg, P. O. Box No. 155, Mumbai - 400 001. Tel : 2263 7000 • Fax : 022-2261 1822 • e-mail : mktghq@hpcil.co.in
CIN No. : L25201MH1952O1008888

HQO/RMR/RU
1st June 2018

To

KEI Cables
101/1032 VASTU SHIILP
VASHTU ENCLAVE
ANDHERI PUMP HOUSE
ANDHERI EAST, MUMBAI-93

Dear Sir,

Sub: Approval for KEI Make of LT/HT power cables

This has reference to your request for approval of your brand LT and HT cables in our HPCL works, we are pleased to advise you that your brand of KEI cables are now approved. The same will part of approved makes in our future tenders.


Your cables for various applications has to meet the specifications mentioned in our tender documents released from time to time.

We wish you a prosperous progress and good association with our organization in coming years.

Yours truly

R Murali Mohan Reddy
(आर मुरली मोहन रेड्डी)

आर. मुरली मोहन रेड्डी
R. MURALI MOHAN REDDY
उप महाप्रबन्धक - रिजन क्लस्टर
DDM - Near Upgradation



हिन्दुस्तान पेट्रोलियम कॉर्पोरेशन लिमिटेड
(भारत सरकार का उपक्रम) रजिस्टर्ड ऑफिस : 17, जामशेडटाटा रोड, मुंबई - 400 020.
HINDUSTAN PETROLEUM CORPORATION LIMITED
(A GOVERNMENT OF INDIA ENTERPRISE) REGISTERED OFFICE: 17, JAMSHEDTATA ROAD, MUMBAI - 400 020.

8, मुरली वल्लभदास मार्ग, पोस्ट बॉक्स नं. 155, मुंबई - 400 001. दूरध्वनि - 2263 7000 • फोन - 022-2261 1822, ईमेल - mktghq@hpcil.co.in
8, Shoorji Vallabhdas Marg, P. O. Box No. 155, Mumbai - 400 001. Tel : 2263 7000 • Fax : 022-2261 1822 • e-mail : mktghq@hpcil.co.in

HQO/RMR/RU
1st June 2018

To

KEI Cables
101/1032 VASTU SHIILP
VASHTU ENCLAVE
ANDHERI PUMP HOUSE
ANDHERI EAST, MUMBAI-93

Dear Sir,

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We wish you a prosperous progress and good association with our organization in coming years.

Yours truly

R Murali Mohan Reddy
(आर मुरली मोहन रेड्डी)

महाराष्ट्र गृहनिर्माण व क्षेत्रविकास प्राधिकरण
**MAHARASHTRA HOUSING AND
 AREA DEVELOPMENT AUTHORITY**



म्हाडा
MHADA



APPROVAL LETTER

No : CE-IEE-I/A/ 1287 /2022
 Date : 29/08/2022

To,
M/S KEI INDUSTRIES LTD.,
 Nirvan Coporate, 7th Floor,
 Opposite Aghadi Nagar, Pump Hous,
 Rajmata Jijabai Road, Andheri (E)
 Mumbai- 400093 (INDIA)

Sub :- Renewal of your Products under "KEI" Brand PVC Insulated copper wire & cables and communication cables of various sizes for use in MHADA works.

Ref :- 1) Your letter no. KEI/MUM/NLP/2022-2023, Dt: 22.08.2022.
 2) Previous approval Letter CE-IEE/Elect/A/808/2020. Dt.: 04.09.2020.

Sir,

This has reference to your above said letters and subsequent correspondence on captioned subject matter. As requested, your proposal for registration of the following products manufactured by M/s KEI INDUSTRIES LTD. for use in MHADA projects is hereby approved on the following terms and conditions.

" KEI " Brand electrical accessories such as :

1. PVC Insulated cables for working Voltage upto and including 1100 V IS : 694: 2010.
2. PVC Insulated (Heavy Duty) Electric Cable Part 1 for working Voltage up to and including 1100 V IS : 1554 Part -1:1988
3. PVC Insulated (Heavy Duty) Electric Cable Part 2 for working Voltage form 3.3 KV Up to and including 11KV IS: 1554 : Part 2 2 : 1988
4. Cross linked polyethylene insulated PVC sheathed cables part 1 for working voltage up to 1100 V/ 3.3 KV IS 7098 : Part 1 : 2011.
5. Cross linked polyethylene insulated PVC sheathed cables part 2 for working Voltage from 3.3 KV up to and including 33KV IS 7098 : Part 2 : 2011.
6. Communication Cable as CCTV/Telephone/ Cat 6 UTP & CO-Axial Cables as per Standard Norms.

Terms and Conditions :

- 1) The validity of the enlistment shall be only for TWO years on experimental basis from

MAHARASHTRA HOUSING AND AREA DEVELOPMENT AUTHORITY

गृहनिर्माण प्रा. अ., कलानगर, बंड्रे (पूर्व), मुंबई ४०० ०९१.
 त्रुमनो ६६४० ५०००
 फोन नं. : ०२२-२६५९२०५६

G.riha Nirmal Shivan, Kalanagar, Bandra (East), Mumbai-400 051.
 Phone : 094952000
 Fax No. : 032-26592058 Website : www.mhada.maharashtra.gov.in

AN ISO 9001:2015, ISO 14001:2015 & OHSAS 18001:2007 CERTIFIED COMPANY

Micron Electricals
 KEEPING YOU POWERED - SINCE 1976

Govt. Licensed Grade A(All Voltages) Electrical Contractor & Engineers
 Specialists in EHV, HV, LV, ELV, HVAC & Fire Protection Services

Corporate Office: No. 86/E-1, 2nd Cross, 3rd Main Road, Industrial Suburb, 2nd Stage, Yeshwanthpur, Bangalore - 560022
 Tel: 080-61908600, 22967122/23/24 • E-mail: corporate@micronelectricals.com • Website: www.micronelectricals.com

Phone: 040-68131200 (32 Lines)
 E-mail: hyderabad@micronelectricals.com

FLAT No. 102, 'KRISHNA PLAZA'
 KHARATABAD, MUNICIPAL No. 6-2-953
 HYDERABAD, TELANGANA - 500 004
 GSTIN: 36AABFM6757B1ZE
 Licence No. A 1-992
 451

6th September, 2019

TOWHOMSOEVERFITMAYCONCERN

This is to certify that M/s KEI Industries Limited is our approved vendor for supply of LT Power & Control cable.

We have always found M/s KEI Industries Limited maintaining high quality standards, timely deliveries, competitive prices and resourceful in meeting our urgent requirements.

The cables were laid and we have found the performance satisfactory till date. The cables types supplied under various PO's were LT Power & Control cable.

| PONO | Project Name | Item Code | Qty |
|-----------------------------------|------------------------------|--------------|-----------|
| MEH:993 RI:2015 DT: 25/08/2015 | DIVYA SREE NSLINFRAT PVT LTD | 3.5C400AZXFY | 9675 Mtrs |

for MICRON ELECTRICALS

Latha Nagesh
 (AGM-PURCHASE)

KEI INDUSTRIES LIMITED

Maharashtra State Electricity Distribution Co. Ltd.

| | |
|---|------------------------|
| PDF Type : Vendor Registration | Vendor SAP Code : null |
| Generated On: 15-12-2023 06:27:59 | |
| Kindly go through the details. In case of any problems/issues related to reported data, email to etender_helpdesk@mahadiscom.in | |

COMPANY-DETAILS

| | |
|----------------------------------|---|
| Company Name | KEI INDUSTRIES LIMITED |
| Company Registration Number | 55-51527 |
| Company Registration Certificate | |
| Company Type | Public Limited |
| Partnership DEED | |
| Partner Type | [Manufacturer] |
| ADDRESS | D-90,OKHLA INDUSTRIAL AREA,PHASE-1,NEW DELHI- |
| CITY | NEW DELHI |
| DISTRICT | NEW DELHI |
| STATE | NEW DELHI |
| COUNTRY | INDIA |
| PINCODE | 110020 |
| TELEPHONE 1 | 02228375842 |
| TELEPHONE 2 | |
| FAX 1 | |
| FAX 2 | |
| E-MAIL | umesh.kank@kei-ind.com |
| MOBILE NO. | 9820390313 |
| OFFICE TYPE | HO |
| OFFICE LOCATION | Corporate Office |


KEI INDUSTRIES LTD.


Maharashtra State Electricity Distribution Co. Ltd.

| | |
|---|-----------------------------|
| PDF Type : Vendor Registration | Vendor SAP Code : 100000732 |
| Generated On: 05-08-2023 12:45:51 | |
| Kindly go through the details. In case of any problems/issues related to reported data, email to etender_helpdesk@mahadiscom.in | |


COMPANY-DETAILS

| | |
|----------------------------------|--|
| Company Name | KEI INDUSTRIES LTD. |
| Company Registration Number | 55-51527 |
| Company Registration Certificate | |
| Company Type | Public Limited |
| Partnership DEED | |
| Partner Type | [Manufacturer] |
| ADDRESS | D-90,OKHLA INDUSTRIAL AREA,PHASE-1 NEW DELHI |
| CITY | NEW DELHI |
| DISTRICT | NEW DELHI |
| STATE | NEW DELHI |
| COUNTRY | INDIA |
| PINCODE | 110020 |
| TELEPHONE 1 | 02228375842 |
| TELEPHONE 2 | |
| FAX 1 | |
| FAX 2 | |
| E-MAIL | umesh.kank@kei-ind.com |
| MOBILE NO. | 9820390313 |
| OFFICE TYPE | HO |
| OFFICE LOCATION | Corporate Office |





Office of the Chief Engineer (Electrical),
Public Works Department,
3rd Floor, Bandhukam Bhavan,
25, Marzhan Road, Fort, Mumbai - 400 001.



Fax No. : 022 - 2201415/16

Tel. No. : 022 - 2201415/16
E-mail : elmsumbai@mahapwd.gov.in
No. CE (E) / Desk-3(5) / 13 / Year 2023

Date : 02 MAR 2023

To,
M/s KEI Industries Limited,
Nirvan Corporate, 7th floor,
Opp. Aghadi Nagar, Pump House,
Rajmata Jijabai Road, Andheri,
Mumbai - 400093

Fax No. : 022 - 22016900

Tel. No. : 022 - 2201415/16
E-mail : elmsumbai@mahapwd.gov.in
No. CE (E) / Desk-3(5) / 13 / Year 2024

To,
M/s KEI Industries Ltd.,
Nirvan Corporate, 7th floor,
Opp. Aghadi Nagar, Pump House,
Rajmata Jijabai Road, Andheri, Mumbai.

| | | | |
|-----------|---|---|--|
| Subject | Approval to use material on work carried out by Government of Maharashtra | | |
| Reference | 1 | Your office Letter Dated 24.12.2021 | |
| | 2 | अनुमति अधिनियम, दखल व मूल निवेदन मंडळ, पत्र क्र. अ.अ.अ.व.म.पु.नि.प्र.म/५०५/२०२२ दिनांक २९.१२.२०२२ | |
| | 3 | CPRI, Bengaluru, CPRINOACB22T0169 Date - 20.10.2022 | |
| | 4 | CPRI, Bengaluru, CPRINOACB22T0172 Date - 20.10.2022 | |

Sir,
The subject proposal submitted by you was examined by this office and now the undersigned is please to accord approval to the following materials for using it on works carried out by Government of Maharashtra w.e.f. the date of issue of this letter.

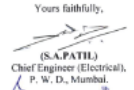
Name of Material : Wire, Cable
Place of Manufacture : Survey No.99/2/7, Madhuban Industrial Estate, Rakholi, Silvassa - 396230
Brand Name : KEI
Technical Specifications of the materials :

| Name of Product | Validity |
|--|-----------------------|
| XLPE insulated, galvanized steel formed wire armoured (strip) cable 1100V, Upto 4C X 400 sq.mm, Aluminium conductor. IS 7098 (Part -1) RA 2020 | Upto 31st March, 2025 |

The above approval is given subject to-


- The performance of the material during this period remains satisfactory.
- The product should be of the same quality, design and shape as the specimen tested.
- Any changes in design, specifications and contents of the material should be brought to the notice of this office and get approved.
- Approval validity is till date as mentioned in this letter or validity of B.I.S license whichever is earlier.


The department reserves the right to withdraw the approval at any time without assigning any reason.

Yours faithfully,

(S.A.PATHIL)
Chief Engineer (Electrical),
P. W. D., Mumbai.


*Copy forwarded to Superintending Engineer, Mumbai/Pune/Nanded/Nagpur Regional Electrical Circle/Vigilance & Quality Control Circle, Aurangabad, P.W.D., for information.
*Copy forwarded to Executive Engineer, P. W. Electrical Division, South Mumbai/Central Mumbai/North Mumbai/Project Electrical Division/Thane/Raigad/Pune/Solapur/Kolhapur/Nashik/Dhule/Aurangabad/Nanded/Osmanabad/Amaravati/Yawatmal/Chandrapur/Nagpur for information.

Fax No. 9992





Office of the Chief Engineer (Electrical),
Public Works Department,
3rd Floor, Bandhukam Bhavan,
25, Marzhan Road, Fort, Mumbai - 400 001.



Fax No. : 022 - 22016900

Tel. No. : 022 - 2201415/16
E-mail : elmsumbai@mahapwd.gov.in
No. CE (E) / Desk-3(5) / 13 / Year 2024

Date : 17 JAN 2024

To,
M/s KEI Industries Ltd.,
Nirvan Corporate, 7th floor,
Opp. Aghadi Nagar, Pump House,
Rajmata Jijabai Road, Andheri, Mumbai.

| | | | |
|-----------|---|---|--|
| Subject | Approval to use material on work carried out by Government of Maharashtra | | |
| Reference | 1 | अनुमति अधिनियम, दखल व मूल निवेदन मंडळ, पत्र क्र. अ.अ.अ.व.म.पु.नि.प्र.म/५०५/२०२२ दिनांक २९.१२.२०२२ | |
| | 2 | CPRI, Noida च्या पत्राचा अंमलबन्धन संबंधित प्रस्ताविक 1) CPRINOACB23T0325 Date - 16.08.2023 | |

Sir,
The subject proposal submitted by you was examined by this office and now the undersigned is please to accord approval to the following materials for using it on works carried out by Government of Maharashtra w.e.f. the date of issue of this letter.

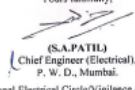
Name of Material : Wire & Cable
Place of Manufacture : Survey No.99/2/7, Madhuban Industrial Estate, Rakholi, Silvassa - 396230
Brand Name : KEI
Technical Specifications of the materials :

| Name of Product | Validity |
|---|-------------------------|
| FR XLPE Insulated galvanized steel formed wire armoured (Strip) Cable 1100V upto 4 Core x 35 Sq.mm Copper Conductor. IS : 7098 (Part 1) RA 2020 | Upto 31st December 2026 |

The above approval is given subject to-


- The performance of the material during this period remains satisfactory.
- The product should be of the same quality, design and shape as the specimen tested.
- Any changes in design, specifications and contents of the material should be brought to the notice of this office and get approved.
- Approval validity is till date as mentioned in this letter or validity of B.I.S license whichever is earlier.


The department reserves the right to withdraw the approval at any time without assigning any reason.

Yours faithfully,

(S.A.PATHIL)
Chief Engineer (Electrical),
P. W. D., Mumbai.


*Copy forwarded to Superintending Engineer, Mumbai/Pune/Nanded/Nagpur Regional Electrical Circle/Vigilance & Quality Control Circle, Chhatrapati Sambhaji nagar, P.W.D., for information.
*Copy forwarded to Executive Engineer, P. W. Electrical Division, South Mumbai/Central Mumbai/North Mumbai/Project Electrical Division/Thane/Raigad/Pune/Solapur/Kolhapur/Nashik/Dhule/ Chhatrapati Sambhajnagar /Nanded/Osmanabad /Amaravati/Yawatmal/Chandrapur/Nagpur for information.

Fax No. 9992





Office of the Chief Engineer (Electrical),
Public Works Department,
3rd Floor, Bandhukam Bhavan,
25, Marzhan Road, Fort, Mumbai - 400 001.



Fax No. : 022 - 2201415/16

Tel. No. : 022 - 2201415/16
E-mail : elmsumbai@mahapwd.gov.in
No. CE (E) / Desk-3(5) / 20 / Year 2023

Date : 20 MAR 2023

To,
M/s KEI Industries Limited,
Nirvan Corporate, 7th floor,
Opp. Aghadi Nagar, Pump House,
Rajmata Jijabai Road, Andheri,
Mumbai - 400093

Fax No. : 022 - 22016900

Tel. No. : 022 - 2201415/16
E-mail : elmsumbai@mahapwd.gov.in
No. CE (E) / Desk-3(5) / 28 / Year 2023

To,
M/s KEI Industries Limited,
Nirvan Corporate, 7th floor,
Opp. Aghadi Nagar, Pump House,
Rajmata Jijabai Road, Andheri,
Mumbai - 400093

| | | | |
|-----------|---|---|--|
| Subject | Approval to use material on work carried out by Government of Maharashtra | | |
| Reference | 1 | Your office Letter Dated 24.12.2021 | |
| | 2 | अनुमति अधिनियम, दखल व मूल निवेदन मंडळ, पत्र क्र. अ.अ.अ.व.म.पु.नि.प्र.म/५०५/२०२२ दिनांक २९.१२.२०२२ | |
| | 3 | CPRI, Bengaluru, CPRINOACB22T0327 Date - 04.01.2023 | |

Sir,
The subject proposal submitted by you was examined by this office and now the undersigned is please to accord approval to the following materials for using it on works carried out by Government of Maharashtra w.e.f. the date of issue of this letter.


Name of Material : Cable
Place of Manufacture : Survey No.99/2/7, Madhuban Industrial Estate, Rakholi, Silvassa - 396230
Brand Name : KEI
Technical Specifications of the materials :

| Name of Product | Validity |
|--|-----------------------|
| XLPE insulated, galvanized steel formed wire armoured (Strip) cable upto 33kV (1E) and Upto 3C X 360 sq. mm. Aluminium conductor. IS 7098 (Part -2) 2011 | Upto 31st March, 2026 |

The above approval is given subject to-


- The performance of the material during this period remains satisfactory.
- The product should be of the same quality, design and shape as the specimen tested.
- Any changes in design, specifications and contents of the material should be brought to the notice of this office and get approved.
- Approval validity is till date as mentioned in this letter or validity of B.I.S license whichever is earlier.


The department reserves the right to withdraw the approval at any time without assigning any reason.

Yours faithfully,

(S.A.PATHIL)
Chief Engineer (Electrical),
P. W. D., Mumbai.


*Copy forwarded to Superintending Engineer, Mumbai/Pune/Nanded/Nagpur Regional Electrical Circle/Vigilance & Quality Control Circle, Aurangabad, P.W.D., for information.
*Copy forwarded to Executive Engineer, P. W. Electrical Division, South Mumbai/Central Mumbai/North Mumbai/Project Electrical Division/Thane/Raigad/Pune/Solapur/Kolhapur/Nashik/Dhule/Aurangabad/Nanded/Osmanabad/Amaravati/Yawatmal/Chandrapur/Nagpur for information.

Fax No. 9992





Office of the Chief Engineer (Electrical),
Public Works Department,
3rd Floor, Bandhukam Bhavan,
25, Marzhan Road, Fort, Mumbai - 400 001.



Fax No. : 022 - 22016900

Tel. No. : 022 - 2201415/16
E-mail : elmsumbai@mahapwd.gov.in
No. CE (E) / Desk-3(5) / 28 / Year 2023

Date : 17 APR 2023

To,
M/s KEI Industries Limited,
Nirvan Corporate, 7th floor,
Opp. Aghadi Nagar, Pump House,
Rajmata Jijabai Road, Andheri,
Mumbai - 400093

Fax No. : 022 - 22016900

Tel. No. : 022 - 2201415/16
E-mail : elmsumbai@mahapwd.gov.in
No. CE (E) / Desk-3(5) / 28 / Year 2023

To,
M/s KEI Industries Limited,
Nirvan Corporate, 7th floor,
Opp. Aghadi Nagar, Pump House,
Rajmata Jijabai Road, Andheri,
Mumbai - 400093

| | | | |
|-----------|---|---|--|
| Subject | Approval to use material on work carried out by Government of Maharashtra | | |
| Reference | 1 | Your office Letter Dated 24.12.2021 | |
| | 2 | अनुमति अधिनियम, दखल व मूल निवेदन मंडळ, पत्र क्र. अ.अ.अ.व.म.पु.नि.प्र.म/५०५/२०२२ दिनांक २९.१२.२०२२ | |
| | 3 | CPRI, Noida, CPRINOACB22T0170 Date - 20.10.2022 | |

Sir,
The subject proposal submitted by you was examined by this office and now the undersigned is please to accord approval to the following materials for using it on works carried out by Government of Maharashtra w.e.f. the date of issue of this letter.

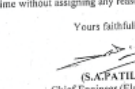
Name of Material : WIRE
Place of Manufacture : Survey No.99/2/7, Madhuban Industrial Estate, Rakholi, Silvassa - 396230
Brand Name : KEI
Technical Specifications of the materials :

| Name of Product | Validity |
|--|-----------------------|
| FRLSH copper PVC insulated wire upto 4 x 25 Sq.mm. IS 694: 2010, ASTM D 2863, ASTM D 2843 and IEC 60754 - 1. | Upto 30th April, 2026 |

The above approval is given subject to-

- The performance of the material during this period remains satisfactory.
- The product should be of the same quality, design and shape as the specimen tested.
- Any changes in design, specifications and contents of the material should be brought to the notice of this office and get approved.
- Approval validity is till date as mentioned in this letter or validity of B.I.S license whichever is earlier.

The department reserves the right to withdraw the approval at any time without assigning any reason.

Yours faithfully,

(S.A.PATHIL)
Chief Engineer (Electrical),
P. W. D., Mumbai.

*Copy forwarded to Superintending Engineer, Mumbai/Pune/Nanded/Nagpur Regional Electrical Circle/Vigilance & Quality Control Circle, Aurangabad, P.W.D., for information.
*Copy forwarded to Executive Engineer, P. W. Electrical Division, South Mumbai/Central Mumbai/North Mumbai/Project Electrical Division/Thane/Raigad/Pune/Solapur/Kolhapur/Nashik/Dhule/Aurangabad/Nanded/Osmanabad/Amaravati/Yawatmal/Chandrapur/Nagpur for information.

Fax No. 9992

STERLING AND WILSON PVT. LTD.

ELECTRO MECHANICAL ENGINEERS
ASSOCIATES OF:
SHAPPOORI PALLONJJI & CO. PVT. LTD.
CIN : U31103GJ41917491.D01 7538



TO WHOMSOEVER IT MAY CONCERN

This is to certify that M/s KEI Industries Limited is our approved vendor for supply of LT Power & Control cable.

We have always found M/s KEI Industries Limited maintaining high quality standards, timely deliveries, competitive prices and resourceful in meeting our urgent requirements.

The cables were laid and we have found the performance satisfactory till date.

| PO NO. | CABLE SIZE | PO DATE |
|------------|-----------------------------------|--------------|
| 4200199953 | LT Cable 3.5Cx400sqmm -13.997 Kms | DL30.06.2014 |
| 4200210568 | LT Cable 3.5Cx400sqmm -13.666 Kms | DL08.01.2015 |

For Sterling & Wilson

Chennai Office : SAI SRIYAS KRISHNA, No. 72, 1st & 2nd Floor, EkattaiBangal-Poonamallee Road, Ekattaihangal, Chennai - 600 032.
Tel : 044 - 4295 6600 Fax: 044 - 2225 3918
Corp. Office : Universal Majestic, 5th Floor, PL, Loharede Marg, Chembur (West), Mumbai - 400 043.
Phone : (91 - 22) 2548 5300 Fax : (91 - 22) 2548 5331
Regd. Office : B-2, Bussa Udyog Bhawan, T.J. Road, Sewri West, Mumbai - 400 015.
Branches : Bangalore, Coimbatore, Delhi / Noida, Goa, Hyderabad, Kolkata, Pune, Vadodra, Cochin, Vizag
E-mail : chennai@sterlingwilson.com www.sterlingandwilson.com

1101, Krystal Commercial Complex,
Above Shopper's Stop,
G. H. Road, Chembur (W),
Mumbai - 400 018, India.
Tel. : +91 22 6666 3333
e-mail : info@swatienergy.com
website : www.swatienergy.com
CIN : U32330AH1908PTC138767



Swati Energy & Projects (P) Ltd.

Dated 21st July 2022

TO WHOMSOEVER IT MAY CONCERN

This is to express that we have used KEI make NON EBXL Solar DC cables supplied as per TUV 2 PFG standard for our Projects

We find KEI solar NON EBXL DC cable performance to meet our expectation and working satisfactorily at installed location till date

We are fully satisfied with Quality of KEI make Solar DC cables (NON EBXL) and would not hesitate to recommend them for other projects

With Best Regards

Madhusudhan Anabatulla
Business Head - Solar



TO WHOM SO EVER IT MAY CONCERN

Dated 21st July 2022

This is to express that we have used KEI make NON EBXL Solar DC cables supplied as per EN - 50618 for our Vakrangee Project located in Tehsil - Tilda, District - Raipur, chhattisgarh

We find KEI solar NON EB XL DC cable performance to meet our expectation and working satisfactorily at installed location till date

We are fully satisfied with Quality of KEI make Solar DC cables (NON EBXL) and would not hesitate to recommend them for other projects

With Best Regards

Sahil Lalani

Deputy Manager

Waaree Renewable Technologies Ltd

Waaree Renewables Technologies Limited
(A subsidiary of Waaree Energies Limited)

504, Western Edge-1,
Western Express Highway,
Borivali (E), Mumbai - 400 066.

Tel : + 91 22 66444444
Email : waareertl@waareertl.com
Web : www.waareertl.com

CIN : L93000MH1989PLC120470
GST : Z7AADCS1824J2ZB



Toyo Engineering India Private Limited

CIN : U28900MH1981PTC025413
Registered Office : Toyo House, L.B.S. Marg,
Kanjurmarg (West), Mumbai - 400 075, INDIA
Tel. : +91 22 6072 7000, Fax: +91 22 2573 7520 / 21
E-mail : in.contact@toyo-eng.com
Website : www.toyo-eng.com/in/

REF: PUR/MVJC&ID118

DATE: 01/03/2023

Ms. KEI INDUSTRIES LIMITED

Nirvan Corporate, 7th Floor,
Opposite Aghadi Nagar, Pump House,
Rajmata Jijabai Road, Andheri (East),
Mumbai, Maharashtra - 400093
Mob: 9820390313
Fax No: +91 22 28258277

E-mail : umesh.kank@kei-ind.com

Kind Attn : Mr. Umesh Kank

Subject : **Enlistment as an approved vendor with Toyo Engineering India Pvt. Ltd. (Toyo India)**

Dear Sir,

We refer to your request on the subject matter, and are pleased to inform you that you have been enlisted with Toyo India as an approved vendor for the items mentioned below:

| Item Description |
|-------------------------------|
| INSTRUMENT SIGNAL CABLE |
| INSTRUMENT THERMOCOUPLE CABLE |

This enlistment is valid for your works located at:
1. SP-819, 920 & 922, RICO INDUSTRIAL AREA, PHASE III, BHIWADI, DIST. ALWAR, RAJASTHAN - 301019.

Please note that this enlistment is subject to satisfactory execution of orders, maintaining schedule & quality of above mentioned items in the event of an order for our ongoing / future projects.

Further it may be noted that any change in the following shall be intimated to us along with relevant documents.

- The product range
- Location of works / sales office.
- Management / Organization structure.
- New / Revalidation of ISO 9001 / CHSAS 18001 or ISO 45001 / EMS 14001 Certification.

This enlistment is valid till **31/03/2026** subject to review on the basis of your performance. You shall send all the details three months in advance of the expiry date for Toyo India's review for renewal of enlistment.

Please note, the enlistment shall not bind Toyo India for sending enquiries / placement of orders, as also, Toyo India retains the right to review and cancel your enlistment without assigning any reasons.

Thanking you,

Yours faithfully,

For TOYO ENGINEERING INDIA PRIVATE LIMITED

HEMANT M. KUOTARKAR
Division Head - Procurement

Toyo Technology Centre: 71, Kanjur Village Road, Kanjurmarg (E), Mumbai - 400 042.

Tel: +91 22 6072 5000, Fax: +91 22 2573 5842

Delhi Office: 214, Splendor Forum, Jssola District Centre, Near Apollo Hospital, New Delhi - 110025.
Phone: 011-4059-1240, Fax: 011-4059-1246, Email: in.delhi@toyo-eng.com



भारत सरकार
श्रम एवं रोजगार मंत्रालय
खान सुरक्षा महानिदेशालय
विद्युत मुख्यालय : धनबाद

संख्या 451/153 /वि० मु०, धनबाद, दिनांक 04-02-2014

प्रेषक :
खान सुरक्षा महानिदेशक
खान सुरक्षा महानिदेशालय
धनबाद-826 016.

सेवा में
मेसर्स के०ई०आई० इंडस्ट्रिय लिमिटेड
डी-90, ओखला इंडस्ट्रियल एरिया
फेज-1, नई दिल्ली-110 020.

सीड पोस्ट

विषय : 1.1 केवी, 35 वर्ग मिमि, 3 कोर केबल का कोयला खान में प्रयोग हेतु
डी०जी०एम०एस० अनुमोदन संख्या 118/2011 का नवीनीकरण के संबंध में -
निर्माता मेसर्स के०ई०आई० इंडस्ट्रिय लिमिटेड, नई दिल्ली-110 020.

महोदय,

उपरोक्त विषय से संबंधित नवीनीकरण पत्र अग्रेषित किया जाता है ।

भवदीय,



(राहुल गुहा)
खान सुरक्षा महानिदेशक



RESEARCH DESIGNS & STANDARDS ORGANIZATION
Manaknagar, Lucknow, Uttar Pradesh, INDIA – 226011

QA/S&T Directorate

CERTIFICATE OF APPROVAL

This is to certify that:

M/s. KEI Industries Limited

With facilities located at the following addresses:


| Office Addresses | Works Addresses |
|---|---|
| D-90, Okhla Industrial Area, PH-I, New Delhi-110020 | SP-919-920-922, RIICO Industrial Area, Ph-III, BHIWADI, Distt-Alwar (Rajasthan) 301109. |

Is approved as a supplier for the following items:

| S.No. | Item Description | Drawing / Specification | Status of Approval (Part-I / Part-II) |
|-------|---|-------------------------|---------------------------------------|
| 1. | PVC Insulated Armoured, Unscreened, Underground Railway Signaling Cable | IRS-S-63/2007 (Amd.-3) | Part-II(TWO) |

Certificate Details:

| | | | |
|------------------|----------------------|----------------------------|-------------------------------|
| Certificate No.: | RDSO/2013/QS/0120(M) | Registration / File Number | RDSO/2007/QS/CABLE/1222 VOL I |
| Date of Issue: | 16-September-2013 | Date of Expiry : | 31-December-2015 |


(G. Govil)
Director(QA/S&T)
For Director General/QA/S&T

Note : The certificate is subject to the conditions given overleaf.



NATIONAL FEDERATION OF COOPERATIVE SUGAR FACTORIES LTD.

राष्ट्रीय सहकारी शक्कर कारखाना संघ लिमिटेड

Ansai Plaza, Block-C, 2nd Floor, August Kranti Marg, New Delhi-110049 (India)
Phone : 26263425, 26263426, 26263696, 26263891 Fax : (91-11) 26263658
Gram : FEDSUCOP E-mail : nfcsf@spectranet.com, info@coopsugar.org

Ref.No. IA-256/2013/ 459

Dated-09/07/2013

M/s KEI Industries Ltd.
D-90, Okhla Industrial Area, Phase-I,
NEW DELHI-110020

Sub. – Renewal of registration of your firm as an approved manufacturer of **Electric Cables**.

Dear Sir

This is in reference to your letter dated 01st July 2013, on the above cited subject.

We are pleased to inform you that after scrutinizing the documents submitted by you. Your registration as an approved manufacturer for Electric Cables is renewed for a period of 3 (three) year from the date of issue of this letter i.e. up to 08th July 2016.

However, we retain our right to review and cancel your registration without assigning any reason whatsoever and without any liability on our part.

Thanking you,

Yours faithfully,


(VINAY KUMAR)
Managing Director



NATIONAL FEDERATION OF COOPERATIVE SUGAR FACTORIES LTD.

राष्ट्रीय सहकारी शक्कर कारखाना संघ लिमिटेड

Ansai Plaza, Block-C, 2nd Floor, August Kranti Marg, New Delhi-110049 (India)
Phone : 26263425, 26263426, 26263696, 26263891 Gram : FEDSUCOP
Fax : (91-11) 26263658 E-mail : nfcsf@airtelmail.in, nfcsf@spectranet.com



IA-256/2013 cir-30

Dated-07/05/2013

To,

- 1) The Commissioner of Sugar (Maharashtra, Karnataka, T.N.,A.P., Gujarat)
- 2) All State Federations of coop. Sugar Factories Ltd.
- 3) All Cooperative Sugar Factories (working & non working)

Sub. List of approved suppliers of complete sugar plants & critical equipments by NCDC and list of approved suppliers for important equipment by NFCSF.

Dear Sir,

Please find enclosed herewith list of approved suppliers of complete sugar plants on turn key basis along with list of equipment duly approved by NCDC vide their letter no. NCDC-11-1/98-Sugar, Dated – 13.03.2013. (Annexure I & II)

Further list of approved supplier for important equipment duly registered by NFCSF updated upto April -2013, is also enclosed at Annexure III.

Note: You are requested to send us details of serious complaints, if any, about the performance of equipments procured from the registered firms (As per Annexure I,II&III enclosed)

This is for your information, necessary action and records.

Thanking you,

Yours faithfully,

(VINAY KUMAR)
Managing Director

Encl.: as above



Plants and Machinery

LIST OF PLANT MACHINERY, CHOPANKI

| SR. | NAME OF MACHINE | MAKE/COUNTRY |
|-----|--|-------------------------|
| 1 | WIRE DRAWING MACHINE WITH ONLINE NIEHOFF ANNEALER (RBD) (CU) | 1/ RBD CU /NIEHOFF |
| 2 | WIRE DRAWING MACHINE(RBD) (AL.) | 2/ AL/ Indian |
| 3 | DUAL HEAD WIRE DRAWING MACHINE WITH ONLINE NIEHOFF ANNEALER | 1/ Dual Wire/ NIEHOFF |
| 4 | HIGH SPEED BUNCHING MACHINE WITH 630MM PAYOFF SPOOL | 1/ Bunche NIEHOFF,India |
| 5 | 7-BOBBIN BOW TWISTER -I | 1/ Indian |
| 6 | 7 BOBBIN STRANDING MACHINE | 1/Indian |
| 7 | 37 (1+6+12+18) BOBBIN STRANDING MACHINE | 2/ 19 & 37/Indian |
| 8 | 61 (1+6+12+18+24) BOBBIN STRANDING MACHINE | 1/ 61/ CHINA |
| 9 | 65 MM COMPLETE EXTRUSION LINE | 1/Indian |
| 10 | 60 B SCREENING MACHINE | 1/ Indian |
| 11 | 60+120 MM COMPLETE DUAL EXTRUSION LINE FOR BI-COLOUR | 1/ Indian |
| 12 | 100 MM COMPLETE EXTRUSION LINE | 1/Indian |
| 13 | LEAD EXTRUDER | 1/Sweden |
| 14 | 150 MM COMPLETE EXTRUSION LINE | 1/Indian |
| 15 | 7 BOBBIN BOW TWISTER-II | 1/Indian |
| 16 | DRUM TWISTER | 1/Indian |
| 17 | 3+1 LAYING UP MACHINE | 1/Indian |
| 18 | 1+4 LAYING UP MACHINE | 1/Indian |
| 19 | 48 BOBBIN ARMOURING MACHINE - I | 1/Indian |
| 20 | 48 BOBBIN ARMOURING MACHINE-II | 1/Indian |
| 21 | 60 BOBBIN ARMOURING MACHINE | 1/Indian |
| 22 | 96 BOBBIN ARMOURING MACHINE | 1/Indian |
| 23 | SPOOLING MACHINE-I | 8/ Indian |
| 24 | CABLE REWINDING MACHINE - I | 5/ Indian |
| 25 | BOILER | 2/ Indian |
| 26 | WATER TANK FOR CURING/HV TEST | 1/Indian |
| 27 | E.O.T. CRANE - I | 4/Indian |
| 28 | COMPRESSOR - I | 3/Indian |
| 29 | AIR DRYER UNIT | 1/Indian |
| 30 | D.G. SET - I (500 KVA) | 1/Indian |
| 31 | D.G. SET - II (1110 KVA) | 1/USA |
| 32 | RO SYSTEM | 1/Indian |
| 33 | WATER SOFTNER | 1/Indian |
| 34 | COOLING TOWERS - I | 2/ Indian |
| 35 | MOBILE CRANE | 1/Indian |
| 36 | FORK LIFTER | 1/Indian |
| 37 | UPS | 1/Indian |
| 38 | CCV LINE 90MM+200MM+90MM | 1/German |

LIST OF PLANT MACHINERY, CHOPANKI

| SR. | NAME OF MACHINE | MAKE/COUNTRY |
|-----|---|-----------------|
| 39 | 32 B Laying up machine | 1/Indian |
| 40 | 80+175MM COMPLETE DUAL EXTRUSION LINE FOR BI-COLOUR | 1/Indian |
| 41 | ALUMINIUM CORRUGATION | 1/Imported |
| 42 | SHIELDING MACHINE | 3 |
| 43 | NITROGEN GENERATOR | 1/Indian |
| 44 | WATER CHILLER | 3/Indian |
| 45 | GOODS LIFT | 2/ Indian |
| 46 | PASSENGER LIFT | 1/Indian |
| 47 | EOT CRANE | 3/5,6,7/ Indian |
| 48 | PORTABLE CRANE | 1/Indian |



LIST OF PLANT MACHINERY, (RUBBER PLANT) BHIWADI

| SR. | NAME OF MACHINE | No. of Machine / Specification / Make |
|-----|---------------------------------|--|
| 1 | KNEADER - I | 1 / 35 LTR / INDIA |
| 2 | INTERNAL MIXER | 1 / 35 LTR / ITALMECC, ITALY |
| 3 | KNEADER - III | 1 / 75 LTR / INDIA |
| 4 | TWO ROLL MILL - I | 1 / 16"x42" 70 KG / INDIA |
| 5 | TWO ROLL MILL - II | 1 / 16"x42" 70 KG / INDIA |
| 6 | TWO ROLL MILL - III | 1 / 14"x36" 45 KG / INDIA |
| 7 | TWO ROLL MILL - VI | 1 / 22"x60" 110 KG / INDIA |
| 8 | 120 + 75 MM EXT. RUBBER | 1 / 120 MM / IMPORTED |
| 9 | INTERLOCK ARMOURING M/C - IIInd | 1 / 8 TO 80 MM / BARTELL, USA |
| 10 | 120MM EXT. - IIInd (LT/R) | 1 / 120 MM / INDIA |
| 11 | 115 MM EXTRUDER RUBBER | 1 / 115 MM / INDIA |
| 12 | TAPING & SINTERING M/C | 1 / 11 MM / INDIA |
| 13 | CCV LINE (65 + 90 + 120) | 1 / 120 + 90 + 65 MM / IMPORTED |
| 14 | CV LINE 90 MM - Ist | 1 / 90 MM / IMPORTED |
| 15 | CV LINE 90 MM + 60 MM | 1 / 60 MM / IMPORTED |
| 16 | DRUM TWISTER M/C | 1 / 1600 MM + 2000 MM / INDIA |
| 17 | 54 B M/C | 1 / 54 B / 560 MM / INDIA |
| 18 | INTERLOCK ARMOURING M/C - Ist | 1 / 8 TO 80 MM / IMPORTED |
| 19 | 7 - B M/C | 1 / 07 B / 560 MM / INDIA |
| 20 | BUNCHER - II | 1 / 8 Bobbin / 630 MM / NIEHOFF, GERMANY |
| 21 | BUNCHER - III | 1 / 8 Bobbin / 560 MM / INDIA |
| 22 | BUNCHER - IV | 1 / 8 Bobbin / 630 MM / NIEHOFF, GERMANY |
| 23 | V CHAMBER - I | 1 / 5KG / CM / INDIA |
| 24 | BOILER - Ist | 1 / 02 TON / 17.5 KG / INDIA |
| 25 | BOILER - IIInd | 1 / 02 TON / 24 KG / INDIA |
| 26 | V LAPPING M/C | 1 / 630 MM / IMPORTED |
| 27 | BRAIDING M/C - 1 | 1 / 16 B / 2000 MM / INDIA |
| 28 | BRAIDING M/C - 2 | 1 / 16 B / 2000 MM / INDIA |
| 29 | BRAIDING M/C - 3 | 1 / 16 B / 2000 MM / INDIA |
| 30 | BRAIDING M/C - 4 | 1 / 16 B / 2000 MM / INDIA |
| 31 | BRAIDING M/C - 5 | 1 / 24 B / 2000 MM / INDIA |
| 32 | BRAIDING M/C - 6 (36 B) | 1 / 36 B / 2600 MM / INDIA |
| 33 | BRAIDING M/C - 7 (36 B) | 1 / 36 B / 2600 MM / INDIA |
| 34 | BRAIDING M/C - 8 | 1 / 16 B / 2000 MM / INDIA |
| 35 | BRAIDING M/C - 9 | 1 / 16 B / 2000 MM / INDIA |
| 36 | CORE REWINDING - 1 | 1 / 630 MM / INDIA |
| 37 | CORE REWINDING - 2 | 1 / 630 MM / INDIA |
| 38 | CCV LINE 90MM+200MM+90MM | CORE REWINDING - 3 |

LIST OF PLANT MACHINERY, (RUBBER PLANT) BHIWADI

| SR. | NAME OF MACHINE | No. of Machine / Specification / Make |
|-----|---------------------------------|---------------------------------------|
| 39 | CORE REWINDING - 4 | 1 / 630 MM / INDIA |
| 40 | CORE REWINDING - 5 | 1 / 630 MM / INDIA |
| 41 | GI REWINDING - 1 | 1 / 560 MM / INDIA |
| 42 | GI REWINDING - 2 | 1 / 560 MM / INDIA |
| 43 | STRIP REWINDING - 01 | 1 / 300 MM / IMPORTED |
| 44 | ANNEALING FURNACE | 1 / 108 KW / INDIA |
| 45 | CABLE REWINDING - 1 | 1 / 2600 MM / INDIA |
| 46 | CABLE REWINDING - 2 | 1 / 2600 MM / INDIA |
| 47 | CABLE REWINDING - 3 | 1 / 2600 MM / INDIA |
| 48 | 45 MM EXTRUDER PTFE | 1 / 45 MM / MAPRE GAUDER, BELGIUM |
| 49 | TAPING M/C | 1 / 1200 MM / INDIA |
| 50 | PAIR TWISTER M/C | 1 / 630 MM / INDIA |
| 51 | DETAPING M/C | 1 / 2000 MM / INDIA |
| 52 | 37 B M/C | 1 / 37 B / 560 MM / INDIA |
| 53 | 65 MM PVC EXT. (LT/R) | 1 / 65 MM / INDIA |
| 54 | COILER M/C | 1 / 630 MM / 1200 MM / INDIA |
| 55 | STRIPPING & CUTTING M/C - Ist | 1 / 10 MTR / SEC. / IMPORTED |
| 56 | STRIPPING & CUTTING M/C - IIInd | 1 / 10 MTR / SEC. / IMPORTED |
| 57 | INJECTION MOULDING M/C - 1 | 1 / 360 - 110 MM / IMPORTED |
| 58 | INJECTION MOULDING M/C - 2 | 1 / 40 - 6 MM / IMPORTED |
| 59 | INJECTION MOULDING M/C - 3 | 1 / 40 - D 4 66 MM / IMPORTED |
| 60 | INJECTION MOULDING M/C - 4 | 1 / 40 - 6 MM / IMPORTED |
| 61 | CONDITIONING CHAMBER | 1 / 2600 x 4000 / INDIA |
| 62 | STRIP REWINDING - 02 | 1 / 300 MM / INDIA |
| 63 | CV LINE 90 MM - IIInd | 1 / 90 MM / INDIA |
| 64 | CV LINE 70 MM | 1 / 70 MM / INDIA |
| 65 | 80 MM EXT. | 1 / 80 MM / INDIA |

LIST OF PLANT MACHINERY (SP-922) CONTROL DIVISION BHIWADI

| SR. | NAME OF MACHINE | NO. OF MACHINES/ CAPACITY/ MAKE |
|---------------------------|------------------------|--|
| 29 | Armouring | 1/ Double head taping m/c/ India |
| 30 | Armouring | 1/ 24 bobbin/400mm/ India |
| 31 | Armouring | 1/ 40 bobbin/400mm/ India |
| 32 | Extruder | 1/ 120mm/ India |
| 33 | Extruder | 1/ 80mm/ India |
| 34 | Extruder | 1/ 45mm/ India |
| 35 | Extruder | 1/ 50mm/ India |
| 36 | Cable Rewinder | 5/ 2200mm/ India |
| 37 | Cable Rewinder (tape) | 1/ 2200mm/ India |
| 39 | GI Rewinder | 13/ 400mm/ India |
| 40 | Core Rewinder | 10/ 630mm/ India |
| 41 | Auto Core Rewinder | 4/ 630mm/ India |
| 42 | Conductor Rewinder | 4/ 630mm/ India |
| CONDUCTOR DIVISION | | |
| 1 | RBD (AL) | 2/ RBD- 13 Die/ Indian |
| 2 | RBD (AL) | 2/ RBD- 11 Die/ Indian |
| 3 | RBD (CU) with Annealer | 1/ RBD -11 Die with Annealer CU/ Germany |
| 4 | Wire Drawing (Cu.) | 1/ 16 Die/CU/ Indian |
| 5 | Wire Drawing (Cu.) | 1/ 19 Die/CU/ Indian |
| 6 | Wire Drawing (AL.) | 1/ 17-Die/ AL/ Indian |
| 7 | 61 -Str. Machine | 2/ 61-bobbin/ Indian |
| 8 | 97 -Str. Machine | 1/ 97-bobbin/ Indian |
| 9 | 37 -Str. Machine | 2/ 37-bobbin/ Indian |
| 10 | 19 -Str. machine | 1/ 19-bobbin/ Indian |
| 11 | Skip | 1/ 7-bobbin/ Indian |
| 12 | Tubular | 1/ 7-bobbin/200mm/ Indian |
| 13 | Wire Rewinder | 2/ 630mm/ Indian |
| 14 | Conductor Rewinder | 1/ 2200mm/ Indian |
| 15 | Tinning machine | 1/ Italian |
| UTILITY DIVISION | | |
| 1 | DG set | 1/ 1110 kVA/ Cummins (India) |
| 2 | DG set | 1/ 1010 kVA/ Cummins (India) |
| 3 | Compressor | 3/ 18.5 kW/100 CFM/ ELGI (India) |
| 4 | Goods lift | 2/ 7.5 ton/ Real (India) |
| 5 | Goods lift | 1/ 2.0 ton/ Globe (India) |
| 6 | Passenger Lift | 1/ 680 kg/ KONE (India) |

LIST OF PLANT MACHINERY (SP-919) CONTROL CABLE BHIWADI

| SR. | NAME OF MACHINE | NO. OF MACHINES/ CAPACITY/ MAKE |
|-----|-----------------|---------------------------------|
| 1 | CU-Std 16"-1 | 3/ 400mm/ India |
| 2 | 65MM EXT | 1/ 65mm/ India |
| 3 | 65MM EXT-2 | 1/ 66 mm/ India |
| 4 | Pair Twister-1 | 2/ 400mm/ India |
| 5 | Laying 3+1 | 1/ 4B/530 mm/ India |
| 6 | Shielding 1+1 | 2/ 560 mm/ India |
| 7 | Laying - 12 B. | 1/ 630 mm/ India |
| 8 | Laying - 19 B. | 1/ 630 mm/ India |
| 9 | 40B Arm | 1/ 400 mm/ India |
| 10 | 24B Arm | 1/ 400 mm/ India |
| 11 | 100 MM EXT | 2/ 100 mm/ India |
| 12 | Cable Rewinder | 10 Numbers |

LIST OF PLANT MACHINERY, HT & EHV BHIWADI

| | | |
|----|---------------------------------------|----------------------------------|
| 1 | CCV LINE | 1/ 65+150+90 MM/ Germany |
| 2 | SIO PLAS LINE | 1/ 60+120+80 MM/ India |
| 3 | COPPER TAPING MACHINE | 10 Numbers |
| 4 | DOUBLE STEEL TAPE | — |
| 5 | DRUM TWISTER | 1/ 3150 MM/ India |
| 6 | LAYING MACHINE | 1/ 1600 MM / [3+1]/ India |
| 7 | EXTRUDER | 1/ 120 MM/ India |
| 8 | ARMOURING MACHINE | 1/ 66B / 560 MM/ India |
| 9 | ARMOURING MACHINE | 1/ 54B / 560 MM/ India |
| 10 | ARMOURING MACHINE | 1/ 80B / 560 MM/ India |
| 11 | ARMOURING MACHINE | 1/ 80B / 560 MM/ Imported |
| 12 | EXTRUDER | 1/ 120+45 MM/ India |
| 13 | EXTRUDER | 1/ 150MM/ India |
| 14 | EXTRUDER | 1/ 120MM/ India |
| 15 | LEAD EXTRUDER | 1/ 4X11 Inch/ Imported |
| 16 | CABLE REWINDING MACHINE | 05 Number |
| 17 | ELECTRIC OVER HEAD TRAVELLING (CRANE) | 3/ 15 TON/ India |
| 18 | ELECTRIC OVER HEAD TRAVELLING (CRANE) | 2/ 10 TON/ India |
| 19 | MATERIAL LIFTS | 2/ 3 TON/ India |
| 20 | D.G. SET | 1/ 1250 kVA/ India |
| 21 | D.G. SET | 1/ 500 kVA/ India |
| 22 | BOILER | 1/ 600KG/Hr/ India |
| 23 | NITROGEN GENERATOR | 1/ 40 NM ³ /Hr/ India |
| 24 | COMPRESSOR | 3/ 57 M ³ /Hr/ India |
| 25 | UPS | 4/ 250 kVA/ India |
| 26 | PASSENGER LIFT | 1/ 650 KG/ Beacon |

LIST OF PLANT MACHINERY, LT CABLE BHIWADI

| SR. | NAME OF MACHINE | NO. OF MACHINES/ CAPACITY/ MAKE |
|----------------------------|-----------------------------|--|
| 1 | AL WIRE DRAWING MACHINE | 1/ 11 DIE/ Niehoff (India) |
| 2 | 7 - TUBLLER - I | 1/ 07B (500MM)/ India |
| 3 | 33 - B M/C | 1/ 33B (500MM) / India |
| 4 | 43 - B - M/C | 1/ 43B(630MM)/ India |
| 5 | 65-MM EXT. - I | 2/ 65MM/ India |
| 6 | 100MM EXT. | 1/ 100MM/ India |
| 7 | 120-MM EXT. - I | 2/ 120MM/ India |
| 8 | 150MM EXT. | 1/ 150MM/ India |
| 9 | (3+1) - LAYING - I | 1/ 3+1 , 48"/ India |
| 10 | DRUM TWISTER | 1/ 3+1,64"/ India |
| 11 | 36-B M/C (ARM.) | 1/ 32B (500MM)/ India |
| 12 | 48-B (ARM.) M/C | 1/ 48B (400MM)/ India |
| 13 | 54-B (ARM.) M/C | 1/ 54MM (500MM)/ India |
| 14 | 72-B (ARM.) M/C | 1/ 72B (500MM)/ India |
| 15 | FURNACE | 1/ 90KW/ India |
| 16 | WATER TANK XLPE CURRING | 2/ 2.5X2.6X2.1M/ India |
| 17 | BOILER - I (KUMAR) | 1/ 600KG/ India |
| 18 | PROGRESSIVE LENGTH MARKING | 3/ 0000TO 9999/ India |
| 19 | E.O.T | 3/ 7.5TON/ India |
| 20 | E.O.T | 1/ 03TON/ India |
| 21 | E.O.T - (CARRYMORE) | 1/ 05TON/ India |
| 22 | LIFT | 1/ 02TON/ India |
| 23 | COMPRESSOR - I st (SCREW) | 1/ 105CFM/ India |
| 24 | COMPRESSOR - II nd | 2/ 80CFM/ India |
| 25 | D.G. 500 kVA | 1/ 500 kVA/ India |
| 26 | UPS - I st | 2/ 250 kVA/ India |
| 27 | CABLE REWIENDER | 7/(2200mm/2600mm/2200mm, 500mm)/ India |
| 28 | G.I. SPOOLING M/C. | 8/ 500MM/ India |
| 29 | AL. STRIP M/C | 1/ 500MM/ India |
| M/C I N MAINTENANCE | | |
| 1 | LATH M/C -I st | 2/ 6FEET/ India |
| 2 | SHAPPER M/C | 1/ 02FEET/ India |
| 3 | DRILLING M/C (VERTICAL) | 1/ 22MM / India |
| 4 | BANCH GRIENDER M/C | 1/ 215MM/ India |
| 5 | WELDING M/C -I | 3/ 300AMP/ India |
| 6 | POWER HACKSAW | 1/ 12"/ India |
| 7 | HAND GRIENDER M/C | 1/ 7"/ India |

LIST OF TESTING & MEASURING INSTRUMENTS, SILVASSA

| SR. | NAME OF THE INSTRUMENT | NO. OF EQUIPMENTS | MAKE/MODEL | RANGE |
|-----|--|-------------------|------------------|-----------------------|
| 1 | Kelvin double Bridge | 1 | Osaw | 0-110hms |
| 2 | Million Megohmmeter | 1 | Sivananda/LS-3B | 10-10 ⁶ MW |
| 3 | Million Megohmmeter | 1 | Sivananda/LS-3BD | 10-10 ⁶ MW |
| 4 | H.V. Megaohm box (IR) | 1 | Sigma | 2MW - 20GW |
| 5 | Cold chamber | 1 | Audiotronics | RT to - 15deg |
| 6 | Cold chamber | 1 | Audiotronics | RT to - 45deg |
| 7 | Spark tester | 1 | RE | 0 - 10 kV |
| 8 | Spark tester | 3 | RE | 0 - 15 kV |
| 9 | H.V. Tester | 1 | RE | 0-5Kv/0-10 kV |
| 10 | H.V. DC Tester | 1 | RE | 0 - 3 kV |
| 11 | High Voltage Test Set | 1 | RE (AC) | 0-6Kv / 0-12 kV |
| 12 | Tensile testing m/c. | 1 | Presto | 0 - 2500N |
| 13 | Tensile testing m/c. | 1 | KMI 1.5G | 0 - 50KN |
| 14 | Tensile testing m/c. | 1 | KMI 1.3D | 0 - 200N |
| 15 | Hotset test Apparatus (Temp. Controler) | 1 | S.A. Associates | 0-5000 C |
| 16 | Digital temp. controller (Thermal stability) | 1 | West | 0-400 OC |
| 17 | Digital temp. controller (Water bath) | 1 | Narang | 0-400 OC |
| 18 | Digital temp. controller (Water bath-2) | 1 | Audiotronics | 0-199.9 OC |
| 19 | Oxygen Index / Temp. Index (Temp.controler) | 1 | S.A. Associates | 0-400 OC |
| 20 | Weighing Balace | 1 | Presca/303 | 0-300Gr. |
| 21 | Air flow meter (Flame test -IEC-332/III) | 1 | S.A. Associates | 0-91.19psi |
| 22 | Glass flow meter (Flame test -IEC-332/III) | 1 | S.A. Associates | 0-11.9psi |
| 23 | Pressure Gauge (Flame test -IEC-332/III) | 1 | Manometer | 0 to 4.2 Kg/cm2 |
| 24 | Pressure Gauge (Flame test -IEC-332/III) | 1 | Manometer | 0 to 2.1 Kg/cm2 |
| 25 | Vaccum Gauge (WATER ABSORBTION TEST) | 1 | Manometer | (-760)mm Hg |
| 26 | Digital temp. controller (Vaccume Oven)) | 1 | PT-100 | 0-2000C |
| 27 | Micro-ohmmeter | 2 | Agronic-53c | 1999MW-19.99KW |
| 28 | Glass Thermometer | 1 | ZEAL | -10 to 110degC |
| 29 | Glass Thermometer | 1 | JRM | -10 to 360degC |
| 30 | Glass Thermometer | 1 | JRM | -10 to 250degC |
| 31 | Glass Thermometer | 1 | Venus | 190 to 210degC |
| 32 | Glass Thermometer | 1 | JRM | -10 to 110degC |
| 33 | Ageing in Air Oven | 1 | | 0 to 300degC |
| 34 | Air Oven | 1 | Shivki | 0 to 200degC |
| 35 | Ageing Oven (Temp. Controller) | 1 | West | 0 to 200degC |
| 36 | Hcl gas test appratus(TEMP CONTROLER) | 1 | S.A. Associates | 0-1000degC |
| 37 | Slip gauge | 1 | USSR | 0.5 to 100mm |
| 38 | Vernier Caliper (DIGITAL) | 1 | Mitutoyo | 0 - 150mm |

LIST OF TESTING & MEASURING INSTRUMENTS, SILVASSA

| SR. | NAME OF THE INSTRUMENT | NO. OF EQUIPMENTS | MAKE/MODEL | RANGE |
|-----|--------------------------------------|-------------------|-----------------|--------------|
| 38 | Vernier Caliper (DIGITAL) | 1 | Mitutoyo | 0 - 150mm |
| 39 | Digital Micrometer | 1 | Mitutoyo | 0 - 25mm |
| 40 | Smoke Density test apparatus | 1 | S.A. Associates | |
| 41 | Fire Resistance Test Apparatus | 1 | - | - |
| 42 | Sweedish Chimmney test Apparatus | 1 | | |
| 43 | Dumbell Cutting Die | 1 | | - |
| 44 | Stop watch | 1 | Racer | 0 - 15min |
| 45 | Colourfastness to Day light Exposure | 1 | - | - |
| 46 | Torsion testing M/C. | 1 | Presto | 60 / 30 / 45 |
| 47 | Hot Deformation test apparatus | 1 | S.A. Associates | - |
| 48 | Purity test | 1 | S.A. Associates | |

LIST OF MAJOR TEST EQUIPMENT, BHIWADI

| Sr. | NAME OF EQUIPMENT | NO. OF EQUIPMENTS | MODEL/TYPE/YEAR OF MAKE | RANGE |
|-----|------------------------------|-------------------|-------------------------|---------------------------|
| 1 | UNIVERSAL HEATING OVEN | 1 | NSW, DELHI | 0- 250°C |
| 2 | UNIVERSAL HEATING OVEN | 1 | JOHRI SCIENTIFIC | 0- 250°C |
| 3 | HEATING OVEN | 2 | SA ASSOCIATE | 0- 250°C |
| 4 | HOT SET TEST OVEN | 3 | SA ASSOCIATE | 0- 250°C |
| 5 | VACUUM OVEN | 1 | JOHRI | 0 -100°C / 0 -760 mmHg |
| 6 | UNIVERSAL HEATING OVEN | 2 | S.A. ASSOCIATE | 0 to 250°C |
| 7 | VACUUM OVEN | 1 | S.A. ASSOCIATE | 0 to 150°C / 0 - 999 mbar |
| 8 | THERMAL STABILITY TEST APP. | 3 | S.A. ASSOCIATE | 0-300°C |
| 9 | MILLION MEGOHM METER | 2 | SIVANANDA | 10 M-ohms to106 M-ohms |
| 10 | AGEING OVEN (4 Cell) | 2 | S.A. ASSOCIATE | 0 -250°C |
| 11 | TENSILE TESTING MACHINE | 1 | KMI, AHEMD. | 0 to 2500 N |
| 12 | AGEING OVEN (4 CELL) | 2 | S.A. ASSOCIATE | 0 -400°C |
| 13 | AGEING OVEN (4 CELL) | 2 | S.A. ASSOCIATE | 0 to 250°C |
| 14 | TENSILE TESTING MACHINE | 1 | KMI, AHEMD. | 0 to 2500 N |
| 15 | TENSILE TESTING MACHINE | 1 | KMI, AHMD. | 0 - 500 N |
| 16 | TENSILE TESTING MACHINE | 1 | KMI, AHEMD. | 0 to 25000 N |
| 17 | DIGITAL WEIGHING BALANCE | 1 | AMAN | 220 gm |
| 18 | DIGITAL WEIGHING BALANCE | 1 | SANSUI | 6 kg |
| 19 | DIGITAL WEIGHING BALANCE | 1 | AFCOSET | 0.00001 to 180 gms. |
| 20 | TORSION TESTING MACHINE | 1 | S.A. ASSOCIATE | 0 To 999 turns |
| 21 | MICROMETER | 1 | MITUTOYO | 0 to 25 mm |
| 22 | DEEP FREEZER | 1 | S.A. ASSOCIATE | -40 TO 30°C |
| 23 | CONDITIONING CHAMBER | 1 | S.A. ASSOCIATE | 5 - 50°C / 0-99.9Rh % |
| 24 | WATER BATH (01) | 2 | JOHRI SCIENTIFIC | 0 -200°C |
| 25 | WATER BATH (Big) | 1 | SA ASSOCIATE | 0 -199.9°C |
| 26 | WATER BATH | 1 | S.A. ASSOCIATE | 0 -100°C |
| 27 | KELVIN DOUBLE BRIDGE | 1 | OSAW | 0.2 micro-ohm to 11 ohm |
| 28 | SENIOR KELVIN BRIDGE | 1 | OSAW | 0.02 micro-ohm to 1.1 ohm |
| 29 | D.C.HIGH VOLTAGE TESTER | 1 | RE, DELHI | 0-5 kV (D.C) |
| 30 | H.V. TESTER (FIRE SURVIVAL) | 1 | R.E. | 0-1200 VOLTS |
| 31 | H.V. TESTER (A.C.) (W.I.) | 1 | R.E. | 0-15/30 kV/22KVA |
| 32 | H.V. TESTER (A.C.) (L.T.) | 1 | R.E. | 0-5/10 kV/50KVA |
| 33 | H.V. TESTER (A.C.) (Rubber) | 1 | R.E. | 0-6/12 kV/ 50 kvA |
| 34 | H.V. TESTER (A.C.) (Control) | 1 | BILLIONIX | 0-7.5/15 kV/60KVA |
| 35 | H.V. TESTER (A.C.) (H.T) | 1 | R.E. | 0-5/10 kV/22KVA |

LIST OF MAJOR TEST EQUIPMENT, BHIWADI

| SR. | NAME OF EQUIPMENT | NO. OF EQUIPMENTS | MODEL/TYPE/YEAR OF MAKE | RANGE |
|-----|---|-------------------|-------------------------|--|
| 36 | DIGITAL VERNIER CALLIPER | 2 | MITUTOYO | 0-150 mm |
| 37 | DIGITAL VERNIER CALLIPER | 2 | MITUTOYO | 0-300 mm |
| 38 | MEG OHM BOX | 1 | SIGMA | 20 MOHM - 200GOHM |
| 39 | DIGITAL VERNIER CALLIPER | 1 | MITUTOYO | 0 - 150 mm |
| 40 | DIGITAL MICROMETER | 1 | MITUTOYO | 0 - 25 mm |
| 41 | MICROMETER (Pointed) | 2 | MITUTOYO | 0- 25 mm |
| 42 | DIGITAL MICROMETER | 1 | MITUTOYO | 0 - 25 mm |
| 43 | MICROMETER | 1 | MITUTOYO | 0- 25 mm |
| 44 | SMOKE DENSITY MEASUREMENT TEST APPARATUS | 1 | S.A. ASSOCIATES | 0 - 100 % |
| 45 | THERMOMETER | 2 | ZEAL | 10 TO 250°C |
| 46 | STANDARD CAPACITANCE BOX | 1 | SIGMA | 0.1mPf to 3.3 uF |
| 47 | STANDARD RESISTANCE BOX | 1 | SIGMA | 0.001 Ohm to 1Kohm |
| 48 | STANDARD RESISTANCE | 1 | OSAW | 0.1 Ohm |
| 49 | O ₂ & TEMP. INDEX TEST APPARATUS | 1 | S.A. ASSOCIATE | 0 - 400°C |
| 50 | SMOKE DENSITY TEST APPARATUS | 1 | SA ASSOCIATE | 0 TO 4.2 kg/cm ² |
| 51 | ACID GAS GENERATION TEST APP. | 1 | S.A. ASSOCIATE | 0-1000 degC |
| 52 | FLOWMETER FOR HCL GAS GENERATION TEST APPARATUS | 1 | IEPL | 43 to430 sccm |
| 53 | FLAMMABILITY TEST APPARATUS | 1 | S.A. ASSOCIATE | --- |
| 54 | FLAMMABILITY TEST APPARATUS | 1 | S.A. ASSOCIATE | 0-1200 Deg C |
| 55 | FLAMMABILITY TEST APPARATUS (as per IEC 332-11I & IS-10810-PI-62) | 1 | S.A. ASSOCIATE | 1.7 TO 17.05 LPM 8.98 TO 89.77 LPM |
| 56 | SWIDISH CHIMNEY TEST APP. | 1 | --- | 0 -1200°C |
| 57 | L-C-R-Q METER | 1 | APLAB | L - uH to H , C - pf-uf , R- ohm to M-ohm. |
| 58 | SINE SQUARE OSCILLATOR | 1 | TESTRONIX | 1 KHz to 1000KHz / 0.3 - 30V |
| 59 | SOLID STATE AC MICROVOLTMETER | 1 | SYSTRONICS | AC voltage 0 microV to 500V .-120db to 56db |
| 60 | DIGITAL D.C MICROVOLT AMMETER | 1 | TESTRONEX | 0-1000V / 1000 mA |
| 61 | kV METER | 1 | SIGMA | 0 -10 kV |
| 62 | OIL BATH | 1 | SCIENTIFIC TRADERS | 0 - 400°C |
| 63 | AIR & OXY. BOMB TEST APP. | 1 | JOHRI SCIENTIFIC | R.Temp-180 Deg.C |
| 64 | OZONE RESISTANCE TEST APPARATUS | 1 | SA ASSOCIATE | 0-180 Deg C |
| 65 | TEMPRATURE INDICATOR | 1 | AUDIOTRONICS | 0-1200 Deg C |
| 66 | MEASURING TAPE | 1 | PLASTIKA | 15 Meter |
| 67 | STEEL SCALE | 1 | KRISTEEL | 0 - 150 mm |
| 68 | STEEL SCALE | 1 | KRISTEEL | 0 - 300 mm |
| 69 | STEEL SCALE | 1 | OMEGA | 0 - 1000 mm |

LIST OF MAJOR TEST EQUIPMENT, BHIWADI

| SR. | NAME OF EQUIPMENT | NO. OF EQUIPMENTS | MODEL/TYPE/YEAR OF MAKE | RANGE |
|-----|--|-------------------|-----------------------------|--------------------------------|
| 70 | IMPEDANCE METER | 1 | SIVANANDA | 0 Ohm to19.99K-ohm |
| 71 | PROFILE PROJECTOR(MICROMETER) | 1 | MITUTOYO | 0-25MM |
| 72 | HIGH PRECISION HIGH VOLTAGE CAPACITANCE BRIDGE | 1 | WELLGAIN CABLE SYSTSEM LTD. | 10nf to 1000pf |
| 73 | PARTIAL DISCHARGE DETECTOR | 1 | DIELEC-JIATE | 0 pc to 250 pc with multiplier |
| 74 | H.V. TESTER | 1 | POWERLITE | 0.1 kV TO 75 kV |
| 75 | H. V.ETESTER (Series Resonance System) | 1 | DIELEC-JIATE | 0 - 250 kV |
| 76 | IMPULSE VOLTAGE GENERATOR | 1 | DIELEC-JIATE | 0 - 500 kV |
| 77 | HEATING CYCLE INSTRUMENT | 1 | DIELEC-JIATE | 0 - 110 DegC |
| 78 | DIGITAL MICRO-OHM METER | 3 | Agronic-53C | 199.9u-ohmto19.99K-ohm |
| 79 | BURRETE | 1 | BOROSIL | 0.1ml to 50 ml |
| 80 | MEASURING CYLINDER | 1 | BOROSIL | 1ml to 50 ml |
| 81 | MEASURING CYLINDER | 1 | BOROSIL | 2ml to 250 ml |
| 82 | MEASURING CYLINDER | 1 | BOROSIL | 5ml to 500 ml |
| 83 | MEASURING CYLINDER | 1 | BOROSIL | 10ml to 1000 ml |
| 84 | MEASURING CYLINDER | 1 | BOROSIL | 0.5ml to 25 ml |
| 85 | MEASURING CYLINDER | 1 | BOROSIL | 1ml to 100 ml |
| 86 | MEASURING PIPETTE | 1 | BOROSIL | 1 ml |
| 87 | MEASURING PIPETTE | 1 | BOROSIL | 20 ml |
| 88 | MEASURING PIPETTE | 1 | BOROSIL | 0.1 ml to 10 ml |
| 89 | DIGITAL STOP WATCH | 2 | RACER | 0 - 24 Hours |
| 90 | DRY & WET THERMOMETER | 1 | DIMPLE | -10 TO 50°C |
| 91 | UV RADIATION TEST APPARATUS | 1 | SA Associate | 0 - 200°C |

LIST OF TESTING / QUALITY CONTROL INSTRUMENT & EQUIPMENTS, CHOPANKI

| SR. | DESCRIPTION OF THE INSTUMENT | NO. OF EQUIPMENTS | MFG/COUNTRY |
|------------|--|--------------------------|---------------------------|
| 1 | UNIVERSAL HEATING OVEN | 3 | S.A. ASSOCIATE, INDIA |
| 2 | HOT SET TEST OVEN with Dail Indicator | 1 | S.A. ASSOCIATE, INDIA |
| 3 | VACUUM OVEN | 1 | S.A. ASSOCIATE, INDIA |
| 4 | THERMAL STABILITY TEST APP. | 1 | S.A. ASSOCIATE, INDIA |
| 5 | AGEING OVEN (4 Cell) | 3 | S.A. ASSOCIATE, INDIA |
| 6 | DEEP FREEZER | 1 | S.A. ASSOCIATE, INDIA |
| 7 | CONDITIONING CHAMBER | 1 | S.A. ASSOCIATE, INDIA |
| 8 | Oxygen &Temp. INDEX TEST (ASTM-D -2863) | 1 | S.A. ASSOCIATE, INDIA |
| 9 | SMOKE DENSITY TEST APPARATUS (ASTM-D -2843) | 1 | S.A. ASSOCIATE, INDIA |
| 10 | ACID GAS GENERATION TEST APP. (IEC-754-1 & 2) | 1 | S.A. ASSOCIATE, INDIA |
| 11 | FLAMMABILITY TEST APPARATUS (IEEE-383) | 1 | S.A. ASSOCIATE, INDIA |
| 12 | SWIDISH CHIMNEY TEST APP.(SS-4241475) | 1 | S.A. ASSOCIATE, INDIA |
| 13 | DIGITAL TEMPERATURE INDICATOR | 1 | |
| 14 | STEEL SCALE | 1 | NA |
| 15 | MILLION MEGOHM METER IN STEPS, 500V | 2 | SIVANANDA, INDIA |
| 16 | TENSILE TESTING MACHINE 500N, 1000N & 2500N | 1 | CANON TENSILE M/c, INDIA |
| 17 | TENSILE TESTING MACHINE 2kN 5kN, 10kN | 1 | CANON TENSILE M/c, INDIA |
| 18 | ROLLING BALL MILL | 1 | S.A. ASSOCIATE, INDIA |
| 19 | HYDRAULLIC PRESS | 1 | JOHRI SCIENTIFIC, INDIA |
| 20 | DUMB-BELL CUTTING PRESS | 1 | S.A. ASSOCIATE, INDIA |
| 21 | TENSILE TESTING MACHINE | 1 | CANON TENSILE M/c, INDIA |
| 22 | DIGITAL MICROHM METER | 2 | AGRONIC-53C, INDIA |
| 23 | VERNIER CALLIPER | 3 | MITUTOYO, JAPAN |
| 24 | L-C-R-Q METER | 1 | APLAB, INDIA |
| 25 | KELVIN DOUBLE BRIDGE WITH SPOT REFLECTING GALVANOMETER | 1 | OSAW, INDIA |
| 26 | DIGITAL WEIGHING BALANCE | 1 | PRECISA INDIA |
| 27 | DIGITAL WEIGHING BALANCE | 1 | SANSUI, INDIA |
| 28 | GLASS THERMOMETER (GT-01) | 1 | GERA, INDIA |
| 29 | GLASS THERMOMETER (GT-02) | 1 | GERA, INDIA |
| 30 | AC H.V.TESTER 12kV/50kVA | 1 | RE, INDIA |
| 31 | DIGITAL VERNIER CALLIPER | 3 | MITUTOYO, JAPAN |
| 32 | DIGITAL MICROMETER | 2 | MITUTOYO, JAPAN |
| 33 | DIAL VERNIER CALLIPER | 1 | MITUTOYO, JAPAN |
| 34 | BALL POINT MICROMETER | 1 | MITUTOYO, JAPAN |
| 35 | ANALOG MICROMETER | 1 | MITUTOYO, JAPAN |
| 36 | DIGITAL BALL TYPE MICROMETER | 1 | MITUTOYO, JAPAN |
| 37 | WATER BATH (Johri Scientific) WB-1 | 1 | (JOHRI SCIENTIFIC), INDIA |

LIST OF TESTING / QUALITY CONTROL INSTRUMENT & EQUIPMENTS, CHOPANKI

| SR. | DESCRIPTION OF THE INSTUMENT | NO. OF EQUIPMENTS | MFG/COUNTRY |
|-----|--|-------------------|---------------------------|
| 38 | WATER BATH (S.A. ASSOCIATE) WB-II | 1 | S.A. ASSOCIATE, INDIA |
| 39 | PROFILE PROJECTOR | 1 | BANBROS, INDIA |
| 40 | TORSION TESTING MACHINE | 1 | S.A. ASSOCIATE, INDIA |
| 41 | FLAMMABILITY TEST APPARATUS (IEC 332-I) | 1 | S.A. ASSOCIATE, INDIA |
| 42 | DIGITAL WEIGHING BALANCE | 1 | SANSUI, INDIA |
| 43 | P.D. DETECTOR (JFD-3) WITH SHIELDED ROOM | 1 | DIELEC - JIATE |
| 44 | SERIES RESONANCE HV TEST SET (1200kVA / 120kV) | 1 | DIELEC - JIATE, CHINA |
| 45 | PARTIAL DISCHARGE DETECTOR (DIELEC) | 1 | DIELEC - JIATE, CHINA |
| 46 | SERIES RESONANCE HV TEST SET (1200kVA / 120kV) | 1 | DIELEC - JIATE, CHINA |
| 47 | 5 kV MEGGER and 10kV DIGITAL MEGGER | 1 | MEGGER, INDIA |
| 48 | PI STEEL SCALE (DIA-METRIC TAPE) | 1 | MICRONIX, INDIA |
| 49 | DIGITAL/ANALOUGE STOP WATCH | 1 | RACER |
| 50 | DIGITAL VERNIER CALLIPER | 1 | MITUTOYO, JAPAN |
| 51 | HVDC TESTER | 1 | JOHRI SCIENTIFIC, INDIA |
| 52 | WATER BATH | 1 | JOHRI SCIENTIFIC, INDIA |
| 53 | SERIES RESONANCE HV TEST SET (375kV/10000kVA) | 1 | HIPOTRONICS, USA |
| 54 | DIGITAL PARTIAL DISCHARGE DETECTOR (MTRONICX) | 1 | MTRONICX, HVTS, GERMANY |
| 55 | FULLY AUTOMATIC CONTROLLED TAN DELTA MEASUREMENT | 1 | MTRONICX, HVTS, GERMANY |
| 56 | TAN DELTA & CAPACITANCE MEASUREMENT BRIDGE QS 30A | 1 | WELLGAIN CABLES SYSTEMS |
| 57 | IMPULSE VOLTAGE TEST SYSTEM 2000kV/200kJ | 1 | WELLGAIN CABLES SYSTEMS |
| 58 | HEATING CYCLE INSTRUMENT 7000A/OPEN MOUTH TYPE | 1 | DIELEC - JIATE |
| 59 | HV TESTER (PROLONG HV TEST) 450 kV/225kVA | 1 | DIELEC - JIATE |
| 60 | HVDC & SURGE GENERATOR SET 0-32kV-400mA (4 STEPS) | 1 | TECHNO-INSTRUMENTS,INDIA |
| 61 | SHIELDING ROOM FOR EHV CABLES | 1 | DIELEC - JIATE |
| 62 | TGA (THERMOGRAVIMETRIC ANALYSER) | 1 | TA INSTRUMENTS, UK |
| 63 | DSC (DIFFERENTIAL SCANNING CALORIMETER) | 1 | TA INSTRUMENTS, UK |
| 64 | SPECTROMETER | 1 | PERKIN ELMERS |
| 65 | OPTICAL MICROSCOPE, MEASUREMENT SOFTWARE ASSITED (100X TO 1000X MAGNIFICATION IN FOUR STEPS) | 1 | DWINTER INDIA |
| 66 | ODR RHEOMETER | 1 | FUTURE FOUNDATIONS, INDIA |
| 67 | TAPE EXTRUSION EXTRUDER | 1 | SILICON, INDIA |
| 68 | GLASS THERMOMETER (GT-03) 150 deg. C | 1 | GERA, INDIA |
| 69 | GLASS THERMOMETER (GT-04) 250 deg. C | 1 | GERA, INDIA |
| 70 | TENSILE TESTING MACHINE 50KN (AUTOMATIC) | 1 | INSTRON, UK |
| 71 | UNIVERSAL HEATING OVEN | 1 | S.A. ASSOCIATE, INDIA |
| 72 | COLD ELONGATION TEST APPRATUS | 1 | S.A. ASSOCIATE, INDIA |
| 73 | CABLE QUICKY FOR THICKNESS MEASUREMENTS (AUTOMATIC) | 1 | S.A. ASSOCIATE, INDIA |

LIST OF PLANT MACHINERY, LT CABLE BHIWADI

| SR. | Client / Project | Order No. & Date | Description of works | Total Value |
|-----|---|---|--|-------------|
| 1 | NTPC LTD. | PO.NO.5500016402-139-1049 | GADARWARA STPP | 108437397 |
| 2 | BPCL(EIL) | FOA.NO.10/PJ/A307/0240/102/1518 | KOCHI REFINERY | 91803200 |
| 3 | VIJAI ELECTRICALS LTD. | LOI.NO.VELP/MM/15-16/PVVNL/LOI/45 | PVNL, UTTAR PRADESH | 181434847 |
| 4 | JINDAL STEEL & POWER LTD. | PO.NO.3561001112 | MARKET 3&4 FROM COKE OVEN BATTERYMARKET& MARKET 8&9 FOR BLAST FURNACE | 120724778 |
| 5 | ADANI POWER LTD | LOI.NO.MAIL | ADANI SOLAR KARNATAKA | 229101186 |
| 6 | ISWAR SINGH & ASSOCIATES CONSTRUCTION PVT LTD | PO.NO.ISACPL/KEI/17-18/332 DT-02/02/18 REVISED PO.NO. ISACPL/KEI/17-18/01 DT-20/02/18 | UHBNV MGJGY | 1149546816 |
| 7 | FEBTECH PROJECTS & ENGINEERS LTD | LOI.NO.FPEL/KEI/2017-18/LOI-66 DT -01/08/18 | SECONDARY TANK FARM (STF) WITH DEHYDRATION FACILITY AND EFFLEUNT TREATMENT PLANT AT MADHUBAN | 116857817 |
| 8 | DOOSAN POWER SYSTEMS INDIA PVT LTD | LOI:OBRA/2018/DPSI/LOI/SUPPLY/CABLES/039 DT-27/09/18 | OBRA | 205816051 |
| 9 | L&T LTD, CONSTRUCTION (CIVIL BU) | LE/LE200811/POD/21/000027 | BHD322130 | 210273736 |
| 10 | L&T LTD, CONSTRUCTION (CIVIL BU) | LE/LE200811/POD/21/000027 | BHD321077 | 106723387 |
| 11 | L&T LTD, CONSTRUCTION (CIVIL BU) | LE/LE200811/POD/21/000027 | BHD320757 | 137837933 |
| 12 | DANGOTE OIL REFINING CO LTD (OLD) | Cont.No.PR 0477 (225)1426 KeiElec LV Cables Bulk | BHD303305 | 359643741 |
| 13 | DANGOTE OIL REFINING CO LTD (OLD) | Cont.No.PR 0477 (225)1426 KeiElec LV Cables Bulk | BHD304008 | 355373800 |

LIST OF PLANT MACHINERY, LT CABLE BHIWADI

| SR. | Client / Project | Order No. & Date | Description of works | Total Value |
|-----|-----------------------------------|--|----------------------|-------------|
| 14 | DANGOTE OIL REFINING CO LTD (OLD) | Cont.No.PR 0477 [225]1426 KeiElec LV Cables Bulk | BHD304813 | 220044540 |
| 15 | DANGOTE OIL REFINING CO LTD (OLD) | Cont.No.PR 0477 [225]1426 KeiElec LV Cables Bulk | BHD305439 | 261738093 |
| 16 | DANGOTE OIL REFINING CO LTD (OLD) | Cont.No.PR 0477 [225]1426 KeiElec LV Cables Bulk | BHD305985 | 214126353 |
| 17 | DANGOTE OIL REFINING CO LTD (OLD) | Cont.No.PR 0477 [225]1426 KeiElec LV Cables Bulk | BHD306814 | 275850402 |
| 18 | DANGOTE OIL REFINING CO LTD (OLD) | Cont.No.PR 0477 [225]1426 KeiElec LV Cables Bulk | BHD306265 | 265803910 |
| 19 | DANGOTE OIL REFINING CO LTD (OLD) | Cont.No.PR 0477 [225]1426 KeiElec LV Cables Bulk | BHD306912 | 199052058 |
| 20 | DANGOTE OIL REFINING CO LTD (OLD) | Cont.No.PR 0477 [225]1426 KeiElec LV Cables Bulk | BHD307986 | 265828692 |
| 21 | DANGOTE OIL REFINING CO LTD (OLD) | Cont.No.PR 0477 [225]1426 KeiElec LV Cables Bulk | BHD309054 | 143670065 |
| 22 | DANGOTE OIL REFINING CO LTD -LC | (PR_0971)_{0227_0243_ 1760}_{6013_6014_6015}._ KEI_E | PH0304275 | 116337258 |
| 23 | DANGOTE OIL REFINING CO LTD -LC | (PR_0971)_{0227_0243_ 1760}_{6013_6014_6015} dtd. | PH0304118 | 104243431 |
| 24 | DANGOTE OIL REFINING CO LTD -LC | (PR_0971)_{0227_0243_ 1760}_{6013_6014_6015} dtd. | BHD319434 | 140389349 |
| 25 | DANGOTE OIL REFINING CO LTD -LC | (PR_1046)_{0227_0243} {6013_6014}_KEI_Elec | BHD323156 | 154504149 |
| 26 | DANGOTE OIL REFINING CO LTD -LC | (PR_1046)_{0227_0243} {6013_6014}_KEI_Elec | BHD323011 | 129665630 |

LIST OF PLANT MACHINERY, LT CABLE BHIWADI

| SR. | Client / Project | Order No. & Date | Description of works | Total Value |
|-----|---|--|---|-------------|
| 1 | EIL(BPCL) | PO.NO.4504433973 | INTIGRATED REFINERY PROJECT KOCHI REFINERY OF M/S BPCL-KR | 157624450 |
| 2 | CESC LTD. | LOI.NO.MAIL | NIL | 119725711 |
| 3 | JSP PROJECT PVT.LTD. | PO.NO.JSP/KEI/ RAPDRP-SCADA/ FZB/30414 | EDC FIROZABAD | 261879200 |
| 4 | CAPITAL ELECTRICAL PVT LTD. | PO.NO.CEPL/R- APDRP/KEI/14- 15/138 | R-APDRP-SCADA AT EDCJHANSI(DVNL) | 187562095 |
| 5 | SOUTHERN POWER DISTRIBUTION CO. | LR.NO.CGM/P&MM/ E-23/CECT-685/13/ LOI/D.NO.2091/14 | TSSPDCL | 254677500 |
| 6 | RELIANCE INFRASTRUCTURE LIMITED | PO:NBC/M03/ 23077328 DT- 06.11.14 | MUMBAI DISCOM | 168141870 |
| 7 | NCC LTD. | PO.NO.NCC/KSEB- RAPDRP/KOCHI/ 23745/PUR/14-15 | KSEB RAPDRP(KOCHI) | 138650000 |
| 8 | KERALA STATE ELECRCITY BOARD. | PO.NO.CE/TRN/E2/ 3X300 XLPE CABLE/ 14-15/2251 | BARAPOLE, AZHIKODE &MATTANUR SUBSTATION | 101089007 |
| 9 | WEST BENGAL STATE ELECTRICITY DISTRIBUTION COMPANY LIMITED | PO:MOM NO.P&C/ P-24/2014-15/PC-III /KEI/52 DT-22.01.15 | | 133571671 |
| 10 | NTPC LTD. | NOA.NO.NTPC/ ERIIHO/C&M/ DARLIPALLI/HT/ 40027888 | DARLIPALLI SUPER THERMAL POWER PROJECT. | 111837000 |
| 11 | RELIANCE INFRASTRUCTURE LIMITED | PO:NBC/M03/23080207 DT-21.05.15 | MUMBAI DISCOM (HT CABLES)2015-16 | 209248473 |
| 12 | WBSIEDCL | PO No. P&C/P-39/2014 -15/PC-III/KEI/DHQ/ 5200000202/13 | SELF | 200857056 |
| 13 | SOUTHERN POWER DISTRIBUTION CO. | PO.NO.CGM/P&MM/E- 23/CECT-685/PM-144/ EXTN.PM-700/15 | TSSPDCL | 127338750 |

LIST OF PLANT MACHINERY, LT CABLE BHIWADI

| SR. | Client / Project | Order No. & Date | Description of works | Total Value |
|-----|------------------------------------|---|----------------------|-------------|
| 14 | RELIANCE INFRASTRUCTURE | PO.NO.NBC/M03/ 23084792 | MUMBAI DISCOM | 260466169 |
| 15 | NECCON POWER & INFRA LTD. | PO.NO.NECCON/ ORDER/PGCIL/ASM- DMS-4/16-17/5600 | MEGHALAYA | 255181200 |
| 16 | KERALA STATE ELECTRICITY BOARD LTD | PO.NO.SCM. 165/2016 -17/7220 | SCM | 108337000 |
| 17 | DHANLAXMI ELECTRICALS PVT LTD | PO.NO.DEPL/IPDS/ Nagpur IP-2011-17-18/2 | MSEDCL | 120257800 |
| 18 | TPDDL- | PO.NO.NIL | SELF | 164846642 |
| 19 | WBSEDCL- | PO.NO.P&C/P-52/2017- 18/PC-II/IPDS/KEI/74 DT-09/10/18 | | 243403699 |
| 20 | L&T LTD PT&D V0025376 | EL351P00000018 | BHD316497 | 108588837 |
| 21 | L&T LTD PT&D V0025376 | EL516P00000012 | BHD316496 | 155326578 |
| 22 | AFCONS INFRASTRUCTURE LTD- LC | 4100022116DT- | SAMRUDHI MAHAMARG | 177138418 |
| 23 | GAIL (INDIA) LTD | GAIL/B/1968077/ 5200005671 | BHD325215 | 285533486 |
| 24 | AMRUTHA CONSTRUCTIONS PVT LTD | ACPL/BDA-NPKL PKG- 2/2022-23/0489 | PH0306234 | 112996668 |
| 25 | EFKON INDIA PVT LTD-LC | PO/2022230740 | BHD327599 | 108014544 |
| 26 | EFKON INDIA PVT LTD-LC | PO/2022230740 | BHD329910 | 102106270 |
| 27 | DHAKA ELECTRIC SUPPLY COMPANY LTD | DESCO/P.I&T/ Procurement/2019/324 | CH0300576 | 279150480 |



Manufacture of Cables

MANUFACTURE OF EHV CABLES 66 kV TO 400 kV XLPE

KEI Industries Limited is equipped with the Cable Development Technologies to ensure manufacturing of cables up to and including 400 kV. At the Chopanki plant the company is into manufacturing of cables up to 400 kV and the Bhiwadi Plant is capable of manufacturing cables upto 132 kV by Dry Cure / Dry Cooled Process. The 400 kV cables are already Type & PQ tested at FGH Lab (Germany). KEI is equipped and accredited to manufacture cables to all national & international level.

Our Chopanki Plant which commenced its production in 2008 and equipped with state-of-art machines including testing equipments to meet Indian as well as international standards to produce cables and including 400kV.

KEI is equipped to manufacture EHV Cables using most modern machines & equipments at both the plants, received from M/s. Scholz and M/s. Troester (Germany). The plant is endowed with special features: Rotating Catapillers & Tross System for Eccentricity / Ovality Control at Chopanki.

- Single point Triple extrusion process prevents micro contaminants from outside atmosphere
- Dry cure & dry cooling process provides increased electrical stress bearing strength
- Online insulation thickness monitoring & control by Sikora X-ray unit
- Separate rooms with positive pressure for Insulation & semiconducting compound & vacuum feeding / Gravity Feeding at Chopanki for EHV
- Super clean / Tree retardant XLPE compound (Borealis, Dow, Hanwa etc)

We manufacture EHV Cables as per requirements of clients with Poly-Al tape, Corrugated Al / Corrugated Cu / Lead Alloy as well as with world renowned and tried process i.e. continuous extruder.

Some of the advantages of Lead extruded sheathed cables:

- Al Corrugated sheath has following advantages:
 - High Flexibility
 - Lesser Weight
 - Lesser Cost
 - Environment Friendly
- Lead has superior corrosion resistant properties in any environment than Aluminium
- Lead sheathed cables can follow bending with ease
- Lead sheathed cables provide radial water barrier
- Lead sheathed cables are easily solderable/welded
- Life of lead is more than 30 to 40 years
- Lead is very dense & easily fusible
- Shares the fault current with metallic screen in cable
- Chemical resistant behavior

A TYPICAL CROSS SECTION OF EHV CABLES:-

1. Stranded compacted plain Copper/Aluminium Conductor & Millikan Conductor for higher sizes above 1000 sq. mm. (Water tight conductors with water blocking tapes/yarn is an another option)
2. Semi Conducting Tape (Optional)
3. Extruded Semi-Conducting Layer (Conductor Screen)
4. XLPE Insulation (Super Clean Compound / Tree retardant)
5. Extruded Semi-conducting Layer (Insulation Screen)
6. Semi-conducting Water Blocking Tape
7. Extruded Lead Alloy E sheath / Aluminium Corrugated Sheath / Copper Corrugated Sheath / Aluminium Laminated Tapes
8. Semi-conducting Water Swellable Tape
9. Metallic Screen (Copper wires)
10. Counter open Helix with Copper Tape
11. Non-conducting water blocking tape
12. Extruded Inner Sheath
13. Aluminium Wire Armour
14. Outer Sheath
15. Graphite Coating / Exruded Semi-conductive layer

KEI offers complete solution for EHV Cables. Please send your requirements to us and we shall offer you our best solutions. Our Engineering department takes following into account:-

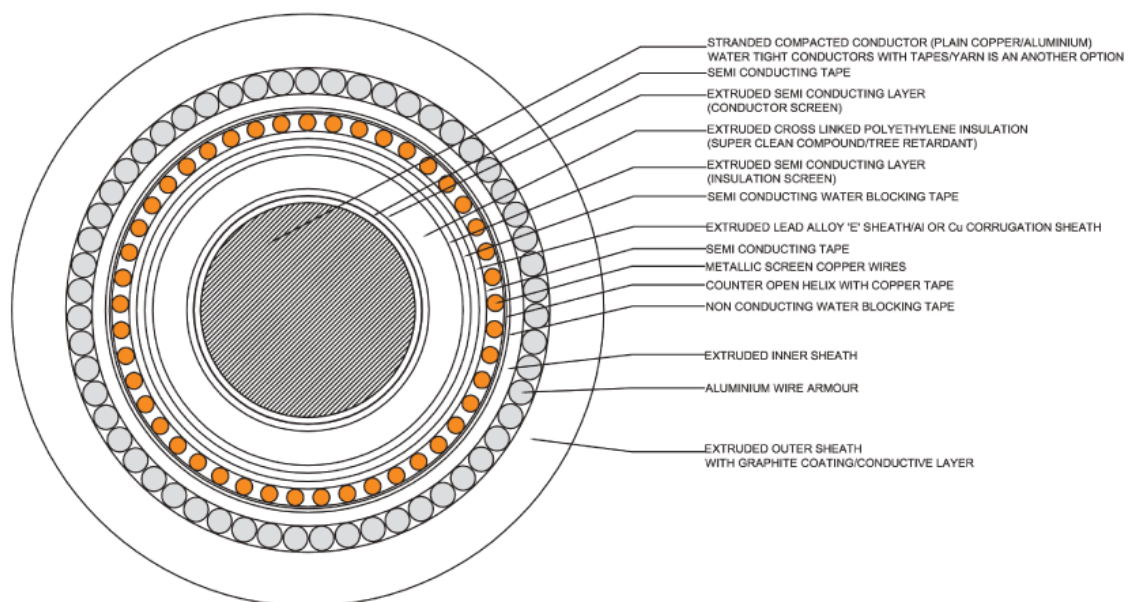
- Survey at site
- Selecting and recommending best routes for installation of the system
- Designing cables
- Manufacture of cables at their own plants (No out sourcing)
- Inspection at our plants
- Dispatch cables to site
- Take up installation of cables at site including termination and jointing etc.
- Final testing after installation & Complete Routine / Acceptance / Type testing In-house / MAH before dispatch from plant
- Charging of system
- Guarantee / warranty for the system and service after installation for many years

FOR CABLE DESIGN WE REQUIRE THE FOLLOWING:-

- i. System voltage
- ii. Operating frequency
- iii. Type of earthing
- iv. Fault current level and duration
- v. Lightning Impulse level
- vi. Normal loading
- vii. Cyclic emergency loading with duration
- viii. Max. air temperature
- ix. Ground thermal resistivity
- x. Route length requirements and allowable max. voltage drop per km
- xi. Terminations types
- xii. Site limitations & installation conditions & Drum handling System / Unloading system for longer length

Based on above and site visit, best cable solution can be designed and offered

A Typical Cross Sectional Drawing of EHV XLPE Cable



HT CABLES

KEI manufactures HT XLPE cables conforming to National and International Standards at Bhiwadi plant.

KEI has State-of-the-art HT / EHV Cable plant with German technology.

We have two CCV line with a Single point triple extrusion and computerized sophisticated control and monitoring systems. The CCV line at Bhiwadi was imported from Maschinenbau Scholz GMBH & Co KG, and CCV line at Chopanki supplied by Paul Troester Germany. Both manufacturers are renowned in CCV line technology and have supplied more than 300 lines world over.

HT plant is complete with heavy duty machines for wire drawing and conductor making, laying up, armouring, sheathing and packing.

The process commences with a compacted circular conductor Millikan Conductor being fed from the pay off stands into the extruder on elevated platform. The conductor passes through extruder's crosshead, it is covered first with semiconducting screen layer then the XLPE insulation, followed by the outer semiconducting core screen. This crosshead is specially designed to feed three compounds from three extruders at one point described as Single-point Triple extrusion.

Thereafter, the extruded core enters and passes through vulcanizing line known as CCV line (Continuous Catenary Vulcanising) and the XLPE insulated core is cured in the process. In CV line inert atmosphere is maintained by the Nitrogen gas which is at high pressure and high temperature.

This process is popularly known as Single-point Triple extrusion CDCC (Completely Dry Cured and Dry Cooled Curing) Process.

Over the cured core a copper screening is provided by lapping of copper tape or for special requirements a layer of copper wires is provided. Core is tested for Partial Discharge and then as per requirement; the cores are laid up with fillers, provided with inner sheath, armoured and sheathed. Sheath can be of PVC, HDPE, FRLS, ZHFR, PCP or CSP compound. Seamless Lead "Alloy E" Sheath is extruded for moisture barrier, necessary for EHV Cables and Submarine Cables before Inner Sheath.

KEI's manufacturing plant and process ensures great XLPE cables for the new age Power sector and industry. Our modern plant takes full advantage of the new generation XLPE compounds which offer fast curing and superior electrical parameters, dimensional control and higher productivity. The Sikora X-Ray limits at both the plants and Rotating Cattapiller & Tross System provides excellent eccentricity and ovality control for higher thickness.

Triple Extrusion and CDCC process ensure contamination free cores. All three layers are bonded and core has least eccentricity and ovality. Insulation itself is free of micro-voids and with negligible moisture content.

To control the manufacturing process the line has been provided with many sophisticated instruments and servo controls all monitored by the computer. Important systems are:

X-Ray Non-touch sensors of SIKORA make for thickness and dimensional control. This system continuously measures the dimensions of insulated cores. Unit has capability to measure multilayer dimensions in all directions and record and analyse the data on line.

CCV tube has a Touch Less Sag control system. This ensures no marks/lines on core unlike older lines.

For EHV Cables conductor pre-heater, core rotation and de-gasification facilities have been provided.

Computerised control system ensures optimum efficiency, fast start up, synchronized operations of compound feeds, three extruders, CCV line gas temperature zones, pay off and take-up.

Nevertheless, KEI XLPE cables compare better than those produced with older plants when checked for Micro-voids, Moisture content, PD levels, dielectric strength.

We have strict quality plan and fully-equipped testing laboratory to ensure cables of best quality are produced as per the design and specifications prescribed. Cables have been type tested as per International Standards.

Inventory and production plans are controlled by BANN ERP system. This ensures reliable and prompt delivery and operational efficiency.

KEI offers a variety of designs to suit different installations viz. Aerial Bunched cables, Water tight construction, Stainless steel armouring for Offshore and Ship installation, etc.

We have many satisfied customers from many countries and diverse industries.

CAPACITANCE

*Approximate Capacitance for Single core & Multi core cables in microfarad per Km at 50 Hz

| NOMINAL SIZE OF CONDUCTOR (IN SQMM) | 1.9 / 3.3kV (E) OR 3.3 / 3.3 kV (UE) | | 3.8 / 6.6kV(E) | 6.35/11kV(E) OR 6.6/6.6 kV(UE) | 11/11kV(UE) | 12.7/22kV(E) | 19/33kV(E) |
|-------------------------------------|--------------------------------------|----------|----------------|--------------------------------|-------------|--------------|------------|
| | UNARMoured | ARMoured | | | | | |
| 25 | 0.230 | 0.210 | 0.220 | 0.180 | 0.140 | - | - |
| 35 | 0.270 | 0.240 | 0.250 | 0.210 | 0.150 | 0.140 | - |
| 50 | 0.300 | 0.270 | 0.270 | 0.220 | 0.160 | 0.160 | 0.120 |
| 70 | 0.340 | 0.310 | 0.310 | 0.250 | 0.190 | 0.170 | 0.140 |
| 95 | 0.390 | 0.350 | 0.350 | 0.290 | 0.210 | 0.190 | 0.150 |
| 120 | 0.430 | 0.390 | 0.380 | 0.310 | 0.220 | 0.210 | 0.160 |
| 150 | 0.490 | 0.420 | 0.430 | 0.340 | 0.240 | 0.230 | 0.180 |
| 185 | 0.520 | 0.460 | 0.450 | 0.360 | 0.260 | 0.240 | 0.180 |
| 240 | 0.590 | 0.510 | 0.510 | 0.410 | 0.290 | 0.270 | 0.200 |
| 300 | 0.670 | 0.570 | 0.540 | 0.460 | 0.320 | 0.300 | 0.230 |
| 400 | 0.760 | 0.630 | 0.570 | 0.520 | 0.360 | 0.340 | 0.250 |
| 500 | 0.770 | 0.680 | 0.570 | 0.560 | 0.390 | 0.360 | 0.270 |
| 630 | 0.810 | 0.680 | 0.640 | 0.630 | 0.430 | 0.400 | 0.290 |
| 800 | 0.860 | 0.740 | 0.730 | 0.710 | 0.490 | 0.450 | 0.330 |
| 1000 | 0.880 | 0.740 | 0.800 | 0.780 | 0.530 | 0.490 | 0.360 |

REACTANCE

*Approximate Reactance for Multi core cables in Ohms per Km at 50 Hz

| NOMINAL SIZE OF CONDUCTOR (IN SQMM) | 1.9 / 3.3kV (E) OR 3.3 / 3.3 kV (UE) | 3.8 / 6.6kV(E) | 6.35/11kV(E) OR 6.6/6.6 kV(UE) | 11/11kV(UE) | 12.7/22kV(E) | 19/33kV(E) |
|-------------------------------------|--------------------------------------|----------------|--------------------------------|-------------|--------------|------------|
| | 25 | 0.0981 | 0.1090 | 0.1160 | 0.1300 | - |
| 35 | 0.0940 | 0.1050 | 0.1110 | 0.1240 | 0.1270 | - |
| 50 | 0.0878 | 0.0989 | 0.1050 | 0.1170 | 0.1200 | 0.1340 |
| 70 | 0.0842 | 0.0945 | 0.1000 | 0.1110 | 0.1140 | 0.1260 |
| 95 | 0.0813 | 0.0909 | 0.0959 | 0.1070 | 0.1090 | 0.1210 |
| 120 | 0.0785 | 0.0878 | 0.0925 | 0.1030 | 0.1050 | 0.1170 |
| 150 | 0.0769 | 0.0851 | 0.0894 | 0.0987 | 0.1000 | 0.1120 |
| 185 | 0.0755 | 0.0838 | 0.0879 | 0.0968 | 0.0990 | 0.1100 |
| 240 | 0.0737 | 0.0812 | 0.0850 | 0.0932 | 0.0952 | 0.1060 |
| 300 | 0.0725 | 0.0798 | 0.0823 | 0.0897 | 0.0915 | 0.1000 |
| 400 | 0.0712 | 0.0788 | 0.0799 | 0.0866 | 0.0883 | 0.0971 |

CURRENT RATINGS

KEI Recommendations for Current Ratings:

The Current rating of power cables is defined by the maximum intensity of current (amperes) which can flow continuously through the cable, under permanent loading conditions, without any risk of damaging the cable or deterioration or its electrical properties.

The value given in the tables are valid for one circuit in a three phase system under conditions specified. For grouping cables rating factors must be used.

The current carrying capacities mentioned in KEI technical data are intended as a guide, to assist operating engineers in selecting cables for safety and reliability.

- Max. Conductor Temperature : 90° C
- Ambient Air Temperature : 40° C
- Ambient Ground Temperature : 30° C
- Thermal resistivity of soil : 150°C cm/W
- Depth of laying (to the highest point of the cables laid direct in the ground)
 - 3.3, 6.6 & 11 kV Cables : 90 cm
 - 22 and 33 kV Cables : 105 cm
- Max. Conductor Temperature for Short Circuit : 250° C

To obtain the maximum current carrying capacity of a cable operating at different conditions from the standard, various rating factors are to be multiplied, as follows :-

$$I_a = K \times I_s \quad \text{in amperes}$$

RATING FACTORS

1) Rating Factors for Variation in Ambient Air Temperature for Cables in Free Air

| Air Temperature, 0°C | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
|--|------|-----|------|-----|------|------|------|------|
| Rating Factor (Maximum Conductor Temperature 90°C) | 1.14 | 1.1 | 1.05 | 1.0 | 0.95 | 0.89 | 0.84 | 0.77 |

2) Rating Factors for Variation in Ground Temperature for Direct Buried Cables

| Ground Temperature, 0°C | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|--|------|------|------|-----|------|------|------|------|
| Rating Factor (Maximum Conductor Temperature 90°C) | 1.12 | 1.08 | 1.04 | 1.0 | 0.96 | 0.91 | 0.87 | 0.82 |

3) Rating Factors for Variation in Ground Temperature for Cables in Ducts

| Ground Temperature, 0°C | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|--|------|------|------|-----|------|------|------|------|
| Rating Factor (Maximum Conductor Temperature 90°C) | 1.12 | 1.08 | 1.04 | 1.0 | 0.96 | 0.91 | 0.87 | 0.82 |

4) Rating Factors for Depths of Laying for Direct Buried Cables

| Depth of Laying mm | 3.3, 6.6 & 11 kV Cables | | | 22 & 33 kV Cables | | |
|-----------------------|---|-------|------------|---|-------|------------|
| | Single Core Nominal Conductor Size, mm ² | | Three Core | Single Core Nominal Conductor Size, mm ² | | Three Core |
| | ≤ 185 | > 185 | | ≤ 185 | > 185 | |
| 900 | 1.0 | 1.0 | 1.0 | - | - | - |
| 1050 | 0.99 | 0.98 | 0.98 | 1.00 | 1.0 | 1.0 |
| 1200 | 0.97 | 0.96 | 0.97 | 0.99 | 0.98 | 0.99 |
| 1500 | 0.95 | 0.94 | 0.95 | 0.97 | 0.96 | 0.97 |
| 1800 | 0.94 | 0.92 | 0.94 | 0.95 | 0.94 | 0.95 |
| 2000 | 0.93 | 0.91 | 0.93 | 0.94 | 0.93 | 0.94 |
| 2500 | 0.91 | 0.89 | 0.91 | 0.92 | 0.91 | 0.92 |
| 3000 | 0.89 | 0.87 | 0.90 | 0.90 | 0.89 | 0.91 |

GROUP RATING FACTORS

FOR SINGLE CORE CABLES

A) Group Rating Factors For Three Core Cables, In Horizontal Formation Laid Direct In The Ground

| Number of Cables in Group | Spacing between trefoil group centres | | | | |
|---------------------------|---------------------------------------|------|------|------|------|
| | Touching | 200 | 400 | 600 | 800 |
| 2 | 0.73 | 0.83 | 0.88 | 0.90 | 0.92 |
| 3 | 0.60 | 0.73 | 0.79 | 0.83 | 0.86 |
| 4 | 0.54 | 0.68 | 0.75 | 0.80 | 0.84 |
| 5 | 0.49 | 0.63 | 0.72 | 0.78 | 0.82 |
| 6 | 0.46 | 0.67 | 0.70 | 0.76 | 0.81 |
| 7 | 0.43 | 0.58 | 0.68 | 0.75 | 0.80 |
| 8 | 0.41 | 0.57 | 0.67 | 0.74 | - |
| 9 | 0.39 | 0.55 | 0.66 | 0.73 | - |
| 10 | 0.37 | 0.54 | 0.65 | - | - |
| 11 | 0.36 | 0.53 | 0.64 | - | - |
| 12 | 0.35 | 0.52 | 0.64 | - | - |

B) Group Rating Factors to be Applied for Circuits of Three Single Core Cables in Air on Perforated Trays and Ladder Supports on Trefoil Formation (Cables laid on perforated trays)

| No. Racks / Trays in Tiers | Number of Three-Phase Circuits | | |
|----------------------------|--------------------------------|------|------|
| | 1 | 2 | 3 |
| 1 | 1.00 | 0.98 | 0.96 |
| 2 | 0.97 | 0.93 | 0.89 |
| 3 | 0.96 | 0.92 | 0.86 |

C) As above B. But Cables laid on Ladder Supports, Cleats, etc.

| No. Racks / Trays in Tiers | Number of Three-Phase Circuits | | |
|----------------------------|--------------------------------|------|------|
| | 1 | 2 | 3 |
| 1 | 1.00 | 0.98 | 0.96 |
| 2 | 0.97 | 0.93 | 0.89 |
| 3 | 0.96 | 0.92 | 0.86 |

FOR MULTI CORE CABLES

A) Group Rating Factors for Three Core Cables in Horizontal Formation Laid Direct in the Ground

| No. of cables | Spacing Between Group Centre (mm) | | | | |
|---------------|-----------------------------------|------|------|------|------|
| | Touching | 200 | 400 | 600 | 800 |
| 2 | 0.80 | 0.86 | 0.90 | 0.92 | 0.94 |
| 3 | 0.69 | 0.77 | 0.82 | 0.86 | 0.89 |
| 4 | 0.62 | 0.72 | 0.79 | 0.83 | 0.87 |
| 5 | 0.57 | 0.68 | 0.76 | 0.81 | 0.85 |
| 6 | 0.54 | 0.65 | 0.74 | 0.80 | 0.84 |
| 7 | 0.51 | 0.63 | 0.72 | 0.78 | 0.83 |
| 8 | 0.49 | 0.61 | 0.71 | 0.78 | - |
| 9 | 0.47 | 0.60 | 0.70 | 0.77 | - |
| 10 | 0.46 | 0.59 | 0.69 | - | - |
| 11 | 0.45 | 0.57 | 0.69 | - | - |
| 12 | 0.43 | 0.56 | 0.68 | - | - |

B) Group Rating Factors for Three Core Cables in Air on Perforated Trays. For vertical spacing between trays of 300 mm and at least 20 mm between trays and wall. (Cables touching)

| No. Racks / Trays | Number of cables | | | | | |
|-------------------|------------------|------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 6 | 9 |
| 1 | 1.00 | 0.88 | 0.82 | 0.79 | 0.76 | 0.73 |
| 2 | 1.00 | 0.87 | 0.80 | 0.77 | 0.73 | 0.68 |
| 3 | 1.00 | 0.86 | 0.79 | 0.76 | 0.71 | 0.66 |

C) As above B. But Cables laid in spacing of 20 mm.

| No. Racks / Trays | Number of cables | | | | | |
|-------------------|------------------|------|------|------|------|---|
| | 1 | 2 | 3 | 4 | 6 | 9 |
| 1 | 1.00 | 1.00 | 0.98 | 0.95 | 0.91 | - |
| 2 | 1.00 | 0.99 | 0.96 | 0.92 | 0.87 | - |
| 3 | 1.00 | 0.98 | 0.95 | 0.91 | 0.85 | - |

D) Group Rating Factors for Three Core Cables in Air on Vertical Perforated Trays. For horizontal spacing between trays of 25 mm with trays mounted back to back. (Cables touching)

| No. Racks / Trays | Number of cables | | | | | |
|-------------------|------------------|------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 6 | 9 |
| 1 | 1.00 | 0.88 | 0.82 | 0.78 | 0.73 | 0.72 |
| 2 | 1.00 | 0.88 | 0.81 | 0.76 | 0.71 | 0.70 |

E) As above D. But Cables laid in spacing of D_e where D_e = Overall diameter of cable

| No. Racks / Trays | Number of cables | | | | | |
|-------------------|------------------|------|------|------|------|---|
| | 1 | 2 | 3 | 4 | 6 | 9 |
| 1 | 1.00 | 0.91 | 0.89 | 0.88 | 0.87 | - |
| 2 | 1.00 | 0.91 | 0.88 | 0.87 | 0.85 | - |

F) Group Rating Factors for Three Core Cables in Air on Ladder Supports. For vertical spacing between trays of 300 mm and at least 20 mm between trays and wall. (Cables touching)

| No. Racks / Trays | Number of cables | | | | | |
|-------------------|------------------|------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 6 | 9 |
| 1 | 1.00 | 0.87 | 0.82 | 0.80 | 0.79 | 0.78 |
| 2 | 1.00 | 0.86 | 0.80 | 0.78 | 0.76 | 0.73 |
| 3 | 1.00 | 0.85 | 0.79 | 0.76 | 0.73 | 0.70 |

G) As above F. But Cables laid in spacing of D_e where D_e = Overall diameter of cable

| No. Racks / Trays | Number of cables | | | | | |
|-------------------|------------------|------|------|------|------|---|
| | 1 | 2 | 3 | 4 | 6 | 9 |
| 1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| 2 | 1.00 | 0.99 | 0.98 | 0.97 | 0.96 | - |
| 3 | 1.00 | 0.98 | 0.97 | 0.96 | 0.93 | - |

SINGLE CORE COMPACTED ALUMINIUM & COPPER CONDUCTOR, XLPE INSULATED, UNARMOURED & ARMoured CABLE, Al & Cu/XLPE/Al WIRE/PVC CONFIRMING TO IS: 7098 (PART-2)

Voltage Grade : 1.9/3.3 kV (Screened) (E)
Voltage Grade : 3.3/3.3 kV (Unscreened) (UE)

WEIGHT & DIMENSIONS

| Nominal Size of stranded, class-2 conductor as per IS: 8130 | Unarmoured Cable | | | | | | Armoured Cable | | | | | | | | | | | | Current Rating | | | | | | | | | | | | |
|---|----------------------------------|-----|------|-------------------------------|------|-----|-------------------------|-------------------------------|---|---------------------------|---------------------------|---------------------------|------------------------------------|-----|-----|---------------------------|-----|------------------|----------------|------|------------------|------------------------------------|------|------------------|---------------------------|------|------------------|---------------|------|------------------|---------------|
| | Nom thickness of XLPE Insulation | | | Nom thickness of Outer Sheath | | | Nom diameter of Al wire | Min thickness of Outer Sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Cu Approx weight of cable | Buried Direct in the Ground @ 30°C | | | In Single way Duct @ 30°C | | | In Air @ 40°C | | | Buried Direct in the Ground @ 30°C | | | In Single way Duct @ 30°C | | | In Air @ 40°C | | | |
| | mm | mm | mm | mm | mm | mm | | | | | | | mm | mm | mm | mm | mm | Trefoil Touching | Flat Touching | Amps | Trefoil Touching | Flat Touching | Amps | Trefoil Touching | Flat Touching | Amps | Trefoil Touching | Flat Touching | Amps | Trefoil Touching | Flat Touching |
| 25 | 2.2 | 1.8 | 14.6 | 235 | 385 | 2.5 | 1.4 | 17.1 | 17.1 | 340 | 475 | 99 | 101 | 88 | 87 | 118 | 115 | 118 | 127 | 130 | 113 | 111 | 148 | 151 | 151 | 127 | 130 | 113 | 111 | 148 | 151 |
| 35 | 2.2 | 1.8 | 15.6 | 275 | 470 | 2.5 | 1.4 | 18.1 | 18.1 | 375 | 575 | 117 | 120 | 104 | 103 | 142 | 139 | 142 | 151 | 155 | 135 | 132 | 179 | 183 | 151 | 155 | 135 | 132 | 179 | 183 | |
| 50 | 2.2 | 1.8 | 16.7 | 325 | 605 | 2.5 | 1.4 | 19.5 | 19.5 | 460 | 725 | 138 | 141 | 123 | 120 | 169 | 166 | 169 | 178 | 181 | 158 | 154 | 214 | 218 | 178 | 181 | 158 | 154 | 214 | 218 | |
| 70 | 2.2 | 1.8 | 18.3 | 400 | 800 | 2.5 | 1.6 | 21.5 | 21.5 | 550 | 950 | 168 | 172 | 149 | 146 | 208 | 208 | 212 | 216 | 220 | 192 | 187 | 267 | 271 | 216 | 220 | 192 | 187 | 267 | 271 | |
| 95 | 2.2 | 2.0 | 20.4 | 515 | 1050 | 2.5 | 1.6 | 23.2 | 23.2 | 670 | 1200 | 200 | 204 | 177 | 172 | 252 | 252 | 256 | 256 | 260 | 227 | 220 | 323 | 327 | 256 | 256 | 227 | 220 | 323 | 327 | |
| 120 | 2.2 | 2.0 | 21.8 | 600 | 1275 | 2.5 | 1.6 | 24.6 | 24.6 | 775 | 1450 | 227 | 230 | 201 | 195 | 292 | 292 | 296 | 290 | 292 | 257 | 247 | 374 | 376 | 290 | 292 | 257 | 247 | 374 | 376 | |
| 150 | 2.2 | 2.0 | 23.2 | 695 | 1500 | 2.5 | 1.6 | 26.0 | 26.0 | 880 | 1700 | 252 | 255 | 223 | 215 | 329 | 329 | 333 | 323 | 323 | 285 | 272 | 422 | 422 | 323 | 323 | 285 | 272 | 422 | 422 | |
| 185 | 2.2 | 2.0 | 25.1 | 825 | 1850 | 2.5 | 1.6 | 27.9 | 27.9 | 1000 | 2050 | 285 | 287 | 251 | 241 | 380 | 380 | 383 | 362 | 359 | 319 | 302 | 484 | 481 | 362 | 359 | 319 | 302 | 484 | 481 | |
| 240 | 2.2 | 2.0 | 27.5 | 990 | 2350 | 2.5 | 1.6 | 30.6 | 30.6 | 1225 | 2575 | 326 | 323 | 286 | 270 | 448 | 448 | 444 | 411 | 398 | 361 | 550 | 550 | 550 | 411 | 398 | 361 | 550 | 550 | | |
| 300 | 2.2 | 2.0 | 29.6 | 1175 | 2850 | 2.5 | 1.6 | 32.7 | 32.7 | 1425 | 3100 | 365 | 357 | 319 | 298 | 511 | 511 | 502 | 456 | 435 | 400 | 641 | 615 | 456 | 435 | 400 | 641 | 615 | | | |
| 400 | 2.2 | 2.2 | 33.0 | 1495 | 3750 | 2.6 | 2.0 | 36.7 | 36.7 | 1845 | 4050 | 412 | 397 | 359 | 329 | 593 | 593 | 574 | 508 | 474 | 443 | 734 | 690 | 508 | 474 | 443 | 734 | 690 | | | |
| 500 | 2.4 | 2.2 | 36.4 | 1800 | 4600 | 2.8 | 2.0 | 40.1 | 40.1 | 2200 | 5000 | 461 | 436 | 401 | 360 | 680 | 680 | 647 | 559 | 509 | 486 | 828 | 761 | 559 | 509 | 486 | 828 | 761 | | | |
| 630 | 2.6 | 2.2 | 40.4 | 2250 | 5750 | 3.0 | 2.0 | 44.4 | 44.4 | 2700 | 6250 | 514 | 475 | 445 | 390 | 777 | 777 | 725 | 611 | 543 | 529 | 929 | 834 | 611 | 543 | 529 | 929 | 834 | | | |
| 800 | 2.8 | 2.4 | 45.5 | 2800 | 7300 | 3.3 | 2.0 | 49.7 | 49.7 | 3300 | 7800 | 552 | 495 | 476 | 403 | 863 | 863 | 780 | 638 | 549 | 549 | 1002 | 872 | 638 | 549 | 549 | 1002 | 872 | | | |
| 1000 | 3.0 | 2.6 | 51.6 | 3500 | 9100 | 3.5 | 2.5 | 56.7 | 56.7 | 4200 | 9800 | 595 | 523 | 509 | 423 | 954 | 954 | 846 | 672 | 569 | 575 | 1083 | 927 | 672 | 569 | 575 | 1083 | 927 | | | |

SINGLE CORE COMPACTED ALUMINIUM & COPPER CONDUCTOR, XLPE INSULATED, UNARMoured & ARMoured CABLE, Al & Cu/XLPE/Al WIRE/PVC CONFORMING TO IS: 7098 (PART-2)

Voltage Grade : 3.3/3.3 kV (Screened) (UE)
Voltage Grade : 1.9/3.3 kV (Screened) (E)

WEIGHT & DIMENSIONS

| Nominal Size of stranded, class-2 conductor as per IS: 8130 | Unarmoured Cable | | | | | | Armoured Cable | | | | | | Current Rating | | | | | | | | | | | | | |
|---|----------------------------------|-------------------------------|---|---------------------------|---------------------------|-------------------------|-------------------------------|---|---------------------------|---------------------------|-------------------------------------|----------------------------|----------------|-------------------------------------|----------------------------|----------------|-------------------------------------|----------------------------|----------------|-------------------------------------|----------------------------|----------------|-------------------------------------|----------------------------|----------------|----|
| | XLPE Insulation | | | Cable | | | Cable | | | Cable | | | Aluminium | | Copper | | Aluminium | | Copper | | Aluminium | | Copper | | | |
| | Nom thickness of XLPE Insulation | Nom thickness of Outer Sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Nom diameter of Al wire | Min thickness of Outer Sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Buried Direct in the Ground @ 30° C | In Single way Duct @ 30° C | In Air @ 40° C | Buried Direct in the Ground @ 30° C | In Single way Duct @ 30° C | In Air @ 40° C | Buried Direct in the Ground @ 30° C | In Single way Duct @ 30° C | In Air @ 40° C | Buried Direct in the Ground @ 30° C | In Single way Duct @ 30° C | In Air @ 40° C | Buried Direct in the Ground @ 30° C | In Single way Duct @ 30° C | In Air @ 40° C | |
| Sq.mm. | mm | mm | mm | Kg/Km | Kg/Km | mm | mm | mm | mm | Kg/Km | Kg/Km | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm |
| 25 | 2.2 | 1.8 | 15.6 | 310 | 450 | 1.6 | 1.40 | 20.4 | 440 | 580 | 99 | 101 | 88 | 87 | 115 | 118 | 127 | 130 | 111 | 113 | 148 | 151 | 183 | 151 | 148 | |
| 35 | 2.2 | 1.8 | 16.6 | 350 | 550 | 1.6 | 1.4 | 21.4 | 500 | 690 | 117 | 120 | 104 | 103 | 139 | 142 | 151 | 155 | 132 | 135 | 179 | 183 | 183 | 179 | 183 | |
| 50 | 2.2 | 2 | 17.7 | 425 | 700 | 1.6 | 1.4 | 22.5 | 570 | 830 | 138 | 141 | 123 | 120 | 166 | 169 | 178 | 181 | 154 | 158 | 214 | 218 | 218 | 214 | 218 | |
| 70 | 2.2 | 2 | 19.3 | 500 | 900 | 1.6 | 1.4 | 24.1 | 650 | 1020 | 168 | 172 | 149 | 146 | 208 | 212 | 216 | 220 | 187 | 192 | 267 | 271 | 271 | 267 | 271 | |
| 95 | 2.2 | 2.0 | 21.4 | 600 | 1150 | 1.6 | 1.4 | 25.8 | 750 | 1250 | 200 | 204 | 177 | 172 | 252 | 256 | 256 | 260 | 220 | 227 | 323 | 327 | 327 | 323 | 327 | |
| 120 | 2.2 | 2.0 | 22.8 | 700 | 1375 | 1.6 | 1.4 | 27.2 | 870 | 1500 | 227 | 230 | 201 | 195 | 292 | 296 | 290 | 292 | 247 | 257 | 374 | 376 | 376 | 374 | 376 | |
| 150 | 2.2 | 2.0 | 24.2 | 800 | 1650 | 1.6 | 1.4 | 28.6 | 990 | 1770 | 252 | 255 | 223 | 215 | 329 | 333 | 323 | 323 | 285 | 285 | 422 | 422 | 422 | 422 | 422 | |
| 185 | 2.2 | 2.0 | 26.1 | 925 | 1975 | 1.6 | 1.56 | 30.8 | 1110 | 2100 | 285 | 287 | 251 | 241 | 380 | 383 | 362 | 359 | 302 | 319 | 484 | 481 | 481 | 484 | 481 | |
| 240 | 2.2 | 2.2 | 28.5 | 1125 | 2450 | 2.0 | 1.56 | 34.0 | 1300 | 2580 | 326 | 323 | 286 | 270 | 448 | 444 | 411 | 398 | 333 | 361 | 565 | 550 | 550 | 565 | 550 | |
| 300 | 2.2 | 2.2 | 30.6 | 1350 | 3000 | 2.0 | 1.56 | 36.1 | 1600 | 3170 | 365 | 357 | 319 | 298 | 511 | 502 | 456 | 435 | 363 | 400 | 641 | 615 | 615 | 641 | 615 | |
| 400 | 2.2 | 2.2 | 35.4 | 1650 | 3900 | 2.0 | 1.56 | 39.3 | 1900 | 4050 | 412 | 397 | 359 | 329 | 593 | 574 | 508 | 474 | 393 | 443 | 734 | 690 | 690 | 734 | 690 | |
| 500 | 2.4 | 2.2 | 38.8 | 2000 | 4800 | 2.0 | 1.72 | 43.0 | 2300 | 4960 | 461 | 436 | 401 | 360 | 680 | 647 | 559 | 509 | 420 | 486 | 828 | 761 | 761 | 828 | 761 | |
| 630 | 2.6 | 2.4 | 42.8 | 2450 | 6000 | 2.0 | 1.88 | 47.4 | 2800 | 6150 | 514 | 475 | 445 | 390 | 777 | 725 | 611 | 543 | 446 | 529 | 929 | 834 | 834 | 929 | 834 | |
| 800 | 2.8 | 2.6 | 47.9 | 3050 | 7500 | 2.5 | 2.04 | 53.6 | 3400 | 7650 | 552 | 495 | 476 | 403 | 863 | 780 | 638 | 549 | 447 | 549 | 1002 | 872 | 872 | 1002 | 872 | |
| 1000 | 3.0 | 2.6 | 54 | 3700 | 9300 | 2.5 | 2.2 | 59.6 | 4160 | 9480 | 595 | 523 | 509 | 423 | 954 | 846 | 672 | 569 | 460 | 575 | 1063 | 927 | 927 | 1063 | 927 | |

SINGLE CORE COMPACTED ALUMINIUM & COPPER CONDUCTOR, XLPE INSULATED, UNARMoured & ARMoured CABLE, Al & Cu/XLPE/Al WIRE/PVC CONFORMING TO IS: 7098 (PART-2)

Voltage Grade : 3.8/6.6 kV (E)

WEIGHT & DIMENSIONS

| Nominal Size of stranded, class-2 conductor as per IS: 8130 | Unarmoured Cable | | | | | | Armoured cable | | | | | | Current Rating | | | | | | | | | | | | | |
|---|----------------------------------|-------------------------------|---|---------------------------|---------------------------|-------------------------|-------------------------------|---|---------------------------|---------------------------|------------------------------------|---------------|------------------|---------------|------------------------------------|---------------|---------------------------|---------------|------------------|---------------|------------------------------------|---------------|---------------------------|---------------|------|-----|
| | Nom thickness of XLPE Insulation | Nom thickness of Outer Sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Nom diameter of Al wire | Min thickness of Outer Sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Aluminium | | | | Copper | | | | | | | | | | | |
| | | | | | | | | | | | Buried Direct in the Ground @ 30°C | | In Air @ 40°C | | Buried Direct in the Ground @ 30°C | | In Single way Duct @ 30°C | | In Air @ 40°C | | Buried Direct in the Ground @ 30°C | | In Single way Duct @ 30°C | | | |
| | | | | | | | | | | | Trefoil Touching | Flat Touching | Trefoil Touching | Flat Touching | Trefoil Touching | Flat Touching | Trefoil Touching | Flat Touching | Trefoil Touching | Flat Touching | Trefoil Touching | Flat Touching | Trefoil Touching | Flat Touching | | |
| Sq.mm. | mm | mm | Kg./Km | Kg./Km | mm | mm | Kg./Km | Kg./Km | Kg./Km | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | |
| 25 | 2.8 | 1.8 | 18.0 | 340 | 475 | 1.6 | 1.40 | 20.3 | 450 | 600 | 99 | 101 | 88 | 87 | 115 | 118 | 127 | 130 | 133 | 111 | 148 | 151 | 148 | 151 | 148 | 151 |
| 35 | 2.8 | 2.0 | 19.4 | 400 | 600 | 1.6 | 1.4 | 21.6 | 525 | 700 | 117 | 120 | 104 | 103 | 139 | 142 | 151 | 155 | 135 | 132 | 179 | 183 | 179 | 183 | 179 | 183 |
| 50 | 2.8 | 2.0 | 20.5 | 475 | 750 | 1.6 | 1.4 | 22.7 | 600 | 875 | 138 | 141 | 123 | 120 | 166 | 169 | 178 | 181 | 158 | 154 | 214 | 218 | 214 | 218 | 214 | 218 |
| 70 | 2.8 | 2.0 | 23.1 | 550 | 950 | 1.6 | 1.4 | 24.3 | 675 | 1050 | 168 | 172 | 149 | 146 | 208 | 212 | 216 | 220 | 192 | 187 | 267 | 271 | 267 | 271 | 267 | 271 |
| 95 | 2.8 | 2.0 | 23.8 | 660 | 1200 | 1.6 | 1.4 | 26.0 | 800 | 1325 | 200 | 204 | 177 | 172 | 252 | 256 | 256 | 260 | 227 | 220 | 323 | 327 | 323 | 327 | 323 | 327 |
| 120 | 2.8 | 2.0 | 25.2 | 750 | 1425 | 1.6 | 1.4 | 27.4 | 900 | 1550 | 227 | 230 | 201 | 195 | 292 | 296 | 290 | 292 | 257 | 247 | 374 | 376 | 374 | 376 | 374 | 376 |
| 150 | 2.8 | 2.0 | 26.6 | 850 | 1700 | 1.6 | 1.56 | 29.2 | 1025 | 1850 | 252 | 255 | 223 | 215 | 329 | 333 | 323 | 323 | 285 | 272 | 422 | 422 | 422 | 422 | 422 | 422 |
| 185 | 2.8 | 2.0 | 28.5 | 1000 | 2025 | 1.6 | 1.56 | 31.1 | 1150 | 2200 | 285 | 287 | 251 | 241 | 380 | 383 | 362 | 359 | 319 | 302 | 484 | 481 | 484 | 481 | 484 | 481 |
| 240 | 2.8 | 2.2 | 31.3 | 1200 | 2550 | 2.0 | 1.56 | 34.3 | 1450 | 2800 | 326 | 323 | 286 | 270 | 448 | 444 | 411 | 398 | 361 | 333 | 565 | 550 | 565 | 550 | 565 | 550 |
| 300 | 3.0 | 2.2 | 33.8 | 1425 | 3100 | 2.0 | 1.56 | 36.8 | 1675 | 3350 | 365 | 357 | 319 | 298 | 511 | 502 | 456 | 435 | 400 | 363 | 641 | 615 | 641 | 615 | 641 | 615 |
| 400 | 3.3 | 2.2 | 37.4 | 1750 | 4000 | 2.0 | 1.72 | 41 | 2100 | 4350 | 412 | 397 | 359 | 329 | 593 | 574 | 508 | 474 | 443 | 393 | 734 | 690 | 734 | 690 | 734 | 690 |
| 500 | 3.5 | 2.4 | 41.2 | 2150 | 4950 | 2.0 | 1.72 | 44.4 | 2450 | 5250 | 461 | 436 | 401 | 360 | 680 | 647 | 559 | 509 | 486 | 420 | 828 | 761 | 828 | 761 | 828 | 761 |
| 630 | 3.5 | 2.4 | 44.8 | 2550 | 6125 | 2.0 | 1.88 | 48.2 | 2950 | 6450 | 514 | 475 | 445 | 390 | 777 | 725 | 611 | 543 | 529 | 446 | 929 | 834 | 929 | 834 | 929 | 834 |
| 800 | 3.5 | 2.6 | 49.5 | 3150 | 7650 | 2.5 | 2.04 | 53.8 | 3700 | 8150 | 552 | 495 | 476 | 403 | 863 | 780 | 638 | 569 | 549 | 447 | 1002 | 872 | 1002 | 872 | 1002 | 872 |
| 1000 | 3.6 | 2.8 | 55.4 | 3850 | 9450 | 2.5 | 2.2 | 59.6 | 4450 | 10050 | 595 | 523 | 509 | 423 | 954 | 846 | 672 | 569 | 575 | 460 | 1083 | 927 | 1083 | 927 | 1083 | 927 |

SINGLE CORE COMPACTED ALUMINIUM & COPPER CONDUCTOR, XLPE INSULATED, UNARMoured & ARMoured CABLE CONFORMING TO IS: 7098 (PART-2)

Voltage Grade : 6.35 / 11kV (E), 6.6/6.6 kV (UE)

WEIGHT & DIMENSIONS

| Nominal Size of stranded, class-2 conductor as per IS: 8130 | Unarmoured Cable | | | | | | Round Wire Armoured Cable | | | | | | Current Rating | | | | | | | | | | | | | | | |
|---|----------------------------------|-------------------------------|---|-------------------------------|---------------------------|---------------------------|---|---|---------------------------|---------------------------|------------------------------------|---------------------------|---------------------------|------------------------------------|---------------------------|---------------------------|------------------------------------|---------------------------|---------------|------------------------------------|---------------------------|---------------|------------------------------------|---------------------------|---------------|--------|------|-----|
| | Nom thickness of XLPE Insulation | | | Nom thickness of Outer Sheath | | | Approx Overall diameter of Cable with ± 3mm tolerance | | | Cu Approx weight of cable | | | Al Approx weight of cable | | | Cu Approx weight of cable | | | Aluminium | | | | Copper | | | | | |
| | Nom thickness of XLPE Insulation | Nom thickness of Outer Sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Cu Approx weight of cable | Al Approx weight of cable | Cu Approx weight of cable | Min thickness of Outer Sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Buried Direct in the Ground @ 30°C | In Single way Duct @ 30°C | In Air @ 40°C | Buried Direct in the Ground @ 30°C | In Single way Duct @ 30°C | In Air @ 40°C | Buried Direct in the Ground @ 30°C | In Single way Duct @ 30°C | In Air @ 40°C | Buried Direct in the Ground @ 30°C | In Single way Duct @ 30°C | In Air @ 40°C | Buried Direct in the Ground @ 30°C | In Single way Duct @ 30°C | In Air @ 40°C | | | |
| | Sq.mm. | mm | mm | mm | mm | mm | mm | mm | mm | Kg./Km | Kg./Km | Kg./Km | Kg./Km | Kg./Km | Kg./Km | Kg./Km | Kg./Km | Kg./Km | Kg./Km | Kg./Km | Kg./Km | Kg./Km | Kg./Km | Kg./Km | Kg./Km | Kg./Km | | |
| 35 | 3.6 | 2.0 | 21.0 | 450 | 650 | 700 | 1.4 | 23.2 | 525 | 700 | 118 | 120 | 104 | 102 | 140 | 143 | 151 | 155 | 134 | 132 | 181 | 185 | 151 | 155 | 134 | 132 | 181 | 185 |
| 50 | 3.6 | 2.0 | 22.1 | 525 | 800 | 875 | 1.4 | 24.3 | 600 | 875 | 138 | 141 | 122 | 120 | 167 | 171 | 178 | 181 | 158 | 154 | 216 | 219 | 178 | 181 | 158 | 154 | 216 | 219 |
| 70 | 3.6 | 2.0 | 23.7 | 625 | 1000 | 1050 | 1.4 | 25.9 | 675 | 1050 | 168 | 172 | 149 | 146 | 209 | 213 | 216 | 220 | 191 | 186 | 269 | 273 | 216 | 220 | 191 | 186 | 269 | 273 |
| 95 | 3.6 | 2.0 | 25.4 | 725 | 1250 | 1300 | 1.4 | 27.6 | 800 | 1300 | 200 | 204 | 177 | 172 | 254 | 258 | 257 | 259 | 227 | 219 | 326 | 329 | 257 | 259 | 227 | 219 | 326 | 329 |
| 120 | 3.6 | 2.0 | 26.8 | 825 | 1500 | 1550 | 1.6 | 29.4 | 900 | 1550 | 227 | 230 | 200 | 194 | 294 | 298 | 290 | 292 | 256 | 246 | 376 | 378 | 290 | 292 | 256 | 246 | 376 | 378 |
| 150 | 3.6 | 2.0 | 28.2 | 925 | 1750 | 1875 | 1.6 | 30.8 | 1025 | 1875 | 252 | 255 | 223 | 215 | 331 | 335 | 323 | 323 | 285 | 272 | 424 | 425 | 323 | 323 | 285 | 272 | 424 | 425 |
| 185 | 3.6 | 2.2 | 30.2 | 1050 | 2100 | 2200 | 1.56 | 33.5 | 1150 | 2200 | 284 | 284 | 250 | 238 | 383 | 384 | 360 | 354 | 317 | 297 | 487 | 480 | 360 | 354 | 317 | 297 | 487 | 480 |
| 240 | 3.6 | 2.2 | 32.9 | 1250 | 2600 | 2800 | 1.56 | 35.9 | 1450 | 2800 | 326 | 323 | 286 | 270 | 450 | 446 | 411 | 398 | 361 | 332 | 568 | 552 | 411 | 398 | 361 | 332 | 568 | 552 |
| 300 | 3.6 | 2.2 | 35.0 | 1500 | 3150 | 3350 | 1.56 | 38.0 | 1650 | 3350 | 365 | 357 | 319 | 297 | 512 | 503 | 456 | 435 | 399 | 362 | 643 | 616 | 456 | 435 | 399 | 362 | 643 | 616 |
| 400 | 3.6 | 2.2 | 38.0 | 1800 | 4050 | 4350 | 1.72 | 41.6 | 2100 | 4350 | 412 | 397 | 359 | 329 | 594 | 575 | 508 | 474 | 443 | 392 | 735 | 690 | 508 | 474 | 443 | 392 | 735 | 690 |
| 500 | 3.6 | 2.4 | 41.4 | 2150 | 5000 | 5250 | 1.72 | 44.6 | 2450 | 5250 | 461 | 436 | 401 | 360 | 680 | 647 | 559 | 510 | 486 | 420 | 828 | 761 | 559 | 510 | 486 | 420 | 828 | 761 |
| 630 | 3.6 | 2.4 | 45.0 | 2550 | 6125 | 6450 | 1.88 | 48.6 | 3000 | 6450 | 514 | 476 | 445 | 390 | 778 | 725 | 611 | 544 | 529 | 446 | 930 | 835 | 611 | 544 | 529 | 446 | 930 | 835 |
| 800 | 3.6 | 2.6 | 49.7 | 3150 | 7650 | 8200 | 2.04 | 54.1 | 3700 | 8200 | 553 | 496 | 476 | 404 | 863 | 781 | 639 | 550 | 550 | 448 | 1003 | 873 | 639 | 550 | 550 | 448 | 1003 | 873 |
| 1000 | 3.6 | 2.8 | 55.4 | 3850 | 9500 | 10050 | 2.20 | 59.6 | 4450 | 10050 | 595 | 523 | 509 | 423 | 954 | 846 | 672 | 569 | 575 | 460 | 1083 | 927 | 672 | 569 | 575 | 460 | 1083 | 927 |

SINGLE CORE COMPACTED ALUMINIUM & COPPER CONDUCTOR, XLPE INSULATED, UNARMoured & ARMoured CABLE CONFORMING TO IS: 7098 (PART-2)

Voltage Grade : 11/11 kV (UE)

WEIGHT & DIMENSIONS

| Nominal Size of stranded, class-2 conductor as per IS: 8130 | Unarmoured Cable | | | | | | Armoured cable | | | | | | Current Rating | | | | | | | | | | | | | | | | | |
|---|----------------------------------|-----|------|-------------------------------|------|------|---|---------------------------|---------------------------|-------------------------|-------------------------------|------------------------------------|------------------|---------------|---------------------------|------------------|---------------|------------------|------------------|---------------|------------------------------------|------------------|---------------|---------------------------|------------------|---------------|------------------|------------------|---------------|------------------|
| | Nom thickness of XLPE Insulation | | | Nom thickness of Outer Sheath | | | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Nom diameter of Al wire | Min thickness of Outer Sheath | Buried Direct in the Ground @ 30°C | | | In Single way Duct @ 30°C | | | In Air @ 40°C | | | Buried Direct in the Ground @ 30°C | | | In Single way Duct @ 30°C | | | In Air @ 40°C | | | |
| | mm | mm | mm | mm | mm | mm | | | | | | mm | Kg./Km | Kg./Km | mm | mm | mm | Trefoil Touching | Flat Touching | Amps | Trefoil Touching | Flat Touching | Amps | Trefoil Touching | Flat Touching | Amps | Trefoil Touching | Flat Touching | Amps | Trefoil Touching |
| | mm | mm | mm | mm | mm | mm | mm | Kg./Km | Kg./Km | mm | mm | mm | Trefoil Touching | Flat Touching | Amps | Trefoil Touching | Flat Touching | Amps | Trefoil Touching | Flat Touching | Amps | Trefoil Touching | Flat Touching | Amps | Trefoil Touching | Flat Touching | Amps | Trefoil Touching | Flat Touching | Amps |
| 35 | 5.5 | 2.0 | 25.2 | 1.4 | 1.4 | 27.4 | 750 | 950 | 1.6 | 1.56 | 32.1 | 1050 | 1600 | 200 | 204 | 177 | 172 | 172 | 254 | 258 | 257 | 259 | 227 | 219 | 134 | 132 | 181 | 185 | | |
| 50 | 5.5 | 2.0 | 26.3 | 1.56 | 1.56 | 28.8 | 850 | 1125 | 1.6 | 1.56 | 34.3 | 1250 | 1950 | 227 | 230 | 200 | 194 | 194 | 294 | 298 | 290 | 292 | 256 | 246 | 158 | 154 | 216 | 219 | | |
| 70 | 5.5 | 2.0 | 27.9 | 1.56 | 1.56 | 30.4 | 950 | 1350 | 1.6 | 1.56 | 35.7 | 1400 | 2200 | 252 | 255 | 223 | 215 | 215 | 331 | 335 | 323 | 323 | 285 | 272 | 191 | 186 | 269 | 273 | | |
| 95 | 5.5 | 2.0 | 29.6 | 1.56 | 1.56 | 32.1 | 900 | 1425 | 1.6 | 1.56 | 37.6 | 1550 | 2600 | 284 | 284 | 250 | 238 | 238 | 383 | 384 | 360 | 354 | 317 | 297 | 297 | 297 | 487 | 480 | | |
| 120 | 5.5 | 2.2 | 31.4 | 1.72 | 1.72 | 34.3 | 1000 | 1700 | 2.0 | 1.72 | 40.3 | 1800 | 3150 | 326 | 323 | 286 | 270 | 270 | 450 | 446 | 411 | 398 | 361 | 332 | 332 | 568 | 552 | | | |
| 150 | 5.5 | 2.2 | 32.8 | 1.72 | 1.72 | 35.7 | 1150 | 2000 | 2.0 | 1.72 | 42.4 | 2050 | 3700 | 365 | 357 | 319 | 297 | 297 | 512 | 503 | 456 | 435 | 399 | 362 | 362 | 643 | 616 | | | |
| 185 | 5.5 | 2.2 | 34.7 | 1.88 | 1.88 | 37.6 | 1275 | 2300 | 2.0 | 1.88 | 46.0 | 2425 | 4650 | 412 | 397 | 359 | 329 | 329 | 594 | 575 | 508 | 474 | 443 | 392 | 392 | 735 | 690 | | | |
| 240 | 5.5 | 2.2 | 37.1 | 1.88 | 1.88 | 40.3 | 1500 | 2850 | 2.0 | 1.88 | 49.0 | 2800 | 5600 | 461 | 436 | 401 | 360 | 360 | 680 | 647 | 559 | 510 | 486 | 420 | 420 | 828 | 761 | | | |
| 300 | 5.5 | 2.2 | 39.2 | 2.04 | 2.04 | 42.4 | 1700 | 3400 | 2.0 | 2.04 | 53.9 | 3450 | 7000 | 514 | 476 | 445 | 390 | 390 | 778 | 725 | 611 | 544 | 529 | 446 | 446 | 930 | 835 | | | |
| 400 | 5.5 | 2.4 | 42.8 | 2.2 | 2.2 | 46.0 | 2050 | 4300 | 2.5 | 2.2 | 58.5 | 4100 | 8600 | 553 | 496 | 476 | 404 | 404 | 863 | 781 | 639 | 550 | 550 | 448 | 448 | 1003 | 873 | | | |
| 500 | 5.5 | 2.4 | 45.8 | 2.2 | 2.2 | 49.0 | 2400 | 5250 | 2.5 | 2.2 | 63.8 | 4850 | 10500 | 595 | 523 | 509 | 423 | 423 | 954 | 846 | 672 | 569 | 575 | 460 | 460 | 1083 | 927 | | | |
| 630 | 5.5 | 2.6 | 49.8 | 2.2 | 2.2 | 53.9 | 2900 | 6450 | 2.5 | 2.2 | 68.5 | 5950 | 12500 | 639 | 550 | 550 | 448 | 448 | 1003 | 873 | 690 | 575 | 575 | 460 | 460 | 1083 | 927 | | | |
| 800 | 5.5 | 2.8 | 54.4 | 2.2 | 2.2 | 58.5 | 3500 | 8000 | 2.5 | 2.2 | 68.5 | 5950 | 12500 | 639 | 550 | 550 | 448 | 448 | 1003 | 873 | 690 | 575 | 575 | 460 | 460 | 1083 | 927 | | | |
| 1000 | 5.5 | 2.8 | 59.8 | 2.2 | 2.2 | 63.8 | 4200 | 9800 | 2.5 | 2.2 | 68.5 | 5950 | 12500 | 639 | 550 | 550 | 448 | 448 | 1003 | 873 | 690 | 575 | 575 | 460 | 460 | 1083 | 927 | | | |

SINGLE CORE COMPACTED ALUMINIUM & COPPER CONDUCTOR, XLPE INSULATED, UNARMoured & ARMoured CABLE CONFORMING TO IS: 7098 (PART-2)

Voltage Grade : 12.7/22 kV (E)

WEIGHT & DIMENSIONS

| Nominal Size of stranded, class-2 conductor as per IS: 8130 | Unarmoured Cable | | | | Round Wire Armoured Cable | | | | Current Rating | | | | | | | | | | | | | |
|---|------------------------------------|-------------------------------|---|---------------------------|---------------------------|-------------------------|-------------------------------|---|---------------------------|---------------------------|------------------------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------|-----|
| | Nom thickness of XLPE Insulation | Nom thickness of Outer Sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Nom diameter of Al wire | Min thickness of Outer Sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Buried Direct in the Ground @ 30°C | | In Air @ 40°C | | Aluminium | | Copper | | In Air @ 40°C | | | |
| | | | | | | | | | | | Buried Direct in the Ground @ 30°C | | In Air @ 40°C | | Aluminium | | Copper | | In Air @ 40°C | | | |
| | Buried Direct in the Ground @ 30°C | | In Air @ 40°C | | Aluminium | | Copper | | In Air @ 40°C | | | | | | | | | | | | | |
| Sq. mm. | mm | mm | mm | Kg./Km | Kg./Km | mm | mm | mm | Kg./Km | Kg./Km | Trefoil Touching | Flat Touching | Trefoil Touching | Flat Touching | Trefoil Touching | Flat Touching | Trefoil Touching | Flat Touching | Trefoil Touching | Flat Touching | | |
| 35 | 6.0 | 2.0 | 26.2 | 650 | 850 | 1.6 | 1.4 | 28.2 | 800 | 1000 | 116 | 119 | 102 | 101 | 144 | 146 | 150 | 153 | 132 | 129 | 185 | 188 |
| 50 | 6.0 | 2.0 | 27.3 | 725 | 1000 | 1.6 | 1.56 | 29.6 | 900 | 1175 | 137 | 139 | 120 | 117 | 174 | 177 | 176 | 178 | 154 | 150 | 224 | 227 |
| 70 | 6.0 | 2.0 | 28.9 | 825 | 1225 | 1.6 | 1.56 | 31.2 | 1000 | 1400 | 167 | 169 | 146 | 142 | 217 | 220 | 214 | 215 | 187 | 180 | 278 | 280 |
| 95 | 6.0 | 2.2 | 31.0 | 975 | 1500 | 2.0 | 1.56 | 33.7 | 1125 | 1650 | 198 | 200 | 172 | 167 | 262 | 264 | 253 | 253 | 221 | 212 | 336 | 336 |
| 120 | 6.0 | 2.2 | 32.4 | 1050 | 1750 | 2.0 | 1.56 | 35.1 | 1300 | 2000 | 224 | 225 | 195 | 188 | 302 | 303 | 285 | 284 | 249 | 236 | 386 | 384 |
| 150 | 6.0 | 2.2 | 33.8 | 1200 | 2050 | 2.0 | 1.56 | 36.5 | 1450 | 2300 | 249 | 249 | 217 | 207 | 339 | 340 | 317 | 313 | 276 | 260 | 434 | 429 |
| 185 | 6.0 | 2.2 | 35.7 | 1350 | 2400 | 2.0 | 1.56 | 38.4 | 1600 | 2650 | 280 | 279 | 243 | 231 | 389 | 387 | 355 | 346 | 308 | 286 | 494 | 485 |
| 240 | 6.0 | 2.2 | 38.1 | 1550 | 2900 | 2.0 | 1.72 | 41.1 | 1900 | 3200 | 321 | 316 | 278 | 261 | 455 | 449 | 404 | 387 | 350 | 320 | 575 | 556 |
| 300 | 6.0 | 2.2 | 40.2 | 1775 | 3450 | 2.0 | 1.72 | 43.2 | 2100 | 3800 | 355 | 343 | 307 | 282 | 515 | 501 | 442 | 413 | 382 | 339 | 644 | 611 |
| 400 | 6.0 | 2.4 | 43.8 | 2150 | 4400 | 2.0 | 1.88 | 47.0 | 2425 | 4850 | 400 | 380 | 345 | 312 | 594 | 571 | 490 | 449 | 422 | 367 | 734 | 683 |
| 500 | 6.0 | 2.6 | 47.2 | 2550 | 5350 | 2.5 | 2.04 | 51.3 | 2800 | 5600 | 447 | 417 | 384 | 340 | 678 | 641 | 538 | 482 | 462 | 393 | 825 | 753 |
| 630 | 6.0 | 2.6 | 50.8 | 3000 | 6500 | 2.5 | 2.04 | 54.9 | 3450 | 7000 | 496 | 453 | 424 | 367 | 770 | 715 | 586 | 513 | 501 | 416 | 920 | 823 |
| 800 | 6.0 | 2.8 | 55.5 | 3600 | 8100 | 2.5 | 2.2 | 59.5 | 4100 | 8600 | 543 | 486 | 475 | 402 | 866 | 789 | 629 | 540 | 550 | 447 | 1014 | 890 |
| 1000 | 6.0 | 3.0 | 61.2 | 4350 | 9950 | 2.5 | 2.36 | 65.1 | 4850 | 10500 | 572 | 508 | 498 | 417 | 944 | 851 | 643 | 552 | 560 | 453 | 1074 | 938 |

THREE CORE, ALUMINIUM & COPPER CONDUCTOR, XLPE INSULATED, ARMoured CABLE CONFORMING TO IS: 7098 (PART-2)

Voltage Grade : 1.9/3.3 kV (Unscreened) (E)

WEIGHT & DIMENSIONS

| Nominal Size of stranded, class-2 conductor as per IS: 8130 | Form of conductor strand | Nom thickness of XLPE Insulation | Min thickness of PVC inner sheath | Strip Armoured Cable | | | Round Wire Armoured Cable | | | Current Rating | | | | | | | | | | | | | |
|---|--------------------------|----------------------------------|-----------------------------------|----------------------------|-------------------------------|---|---------------------------|---------------------------|--------------------------------|-------------------------------|---|---------------------------|---------------------------|-----------|--------|------|------|------|------|------|------|------|------|
| | | | | Dimension of GI flat strip | Min Thickness of Outer sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Nom Dimension of GI Round wire | Min Thickness of Outer sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Aluminium | Copper | | | | | | | | |
| Sq. mm. | △ | mm | mm | mm x mm | mm | mm | Kg./Km | Kg./Km | mm | mm | mm | Kg./Km | Kg./Km | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps |
| 25 | Shaped | 2.2 | 0.3 | 4 x 0.8 | 1.40 | 26.9 | 950 | 1400 | 1.6 | 1.56 | 28.9 | 1200 | 1600 | 94 | 81 | 102 | 121 | 104 | 132 | | | | |
| 35 | Shaped | 2.2 | 0.3 | 4 x 0.8 | 1.56 | 28.6 | 1100 | 1700 | 1.6 | 1.56 | 30.2 | 1300 | 1900 | 112 | 96 | 123 | 144 | 124 | 159 | | | | |
| 50 | Shaped | 2.2 | 0.4 | 4 x 0.8 | 1.56 | 31.8 | 1300 | 2150 | 2.0 | 1.56 | 34.2 | 1800 | 2650 | 131 | 113 | 146 | 169 | 146 | 188 | | | | |
| 70 | Shaped | 2.2 | 0.4 | 4 x 0.8 | 1.56 | 34.0 | 1575 | 2750 | 2.0 | 1.56 | 36.4 | 2050 | 3250 | 160 | 138 | 182 | 206 | 178 | 234 | | | | |
| 95 | Shaped | 2.2 | 0.4 | 4 x 0.8 | 1.72 | 37.4 | 1900 | 3500 | 2.0 | 1.72 | 39.8 | 2400 | 4050 | 191 | 165 | 221 | 246 | 212 | 284 | | | | |
| 120 | Shaped | 2.2 | 0.5 | 4 x 0.8 | 1.72 | 39.6 | 2150 | 4200 | 2.0 | 1.88 | 42.4 | 2750 | 4750 | 216 | 187 | 254 | 278 | 240 | 326 | | | | |
| 150 | Shaped | 2.2 | 0.5 | 4 x 0.8 | 1.88 | 43.0 | 2500 | 5050 | 2.5 | 2.04 | 46.6 | 3500 | 6050 | 241 | 208 | 286 | 310 | 268 | 368 | | | | |
| 185 | Shaped | 2.2 | 0.5 | 4 x 0.8 | 2.04 | 46.2 | 2950 | 6050 | 2.5 | 2.04 | 49.6 | 4000 | 7100 | 273 | 236 | 330 | 350 | 302 | 422 | | | | |
| 240 | Shaped | 2.2 | 0.6 | 4 x 0.8 | 2.20 | 49.9 | 3500 | 7550 | 2.5 | 2.20 | 53.3 | 4600 | 8650 | 315 | 277 | 385 | 401 | 353 | 492 | | | | |
| 300 | Shaped | 2.2 | 0.6 | 4 x 0.8 | 2.20 | 55.9 | 4200 | 9300 | 2.5 | 2.36 | 59.7 | 5500 | 10500 | 354 | 312 | 440 | 449 | 395 | 559 | | | | |
| 400 | Shaped | 2.2 | 0.7 | 4 x 0.8 | 2.52 | 60.9 | 5250 | 12000 | 3.15 | 2.68 | 65.7 | 7200 | 13950 | 403 | 355 | 512 | 506 | 445 | 642 | | | | |

THREE CORE, ALUMINIUM & COPPER CONDUCTOR, XLPE INSULATED, ARMoured CABLE CONFORMING TO IS: 7098 (PART-2)

Voltage Grade : 3.3/3.3 kV (Screened) (UE)

WEIGHT & DIMENSIONS

| Nominal Size of stranded, class-2 conductor as per IS: 8130 | Form of conductor strand | Nom thickness of XLPE Insulation | Min thickness of PVC inner sheath | Strip Armoured Cable | | | Round Wire Armoured Cable | | | Current Rating | | | | | | | | | | | | | |
|---|--------------------------|----------------------------------|-----------------------------------|--------------------------------|-------------------------------|---|---------------------------|---------------------------|--------------------------------|-------------------------------|---|---------------------------|---------------------------|-----------|--------|------|------|------|------|------|------|------|------|
| | | | | Nom Dimension of GI flat strip | Min Thickness of Outer sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Nom Dimension of GI Round wire | Min Thickness of Outer sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Aluminium | Copper | | | | | | | | |
| Sq.mm. | 0 | mm | mm | mm x mm | mm | mm | Kg./Km | Kg./Km | mm | mm | mm | Kg./Km | Kg./Km | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps |
| 25 | Circular | 2.2 | 0.4 | 4 x 0.8 | 1.56 | 33.9 | 1500 | 1950 | 2.0 | 1.56 | 36.3 | 2000 | 2450 | 94 | 81 | 102 | 121 | 104 | 132 | | | | |
| 35 | Circular | 2.2 | 0.4 | 4 x 0.8 | 1.56 | 36.0 | 1700 | 2300 | 2.0 | 1.72 | 38.4 | 2300 | 2900 | 112 | 96 | 123 | 144 | 124 | 159 | | | | |
| 50 | Circular | 2.2 | 0.4 | 4 x 0.8 | 1.72 | 38.7 | 1975 | 2800 | 2.0 | 1.72 | 41.4 | 2550 | 3400 | 131 | 113 | 146 | 169 | 146 | 188 | | | | |
| 70 | Circular | 2.2 | 0.5 | 4 x 0.8 | 1.72 | 42.0 | 2350 | 3500 | 2.0 | 1.88 | 44.6 | 3000 | 4200 | 160 | 138 | 182 | 206 | 178 | 234 | | | | |
| 95 | Circular | 2.2 | 0.5 | 4 x 0.8 | 1.88 | 45.8 | 2800 | 4400 | 2.5 | 2.04 | 49.6 | 3900 | 5500 | 191 | 165 | 221 | 246 | 212 | 284 | | | | |
| 120 | Circular | 2.2 | 0.5 | 4 x 0.8 | 2.04 | 49.1 | 3350 | 5350 | 2.5 | 2.04 | 52.5 | 4550 | 6575 | 216 | 187 | 254 | 278 | 240 | 326 | | | | |
| 150 | Circular | 2.2 | 0.6 | 4 x 0.8 | 2.04 | 52.5 | 3600 | 6150 | 2.5 | 2.20 | 56.1 | 4900 | 7400 | 241 | 208 | 286 | 310 | 268 | 368 | | | | |
| 185 | Circular | 2.2 | 0.6 | 4 x 0.8 | 2.20 | 56.7 | 4200 | 7350 | 2.5 | 2.36 | 60.5 | 5600 | 8700 | 273 | 236 | 330 | 350 | 302 | 422 | | | | |
| 240 | Circular | 2.2 | 0.6 | 4 x 0.8 | 2.36 | 62.1 | 5100 | 9150 | 2.5 | 2.36 | 65.5 | 6550 | 10600 | 315 | 277 | 385 | 401 | 353 | 492 | | | | |
| 300 | Circular | 2.2 | 0.7 | 4 x 0.8 | 2.52 | 66.7 | 5900 | 11000 | 3.15 | 2.68 | 71.8 | 8200 | 13300 | 354 | 312 | 440 | 449 | 395 | 559 | | | | |
| 400 | Circular | 2.2 | 0.7 | 4 x 0.8 | 2.68 | 73.8 | 7400 | 14200 | 3.15 | 2.84 | 78.9 | 10000 | 16800 | 403 | 355 | 512 | 506 | 445 | 642 | | | | |

THREE CORE, ALUMINIUM & COPPER CONDUCTOR, XLPE INSULATED, ARMOURED CABLE CONFORMING TO IS: 7098 (PART-2)

Voltage Grade : 3.8/6.6 kV (E)

WEIGHT & DIMENSIONS

| Nominal Size of stranded, class-2 conductor as per IS: 8130 | Form of conductor strand | Nom thickness of XLPE insulation | Min thickness of PVC Inner sheath | Strip Armoured Cable | | | | Round Wire Armoured Cable | | | | Current Rating | | | | | | | | | | | | | | | | |
|---|--------------------------|----------------------------------|-----------------------------------|--------------------------------|-------------------------------|---|---------------------------|---------------------------|--------------------------------|-------------------------------|---|---------------------------|---------------------------|-----------|------|--------|------|------|------|------|------|------|------|------|------|------|------|-----|
| | | | | Nom Dimension of GI flat strip | Min Thickness of Outer sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Nom Dimension of GI Round wire | Min Thickness of Outer sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Aluminium | | Copper | | | | | | | | | | | | |
| Sq.mm. | 0 | mm | mm | mm x mm | mm | mm | Kg./Km | Kg./Km | mm | mm | mm | Kg./Km | Kg./Km | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | |
| 25 | Circular | 2.8 | 0.4 | 4 x 0.8 | 1.56 | 36.8 | 1700 | 2150 | 1.72 | 39.4 | 2.0 | 2300 | 2700 | 94 | 81 | 102 | 121 | 104 | 132 | 121 | 104 | 132 | 104 | 132 | 104 | 132 | 104 | 132 |
| 35 | Circular | 2.8 | 0.4 | 4 x 0.8 | 1.72 | 39.1 | 1900 | 2500 | 1.72 | 41.5 | 2.0 | 2500 | 3100 | 112 | 96 | 123 | 144 | 124 | 159 | 144 | 124 | 159 | 124 | 159 | 124 | 159 | 124 | 159 |
| 50 | Circular | 2.8 | 0.5 | 4 x 0.8 | 1.72 | 41.4 | 2200 | 3050 | 1.88 | 44.2 | 2.0 | 2850 | 3700 | 131 | 113 | 146 | 169 | 146 | 188 | 169 | 146 | 188 | 146 | 188 | 146 | 188 | 146 | 188 |
| 70 | Circular | 2.8 | 0.5 | 4 x 0.8 | 1.88 | 45.2 | 2525 | 3700 | 1.88 | 47.6 | 2.0 | 3200 | 4400 | 160 | 138 | 182 | 206 | 178 | 234 | 206 | 178 | 234 | 178 | 234 | 178 | 234 | 178 | 234 |
| 95 | Circular | 2.8 | 0.5 | 4 x 0.8 | 1.88 | 48.7 | 2950 | 4550 | 2.04 | 52.5 | 2.5 | 4150 | 5750 | 191 | 165 | 221 | 246 | 212 | 284 | 246 | 212 | 284 | 212 | 284 | 212 | 284 | 212 | 284 |
| 120 | Circular | 2.8 | 0.6 | 4 x 0.8 | 2.04 | 52.5 | 3550 | 5550 | 2.20 | 56.1 | 2.5 | 4850 | 6850 | 216 | 187 | 254 | 278 | 240 | 326 | 278 | 240 | 326 | 240 | 326 | 240 | 326 | 240 | 326 |
| 150 | Circular | 2.8 | 0.6 | 4 x 0.8 | 2.20 | 55.6 | 3975 | 6500 | 2.20 | 59.0 | 2.5 | 5250 | 7800 | 241 | 208 | 286 | 310 | 268 | 368 | 310 | 268 | 368 | 268 | 368 | 268 | 368 | 268 | 368 |
| 185 | Circular | 2.8 | 0.6 | 4 x 0.8 | 2.20 | 59.6 | 4550 | 7650 | 2.36 | 63.4 | 2.5 | 6000 | 9100 | 273 | 236 | 330 | 350 | 302 | 422 | 350 | 302 | 422 | 302 | 422 | 302 | 422 | 302 | 422 |
| 240 | Circular | 2.8 | 0.7 | 4 x 0.8 | 2.36 | 65.3 | 5450 | 9500 | 2.52 | 70.3 | 3.15 | 7725 | 11800 | 315 | 277 | 385 | 401 | 353 | 492 | 401 | 353 | 492 | 353 | 492 | 353 | 492 | 353 | 492 |
| 300 | Circular | 3.0 | 0.7 | 4 x 0.8 | 2.52 | 71.0 | 6375 | 11400 | 2.68 | 76.0 | 3.15 | 8750 | 13800 | 354 | 312 | 440 | 449 | 395 | 559 | 449 | 395 | 559 | 395 | 559 | 395 | 559 | 395 | 559 |
| 400 | Circular | 3.3 | 0.7 | 4 x 0.8 | 2.84 | 79.3 | 8000 | 14750 | 3.00 | 85.9 | 4.0 | 11875 | 18600 | 403 | 355 | 512 | 506 | 445 | 642 | 506 | 445 | 642 | 445 | 642 | 445 | 642 | 445 | 642 |

THREE CORE, ALUMINIUM & COPPER CONDUCTOR, XLPE INSULATED, ARMoured CABLE CONFORMING TO IS: 7098 (PART-2)

VOLTAGE GRADE : 6.35/11 kV (E) OR 6.6/6.6 kV (UE)

WEIGHT & DIMENSIONS

| Nominal Size of stranded, class-2 conductor as per IS: 8130 | Form of conductor strand | Nom thickness of XLPE insulation | Min thickness of PVC inner sheath | Strip Armoured Cable | | | | Round Wire Armoured Cable | | | | Current Rating | | | | | | | | | | | | | | |
|---|--------------------------|----------------------------------|-----------------------------------|--------------------------------|-------------------------------|---|---------------------------|---------------------------|--------------------------------|-------------------------------|---|---------------------------|---------------------------|-----------|--------|------|------|------|------|------|------|------|------|------|------|--|
| | | | | Nom Dimension of GI flat strip | Min Thickness of Outer sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Nom Dimension of GI Round wire | Min Thickness of Outer sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Aluminium | Copper | | | | | | | | | | | |
| Sq.mm. | 0 | mm | mm | mm x mm | mm | mm | Kg./Km | Kg./Km | mm | mm | mm | Kg./Km | Kg./Km | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | |
| 35 | Circular | 3.6 | 0.5 | 4 x 0.8 | 1.72 | 42.7 | 2200 | 2800 | 1.88 | 45.3 | 2900 | 3500 | 112 | 97 | 124 | 144 | 125 | 160 | | | | | | | | |
| 50 | Circular | 3.6 | 0.5 | 4 x 0.8 | 1.88 | 45.2 | 2550 | 3400 | 2.04 | 48.8 | 3650 | 4500 | 131 | 114 | 148 | 169 | 146 | 191 | | | | | | | | |
| 70 | Circular | 3.6 | 0.5 | 4 x 0.8 | 1.88 | 48.5 | 2850 | 4050 | 2.04 | 52.1 | 4000 | 5200 | 161 | 139 | 184 | 207 | 179 | 237 | | | | | | | | |
| 95 | Circular | 3.6 | 0.6 | 4 x 0.8 | 2.04 | 52.5 | 3350 | 4950 | 2.20 | 56.1 | 4600 | 6250 | 190 | 165 | 222 | 245 | 213 | 286 | | | | | | | | |
| 120 | Circular | 3.6 | 0.6 | 4 x 0.8 | 2.20 | 56.0 | 3900 | 5950 | 2.20 | 59.4 | 5200 | 7200 | 216 | 188 | 256 | 278 | 241 | 329 | | | | | | | | |
| 150 | Circular | 3.6 | 0.6 | 4 x 0.8 | 2.20 | 59.0 | 4400 | 6900 | 2.36 | 62.8 | 5800 | 8350 | 242 | 209 | 288 | 311 | 269 | 371 | | | | | | | | |
| 185 | Circular | 3.6 | 0.7 | 4 x 0.8 | 2.36 | 63.5 | 4925 | 8050 | 2.52 | 68.3 | 7125 | 10250 | 273 | 240 | 330 | 349 | 308 | 422 | | | | | | | | |
| 240 | Circular | 3.6 | 0.7 | 4 x 0.8 | 2.52 | 68.8 | 5950 | 10000 | 2.68 | 73.7 | 8350 | 12400 | 315 | 278 | 387 | 401 | 354 | 493 | | | | | | | | |
| 300 | Circular | 3.6 | 0.7 | 4 x 0.8 | 2.68 | 73.4 | 6800 | 11900 | 2.84 | 78.3 | 9400 | 14450 | 354 | 312 | 441 | 449 | 396 | 560 | | | | | | | | |
| 400 | Circular | 3.6 | 0.7 | 4 x 0.8 | 2.84 | 80.5 | 8200 | 14950 | 3.00 | 87.1 | 12100 | 18800 | 404 | 356 | 512 | 506 | 446 | 643 | | | | | | | | |

THREE CORE, ALUMINIUM & COPPER CONDUCTOR, XLPE INSULATED, ARMoured CABLE CONFORMING TO IS: 7098 (PART-2)

VOLTAGE GRADE : 12.7/22 kV (E)

WEIGHT & DIMENSIONS

| Nominal Size of stranded, class-2 conductor as per IS: 8130 | Form of conductor strand | Nom thickness of XLPE Insulation | Min thickness of PVC Inner sheath | Strip Armoured Cable | | | Round Wire Armoured Cable | | | Current Rating | | | | | | | | | | | | | | |
|---|--------------------------|----------------------------------|-----------------------------------|----------------------------|-------------------------------|---|---------------------------|---------------------------|--------------------------------|-------------------------------|---|---------------------------|---------------------------|-----------|------|--------|------|------|------|------|------|------|------|------|
| | | | | Dimension of GI flat strip | Min Thickness of Outer sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Nom Dimension of GI Round wire | Min Thickness of Outer sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Aluminium | | Copper | | | | | | | | |
| Sq.mm. | 0 | mm | mm | mm x mm | mm | mm | Kg./Km | Kg./Km | mm | mm | mm | Kg./Km | Kg./Km | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps |
| 35 | Circular | 6.0 | 0.6 | 4 x 0.8 | 2.04 | 53.8 | 3150 | 3750 | 2.5 | 2.20 | 57.6 | 4450 | 5000 | 111 | 97 | 127 | 143 | 125 | 164 | 164 | 164 | 164 | 164 | 164 |
| 50 | Circular | 6.0 | 0.6 | 4 x 0.8 | 2.20 | 56.5 | 3550 | 4400 | 2.5 | 2.36 | 60.2 | 4900 | 5750 | 130 | 116 | 152 | 167 | 150 | 196 | 196 | 196 | 196 | 196 | 196 |
| 70 | Circular | 6.0 | 0.6 | 4 x 0.8 | 2.36 | 60.1 | 4100 | 5300 | 2.5 | 2.36 | 63.5 | 5500 | 6700 | 159 | 142 | 189 | 204 | 183 | 243 | 243 | 243 | 243 | 243 | 243 |
| 95 | Circular | 6.0 | 0.7 | 4 x 0.8 | 2.36 | 63.7 | 4550 | 6150 | 3.15 | 2.52 | 68.7 | 6750 | 8350 | 189 | 169 | 227 | 243 | 217 | 293 | 293 | 293 | 293 | 293 | 293 |
| 120 | Circular | 6.0 | 0.7 | 4 x 0.8 | 2.52 | 67.0 | 5100 | 7100 | 3.15 | 2.68 | 72.0 | 7400 | 9400 | 215 | 192 | 262 | 276 | 246 | 336 | 336 | 336 | 336 | 336 | 336 |
| 150 | Circular | 6.0 | 0.7 | 4 x 0.8 | 2.68 | 70.2 | 5650 | 8200 | 3.15 | 2.68 | 74.9 | 8100 | 10650 | 239 | 214 | 294 | 307 | 275 | 378 | 378 | 378 | 378 | 378 | 378 |
| 185 | Circular | 6.0 | 0.7 | 4 x 0.8 | 2.68 | 74.6 | 6300 | 9450 | 3.15 | 2.84 | 79.6 | 8950 | 12050 | 270 | 245 | 336 | 346 | 313 | 431 | 431 | 431 | 431 | 431 | 431 |
| 240 | Circular | 6.0 | 0.7 | 4 x 0.8 | 2.84 | 80.0 | 7250 | 11300 | 4.0 | 3.00 | 86.7 | 11200 | 15250 | 312 | 282 | 393 | 398 | 360 | 503 | 503 | 503 | 503 | 503 | 503 |
| 300 | Circular | 6.0 | 0.7 | 4 x 0.8 | 3.00 | 84.7 | 8200 | 13300 | 4.0 | 3.00 | 91.1 | 12300 | 17350 | 351 | 317 | 448 | 446 | 403 | 571 | 571 | 571 | 571 | 571 | 571 |
| 400 | Circular | 6.0 | 0.7 | 4 x 0.8 | 3.00 | 91.2 | 9950 | 16750 | 4.0 | 3.00 | 97.6 | 14350 | 21000 | 400 | 361 | 519 | 503 | 453 | 655 | 655 | 655 | 655 | 655 | 655 |

THREE CORE, ALUMINIUM & COPPER CONDUCTOR, XLPE INSULATED, ARMOURED CABLE CONFORMING TO IS: 7098 (PART -2)

Voltage Grade : 19/33 kV (E)

WEIGHT & DIMENSIONS

| Nominal Size of stranded, class-2 conductor as per IS: 8130 | Form of conductor strand | Nom thickness of XLPE Insulation | Min thickness of PVC inner sheath | Strip Armoured Cable | | | | Round Wire Armoured Cable | | | | Current Rating | | | | | | | | | | | | | | | | |
|---|--------------------------|----------------------------------|-----------------------------------|--------------------------------|-------------------------------|---|---------------------------|---------------------------|--------------------------------|-------------------------------|---|---------------------------|---------------------------|-----------|-----|--------|--------|------|------|------|------|------|------|------|------|------|------|------|
| | | | | Nom Dimension of GI flat strip | Min Thickness of Outer sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Nom Dimension of GI Round wire | Min Thickness of Outer sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Aluminium | | Copper | | | | | | | | | | | | |
| Sq.mm. | 0 | mm | mm | mm x mm | mm | mm | Kg./Km | Kg./Km | mm | mm | mm | Kg./Km | Kg./Km | mm | mm | Kg./Km | Kg./Km | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps |
| 50 | Circular | 8.8 | 0.7 | 4 x 0.8 | 2.52 | 68.8 | 5150 | 5950 | 3.15 | 2.68 | 73.9 | 7500 | 8350 | 130 | 116 | 152 | 167 | 150 | 196 | 196 | 150 | 196 | 150 | 196 | 150 | 196 | 150 | 196 |
| 70 | Circular | 8.8 | 0.7 | 4 x 0.8 | 2.68 | 72.6 | 5550 | 6750 | 3.15 | 2.84 | 77.5 | 8100 | 9250 | 159 | 142 | 189 | 204 | 183 | 243 | 243 | 183 | 243 | 183 | 243 | 183 | 243 | 183 | 243 |
| 95 | Circular | 8.8 | 0.7 | 4 x 0.8 | 2.84 | 76.4 | 6200 | 7850 | 3.15 | 3.00 | 81.5 | 8850 | 10500 | 189 | 169 | 227 | 243 | 217 | 293 | 293 | 217 | 293 | 217 | 293 | 217 | 293 | 217 | 293 |
| 120 | Circular | 8.8 | 0.7 | 4 x 0.8 | 2.84 | 79.3 | 6900 | 8900 | 4.0 | 3.00 | 86.1 | 10800 | 12850 | 215 | 192 | 262 | 276 | 246 | 336 | 336 | 246 | 336 | 246 | 336 | 246 | 336 | 246 | 336 |
| 150 | Circular | 8.8 | 0.7 | 4 x 0.8 | 3.00 | 83.0 | 7450 | 10000 | 4.0 | 3.00 | 89.4 | 11400 | 13900 | 239 | 214 | 294 | 307 | 275 | 378 | 378 | 275 | 378 | 275 | 378 | 275 | 378 | 275 | 378 |
| 185 | Circular | 8.8 | 0.7 | 4 x 0.8 | 3.00 | 87.0 | 8200 | 11300 | 4.0 | 3.00 | 93.4 | 12300 | 15450 | 270 | 245 | 336 | 346 | 313 | 431 | 431 | 313 | 431 | 313 | 431 | 313 | 431 | 313 | 431 |
| 240 | Circular | 8.8 | 0.7 | 4 x 0.8 | 3.00 | 92.1 | 9300 | 13300 | 4.0 | 3.00 | 98.5 | 13650 | 17700 | 312 | 282 | 393 | 398 | 360 | 503 | 503 | 360 | 503 | 360 | 503 | 360 | 503 | 360 | 503 |
| 300 | Circular | 8.8 | 0.7 | 4 x 0.8 | 3.00 | 96.5 | 10250 | 15300 | 4.0 | 3.00 | 102.9 | 14850 | 19900 | 351 | 317 | 448 | 446 | 403 | 571 | 571 | 403 | 571 | 403 | 571 | 403 | 571 | 403 | 571 |
| 400 | Circular | 8.8 | 0.7 | 4 x 0.8 | 3.00 | 103.0 | 11750 | 18500 | 4.0 | 3.00 | 109.4 | 16700 | 23450 | 400 | 361 | 519 | 503 | 453 | 655 | 655 | 453 | 655 | 453 | 655 | 453 | 655 | 453 | 655 |

Voltage Grade : 33/33 kV (UE)

WEIGHT & DIMENSIONS

| Nominal Size of stranded, class-2 conductor as per IS: 8130 | Form of conductor strand | Nom thickness of XLPE Insulation | Min thickness of PVC inner sheath | Strip Armoured Cable | | | | Round Wire Armoured Cable | | | | Current Rating | | | | | | | | | | | | | | | | |
|---|--------------------------|----------------------------------|-----------------------------------|--------------------------------|-------------------------------|---|---------------------------|---------------------------|--------------------------------|-------------------------------|---|---------------------------|---------------------------|-----------|-----|--------|--------|------|------|------|------|------|------|------|------|------|------|------|
| | | | | Nom Dimension of GI flat strip | Min Thickness of Outer sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Nom Dimension of GI Round wire | Min Thickness of Outer sheath | Approx Overall diameter of Cable with ± 3mm tolerance | Al Approx weight of cable | Cu Approx weight of cable | Aluminium | | Copper | | | | | | | | | | | | |
| Sq.mm. | 0 | mm | mm | mm x mm | mm | mm | Kg./Km | Kg./Km | mm | mm | mm | Kg./Km | Kg./Km | mm | mm | Kg./Km | Kg./Km | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps |
| 50 | Circular | 9.0 | 0.7 | 4 x 0.8 | 2.68 | 70.3 | 5650 | 6450 | 3.15 | 2.84 | 75.7 | 8200 | 9000 | 130 | 116 | 152 | 167 | 150 | 196 | 196 | 150 | 196 | 150 | 196 | 150 | 196 | 150 | 196 |
| 70 | Circular | 9.0 | 0.7 | 4 x 0.8 | 2.68 | 73.6 | 6200 | 7350 | 3.15 | 2.84 | 79.0 | 9000 | 10110 | 159 | 142 | 189 | 204 | 183 | 243 | 243 | 183 | 243 | 183 | 243 | 183 | 243 | 183 | 243 |
| 95 | Circular | 9.0 | 0.7 | 4 x 0.8 | 2.84 | 77.5 | 6900 | 8400 | 4.0 | 3.0 | 84.6 | 9760 | 11270 | 189 | 169 | 227 | 243 | 217 | 293 | 293 | 217 | 293 | 217 | 293 | 217 | 293 | 217 | 293 |
| 120 | Circular | 9.0 | 0.7 | 4 x 0.8 | 3.0 | 80.7 | 7580 | 9490 | 4.0 | 3.0 | 87.5 | 11770 | 13680 | 215 | 192 | 262 | 276 | 246 | 336 | 336 | 246 | 336 | 246 | 336 | 246 | 336 | 246 | 336 |
| 150 | Circular | 9.0 | 0.7 | 4 x 0.8 | 3.0 | 83.7 | 7970 | 10360 | 4.0 | 3.0 | 90.5 | 12160 | 14550 | 239 | 214 | 294 | 307 | 275 | 378 | 378 | 275 | 378 | 275 | 378 | 275 | 378 | 275 | 378 |
| 185 | Circular | 9.0 | 0.7 | 4 x 0.8 | 3.0 | 87.7 | 8700 | 11640 | 4.0 | 3.0 | 94.5 | 13080 | 16000 | 270 | 245 | 336 | 346 | 313 | 431 | 431 | 313 | 431 | 313 | 431 | 313 | 431 | 313 | 431 |
| 240 | Circular | 9.0 | 0.7 | 4 x 0.8 | 3.0 | 92.7 | 9670 | 13500 | 4.0 | 3.0 | 99.5 | 14300 | 18150 | 312 | 282 | 393 | 398 | 360 | 503 | 503 | 360 | 503 | 360 | 503 | 360 | 503 | 360 | 503 |
| 300 | Circular | 9.0 | 0.7 | 4 x 0.8 | 3.0 | 97.1 | 10710 | 15500 | 4.0 | 3.0 | 103.9 | 15450 | 20200 | 351 | 317 | 448 | 446 | 403 | 571 | 571 | 403 | 571 | 403 | 571 | 403 | 571 | 403 | 571 |
| 400 | Circular | 9.0 | 0.7 | 4 x 0.8 | 3.0 | 103.4 | 11880 | 18700 | 4.0 | 3.0 | 110.2 | 19900 | 26200 | 400 | 361 | 519 | 503 | 453 | 655 | 655 | 453 | 655 | 453 | 655 | 453 | 655 | 453 | 655 |

PVC AND XLPE LT POWER CABLES

KEI INDUSTRIES LIMITED manufactures LT Power Cables with PVC or XLPE insulation of voltage grade upto 3.3 kV conforming to various Indian and International Standard Specifications. KEI also manufactures other types of cables as listed at the end of this catalogue.

CROSS LINKED POLYETHYLENE (XLPE)

XLPE means cross-linked polyethylene or vulcanized polyethylene. The basic material is low density polyethylene. Polyethylene is a thermoset material consisting of long chain of hydrocarbon molecules. At elevated temperature, these molecules tend to move relative to one another so that the material becomes increasingly deformable and eventually melts at the temperature around 110°C.

By means of process similar to the vulcanization of rubber, the polyethylene molecules can be cross-linked. The process of cross-linking or vulcanization consists of producing chemical bonds at interval between the long molecular chain to give a "ladder" effect which prevents slippage between molecules. As a result of cross-linking the material becomes heat resistant and does not soften at higher temperatures. Further it has better resistance to stress cracking and good resistance to ageing in hot air. With the change of structure there is no adverse effect on electrical properties.

Advantages of KEI XLPE CABLES

- ✓ Dielectric losses are very small
- ✓ Higher current carrying capacity
- ✓ Higher short circuit rating 250°C as against 160 °C for PVC
- ✓ KEI XLPE can retain flexibility down upto - 40°C
- ✓ Jointing and termination is easy
- ✓ Light in weight
- ✓ They are not prone to fatigue damages due to vibrations or loading cycles
- ✓ Has better resistance to most chemicals, oils, acids, etc.
- ✓ Can be installed along cable routes without elevation limitations

Comparison of main properties between PVC and XLPE Insulation

| Characteristics | Unit | PVC | XLPE |
|---|-------------------------|------------------|------------------|
| Permittivity (50 Hz, 20° C) | ---- | 4-6 | 2.3 |
| Dielectric Loss Factor (50 Hz, 20° C) | ---- | 0.05-0.07 | 0.0004 |
| Volume Resistivity (Insulation Resistance) (27° C) | Ohm-cm (min) | 10 ¹³ | 10 ¹⁴ |
| Maximum Conductor Temperature during continuous operation | Deg C | 70 | 90 |
| Maximum Conductor Temperature during short circuit | Deg C | 160 | 250 |
| Tensile Strength | N/mm ² (min) | 12.5 | 12.5 |
| % Elongation at break | ---- | Excellent | Medium |
| Flexibility at 10° C | ---- | Poor | Good |
| Resistance to abrasion | ---- | Medium | Good |

RATING FACTORS (PVC)

The current ratings in Table - 1 & 2 based on the normal conditions of installation as described below:

- | | | |
|--|---|----------------|
| 1. Maximum condn. temperature | 5. Thermal resistivity of soil | 150° C cm/watt |
| (a) General purpose PVC Insulation 70° C | 6. Thermal resistivity of cable | 650° C cm/watt |
| (b) Heat resisting PVC Insulation 85° C | 7. Max. short-circuit conductor temperature | 160° C |
| 2. Ambient air temperature 40° C | 8. Max. Ambient Air Temperature | 55° C |
| 3. Ground temperature 30° C | 9. Min Ambient Air temperature | -15° C |
| 4. Depth of laying (for cable laid directly in ground) 75 cm (1.1 kV) | | |

Installation method and Rating factors are given in tables 1 to 6

Table 1 Rating for variations in ground temperature for cables laid directly in ground and in ducts

| Ground temperature (°C) | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|-----------------------------|------|------|------|-----|------|------|------|------|
| Rating factor for 70° C PVC | 1.17 | 1.12 | 1.06 | 1.0 | 0.94 | 0.87 | 0.79 | 0.71 |
| Rating factor for 85° C PVC | 1.13 | 1.09 | 1.04 | 1.0 | 0.95 | 0.9 | 0.85 | 0.8 |

Table 2 Rating factors for variation in ambient air temperature

| Air temperature (°C) | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
|-----------------------------|------|------|------|-----|------|------|------|
| Rating factor for 70° C PVC | 1.22 | 1.15 | 1.08 | 1.0 | 0.91 | 0.82 | 0.71 |
| Rating factor for 85° C PVC | 1.15 | 1.11 | 1.05 | 1.0 | 0.94 | 0.88 | 0.82 |

Table 3

Rating factors of groups of twin and multicore cables laid directly in ground in horizontal formation

| No. of cables | Rating factor for axial spacing | | | | |
|---------------|---------------------------------|-------|-------|-------|-------|
| | Touching | 15 cm | 30 cm | 45 cm | 60 cm |
| 2 cables | 0.78 | 0.81 | 0.85 | 0.88 | 0.90 |
| 3 cables | 0.68 | 0.71 | 0.77 | 0.81 | 0.83 |
| 4 cables | 0.61 | 0.65 | 0.72 | 0.76 | 0.79 |
| 6 cables | 0.53 | 0.58 | 0.66 | 0.71 | 0.76 |
| 8 cables | 0.48 | 0.54 | 0.62 | 0.67 | 0.72 |

Table 4

Rating Factors of groups of Twin and Multicore cables laid directly in Ground in Tier formation

| No. of cables | Rating factor for axial spacing | | | | |
|---------------|---------------------------------|-------|-------|-------|-------|
| | Touching | 15 cm | 30 cm | 45 cm | 60 cm |
| 4 cables | 0.60 | 0.67 | 0.73 | 0.76 | 0.78 |
| 6 cables | 0.51 | 0.57 | 0.63 | 0.67 | 0.69 |
| 8 cables | 0.45 | 0.51 | 0.57 | 0.59 | 0.61 |

Table 5

Rating factors for variation in depth of laying in ground

| Depth of laying (cms) | 75 | 90 | 105 | 120 | 150 | 150 & above |
|-------------------------------|------|------|------|------|------|-------------|
| Rating factor upto 25 sq. mm. | 1.00 | 0.99 | 0.98 | 0.97 | 0.96 | 0.95 |

Table 6

Group rating factors for cables installed in Ground, separated by more than 7 cms.

| No. of cables | 1 | 2 | 3 | 4 | 5 | 6 |
|--|-----|------|------|------|------|------|
| Single core D.C. cables & multicore power cables | 1.0 | 0.90 | 0.80 | 0.75 | 0.70 | 0.65 |
| Single core A.C. cables | 1.0 | 0.80 | 0.75 | 0.70 | 0.65 | 0.60 |

1 CORE, ALUMINIUM CONDUCTOR, GENERAL PURPOSE 70°C PVC INSULATED, ARMoured & UNARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| Nominal Size of stranded, class-2 conductor as per IS: 8130 | Min No of wires | ARMoured | | | | UNARMoured | | | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 70°C | ARMoured | | UNARMoured | | CURRENT RATINGS (a.c.) | | | | | | | |
|---|-----------------|-----------------------------------|------------------------------|-----------------------------------|--|--------------------------------|-----------------------------------|-------------------------------|---|--|--|--------------------------------|---------------------------|-----------------------------|------------------------|-------|------------------------------------|----------|----------------------------------|----------|---------------|----------|
| | | Thickness of PVC Insulation (nom) | Nom Dimension of Armour wire | Min Thickness of PVC Outer sheath | Approx Overall diameter of Cable with ± 2 mm tolerance | Approx weight of cable (Kg/Km) | Thickness of PVC Insulation (nom) | Nom Thickness of Outer sheath | | | Approx Overall diameter of Cable with ± 2 mm tolerance | Approx weight of cable (Kg/Km) | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | Ohms/Km | uF/Km | Buried Direct in the Ground @ 30°C | | In Single way buried Duct @ 30°C | | In Air @ 40°C | |
| | | | | | | | | | | | | | | | | | 2 Cables | 3 Cables | 2 Cables | 3 Cables | 2 Cables | 3 Cables |
| 1C x 4 | 3 | 1.3 | 1.4 | 1.24 | 11.1 | 145 | 1.0 | 8.7 | 85 | 7.41 | 8.89 | 0.158 | 0.47 | 0.137 | 0.58 | 35 | 31 | 30 | 28 | 29 | 25 | |
| 1C x 6 | 3 | 1.3 | 1.4 | 1.24 | 11.6 | 160 | 1.0 | 9.2 | 100 | 4.61 | 5.53 | 0.148 | 0.56 | 0.127 | 0.68 | 46 | 39 | 39 | 36 | 38 | 33 | |
| 1C x 10 | 7 | 1.3 | 1.4 | 1.24 | 12.6 | 190 | 1.0 | 10.2 | 120 | 3.08 | 3.70 | 0.138 | 0.67 | 0.118 | 0.83 | 57 | 49 | 48 | 45 | 48 | 42 | |
| 1C x 16 | 6 | 1.3 | 1.4 | 1.24 | 13.3 | 210 | 1.0 | 10.9 | 140 | 1.91 | 2.29 | 0.128 | 0.81 | 0.110 | 1.01 | 74 | 64 | 62 | 58 | 63 | 56 | |
| 1C x 25 | 6 | 1.5 | 1.4 | 1.24 | 14.9 | 275 | 1.2 | 12.5 | 200 | 1.20 | 1.44 | 0.120 | 0.87 | 0.105 | 1.05 | 95 | 82 | 80 | 74 | 85 | 74 | |
| 1C x 35 | 6 | 1.5 | 1.4 | 1.24 | 15.9 | 325 | 1.2 | 13.5 | 225 | 0.868 | 1.04 | 0.114 | 1.0 | 0.100 | 1.22 | 114 | 97 | 96 | 88 | 103 | 91 | |
| 1C x 50 | 6 | 1.7 | 1.4 | 1.24 | 17.4 | 400 | 1.4 | 15.0 | 300 | 0.641 | 0.769 | 0.110 | 1.03 | 0.098 | 1.22 | 134 | 115 | 113 | 103 | 124 | 110 | |
| 1C x 70 | 12 | 1.7 | 1.4 | 1.40 | 19.4 | 500 | 1.4 | 16.6 | 375 | 0.443 | 0.532 | 0.103 | 1.21 | 0.091 | 1.43 | 165 | 141 | 138 | 127 | 157 | 140 | |
| 1C x 95 | 15 | 1.9 | 1.6 | 1.40 | 21.9 | 650 | 1.6 | 18.7 | 490 | 0.320 | 0.384 | 0.101 | 1.27 | 0.088 | 1.47 | 201 | 169 | 165 | 151 | 198 | 177 | |
| 1C x 120 | 15 | 1.9 | 1.6 | 1.40 | 23.3 | 750 | 1.6 | 20.5 | 575 | 0.253 | 0.304 | 0.096 | 1.42 | 0.086 | 1.62 | 230 | 192 | 188 | 172 | 230 | 207 | |
| 1C x 150 | 15 | 2.1 | 1.6 | 1.40 | 25.1 | 900 | 1.8 | 22.3 | 700 | 0.206 | 0.247 | 0.094 | 1.42 | 0.085 | 1.62 | 256 | 214 | 210 | 191 | 261 | 235 | |
| 1C x 185 | 30 | 2.3 | 1.6 | 1.40 | 27.4 | 1050 | 2.0 | 24.6 | 850 | 0.164 | 0.197 | 0.092 | 1.44 | 0.084 | 1.62 | 290 | 242 | 237 | 216 | 302 | 274 | |
| 1C x 240 | 30 | 2.5 | 1.6 | 1.56 | 30.6 | 1325 | 2.2 | 27.4 | 1050 | 0.125 | 0.150 | 0.09 | 1.53 | 0.082 | 1.72 | 335 | 280 | 274 | 248 | 357 | 324 | |
| 1C x 300 | 30 | 2.7 | 1.6 | 1.56 | 33.1 | 1550 | 2.4 | 29.9 | 1250 | 0.100 | 0.120 | 0.088 | 1.56 | 0.08 | 1.74 | 377 | 314 | 307 | 277 | 409 | 373 | |
| 1C x 400 | 53 | 3.0 | 2.0 | 1.56 | 37.5 | 2000 | 2.6 | 33.7 | 1625 | 0.0778 | 0.093 | 0.088 | 1.56 | 0.08 | 1.81 | 430 | 358 | 349 | 314 | 479 | 438 | |
| 1C x 500 | 53 | 3.4 | 2.0 | 1.72 | 41.7 | 2500 | 3.0 | 37.5 | 2000 | 0.0605 | 0.073 | 0.087 | 1.57 | 0.079 | 1.76 | 486 | 404 | 395 | 354 | 554 | 508 | |
| 1C x 630 | 53 | 3.9 | 2.0 | 1.88 | 46.5 | 3050 | 3.4 | 42.3 | 2500 | 0.0469 | 0.056 | 0.086 | 1.57 | 0.077 | 1.77 | 547 | 454 | 443 | 395 | 638 | 587 | |
| 1C x 800 | 53 | 3.9 | 2.0 | 1.88 | 50.8 | 3700 | 3.4 | 46.6 | 3050 | 0.0367 | 0.044 | 0.083 | 1.75 | 0.077 | 1.98 | 609 | 503 | 492 | 437 | 727 | 668 | |
| 1C x 1000 | 53 | 3.9 | 2.5 | 2.04 | 57.5 | 4500 | 3.4 | 52.3 | 3700 | 0.0291 | 0.035 | 0.082 | 1.94 | 0.076 | 2.20 | 667 | 550 | 536 | 474 | 816 | 750 | |

1 CORE, COPPER CONDUCTOR, GENERAL PURPOSE 70°C PVC INSULATED, ARMoured & UNARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| Nominal Size of stranded, class-2 conductor as per IS: 8130 | Min No of wires | ARMoured | | | | UNARMoured | | | | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 70°C | ARMoured | | UNARMoured | | CURRENT RATINGS (a.c.) | | | | | | | | | | | | | | | | |
|---|-----------------|-----------------------------------|--------------------------|-----------------------------------|--|------------------------|-----------------------------------|--------------------------------|--|---|--|------------------------|---------------------------|-----------------------------|---------------------------|-----------------------------|------------------------------------|----------------------------------|---------------|---------|---------|-------|---------|-------|------|------|------|------|------|------|------|------|
| | | Thickness of PVC Insulation (nom) | Dimension of Armour wire | Min Thickness of PVC Outer sheath | Approx Overall diameter of Cable with ± 2 mm tolerance | Approx weight of cable | Thickness of PVC Insulation (nom) | Norm Thickness of Outer sheath | Approx Overall diameter of Cable with ± 2 mm tolerance | | | Approx weight of cable | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | Buried Direct in the Ground @ 30°C | In Single way buried Duct @ 30°C | In Air @ 40°C | | | | | | | | | | | | | |
| | | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (kg/Km) | (mm) | (mm) | (mm) | (mm) | (kg/Km) | (mm) | (mm) | (mm) | (mm) | (kg/Km) | Ohms/Km | uF/Km | Ohms/Km | uF/Km | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps |
| 1C x 4 | 7 | 1.3 | 1.4 | 1.24 | 11.1 | 165 | 1.0 | 1.8 | 8.7 | 105 | 8.7 | 1.0 | 1.8 | 105 | 5.53 | 0.158 | 0.47 | 0.137 | 0.58 | 45 | 39 | 38 | 35 | 35 | 38 | 35 | 37 | 32 | 32 | 32 | | |
| 1C x 6 | 7 | 1.3 | 1.4 | 1.24 | 11.6 | 200 | 1.0 | 1.8 | 9.2 | 130 | 9.2 | 1.0 | 1.8 | 130 | 3.70 | 0.148 | 0.56 | 0.127 | 0.68 | 56 | 48 | 47 | 44 | 44 | 47 | 44 | 46 | 40 | 40 | 40 | | |
| 1C x 10 | 7 | 1.3 | 1.4 | 1.24 | 12.6 | 240 | 1.0 | 1.8 | 10.2 | 175 | 10.2 | 1.0 | 1.8 | 175 | 2.20 | 0.138 | 0.67 | 0.118 | 0.83 | 74 | 64 | 63 | 58 | 58 | 63 | 58 | 63 | 55 | 55 | 55 | | |
| 1C x 16 | 6 | 1.3 | 1.4 | 1.24 | 13.3 | 300 | 1.0 | 1.8 | 10.9 | 230 | 10.9 | 1.0 | 1.8 | 230 | 1.38 | 0.128 | 0.81 | 0.110 | 1.01 | 95 | 82 | 80 | 75 | 75 | 80 | 75 | 82 | 72 | 72 | 72 | | |
| 1C x 25 | 6 | 1.5 | 1.4 | 1.24 | 14.9 | 425 | 1.2 | 1.8 | 12.5 | 330 | 12.5 | 1.2 | 1.8 | 330 | 0.87 | 0.120 | 0.87 | 0.105 | 1.05 | 123 | 105 | 103 | 95 | 95 | 103 | 95 | 109 | 96 | 96 | 96 | | |
| 1C x 35 | 6 | 1.5 | 1.4 | 1.24 | 15.9 | 525 | 1.2 | 1.8 | 13.5 | 425 | 13.5 | 1.2 | 1.8 | 425 | 0.63 | 0.114 | 1.00 | 0.100 | 1.22 | 147 | 125 | 123 | 114 | 114 | 123 | 114 | 133 | 117 | 117 | 117 | | |
| 1C x 50 | 6 | 1.7 | 1.4 | 1.24 | 17.4 | 700 | 1.4 | 1.8 | 15.0 | 575 | 15.0 | 1.4 | 1.8 | 575 | 0.464 | 0.110 | 1.03 | 0.098 | 1.22 | 173 | 148 | 145 | 133 | 133 | 145 | 133 | 160 | 142 | 142 | 142 | | |
| 1C x 70 | 12 | 1.7 | 1.4 | 1.40 | 19.4 | 900 | 1.4 | 1.8 | 16.6 | 775 | 16.6 | 1.4 | 1.8 | 775 | 0.268 | 0.103 | 1.21 | 0.091 | 1.43 | 213 | 181 | 178 | 163 | 163 | 178 | 163 | 202 | 180 | 180 | 180 | | |
| 1C x 95 | 15 | 1.9 | 1.6 | 1.40 | 21.9 | 1200 | 1.6 | 1.8 | 18.7 | 1025 | 18.7 | 1.6 | 1.8 | 1025 | 0.193 | 0.101 | 1.27 | 0.088 | 1.47 | 259 | 217 | 213 | 194 | 194 | 213 | 194 | 254 | 228 | 228 | 228 | | |
| 1C x 120 | 18 | 1.9 | 1.6 | 1.40 | 23.3 | 1400 | 1.6 | 2.0 | 20.5 | 1250 | 20.5 | 1.6 | 2.0 | 1250 | 0.184 | 0.096 | 1.42 | 0.086 | 1.62 | 295 | 246 | 242 | 220 | 220 | 242 | 220 | 295 | 265 | 265 | 265 | | |
| 1C x 150 | 18 | 2.1 | 1.6 | 1.40 | 25.1 | 1750 | 1.8 | 2.0 | 22.3 | 1550 | 22.3 | 1.8 | 2.0 | 1550 | 0.149 | 0.094 | 1.42 | 0.085 | 1.62 | 329 | 275 | 269 | 245 | 245 | 269 | 245 | 335 | 302 | 302 | 302 | | |
| 1C x 185 | 30 | 2.3 | 1.6 | 1.40 | 27.4 | 2100 | 2.0 | 2.0 | 24.6 | 1900 | 24.6 | 2.0 | 2.0 | 1900 | 0.119 | 0.092 | 1.44 | 0.084 | 1.62 | 371 | 309 | 303 | 275 | 275 | 303 | 275 | 386 | 349 | 349 | 349 | | |
| 1C x 240 | 34 | 2.5 | 1.6 | 1.56 | 30.6 | 2700 | 2.2 | 2.0 | 27.4 | 2400 | 27.4 | 2.0 | 2.0 | 2400 | 0.090 | 0.090 | 1.53 | 0.082 | 1.72 | 427 | 355 | 348 | 315 | 315 | 348 | 315 | 454 | 412 | 412 | 412 | | |
| 1C x 300 | 34 | 2.7 | 1.6 | 1.56 | 33.1 | 3250 | 2.4 | 2.0 | 29.9 | 2950 | 29.9 | 2.0 | 2.0 | 2950 | 0.0601 | 0.088 | 1.56 | 0.08 | 1.74 | 477 | 397 | 389 | 350 | 350 | 389 | 350 | 518 | 472 | 472 | 472 | | |
| 1C x 400 | 53 | 3.0 | 2.0 | 1.56 | 37.5 | 4300 | 2.6 | 2.2 | 33.7 | 3900 | 33.7 | 2.2 | 2.2 | 3900 | 0.047 | 0.088 | 1.56 | 0.08 | 1.81 | 538 | 446 | 437 | 392 | 392 | 437 | 392 | 600 | 547 | 547 | 547 | | |
| 1C x 500 | 53 | 3.4 | 2.0 | 1.72 | 41.7 | 5300 | 3.0 | 2.2 | 37.5 | 4850 | 37.5 | 2.2 | 2.2 | 4850 | 0.0366 | 0.087 | 1.57 | 0.079 | 1.76 | 600 | 496 | 486 | 434 | 434 | 486 | 434 | 684 | 625 | 625 | 625 | | |
| 1C x 630 | 53 | 3.9 | 2.0 | 1.88 | 46.5 | 6650 | 3.4 | 2.4 | 42.3 | 6100 | 42.3 | 2.4 | 2.4 | 6100 | 0.0283 | 0.086 | 1.57 | 0.077 | 1.77 | 662 | 547 | 535 | 477 | 477 | 535 | 477 | 773 | 708 | 708 | 708 | | |
| 1C x 800 | 53 | 3.9 | 2.0 | 1.88 | 50.8 | 8300 | 3.4 | 2.4 | 46.6 | 7600 | 46.6 | 2.4 | 2.4 | 7600 | 0.0221 | 0.083 | 1.75 | 0.077 | 1.98 | 718 | 594 | 579 | 516 | 516 | 579 | 516 | 859 | 790 | 790 | 790 | | |
| 1C x 1000 | 53 | 3.9 | 2.5 | 2.04 | 57.5 | 10200 | 3.4 | 2.6 | 52.3 | 9400 | 52.3 | 2.6 | 2.6 | 9400 | 0.0176 | 0.082 | 1.94 | 0.076 | 2.20 | 763 | 635 | 613 | 548 | 548 | 613 | 548 | 935 | 868 | 868 | 868 | | |

2 CORE, ALUMINIUM CONDUCTOR, GENERAL PURPOSE 70°C PVC INSULATED, ARMoured & UNARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires | Thickness of PVC insulation (nom) | Min thickness of PVC inner Sheath | Nominal Dimension of Armour | | ARMoured | | | | UNARMoured | | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 70°C | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | CURRENT RATINGS (a.c.) | |
|------------------------------------|-----------------|-----------------------------------|-----------------------------------|-----------------------------|------|----------|------|-------|------|------------|------|---|--|---------------------------|-----------------------------|------------------------------|-----------------------------|
| | | | | Strip | Wire | Strip | Wire | Strip | Wire | Strip | Wire | | | | | Buried in the Ground @ 30 °C | In Single way/In Air @ 40°C |
| Sq.mm | No's | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | Ohm/Km | Ohm/Km | Ohm/Km | uF/Km | Amps | Amps |
| 2C x 1.5 | 1 | 0.8 | 0.3 | — | 1.4 | — | — | — | — | — | — | 18.1 | 21.7 | 0.126 | 0.14 | 21 | 18 |
| 2C x 2.5 | 1 | 0.9 | 0.3 | — | 1.4 | — | — | — | — | — | — | 12.1 | 14.5 | 0.119 | 0.15 | 26 | 22 |
| 2C x 4 | 3 | 1.0 | 0.3 | — | 1.4 | — | — | — | — | — | — | 7.41 | 8.89 | 0.116 | 0.16 | 34 | 29 |
| 2C x 6 | 3 | 1.0 | 0.3 | — | 1.4 | — | — | — | — | — | — | 4.61 | 5.53 | 0.110 | 0.19 | 44 | 38 |
| 2C x 10 | 7 | 1.0 | 0.3 | — | 1.4 | — | — | — | — | — | — | 3.08 | 3.70 | 0.100 | 0.22 | 56 | 47 |
| 2C x 16 | 6 | 1.0 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.4 | 18.8 | 20.4 | 525 | 675 | 1.91 | 2.29 | 0.097 | 0.29 | 73 | 61 |
| 2C x 25 | 6 | 1.2 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.4 | 20.8 | 22.4 | 650 | 850 | 1.20 | 1.44 | 0.097 | 0.32 | 94 | 79 |
| 2C x 35 | 6 | 1.2 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.4 | 21.8 | 23.4 | 750 | 1000 | 0.868 | 1.04 | 0.097 | 0.37 | 113 | 95 |
| 2C x 50 | 6 | 1.4 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.56 | 24.3 | 26.2 | 925 | 1200 | 0.641 | 0.769 | 0.094 | 0.37 | 133 | 112 |
| 2C x 70 | 12 | 1.4 | 0.3 | 4 x 0.8 | 1.6 | 1.56 | 1.56 | 26.7 | 28.3 | 1100 | 1400 | 0.443 | 0.532 | 0.090 | 0.44 | 163 | 137 |
| 2C x 95 | 15 | 1.6 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 30.2 | 32.6 | 1400 | 1900 | 0.320 | 0.384 | 0.090 | 0.44 | 195 | 164 |
| 2C x 120 | 15 | 1.6 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.72 | 31.7 | 34.4 | 1600 | 2150 | 0.253 | 0.304 | 0.087 | 0.49 | 220 | 185 |
| 2C x 150 | 15 | 1.8 | 0.4 | 4 x 0.8 | 2.0 | 1.72 | 1.72 | 35.4 | 37.8 | 1950 | 2550 | 0.206 | 0.247 | 0.087 | 0.49 | 245 | 207 |
| 2C x 185 | 30 | 2.0 | 0.5 | 4 x 0.8 | 2.0 | 1.88 | 1.88 | 39.1 | 41.5 | 2350 | 2950 | 0.164 | 0.197 | 0.087 | 0.49 | 276 | 234 |
| 2C x 240 | 30 | 2.2 | 0.5 | 4 x 0.8 | 2.5 | 2.04 | 2.04 | 42.5 | 45.9 | 2850 | 3900 | 0.125 | 0.150 | 0.087 | 0.50 | 318 | 270 |
| 2C x 300 | 30 | 2.4 | 0.6 | 4 x 0.8 | 2.5 | 2.20 | 2.20 | 48.5 | 51.9 | 3500 | 4625 | 0.100 | 0.120 | 0.086 | 0.52 | 356 | 303 |
| 2C x 400 | 53 | 2.6 | 0.7 | 4 x 0.8 | 3.15 | 2.36 | 2.52 | 53.4 | 58.1 | 4300 | 6200 | 0.0778 | 0.093 | 0.086 | 0.53 | 402 | 342 |

2 CORE COPPER GENERAL PURPOSE 70°C ARMoured & UNARMoured PVC ARMoured & UNARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires | Thickness of PVC Insulation (nom) | Min thickness of PVC Inner Sheath | ARMoured | | | | UNARMoured | | | | Max D.C Resistance of Conductor at 20 °C | Approx A.C Resistance of Conductor at 70 °C | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | CURRENT RATINGS (a.c.) | | | | | | | |
|------------------------------------|-----------------|-----------------------------------|-----------------------------------|-----------------------------|------|------------------------------------|------|---|------|--------------------------|------|--|---|---------------------------|-----------------------------|-----------------------------------|--|------------------------|---------|---------|-------|-------------------------------------|-----------------------------------|
| | | | | Nominal Dimension of Armour | | Min. Thickness of PVC Outer Sheath | | Approx Overall diameter of Cable with ± 2mm tolerance | | Approx. Net Wt. of Cable | | | | | | Nom Thickness of PVC Outer sheath | Approx Overall diameter of Cable with ± 2 mm tolerance | Approx weight of cable | Ohms/Km | Ohms/Km | uF/Km | Buried Direct in the Ground @ 30 °C | In Single way buried Duct @ 30 °C |
| Strip | Wire | Strip | Wire | Strip | Wire | Strip | Wire | Strip | Wire | Strip | Wire | Ohms/Km | Amps | Amps | Amps | | | | | | | | |
| 2C x 1.5 | 1 | 0.8 | 0.3 | --- | 1.4 | --- | 1.24 | --- | --- | 14.0 | --- | --- | 400 | 1.8 | 12.2 | 175 | 12.1 | 14.52 | 0.126 | 0.14 | 25 | 22 | 20 |
| 2C x 2.5 | 1 | 0.9 | 0.3 | --- | 1.4 | --- | 1.24 | --- | --- | 15.2 | --- | --- | 475 | 1.8 | 13.0 | 225 | 7.41 | 8.89 | 0.119 | 0.15 | 33 | 28 | 26 |
| 2C x 4 | 7 | 1.0 | 0.3 | --- | 1.4 | --- | 1.24 | --- | --- | 16.8 | --- | --- | 550 | 1.8 | 15.0 | 300 | 4.61 | 5.53 | 0.116 | 0.16 | 43 | 37 | 36 |
| 2C x 6 | 7 | 1.0 | 0.3 | --- | 1.4 | --- | 1.24 | --- | --- | 17.8 | --- | --- | 650 | 1.8 | 16.0 | 350 | 3.08 | 3.70 | 0.110 | 0.19 | 54 | 46 | 45 |
| 2C x 10 | 7 | 1.0 | 0.3 | --- | 1.4 | --- | 1.24 | --- | --- | 19.8 | --- | --- | 800 | 1.8 | 18.0 | 475 | 1.83 | 2.20 | 0.100 | 0.22 | 72 | 61 | 61 |
| 2C x 16 | 6 | 1.0 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.4 | 18.8 | 20.4 | 700 | 700 | 850 | 1.8 | 18.0 | 500 | 1.15 | 1.38 | 0.097 | 0.29 | 94 | 79 | 79 | |
| 2C x 25 | 6 | 1.2 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.4 | 20.8 | 22.4 | 940 | 940 | 1100 | 2.0 | 20.4 | 725 | 0.727 | 0.872 | 0.097 | 0.32 | 121 | 102 | 106 | |
| 2C x 35 | 6 | 1.2 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.4 | 21.8 | 23.4 | 1150 | 1150 | 1400 | 2.0 | 21.4 | 925 | 0.524 | 0.629 | 0.097 | 0.37 | 145 | 122 | 129 | |
| 2C x 50 | 6 | 1.4 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.56 | 24.3 | 26.2 | 1500 | 1500 | 1750 | 2.0 | 23.9 | 1250 | 0.387 | 0.464 | 0.094 | 0.37 | 172 | 144 | 157 | |
| 2C x 70 | 12 | 1.4 | 0.3 | 4 x 0.8 | 1.6 | 1.56 | 1.56 | 26.7 | 28.3 | 1950 | 1950 | 2250 | 2.0 | 26.0 | 1600 | 0.268 | 0.322 | 0.090 | 0.44 | 210 | 176 | 197 | |
| 2C x 95 | 15 | 1.6 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 30.2 | 32.6 | 2500 | 2500 | 3000 | 2.2 | 29.9 | 2150 | 0.193 | 0.232 | 0.090 | 0.44 | 250 | 210 | 241 | |
| 2C x 120 | 18 | 1.6 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.72 | 31.7 | 34.4 | 3000 | 3000 | 3550 | 2.2 | 31.4 | 2650 | 0.153 | 0.184 | 0.087 | 0.49 | 281 | 237 | 275 | |
| 2C x 150 | 18 | 1.8 | 0.4 | 4 x 0.8 | 2.0 | 1.72 | 1.72 | 35.4 | 37.8 | 3650 | 3650 | 4250 | 2.4 | 35.2 | 3250 | 0.124 | 0.149 | 0.087 | 0.49 | 313 | 264 | 313 | |
| 2C x 185 | 30 | 2.0 | 0.5 | 4 x 0.8 | 2.0 | 1.88 | 1.88 | 39.1 | 41.5 | 4450 | 4450 | 5050 | 2.4 | 38.5 | 3950 | 0.0991 | 0.119 | 0.087 | 0.49 | 351 | 297 | 358 | |
| 2C x 240 | 34 | 2.2 | 0.5 | 4 x 0.8 | 2.5 | 2.04 | 2.04 | 42.5 | 45.9 | 5600 | 5600 | 6650 | 2.6 | 42.0 | 5050 | 0.0754 | 0.090 | 0.087 | 0.50 | 401 | 340 | 420 | |
| 2C x 300 | 34 | 2.4 | 0.6 | 4 x 0.8 | 2.5 | 2.20 | 2.20 | 48.5 | 51.9 | 6900 | 6900 | 8025 | 2.8 | 48.1 | 6250 | 0.0601 | 0.072 | 0.086 | 0.52 | 445 | 378 | 477 | |
| 2C x 400 | 53 | 2.6 | 0.7 | 4 x 0.8 | 3.15 | 2.36 | 2.52 | 53.4 | 58.1 | 8850 | 8850 | 10750 | 3.2 | 52.5 | 8250 | 0.0470 | 0.056 | 0.086 | 0.53 | 495 | 421 | 543 | |

3 CORE, ALUMINIUM CONDUCTOR, GENERAL PURPOSE 70°C PVC INSULATED, ARMoured & UNARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires | Thickness of PVC Insulation (nom) | Min thickness of PVC inner Sheath | ARMoured | | | | UNARMoured | | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 70°C | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | CURRENT RATINGS [a.c.] | | | | | | |
|------------------------------------|-----------------|-----------------------------------|-----------------------------------|-----------------------------|------|-----------------------------------|------|--|------|---|--|---------------------------|-----------------------------|-------------------------------|--|------------------------|------------------------------------|-----------------------------|------|-----|
| | | | | Nominal Dimension of Armour | | Min Thickness of PVC Outer sheath | | Approx Overall diameter of Cable with ± 2 mm tolerance | | | | | | Thickness of PVC Outer sheath | Approx Overall diameter of Cable with ± 2 mm tolerance | Approx weight of cable | Buried Direct in the Ground @ 30°C | In Single way In Air @ 30°C | | |
| Sq.mm | No's | mm | mm | Strip | Wire | Strip | Wire | Strip | Wire | mm | mm | mm | mm | mm | Ohm/Km | Ohm/Km | uF/Km | Amps | Amps | |
| 3C x 1.5 | 1 | 0.8 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 14.5 | --- | 420 | --- | 175 | 18.1 | 21.72 | 0.126 | 0.14 | 18 | 15 | 14 |
| 3C x 2.5 | 1 | 0.9 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 15.8 | --- | 500 | --- | 225 | 12.1 | 14.52 | 0.119 | 0.15 | 22 | 19 | 18 |
| 3C x 4 | 3 | 1.0 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 17.6 | --- | 550 | --- | 275 | 7.41 | 8.89 | 0.116 | 0.41 | 29 | 25 | 24 |
| 3C x 6 | 3 | 1.0 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 18.6 | --- | 625 | --- | 325 | 4.61 | 5.53 | 0.110 | 0.47 | 38 | 32 | 32 |
| 3C x 10 | 7 | 1.0 | 0.3 | --- | 1.4 | --- | 1.4 | --- | 21.2 | --- | 750 | --- | 400 | 3.08 | 3.70 | 0.100 | 0.56 | 47 | 40 | 40 |
| 3C x 16 | 6 | 1.0 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.4 | 18.6 | 20.2 | 600 | 750 | 17.8 | 375 | 1.91 | 2.29 | 0.097 | 0.76 | 61 | 51 | 52 |
| 3C x 25 | 6 | 1.2 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.4 | 21.3 | 22.9 | 750 | 1000 | 20.9 | 575 | 1.20 | 1.44 | 0.097 | 0.86 | 78 | 66 | 70 |
| 3C x 35 | 6 | 1.2 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.4 | 23.1 | 24.7 | 900 | 1150 | 22.7 | 700 | 0.868 | 1.04 | 0.097 | 0.98 | 94 | 79 | 85 |
| 3C x 50 | 6 | 1.4 | 0.3 | 4 x 0.8 | 1.6 | 1.56 | 1.56 | 26.4 | 28.0 | 1150 | 1450 | 25.7 | 900 | 0.641 | 0.769 | 0.094 | 1.02 | 111 | 93 | 104 |
| 3C x 70 | 12 | 1.4 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 29.9 | 32.0 | 1450 | 2000 | 29.3 | 1150 | 0.443 | 0.532 | 0.090 | 1.18 | 136 | 115 | 131 |
| 3C x 95 | 15 | 1.6 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.72 | 33.8 | 36.2 | 1800 | 2450 | 33.3 | 1450 | 0.320 | 0.384 | 0.090 | 1.20 | 163 | 138 | 162 |
| 3C x 120 | 15 | 1.6 | 0.4 | 4 x 0.8 | 2.0 | 1.72 | 1.72 | 37.0 | 39.4 | 2150 | 2800 | 36.4 | 1750 | 0.253 | 0.304 | 0.087 | 1.31 | 185 | 156 | 186 |
| 3C x 150 | 15 | 1.8 | 0.5 | 4 x 0.8 | 2.0 | 1.88 | 1.88 | 40.1 | 42.5 | 2600 | 3250 | 39.5 | 2150 | 0.206 | 0.247 | 0.087 | 1.31 | 206 | 175 | 212 |
| 3C x 185 | 30 | 2.0 | 0.5 | 4 x 0.8 | 2.5 | 1.88 | 2.04 | 44.2 | 47.9 | 3100 | 4250 | 44.0 | 2650 | 0.164 | 0.197 | 0.087 | 1.31 | 234 | 198 | 245 |
| 3C x 240 | 30 | 2.2 | 0.6 | 4 x 0.8 | 2.5 | 2.20 | 2.20 | 50.3 | 53.7 | 4000 | 5150 | 49.9 | 3550 | 0.125 | 0.150 | 0.087 | 1.34 | 271 | 230 | 291 |
| 3C x 300 | 30 | 2.4 | 0.6 | 4 x 0.8 | 2.5 | 2.36 | 2.36 | 55.0 | 58.4 | 4800 | 6100 | 54.7 | 4050 | 0.100 | 0.120 | 0.086 | 1.41 | 305 | 260 | 335 |
| 3C x 400 | 53 | 2.6 | 0.7 | 4 x 0.8 | 3.15 | 2.52 | 2.68 | 62.6 | 67.7 | 6000 | 8200 | 62.8 | 5200 | 0.0778 | 0.093 | 0.086 | 1.45 | 348 | 297 | 390 |

3 CORE, COPPER CONDUCTOR, GENERAL PURPOSE 70°C PVC INSULATED, ARMoured & UNARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires | Thickness of PVC Insulation (nom) | Min thickness of PVC inner Sheath | Nominal Dimension of Armour | | | ARMoured | | | | UNARMoured | | | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 70°C | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | CURRENT RATINGS [a.c.] | | |
|------------------------------------|-----------------|-----------------------------------|-----------------------------------|-----------------------------|------|------|-----------------------------------|-------|------|-------|--|-------|-------|---|--|---------------------------|-----------------------------|------------------------|-----------------------------------|--|
| | | | | Strip | Wire | mm | Min Thickness of PVC Outer sheath | Strip | Wire | mm | Approx Overall diameter of Cable with ± 2 mm tolerance | Strip | Wire | | | | | mm | Nom Thickness of PVC Outer sheath | Approx Overall diameter of Cable with ± 2 mm tolerance |
| Sq.mm | No's | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | Amps | Amps |
| 3C x 1.5 | 1 | 0.8 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 14.5 | --- | 450 | --- | 12.7 | 200 | 12.1 | 14.52 | 0.126 | 0.14 | 21 | 18 |
| 3C x 2.5 | 1 | 0.9 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 15.8 | --- | 525 | --- | 14.0 | 250 | 7.41 | 8.89 | 0.119 | 0.15 | 28 | 24 |
| 3C x 4 | 7 | 1.0 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 17.6 | --- | 625 | --- | 15.8 | 350 | 4.61 | 5.53 | 0.116 | 0.41 | 37 | 31 |
| 3C x 6 | 7 | 1.0 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 18.6 | --- | 725 | --- | 16.8 | 425 | 3.08 | 3.70 | 0.110 | 0.47 | 46 | 39 |
| 3C x 10 | 7 | 1.0 | 0.3 | --- | 1.4 | --- | 1.4 | --- | 21.2 | --- | 950 | --- | 19.0 | 575 | 1.83 | 2.20 | 0.100 | 0.56 | 61 | 51 |
| 3C x 16 | 6 | 1.0 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.4 | 18.6 | 20.2 | 850 | 1050 | 17.8 | 650 | 1.15 | 1.38 | 0.097 | 0.76 | 78 | 66 | |
| 3C x 25 | 6 | 1.2 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.4 | 21.3 | 22.9 | 1200 | 1400 | 20.9 | 1000 | 0.727 | 0.872 | 0.097 | 0.86 | 101 | 85 | |
| 3C x 35 | 6 | 1.2 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.4 | 23.1 | 24.7 | 1550 | 1800 | 22.7 | 1300 | 0.524 | 0.629 | 0.097 | 0.98 | 121 | 102 | |
| 3C x 50 | 6 | 1.4 | 0.3 | 4 x 0.8 | 1.6 | 1.56 | 1.56 | 26.4 | 28.0 | 2000 | 2300 | 25.7 | 1750 | 0.387 | 0.464 | 0.094 | 1.02 | 143 | 120 | |
| 3C x 70 | 12 | 1.4 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 29.9 | 32.0 | 2700 | 3150 | 29.3 | 2350 | 0.268 | 0.322 | 0.090 | 1.18 | 175 | 147 | |
| 3C x 95 | 15 | 1.6 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.72 | 33.8 | 36.2 | 3550 | 4150 | 33.3 | 3100 | 0.193 | 0.232 | 0.090 | 1.20 | 210 | 177 | |
| 3C x 120 | 18 | 1.6 | 0.4 | 4 x 0.8 | 2.0 | 1.72 | 1.72 | 37.0 | 39.4 | 4350 | 5000 | 36.4 | 3800 | 0.153 | 0.184 | 0.087 | 1.31 | 237 | 200 | |
| 3C x 150 | 18 | 1.8 | 0.5 | 4 x 0.8 | 2.0 | 1.88 | 1.88 | 40.1 | 42.5 | 5000 | 5950 | 39.5 | 4700 | 0.124 | 0.149 | 0.087 | 1.31 | 265 | 224 | |
| 3C x 185 | 30 | 2.0 | 0.5 | 4 x 0.8 | 2.5 | 1.88 | 2.04 | 44.2 | 47.9 | 6450 | 7600 | 44.0 | 5800 | 0.0991 | 0.119 | 0.087 | 1.31 | 300 | 254 | |
| 3C x 240 | 34 | 2.2 | 0.6 | 4 x 0.8 | 2.5 | 2.20 | 2.20 | 50.3 | 53.7 | 8200 | 9500 | 49.9 | 7400 | 0.0754 | 0.090 | 0.087 | 1.34 | 345 | 293 | |
| 3C x 300 | 34 | 2.4 | 0.6 | 4 x 0.8 | 2.5 | 2.36 | 2.36 | 55.0 | 58.4 | 10000 | 11400 | 54.7 | 9100 | 0.0601 | 0.072 | 0.086 | 1.41 | 387 | 330 | |
| 3C x 400 | 53 | 2.6 | 0.7 | 4 x 0.8 | 3.15 | 2.52 | 2.68 | 62.6 | 67.7 | 13050 | 15300 | 62.8 | 12100 | 0.047 | 0.056 | 0.086 | 1.45 | 436 | 372 | |

3.5 CORE, COPPER CONDUCTOR, GENERAL PURPOSE 70°C PVC INSULATED, ARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No. of wires (main/neutral) | Thickness of PVC Insulation (nom./main/neutral) | Min thickness of PVC inner Sheath | Nominal Dimension of Armour | | Min Thickness of PVC Outer sheath | | Approx Overall diameter of Cable with ± 2 mm tolerance | | Approx weight of cable | | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 70°C | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | CURRENT RATINGS (a.c.) | | | |
|------------------------------------|---------------------------------|---|-----------------------------------|-----------------------------|------|-----------------------------------|------|--|------|------------------------|---------|---|--|---------------------------|-----------------------------|------------------------|------|--|-----------------------------|
| | | | | Strip | Wire | Strip | Wire | Strip | Wire | Strip | Wire | | | | | Strip | Wire | Buried Direct in the Ground buried Duct @ 30°C | In Single way In Air @ 40°C |
| Sq.mm | No's | mm | mm | mm x mm | mm | mm | mm | mm | mm | mm | (Kg/Km) | (Kg/Km) | Ohm/Km | Ohm/Km | uF/Km | uF/Km | Amps | Amps | Amps |
| 3.5C x 25/16 | 6/6 | 1.2/1.0 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.4 | 23.8 | 25.4 | 1400 | 1700 | 0.727 | 0.872 | 0.097 | 0.86 | 101 | 85 | 90 | |
| 3.5C x 35/16 | 6/6 | 1.2/1.0 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.4 | 24.8 | 26.4 | 1700 | 2000 | 0.524 | 0.629 | 0.097 | 0.98 | 121 | 102 | 110 | |
| 3.5C x 50/25 | 6/6 | 1.4/1.2 | 0.3 | 4 x 0.8 | 1.6 | 1.56 | 1.56 | 28.4 | 30.0 | 2350 | 2600 | 0.387 | 0.464 | 0.094 | 1.02 | 143 | 120 | 134 | |
| 3.5C x 70/35 | 12/6 | 1.4/1.2 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 32.5 | 34.9 | 3100 | 3650 | 0.268 | 0.322 | 0.09 | 1.18 | 175 | 147 | 169 | |
| 3.5C x 95/50 | 15/6 | 1.6/1.4 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.72 | 36.2 | 38.9 | 4100 | 4700 | 0.193 | 0.232 | 0.09 | 1.2 | 210 | 177 | 209 | |
| 3.5C x 120/70 | 18/12 | 1.6/1.4 | 0.5 | 4 x 0.8 | 2.0 | 1.72 | 1.88 | 39.3 | 42.1 | 5050 | 5700 | 0.153 | 0.184 | 0.087 | 1.31 | 237 | 200 | 238 | |
| 3.5C x 150/70 | 18/12 | 1.8/1.4 | 0.5 | 4 x 0.8 | 2.0 | 1.88 | 1.88 | 44.0 | 46.4 | 6050 | 6800 | 0.124 | 0.149 | 0.087 | 1.31 | 265 | 224 | 272 | |
| 3.5C x 185/95 | 30/15 | 2.0/1.6 | 0.5 | 4 x 0.8 | 2.5 | 2.04 | 2.04 | 48.8 | 52.2 | 7400 | 8600 | 0.0991 | 0.119 | 0.087 | 1.31 | 300 | 254 | 314 | |
| 3.5C x 240/120 | 34/18 | 2.2/1.6 | 0.6 | 4 x 0.8 | 2.5 | 2.2 | 2.36 | 55.2 | 58.9 | 9450 | 10500 | 0.0754 | 0.090 | 0.087 | 1.34 | 345 | 293 | 371 | |
| 3.5C x 300/150 | 34/18 | 2.4/1.8 | 0.6 | 4 x 0.8 | 3.15 | 2.36 | 2.52 | 59.7 | 64.7 | 11500 | 13500 | 0.0601 | 0.072 | 0.086 | 1.41 | 387 | 330 | 425 | |
| 3.5C x 400/185 | 53/30 | 2.6/2.0 | 0.7 | 4 x 0.8 | 3.15 | 2.68 | 2.68 | 68.6 | 73.3 | 14850 | 17250 | 0.047 | 0.056 | 0.086 | 1.45 | 436 | 372 | 490 | |

3.5 CORE, COPPER CONDUCTOR, GENERAL PURPOSE 70°C PVC INSULATED, UNARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires (main/neutral) | Thickness of PVC Insulation (nom./main/neutral) | Min thickness of PVC inner Sheath | Nom Thickness of PVC Outer sheath | Approx Overall diameter of Cable with ± 2 mm tolerance | Approx weight of cable | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 70°C | Approx Reactance at 50 Hz | Approx Capacitance | CURRENT RATINGS (a.c.) | | |
|------------------------------------|--------------------------------|---|-----------------------------------|-----------------------------------|--|------------------------|---|--|---------------------------|--------------------|------------------------------------|----------------------------------|---------------|
| | | | | | | | | | | | Buried Direct in the Ground @ 30°C | In Single way buried Duct @ 30°C | In Air @ 40°C |
| Sq.mm | No's | mm | mm | mm | mm | Kg/Km | Ohm/Km | Ohm/Km | Ohm/Km | uF/Km | Amps | Amps | Amps |
| 3.5C x 25/16 | 6/6 | 1.2/1.0 | 0.3 | 2.0 | 23.4 | 1150 | 0.727 | 0.872 | 0.097 | 0.86 | 101 | 85 | 90 |
| 3.5C x 35/16 | 6/6 | 1.2/1.0 | 0.3 | 2.0 | 24.4 | 1450 | 0.524 | 0.629 | 0.097 | 0.98 | 121 | 102 | 110 |
| 3.5C x 50/25 | 6/6 | 1.4/1.2 | 0.3 | 2.0 | 27.7 | 2000 | 0.387 | 0.464 | 0.094 | 1.02 | 143 | 120 | 134 |
| 3.5C x 70/35 | 12/6 | 1.4/1.2 | 0.4 | 2.2 | 32.2 | 2700 | 0.268 | 0.322 | 0.090 | 1.18 | 175 | 147 | 169 |
| 3.5C x 95/50 | 15/6 | 1.6/1.4 | 0.4 | 2.2 | 35.9 | 3600 | 0.193 | 0.232 | 0.090 | 1.2 | 210 | 177 | 209 |
| 3.5C x 120/70 | 18/12 | 1.6/1.4 | 0.5 | 2.4 | 39.1 | 4500 | 0.153 | 0.184 | 0.087 | 1.31 | 237 | 200 | 238 |
| 3.5C x 150/70 | 18/12 | 1.8/1.4 | 0.5 | 2.4 | 43.4 | 5400 | 0.124 | 0.149 | 0.087 | 1.31 | 265 | 224 | 272 |
| 3.5C x 185/95 | 30/15 | 2.0/1.6 | 0.5 | 2.6 | 48.3 | 6700 | 0.0991 | 0.119 | 0.087 | 1.31 | 300 | 254 | 314 |
| 3.5C x 240/120 | 34/18 | 2.2/1.6 | 0.6 | 3.0 | 55.2 | 8600 | 0.0754 | 0.090 | 0.087 | 1.34 | 345 | 293 | 371 |
| 3.5C x 300/150 | 34/18 | 2.4/1.8 | 0.6 | 3.2 | 59.8 | 10500 | 0.0601 | 0.072 | 0.086 | 1.41 | 387 | 330 | 425 |
| 3.5C x 400/185 | 53/30 | 2.6/2.0 | 0.7 | 3.4 | 68.4 | 13900 | 0.047 | 0.056 | 0.086 | 1.45 | 436 | 372 | 490 |

3.5 CORE, ALUMINIUM CONDUCTOR, GENERAL PURPOSE 70°C PVC INSULATED, ARMOURED POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires (main/neutral) | Thickness of PVC Insulation (nom) (main/neutral) | Min thickness of PVC Inner Sheath | Nominal Dimension of Armour | | Min Thickness of PVC Outer sheath | | Approx Overall diameter of Cable with ± 2 mm tolerance | | Approx weight of cable | | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 70°C | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | CURRENT RATINGS (a.c.) | | |
|------------------------------------|--------------------------------|--|-----------------------------------|-----------------------------|------|-----------------------------------|------|--|------|------------------------|---------|---|--|---------------------------|-----------------------------|------------------------------------|--|---------------|
| | | | | Strip | Wire | Strip | Wire | Strip | Wire | Strip | Wire | | | | | Buried Direct in the Ground @ 30°C | In Single way in the Ground buried Duct @ 30°C | In Air @ 40°C |
| Sq.mm | No's | mm | mm | mm x mm | mm | mm | mm | mm | mm | (Kg/Km) | (Kg/Km) | Ohm/Km | Ohm/Km | Ohm/Km | uF/Km | Amps | Amps | Amps |
| 3.5C x 25/16 | 6/6 | 1.2/1.0 | 0.3 | 4 x 0.8 | 1.6 | 1.40 | 1.40 | 23.8 | 25.4 | 900 | 1150 | 1.20 | 1.44 | 0.097 | 0.86 | 78 | 66 | 70 |
| 3.5C x 35/16 | 6/6 | 1.2/1.0 | 0.3 | 4 x 0.8 | 1.6 | 1.40 | 1.40 | 24.8 | 26.4 | 1000 | 1300 | 0.868 | 1.04 | 0.097 | 0.98 | 94 | 79 | 85 |
| 3.5C x 50/25 | 6/6 | 1.4/1.2 | 0.3 | 4 x 0.8 | 1.6 | 1.56 | 1.56 | 28.4 | 30.0 | 1300 | 1600 | 0.641 | 0.769 | 0.094 | 1.02 | 111 | 93 | 104 |
| 3.5C x 70/35 | 12/6 | 1.4/1.2 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 32.5 | 34.9 | 1650 | 2200 | 0.443 | 0.532 | 0.090 | 1.18 | 136 | 115 | 131 |
| 3.5C x 95/50 | 15/6 | 1.6/1.4 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.72 | 36.2 | 38.9 | 2075 | 2700 | 0.320 | 0.384 | 0.090 | 1.20 | 163 | 138 | 162 |
| 3.5C x 120/70 | 15/12 | 1.6/1.4 | 0.5 | 4 x 0.8 | 2.0 | 1.72 | 1.88 | 39.3 | 42.1 | 2500 | 3200 | 0.253 | 0.304 | 0.087 | 1.31 | 185 | 156 | 186 |
| 3.5C x 150/70 | 15/12 | 1.8/1.4 | 0.5 | 4 x 0.8 | 2.0 | 1.88 | 1.88 | 44.0 | 46.4 | 3000 | 3700 | 0.206 | 0.247 | 0.087 | 1.31 | 206 | 175 | 212 |
| 3.5C x 185/95 | 30/15 | 2.0/1.6 | 0.5 | 4 x 0.8 | 2.5 | 2.04 | 2.04 | 48.8 | 52.2 | 3600 | 4850 | 0.164 | 0.197 | 0.087 | 1.31 | 234 | 198 | 245 |
| 3.5C x 240/120 | 30/15 | 2.2/1.6 | 0.6 | 4 x 0.8 | 2.5 | 2.20 | 2.36 | 55.2 | 58.9 | 4600 | 5750 | 0.125 | 0.150 | 0.087 | 1.34 | 271 | 230 | 291 |
| 3.5C x 300/150 | 30/15 | 2.4/1.8 | 0.6 | 4 x 0.8 | 3.15 | 2.36 | 2.52 | 59.7 | 64.7 | 5400 | 7600 | 0.100 | 0.120 | 0.086 | 1.41 | 305 | 260 | 335 |
| 3.5C x 400/185 | 53/30 | 2.6/2.0 | 0.7 | 4 x 0.8 | 3.15 | 2.68 | 2.68 | 68.6 | 73.3 | 6850 | 9300 | 0.0778 | 0.093 | 0.086 | 1.45 | 348 | 297 | 390 |

3.5 CORE, ALUMINIUM CONDUCTOR, GENERAL PURPOSE 70°C PVC INSULATED, UNARMOURED POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires (main/neutral) | Thickness of PVC Insulation (nom) (main/neutral) | Min thickness of PVC Inner Sheath | Nom thickness of PVC Outer Sheath | Nom Thickness of PVC Outer sheath | Approx Overall diameter of Cable with ± 2 mm tolerance | Approx weight of cable | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 70°C | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | CURRENT RATINGS (a.c.) | | |
|------------------------------------|--------------------------------|--|-----------------------------------|-----------------------------------|-----------------------------------|--|------------------------|---|--|---------------------------|-----------------------------|------------------------------------|----------------------------------|---------------|
| | | | | | | | | | | | | Buried Direct in the Ground @ 30°C | In Single way buried Duct @ 30°C | In Air @ 40°C |
| Sq.mm | No's | mm | mm | mm | mm | mm | Kg/Km | Ohm/Km | Ohm/Km | Ohm/Km | uF/Km | Amps | Amps | Amps |
| 3.5C x 25/16 | 6/6 | 1.2/1.0 | 0.3 | 2.0 | 2.0 | 23.4 | 650 | 1.20 | 1.44 | 0.097 | 0.86 | 78 | 66 | 70 |
| 3.5C x 35/16 | 6/6 | 1.2/1.0 | 0.3 | 2.0 | 2.0 | 24.4 | 750 | 0.868 | 1.042 | 0.097 | 0.98 | 94 | 79 | 85 |
| 3.5C x 50/25 | 6/6 | 1.4/1.2 | 0.3 | 2.0 | 2.0 | 27.7 | 1025 | 0.641 | 0.769 | 0.094 | 1.02 | 111 | 93 | 104 |
| 3.5C x 70/35 | 12/6 | 1.4/1.2 | 0.4 | 2.2 | 2.2 | 32.2 | 1350 | 0.443 | 0.532 | 0.090 | 1.18 | 136 | 115 | 131 |
| 3.5C x 95/50 | 15/6 | 1.6/1.4 | 0.4 | 2.2 | 2.2 | 35.9 | 1700 | 0.320 | 0.384 | 0.090 | 1.20 | 163 | 138 | 162 |
| 3.5C x 120/70 | 15/12 | 1.6/1.4 | 0.5 | 2.4 | 2.4 | 39.1 | 2100 | 0.253 | 0.304 | 0.087 | 1.31 | 185 | 156 | 186 |
| 3.5C x 150/70 | 15/12 | 1.8/1.4 | 0.5 | 2.4 | 2.4 | 43.4 | 2500 | 0.206 | 0.247 | 0.087 | 1.31 | 206 | 175 | 212 |
| 3.5C x 185/95 | 30/15 | 2.0/1.6 | 0.5 | 2.6 | 2.6 | 48.3 | 3025 | 0.164 | 0.197 | 0.087 | 1.31 | 234 | 198 | 245 |
| 3.5C x 240/120 | 30/15 | 2.2/1.6 | 0.6 | 3.0 | 3.0 | 55.2 | 3850 | 0.125 | 0.150 | 0.087 | 1.34 | 271 | 230 | 291 |
| 3.5C x 300/150 | 30/15 | 2.4/1.8 | 0.6 | 3.2 | 3.2 | 59.8 | 4750 | 0.100 | 0.120 | 0.086 | 1.41 | 305 | 260 | 335 |
| 3.5C x 400/185 | 53/30 | 2.6/2.0 | 0.7 | 3.4 | 3.4 | 68.4 | 6050 | 0.0778 | 0.093 | 0.086 | 1.45 | 348 | 297 | 390 |

4 CORE, COPPER CONDUCTOR, GENERAL PURPOSE 70°C PVC INSULATED, ARMoured & UNARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires | Thickness of PVC Insulation (nom) | Min thickness of PVC inner Sheath | ARMoured | | | | UNARMoured | | | | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 70°C | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | CURRENT RATINGS (a.c.) | | | | | |
|------------------------------------|-----------------|-----------------------------------|-----------------------------------|-----------------------------|------|-----------------------------------|------|--|------|------------------------|-------|---|--|---------------------------|-----------------------------|-----------------------------------|----------------------------------|------------------------------|-----------------------------|-----------------------------|-------------------------------------|
| | | | | Nominal Dimension of Armour | | Min Thickness of PVC Outer sheath | | Approx Overall diameter of Cable with ± 2 mm tolerance | | Approx weight of cable | | | | | | Nominal thickness of Outer Sheath | Overall Diameter (Approx) ± 2 mm | Net Weight of Cable (Approx) | Direct in the Ground @ 30°C | In Single way in Air @ 40°C | In Single way in buried Duct @ 30°C |
| Sq.mm | No's | mm | mm | Strip | Wire | Strip | Wire | Strip | Wire | Strip | Wire | mm | mm | Kg/Km | Ohm/Km | Ohm/Km | uF/Km | Amps | Amps | Amps | |
| 4C x 1.5 | 1 | 0.8 | 0.3 | - | 1.4 | - | 1.24 | - | 15.4 | - | 500 | 1.8 | 13.6 | 225 | 12.1 | 14.5 | 0.126 | 0.22 | 21 | 18 | 17 |
| 4C x 2.5 | 1 | 0.9 | 0.3 | - | 1.4 | - | 1.24 | - | 16.8 | - | 600 | 1.8 | 15.0 | 300 | 7.41 | 8.89 | 0.119 | 0.15 | 28 | 24 | 23 |
| 4C x 4 | 7 | 1.0 | 0.3 | - | 1.4 | - | 1.24 | - | 18.8 | - | 725 | 1.8 | 17.0 | 400 | 4.61 | 5.53 | 0.116 | 0.41 | 37 | 31 | 30 |
| 4C x 6 | 7 | 1.0 | 0.3 | - | 1.4 | - | 1.24 | - | 20.0 | - | 875 | 1.8 | 18.2 | 525 | 3.08 | 3.70 | 0.110 | 0.47 | 46 | 39 | 39 |
| 4C x 10 | 7 | 1.0 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.40 | 21.6 | 23.0 | 975 | 1150 | 1.8 | 20.6 | 700 | 1.83 | 2.20 | 0.100 | 0.56 | 61 | 51 | 53 |
| 4C x 16 | 6 | 1.0 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.40 | 22.2 | 23.8 | 1100 | 1300 | 2.0 | 21.8 | 850 | 1.15 | 1.38 | 0.097 | 0.76 | 78 | 66 | 67 |
| 4C x 25 | 6 | 1.2 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.40 | 23.6 | 25.2 | 1525 | 1775 | 2.0 | 23.2 | 1250 | 0.727 | 0.872 | 0.097 | 0.86 | 101 | 85 | 90 |
| 4C x 35 | 6 | 1.2 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.56 | 25.9 | 27.8 | 1950 | 2250 | 2.0 | 25.5 | 1650 | 0.524 | 0.629 | 0.097 | 0.98 | 121 | 102 | 110 |
| 4C x 50 | 6 | 1.4 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 30.3 | 32.7 | 2600 | 3100 | 2.2 | 30.0 | 2300 | 0.387 | 0.464 | 0.094 | 1.02 | 143 | 120 | 134 |
| 4C x 70 | 12 | 1.4 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 33.4 | 35.8 | 3450 | 4100 | 2.2 | 33.1 | 3050 | 0.268 | 0.322 | 0.09 | 1.18 | 175 | 147 | 169 |
| 4C x 95 | 15 | 1.6 | 0.4 | 4 x 0.8 | 2.0 | 1.72 | 1.72 | 38.2 | 40.6 | 4550 | 5200 | 2.4 | 38.0 | 4050 | 0.193 | 0.232 | 0.09 | 1.20 | 210 | 177 | 209 |
| 4C x 120 | 18 | 1.6 | 0.5 | 4 x 0.8 | 2.0 | 1.88 | 1.88 | 41.7 | 44.1 | 5550 | 6300 | 2.4 | 41.1 | 5000 | 0.153 | 0.184 | 0.087 | 1.31 | 237 | 200 | 238 |
| 4C x 150 | 18 | 1.8 | 0.5 | 4 x 0.8 | 2.5 | 1.88 | 2.04 | 44.7 | 48.4 | 6800 | 8000 | 2.6 | 44.5 | 6200 | 0.124 | 0.149 | 0.087 | 1.31 | 265 | 224 | 272 |
| 4C x 185 | 30 | 2.0 | 0.6 | 4 x 0.8 | 2.5 | 2.04 | 2.20 | 50.1 | 53.8 | 8250 | 9650 | 2.8 | 50.0 | 7600 | 0.0991 | 0.119 | 0.087 | 1.31 | 300 | 254 | 314 |
| 4C x 240 | 34 | 2.2 | 0.6 | 4 x 0.8 | 2.5 | 2.36 | 2.36 | 56.7 | 60.1 | 10500 | 12000 | 3.0 | 56.4 | 9700 | 0.0754 | 0.090 | 0.087 | 1.34 | 345 | 293 | 371 |
| 4C x 300 | 34 | 2.4 | 0.7 | 4 x 0.8 | 3.15 | 2.52 | 2.68 | 62.9 | 68.0 | 13000 | 15400 | 3.4 | 63.1 | 12200 | 0.0601 | 0.072 | 0.086 | 1.41 | 387 | 330 | 425 |
| 4C x 400 | 53 | 2.6 | 0.7 | 4 x 0.8 | 3.15 | 2.84 | 2.84 | 70.6 | 75.3 | 16800 | 19500 | 3.6 | 70.5 | 15900 | 0.047 | 0.056 | 0.086 | 1.45 | 436 | 372 | 490 |

RATING FACTORS (XLPE)

The current ratings in Table - 1 & 2 based on the normal conditions of installation as described below:

- | | | | |
|---|----------------|-------------------------------------|----------------|
| 1. Maximum condn. temperature | 90° C | 5. Thermal resistivity of soil | 150° C cm/watt |
| 2. Ambient air temperature | 40° C | 6. Max-short-circuit conductor temp | 250° C cm/watt |
| 3. Ground temperature | 30° C | 7. Max Ambient Air temperature | 55° C |
| 4. Depth of laying (for cable laid directly in ground) | 75 cm (1.1 kV) | | |

Installation method and Rating factors are given in tables 1 to 4

Table 1

Rating for variations in ground temperature for cables laid directly in ground and in ducts

| | | | | | | | | |
|-----------------------|------|------|------|------|------|------|------|------|
| Ground temperature °C | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| Rating Factor | 1.12 | 1.08 | 1.03 | 1.00 | 0.96 | 0.91 | 0.87 | 0.82 |

Table 2

Rating Factors for Variation in Ambient Air Temperature

| | | | | | | | | |
|-----------------|------|------|------|------|------|------|------|------|
| Air temperature | 20°C | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
| Rating Factor | 1.18 | 1.14 | 1.10 | 1.04 | 1.00 | 0.95 | 0.90 | 0.84 |

Table 3

Rating Factors of groups of cables laid directly in Ground in Horizontal formation

| No. of Cables | Rating factor for Axial spacing | | | |
|---------------|---------------------------------|-------|-------|-------|
| | Touching | 15 cm | 30 cm | 45 cm |
| 2 cables | 0.79 | 0.82 | 0.87 | 0.90 |
| 3 cables | 0.69 | 0.75 | 0.79 | 0.83 |
| 4 cables | 0.62 | 0.69 | 0.74 | 0.79 |
| 5 cables | 0.58 | 0.65 | 0.72 | 0.76 |
| 6 cables | 0.54 | 0.61 | 0.69 | 0.75 |

Table 4

Rating Factors for Variation in Depth of laying in Ground

| Depth of laying | Size | | |
|-----------------|-------------------------|---------------------------|---------------------------|
| | Upto 25 mm ² | 25 to 300 mm ² | Above 300 mm ² |
| 75 cm | 1.00 | 1.00 | 1.00 |
| 90 cm | 0.99 | 0.98 | 0.97 |
| 105 cm | 0.98 | 0.97 | 0.96 |
| 120 cm | 0.97 | 0.96 | 0.95 |
| 150 cm | 0.96 | 0.94 | 0.92 |
| Above 180 cm | 0.95 | 0.93 | 0.91 |

1 CORE, COPPER CONDUCTOR, XLPE INSULATED, ARMoured & UNARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| Nominal Size of stranded, class-2 conductor as per IS: 8130 | Min No of wires | ARMoured | | | | UNARMoured | | | | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 90°C | ARMoured | | UNARMoured | | CURRENT RATING | | | | | | | | | | |
|---|-----------------|------------------------------------|------------------------------|-----------------------------------|---|------------------------|-------------------------------|-------------------------------|---|---|--|------------------------|---------------------------|-----------------------------|---------------------------|-----------------------------|------------------------------------|----------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | | Thickness of XLPE Insulation (nom) | Nom Dimension of Armour wire | Min Thickness of PVC Outer sheath | Approx Overall diameter of Cable with ±2 mm tolerance | Approx weight of cable | Thickness of Insulation (nom) | Nom Thickness of Outer sheath | Approx Overall diameter of Cable with ±2 mm tolerance | | | Approx weight of cable | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | Buried Direct in the Ground @ 30°C | In Single way buried Duct @ 30°C | In Air @ 40°C | | | | | | | |
| Sq.mm | No's | mm | mm | mm | Kg/Km | mm | mm | mm | Kg/Km | mm | mm | Kg/Km | Ohm/Km | uF/Km | Ohm/Km | uF/Km | Ohm/Km | uF/Km | 2 Cables (Amps) | 3 Cables (Amps) | 2 Cables (Amps) | 3 Cables (Amps) | 2 Cables (Amps) | 3 Cables (Amps) | 2 Cables (Amps) | 3 Cables (Amps) |
| 1C x 4 | 1 | - | - | - | - | 0.7 | 1.8 | 7.8 | 95 | 4.61 | 5.90 | - | 0.132 | 0.29 | 54 | 47 | 46 | 43 | 48 | 41 | | | | | | |
| 1C x 4 | 7 | - | - | - | - | 0.7 | 1.8 | 8.1 | 100 | 4.61 | 5.90 | - | 0.132 | 0.29 | 54 | 47 | 46 | 43 | 48 | 41 | | | | | | |
| 1C x 6 | 1 | - | - | - | - | 0.7 | 1.8 | 8.3 | 115 | 3.08 | 3.94 | - | 0.123 | 0.34 | 67 | 58 | 57 | 53 | 61 | 52 | | | | | | |
| 1C x 6 | 7 | - | - | - | - | 0.7 | 1.8 | 8.6 | 125 | 3.08 | 3.94 | - | 0.123 | 0.34 | 67 | 58 | 57 | 53 | 61 | 52 | | | | | | |
| 1C x 10 | 7 | 1.0 | 1.4 | 1.24 | 12.0 | 0.7 | 1.8 | 9.6 | 170 | 1.83 | 2.34 | 0.134 | 0.32 | 0.114 | 0.43 | 90 | 77 | 76 | 70 | 83 | 71 | | | | | |
| 1C x 16 | 6 | 1.0 | 1.4 | 1.24 | 12.7 | 0.7 | 1.8 | 10.3 | 210 | 1.15 | 1.47 | 0.125 | 0.38 | 0.108 | 0.51 | 115 | 98 | 97 | 89 | 108 | 94 | | | | | |
| 1C x 25 | 6 | 1.2 | 1.4 | 1.24 | 14.3 | 0.9 | 1.8 | 11.9 | 300 | 0.727 | 0.931 | 0.116 | 0.40 | 0.102 | 0.52 | 148 | 124 | 124 | 114 | 144 | 126 | | | | | |
| 1C x 35 | 6 | 1.2 | 1.4 | 1.24 | 15.3 | 0.9 | 1.8 | 12.9 | 400 | 0.524 | 0.671 | 0.110 | 0.47 | 0.097 | 0.60 | 177 | 150 | 148 | 136 | 176 | 154 | | | | | |
| 1C x 50 | 6 | 1.3 | 1.4 | 1.24 | 16.6 | 1.0 | 1.8 | 14.2 | 550 | 0.387 | 0.495 | 0.103 | 0.50 | 0.092 | 0.63 | 208 | 177 | 174 | 160 | 212 | 187 | | | | | |
| 1C x 70 | 12 | 1.4 | 1.4 | 1.24 | 18.4 | 1.1 | 1.8 | 16.0 | 725 | 0.268 | 0.343 | 0.099 | 0.55 | 0.088 | 0.68 | 255 | 216 | 213 | 195 | 269 | 238 | | | | | |
| 1C x 95 | 15 | 1.4 | 1.6 | 1.40 | 20.9 | 1.1 | 1.8 | 17.7 | 950 | 0.193 | 0.247 | 0.097 | 0.64 | 0.085 | 0.79 | 312 | 260 | 256 | 233 | 340 | 303 | | | | | |
| 1C x 120 | 18 | 1.5 | 1.6 | 1.40 | 22.5 | 1.2 | 1.8 | 19.3 | 1200 | 0.153 | 0.196 | 0.093 | 0.67 | 0.082 | 0.79 | 355 | 295 | 291 | 264 | 396 | 354 | | | | | |
| 1C x 150 | 18 | 1.7 | 1.6 | 1.40 | 24.3 | 1.4 | 2.0 | 21.5 | 1450 | 0.124 | 0.159 | 0.091 | 0.67 | 0.082 | 0.79 | 396 | 329 | 324 | 294 | 450 | 403 | | | | | |
| 1C x 185 | 30 | 1.9 | 1.6 | 1.40 | 26.6 | 1.6 | 2.0 | 23.8 | 1800 | 0.0991 | 0.127 | 0.090 | 0.67 | 0.082 | 0.79 | 447 | 371 | 365 | 330 | 519 | 468 | | | | | |
| 1C x 240 | 34 | 2.0 | 1.6 | 1.40 | 29.2 | 1.7 | 2.0 | 26.4 | 2300 | 0.0754 | 0.097 | 0.086 | 0.72 | 0.079 | 0.84 | 515 | 427 | 420 | 379 | 613 | 553 | | | | | |
| 1C x 300 | 34 | 2.1 | 1.6 | 1.56 | 31.9 | 1.8 | 2.0 | 28.7 | 2800 | 0.0601 | 0.077 | 0.085 | 0.75 | 0.078 | 0.86 | 576 | 477 | 469 | 422 | 700 | 634 | | | | | |
| 1C x 400 | 53 | 2.4 | 2.0 | 1.56 | 36.3 | 2.0 | 2.2 | 32.5 | 3750 | 0.0470 | 0.060 | 0.085 | 0.75 | 0.077 | 0.88 | 651 | 537 | 528 | 473 | 813 | 737 | | | | | |
| 1C x 500 | 53 | 2.6 | 2.0 | 1.56 | 39.7 | 2.2 | 2.2 | 35.9 | 4600 | 0.0366 | 0.047 | 0.083 | 0.77 | 0.076 | 0.90 | 727 | 598 | 589 | 525 | 930 | 844 | | | | | |
| 1C x 630 | 53 | 2.8 | 2.0 | 1.72 | 44.1 | 2.4 | 2.2 | 39.9 | 5800 | 0.0283 | 0.036 | 0.082 | 0.81 | 0.075 | 0.94 | 806 | 661 | 651 | 578 | 1056 | 961 | | | | | |
| 1C x 800 | 53 | 3.1 | 2.0 | 1.88 | 49.4 | 2.6 | 2.4 | 45.0 | 7300 | 0.0221 | 0.028 | 0.081 | 0.88 | 0.075 | 0.97 | 877 | 721 | 707 | 626 | 1179 | 1077 | | | | | |
| 1C x 1000 | 53 | 3.3 | 2.5 | 2.04 | 56.3 | 2.8 | 2.6 | 51.1 | 9100 | 0.0176 | 0.023 | 0.081 | 0.88 | 0.068 | 1.01 | 935 | 772 | 751 | 668 | 1288 | 1188 | | | | | |

2 CORE, ALUMINIUM CONDUCTOR, XLPE INSULATED, ARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires | Thickness of XLPE Insulation (nom) | Min thickness of PVC Inner Sheath | Nominal Dimension of Armour | | Min Thickness of PVC Outer sheath | | Approx Overall diameter of Cable with ± 2 mm tolerance | | Approx weight of cable | | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 90°C | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | CURRENT RATINGS | | |
|------------------------------------|-----------------|------------------------------------|-----------------------------------|-----------------------------|------|-----------------------------------|------|--|------|------------------------|--------|---|--|---------------------------|-----------------------------|------------------------------------|----------------------------------|---------------|
| | | | | Strip | Wire | Strip | Wire | Strip | Wire | Strip | Wire | | | | | Buried Direct in the Ground @ 30°C | In Single way buried Duct @ 30°C | In Air @ 40°C |
| 2C x 4 | 1 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 14.9 | --- | 400 | 7.41 | 9.48 | 0.0927 | 0.065 | 42 | 36 | 38 |
| 2C x 4 | 3 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 15.6 | --- | 400 | 7.41 | 9.48 | 0.0927 | 0.065 | 42 | 36 | 38 |
| 2C x 6 | 1 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 15.9 | --- | 450 | 4.61 | 5.90 | 0.0884 | 0.071 | 55 | 46 | 50 |
| 2C x 6 | 3 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 16.6 | --- | 450 | 4.61 | 5.90 | 0.0884 | 0.081 | 55 | 46 | 50 |
| 2C x 10 | 1 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 17.6 | --- | 550 | 3.08 | 3.94 | 0.0837 | 0.081 | 68 | 57 | 64 |
| 2C x 10 | 7 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 18.6 | --- | 550 | 3.08 | 3.94 | 0.0837 | 0.088 | 68 | 57 | 64 |
| 2C x 16 | 6 | 0.7 | 0.3 | --- | 1.4 | --- | 1.4 | --- | 18.8 | --- | 600 | 1.91 | 2.44 | 0.0808 | 0.089 | 89 | 74 | 83 |
| 2C x 25 | 6 | 0.9 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.4 | 19.6 | 21.2 | 550 | 1.20 | 1.54 | 0.08 | 0.096 | 114 | 95 | 109 | |
| 2C x 35 | 6 | 0.9 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.4 | 20.6 | 22.2 | 650 | 0.868 | 1.11 | 0.08 | 0.098 | 136 | 113 | 133 | |
| 2C x 50 | 6 | 1.0 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.4 | 22.7 | 24.3 | 800 | 0.641 | 0.820 | 0.078 | 0.10 | 161 | 134 | 162 | |
| 2C x 70 | 12 | 1.1 | 0.3 | 4 x 0.8 | 1.6 | 1.56 | 1.56 | 25.5 | 27.1 | 1000 | 0.443 | 0.567 | 0.077 | 0.11 | 197 | 164 | 204 | |
| 2C x 95 | 15 | 1.1 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 28.4 | 30.8 | 1250 | 0.320 | 0.410 | 0.074 | 0.11 | 235 | 196 | 251 | |
| 2C x 120 | 15 | 1.2 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 30.3 | 32.7 | 1450 | 0.253 | 0.324 | 0.072 | 0.11 | 266 | 222 | 287 | |
| 2C x 150 | 15 | 1.4 | 0.4 | 4 x 0.8 | 2.0 | 1.72 | 1.72 | 33.8 | 36.2 | 1750 | 0.206 | 0.264 | 0.072 | 0.11 | 296 | 248 | 328 | |
| 2C x 185 | 30 | 1.6 | 0.5 | 4 x 0.8 | 2.0 | 1.72 | 1.88 | 37.1 | 39.9 | 2100 | 0.164 | 0.210 | 0.072 | 0.11 | 335 | 281 | 379 | |
| 2C x 240 | 30 | 1.7 | 0.5 | 4 x 0.8 | 2.5 | 1.88 | 2.04 | 40.2 | 43.9 | 2550 | 0.125 | 0.160 | 0.072 | 0.11 | 385 | 324 | 448 | |
| 2C x 300 | 30 | 1.8 | 0.6 | 4 x 0.8 | 2.5 | 2.04 | 2.20 | 45.8 | 49.5 | 3050 | 0.100 | 0.128 | 0.071 | 0.12 | 432 | 364 | 513 | |
| 2C x 400 | 53 | 2.0 | 0.6 | 4 x 0.8 | 2.5 | 2.36 | 2.36 | 50.0 | 53.9 | 3900 | 0.0778 | 0.100 | 0.07 | 0.12 | 487 | 412 | 593 | |

2 CORE, ALUMINIUM CONDUCTOR, XLPE INSULATED, UNARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires | Thickness of XLPE Insulation (nom) | Min thickness of PVC Inner Sheath | Nom Thickness of PVC Outer sheath | Approx Overall diameter of Cable with ± 2 mm tolerance (mm) | Approx weight of cable Kg/Km | Max D.C Resistance of Conductor at 20°C Ohm/Km | Approx A.C Resistance of Conductor at 90°C Ohms/Km | Approx Reactance at 50 Hz Ohms/Km | Approx Capacitance at 50 Hz uF/Km | CURRENT RATINGS | |
|------------------------------------|-----------------|------------------------------------|-----------------------------------|-----------------------------------|---|------------------------------|--|--|-----------------------------------|-----------------------------------|---|---------------------------------------|
| | | | | | | | | | | | Buried Direct in the Ground @ 30°C Amps | In Single way buried Duct @ 30°C Amps |
| 2C x 4 | 1 | 0.7 | 0.3 | 1.8 | 13.1 | 175 | 7.41 | 9.48 | 0.0927 | 0.065 | 42 | 36 |
| 2C x 4 | 3 | 0.7 | 0.3 | 1.8 | 13.8 | 175 | 7.41 | 9.48 | 0.0927 | 0.065 | 42 | 36 |
| 2C x 6 | 1 | 0.7 | 0.3 | 1.8 | 14.1 | 200 | 4.61 | 5.90 | 0.0884 | 0.071 | 55 | 46 |
| 2C x 6 | 3 | 0.7 | 0.3 | 1.8 | 14.8 | 200 | 4.61 | 5.90 | 0.0884 | 0.081 | 55 | 46 |
| 2C x 10 | 1 | 0.7 | 0.3 | 1.8 | 15.8 | 250 | 3.08 | 3.94 | 0.0837 | 0.081 | 68 | 57 |
| 2C x 10 | 7 | 0.7 | 0.3 | 1.8 | 16.8 | 250 | 3.08 | 3.94 | 0.0837 | 0.088 | 68 | 57 |
| 2C x 16 | 6 | 0.7 | 0.3 | 1.8 | 16.8 | 260 | 1.91 | 2.44 | 0.0808 | 0.089 | 89 | 74 |
| 2C x 25 | 6 | 0.9 | 0.3 | 2.0 | 19.2 | 375 | 1.20 | 1.54 | 0.08 | 0.096 | 114 | 95 |
| 2C x 35 | 6 | 0.9 | 0.3 | 2.0 | 20.2 | 450 | 0.868 | 1.11 | 0.08 | 0.098 | 136 | 113 |
| 2C x 50 | 6 | 1.0 | 0.3 | 2.0 | 22.3 | 575 | 0.641 | 0.820 | 0.078 | 0.10 | 161 | 134 |
| 2C x 70 | 12 | 1.1 | 0.3 | 2.0 | 24.8 | 725 | 0.443 | 0.567 | 0.077 | 0.11 | 197 | 164 |
| 2C x 95 | 15 | 1.1 | 0.4 | 2.2 | 28.1 | 950 | 0.320 | 0.410 | 0.074 | 0.11 | 235 | 196 |
| 2C x 120 | 15 | 1.2 | 0.4 | 2.2 | 30.0 | 1100 | 0.253 | 0.324 | 0.072 | 0.11 | 266 | 222 |
| 2C x 150 | 15 | 1.4 | 0.4 | 2.2 | 33.2 | 1400 | 0.206 | 0.264 | 0.072 | 0.11 | 296 | 248 |
| 2C x 185 | 30 | 1.6 | 0.5 | 2.4 | 36.9 | 1650 | 0.164 | 0.210 | 0.072 | 0.11 | 335 | 281 |
| 2C x 240 | 30 | 1.7 | 0.5 | 2.6 | 40.0 | 2050 | 0.125 | 0.160 | 0.072 | 0.11 | 385 | 324 |
| 2C x 300 | 30 | 1.8 | 0.6 | 2.8 | 45.7 | 2500 | 0.100 | 0.128 | 0.071 | 0.12 | 432 | 364 |
| 2C x 400 | 53 | 2.0 | 0.6 | 3.0 | 50.2 | 3250 | 0.0778 | 0.100 | 0.07 | 0.12 | 487 | 412 |

2 CORE, COPPER CONDUCTOR, XLPE INSULATED, ARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires | Thickness of XLPE Insulation (nom) | Min thickness of PVC Inner Sheath | Nominal Dimension of Armour | | Min Thickness of PVC Outer sheath | | Approx Overall diameter of Cable with ± 2 mm tolerance | | Approx weight of cable | | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 90°C | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | CURRENT RATINGS | | |
|------------------------------------|-----------------|------------------------------------|-----------------------------------|-----------------------------|------|-----------------------------------|------|--|------|------------------------|---------|---|--|---------------------------|-----------------------------|------------------------------------|----------------------------------|---------------|
| | | | | Strip | Wire | Strip | Wire | Strip | Wire | Strip | Wire | | | | | Buried Direct in the Ground @ 30°C | In Single way buried Duct @ 30°C | In Air @ 40°C |
| Sq.mm | No's | mm | mm | mm x mm | mm | mm | mm | mm | mm | (Kg/Km) | (Kg/Km) | Ohm/Km | Ohm/Km | Ohm/Km | uF/Km | Amps | Amps | Amps |
| 2C x 4 | 1 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 14.9 | --- | 450 | 4.61 | 5.90 | 0.0927 | 0.065 | 54 | 45 | 48 |
| 2C x 4 | 7 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 15.6 | --- | 450 | 4.61 | 5.90 | 0.0927 | 0.065 | 54 | 45 | 48 |
| 2C x 6 | 1 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 15.9 | --- | 525 | 3.08 | 3.94 | 0.0884 | 0.071 | 67 | 56 | 61 |
| 2C x 6 | 7 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 16.6 | --- | 525 | 3.08 | 3.94 | 0.0884 | 0.071 | 67 | 56 | 61 |
| 2C x 10 | 7 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 18.6 | --- | 675 | 1.83 | 2.34 | 0.0837 | 0.081 | 89 | 75 | 83 |
| 2C x 16 | 6 | 0.7 | 0.3 | --- | 1.4 | --- | 1.4 | --- | 18.8 | --- | 775 | 1.15 | 1.47 | 0.0808 | 0.088 | 115 | 96 | 108 |
| 2C x 25 | 6 | 0.9 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.4 | 19.6 | 21.2 | 880 | 1025 | 0.727 | 0.931 | 0.08 | 0.089 | 147 | 122 | 140 |
| 2C x 35 | 6 | 0.9 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.4 | 20.6 | 22.2 | 1050 | 1250 | 0.524 | 0.671 | 0.08 | 0.096 | 176 | 146 | 172 |
| 2C x 50 | 6 | 1.0 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.4 | 22.7 | 24.3 | 1400 | 1600 | 0.387 | 0.495 | 0.078 | 0.098 | 208 | 173 | 208 |
| 2C x 70 | 12 | 1.1 | 0.3 | 4 x 0.8 | 1.6 | 1.56 | 1.56 | 25.5 | 27.1 | 1825 | 2050 | 0.268 | 0.343 | 0.077 | 0.10 | 253 | 211 | 262 |
| 2C x 95 | 15 | 1.1 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 28.4 | 30.8 | 2300 | 2800 | 0.193 | 0.247 | 0.074 | 0.11 | 302 | 252 | 322 |
| 2C x 120 | 18 | 1.2 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 30.3 | 32.7 | 2850 | 3350 | 0.153 | 0.196 | 0.072 | 0.11 | 340 | 284 | 368 |
| 2C x 150 | 18 | 1.4 | 0.4 | 4 x 0.8 | 2.0 | 1.72 | 1.72 | 33.8 | 36.2 | 3450 | 4000 | 0.124 | 0.159 | 0.072 | 0.11 | 379 | 317 | 419 |
| 2C x 185 | 30 | 1.6 | 0.5 | 4 x 0.8 | 2.0 | 1.72 | 1.88 | 37.1 | 39.9 | 4200 | 4850 | 0.0991 | 0.127 | 0.072 | 0.11 | 425 | 357 | 482 |
| 2C x 240 | 34 | 1.7 | 0.5 | 4 x 0.8 | 2.5 | 1.88 | 2.04 | 40.2 | 43.9 | 5300 | 6300 | 0.0754 | 0.097 | 0.072 | 0.11 | 486 | 409 | 566 |
| 2C x 300 | 34 | 1.8 | 0.6 | 4 x 0.8 | 2.5 | 2.04 | 2.20 | 45.8 | 49.5 | 6450 | 7600 | 0.0601 | 0.077 | 0.071 | 0.12 | 541 | 456 | 644 |
| 2C x 400 | 53 | 2.0 | 0.6 | 4 x 0.8 | 2.5 | 2.36 | 2.36 | 50.0 | 53.9 | 8400 | 9650 | 0.0470 | 0.060 | 0.07 | 0.12 | 602 | 508 | 734 |

2 CORE, COPPER CONDUCTOR, XLPE INSULATED, UNARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires | Thickness of XLPE Insulation (nom) | Min thickness of PVC Inner Sheath | Nom Thickness of PVC Outer sheath | Approx Overall diameter of Cable with ± 2 mm tolerance | Approx weight of cable | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 90°C | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | CURRENT RATINGS | | |
|------------------------------------|-----------------|------------------------------------|-----------------------------------|-----------------------------------|--|------------------------|---|--|---------------------------|-----------------------------|------------------------------------|----------------------------------|---------------|
| | | | | | | | | | | | Buried Direct in the Ground @ 30°C | In Single way buried Duct @ 30°C | In Air @ 40°C |
| Sq. mm | No's | mm | mm | mm | mm | Kg/Km | (kg/Km) | Ohm/Km | Ohm/Km | uF/Km | Amps | Amps | Amps |
| 2C x 4 | 1 | 0.7 | 0.3 | 1.8 | 13.1 | 225 | 4.61 | 5.90 | 0.0927 | 0.065 | 54 | 45 | 48 |
| 2C x 4 | 7 | 0.7 | 0.3 | 1.8 | 13.8 | 225 | 4.61 | 5.90 | 0.0927 | 0.065 | 54 | 45 | 48 |
| 2C x 6 | 1 | 0.7 | 0.3 | 1.8 | 14.1 | 275 | 3.08 | 3.94 | 0.0884 | 0.071 | 67 | 56 | 61 |
| 2C x 6 | 7 | 0.7 | 0.3 | 1.8 | 14.8 | 275 | 3.08 | 3.94 | 0.0884 | 0.071 | 67 | 56 | 61 |
| 2C x 10 | 7 | 0.7 | 0.3 | 1.8 | 16.8 | 375 | 1.83 | 2.34 | 0.0837 | 0.081 | 89 | 75 | 83 |
| 2C x 16 | 6 | 0.7 | 0.3 | 1.8 | 16.8 | 425 | 1.15 | 1.47 | 0.0808 | 0.088 | 115 | 96 | 108 |
| 2C x 25 | 6 | 0.9 | 0.3 | 2.0 | 19.2 | 650 | 0.727 | 0.93 | 0.08 | 0.089 | 147 | 122 | 140 |
| 2C x 35 | 6 | 0.9 | 0.3 | 2.0 | 20.2 | 850 | 0.524 | 0.67 | 0.08 | 0.096 | 176 | 146 | 172 |
| 2C x 50 | 6 | 1.0 | 0.3 | 2.0 | 22.3 | 1150 | 0.387 | 0.495 | 0.078 | 0.098 | 208 | 173 | 208 |
| 2C x 70 | 12 | 1.1 | 0.3 | 2.0 | 24.8 | 1500 | 0.268 | 0.343 | 0.077 | 0.10 | 253 | 211 | 262 |
| 2C x 95 | 15 | 1.1 | 0.4 | 2.2 | 28.1 | 2000 | 0.193 | 0.247 | 0.074 | 0.11 | 302 | 252 | 322 |
| 2C x 120 | 18 | 1.2 | 0.4 | 2.2 | 30.0 | 2500 | 0.153 | 0.196 | 0.072 | 0.11 | 340 | 284 | 368 |
| 2C x 150 | 18 | 1.4 | 0.4 | 2.2 | 33.2 | 3100 | 0.124 | 0.159 | 0.072 | 0.11 | 379 | 317 | 419 |
| 2C x 185 | 30 | 1.6 | 0.5 | 2.4 | 36.9 | 3750 | 0.0991 | 0.127 | 0.072 | 0.11 | 425 | 357 | 482 |
| 2C x 240 | 34 | 1.7 | 0.5 | 2.6 | 40.0 | 4800 | 0.0754 | 0.097 | 0.072 | 0.11 | 486 | 409 | 566 |
| 2C x 300 | 34 | 1.8 | 0.6 | 2.8 | 45.7 | 5950 | 0.0601 | 0.077 | 0.071 | 0.12 | 541 | 456 | 644 |
| 2C x 400 | 53 | 2.0 | 0.6 | 3.0 | 50.2 | 7700 | 0.0470 | 0.060 | 0.07 | 0.12 | 602 | 508 | 734 |

3 CORE, ALUMINIUM CONDUCTOR, XLPE INSULATED, ARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires | Thickness of XLPE Insulation (nom) | Min thickness of PVC Inner Sheath | Nominal Dimension of Armour | | Min Thickness of PVC Outer sheath | | Approx Overall diameter of Cable with ± 2 mm tolerance | | Approx weight of cable | | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 90°C | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | CURRENT RATINGS | | |
|------------------------------------|-----------------|------------------------------------|-----------------------------------|-----------------------------|------|-----------------------------------|------|--|------|------------------------|---------|---|--|---------------------------|-----------------------------|------------------------------------|----------------------------------|---------------|
| | | | | Strip | Wire | Strip | Wire | Strip | Wire | Strip | Wire | | | | | Buried Direct in the Ground @ 30°C | In Single way buried Duct @ 30°C | In Air @ 40°C |
| Sq.mm | No's | mm | mm | mm x mm | mm | mm | mm | mm | mm | (Kg/Km) | (Kg/Km) | Ohm/Km | Ohm/Km | Ohm/Km | uF/Km | Amps | Amps | Amps |
| 3C x 4 | 3 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 16.3 | --- | 450 | 7.41 | 9.48 | 0.0927 | 0.22 | 35 | 30 | 32 |
| 3C x 6 | 1 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 16.6 | --- | 500 | 4.61 | 5.90 | 0.0884 | 0.25 | 46 | 38 | 42 |
| 3C x 6 | 3 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 17.3 | --- | 500 | 4.61 | 5.90 | 0.0884 | 0.25 | 46 | 38 | 42 |
| 3C x 10 | 1 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 18.4 | --- | 625 | 3.08 | 3.94 | 0.0837 | 0.31 | 57 | 48 | 54 |
| 3C x 10 | 7 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 19.5 | --- | 625 | 3.08 | 3.94 | 0.0837 | 0.31 | 57 | 48 | 54 |
| 3C x 16 | 6 | 0.7 | 0.3 | 4 x 0.8 | 1.6 | 1.24 | 1.4 | 17.8 | 19.7 | 530.0 | 1.91 | 2.44 | 0.0808 | 0.36 | 74 | 61 | 69 | |
| 3C x 25 | 6 | 0.9 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.4 | 20.1 | 21.7 | 725 | 1.20 | 1.54 | 0.08 | 0.41 | 95 | 79 | 93 | |
| 3C x 35 | 6 | 0.9 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.4 | 22.2 | 23.8 | 850 | 0.868 | 1.11 | 0.08 | 0.47 | 114 | 94 | 114 | |
| 3C x 50 | 6 | 1.0 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.56 | 24.6 | 26.5 | 1050 | 0.641 | 0.820 | 0.078 | 0.50 | 134 | 112 | 138 | |
| 3C x 70 | 12 | 1.1 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 28.9 | 31.3 | 1375 | 0.443 | 0.567 | 0.077 | 0.53 | 164 | 137 | 175 | |
| 3C x 95 | 15 | 1.1 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 31.1 | 33.5 | 1600 | 0.320 | 0.410 | 0.074 | 0.61 | 197 | 164 | 216 | |
| 3C x 120 | 15 | 1.2 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.72 | 35.7 | 38.4 | 1980 | 0.253 | 0.324 | 0.072 | 0.63 | 223 | 187 | 249 | |
| 3C x 150 | 15 | 1.4 | 0.5 | 4 x 0.8 | 2.0 | 1.72 | 1.88 | 39.2 | 42.0 | 2300 | 0.206 | 0.264 | 0.072 | 0.63 | 249 | 209 | 284 | |
| 3C x 185 | 30 | 1.6 | 0.5 | 4 x 0.8 | 2.5 | 1.88 | 2.04 | 43.3 | 47.0 | 2800 | 0.164 | 0.210 | 0.072 | 0.63 | 282 | 238 | 329 | |
| 3C x 240 | 30 | 1.7 | 0.6 | 4 x 0.8 | 2.5 | 2.04 | 2.20 | 46.3 | 50.0 | 3450 | 0.125 | 0.160 | 0.072 | 0.63 | 327 | 276 | 392 | |
| 3C x 300 | 30 | 1.8 | 0.6 | 4 x 0.8 | 2.5 | 2.20 | 2.36 | 51.6 | 55.3 | 4170 | 0.100 | 0.128 | 0.071 | 0.67 | 369 | 312 | 452 | |
| 3C x 400 | 53 | 2.0 | 0.7 | 4 x 0.8 | 3.15 | 2.52 | 2.68 | 58.4 | 63.3 | 5250 | 0.0778 | 0.100 | 0.07 | 0.67 | 420 | 356 | 526 | |

3 CORE, ALUMINIUM CONDUCTOR, XLPE INSULATED, UNARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires | Thickness of XLPE Insulation (nom) | Min thickness of PVC Inner Sheath | Nom Thickness of PVC Outer sheath | Approx Overall diameter of Cable with ± 2 mm tolerance | Approx weight of cable | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 90°C | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | CURRENT RATINGS | | |
|------------------------------------|-----------------|------------------------------------|-----------------------------------|-----------------------------------|--|------------------------|---|--|---------------------------|-----------------------------|------------------------------------|----------------------------------|---------------|
| | | | | | | | | | | | Buried Direct in the Ground @ 30°C | In Single way buried Duct @ 30°C | In Air @ 40°C |
| Sq.mm | No's | mm | mm | mm | (mm) | Kg/Km | Ohm/Km | Ohms/Km | Ohms/Km | uF/Km | Amps | Amps | Amps |
| 3C x 4 | 1 | 0.7 | 0.3 | 1.8 | 13.7 | 200 | 7.41 | 9.48 | 0.0927 | 0.22 | 35 | 30 | 32 |
| 3C x 4 | 3 | 0.7 | 0.3 | 1.8 | 14.5 | 200 | 7.41 | 9.48 | 0.0927 | 0.22 | 35 | 30 | 32 |
| 3C x 6 | 1 | 0.7 | 0.3 | 1.8 | 14.8 | 225 | 4.61 | 5.90 | 0.0884 | 0.25 | 46 | 38 | 42 |
| 3C x 6 | 3 | 0.7 | 0.3 | 1.8 | 15.5 | 225 | 4.61 | 5.90 | 0.0884 | 0.25 | 46 | 38 | 42 |
| 3C x 10 | 1 | 0.7 | 0.3 | 1.8 | 16.6 | 300 | 3.08 | 3.94 | 0.0837 | 0.31 | 57 | 48 | 54 |
| 3C x 10 | 7 | 0.7 | 0.3 | 1.8 | 17.7 | 300 | 3.08 | 3.94 | 0.0837 | 0.31 | 57 | 48 | 54 |
| 3C x 16 | 6 | 0.7 | 0.3 | 1.8 | 17.3 | 325 | 1.91 | 2.44 | 0.0808 | 0.36 | 74 | 61 | 69 |
| 3C x 25 | 6 | 0.9 | 0.3 | 2.0 | 19.7 | 500 | 1.20 | 1.54 | 0.08 | 0.41 | 95 | 79 | 93 |
| 3C x 35 | 6 | 0.9 | 0.3 | 2.0 | 21.8 | 600 | 0.868 | 1.11 | 0.08 | 0.47 | 114 | 94 | 114 |
| 3C x 50 | 6 | 1.0 | 0.3 | 2.0 | 24.2 | 750 | 0.641 | 0.820 | 0.078 | 0.50 | 134 | 112 | 138 |
| 3C x 70 | 12 | 1.1 | 0.4 | 2.2 | 28.6 | 1025 | 0.443 | 0.567 | 0.077 | 0.53 | 164 | 137 | 175 |
| 3C x 95 | 15 | 1.1 | 0.4 | 2.2 | 30.8 | 1250 | 0.320 | 0.410 | 0.074 | 0.61 | 197 | 164 | 216 |
| 3C x 120 | 15 | 1.2 | 0.4 | 2.2 | 35.4 | 1550 | 0.253 | 0.324 | 0.072 | 0.63 | 223 | 187 | 249 |
| 3C x 150 | 15 | 1.4 | 0.5 | 2.4 | 39.0 | 1975 | 0.206 | 0.264 | 0.072 | 0.63 | 249 | 209 | 284 |
| 3C x 185 | 30 | 1.6 | 0.5 | 2.6 | 43.1 | 2350 | 0.164 | 0.210 | 0.072 | 0.63 | 282 | 238 | 329 |
| 3C x 240 | 30 | 1.7 | 0.6 | 2.8 | 46.2 | 2950 | 0.125 | 0.160 | 0.072 | 0.63 | 327 | 276 | 392 |
| 3C x 300 | 30 | 1.8 | 0.6 | 3.0 | 51.6 | 3600 | 0.100 | 0.128 | 0.071 | 0.67 | 369 | 312 | 452 |
| 3C x 400 | 53 | 2.0 | 0.7 | 3.2 | 58.2 | 4650 | 0.0778 | 0.100 | 0.07 | 0.67 | 420 | 356 | 526 |

3 CORE, COPPER CONDUCTOR, XLPE INSULATED, ARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires | Thickness of XLPE Insulation (nom) | Min thickness of PVC Inner Sheath | Nominal Dimension of Armour | | Min Thickness of PVC Outer sheath | | Approx Overall diameter of Cable with ± 2 mm tolerance | | Approx weight of cable | | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 90°C | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | CURRENT RATINGS | | |
|------------------------------------|-----------------|------------------------------------|-----------------------------------|-----------------------------|------|-----------------------------------|------|--|------|------------------------|---------|---|--|---------------------------|-----------------------------|------------------------------------|----------------------------------|---------------|
| | | | | Strip | Wire | Strip | Wire | Strip | Wire | Strip | Wire | | | | | Buried Direct in the Ground @ 30°C | In Single way buried Duct @ 30°C | In Air @ 40°C |
| Sq.mm | No's | mm | mm | mm x mm | mm | mm | mm | mm | mm | [Kg/Km] | [Kg/Km] | Ohm/Km | Ohm/Km | Ohm/Km | uF/Km | Amps | Amps | Amps |
| 3C x 4 | 1 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 15.5 | --- | 500 | 4.61 | 5.90 | 0.0927 | 0.22 | 45 | 38 | 41 |
| 3C x 4 | 7 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 16.3 | --- | 500 | 4.61 | 5.90 | 0.0927 | 0.22 | 45 | 38 | 41 |
| 3C x 6 | 1 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 16.6 | --- | 625 | 3.08 | 3.94 | 0.0884 | 0.25 | 56 | 47 | 52 |
| 3C x 6 | 7 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 17.3 | --- | 625 | 3.08 | 3.94 | 0.0884 | 0.25 | 56 | 47 | 52 |
| 3C x 10 | 7 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 19.5 | --- | 800 | 1.83 | 2.34 | 0.0837 | 0.31 | 74 | 62 | 70 |
| 3C x 16 | 6 | 0.7 | 0.3 | 4 x 0.8 | 1.6 | 1.24 | 1.40 | 17.8 | 19.7 | 825 | 1000 | 1.15 | 1.47 | 0.0808 | 0.36 | 95 | 79 | 89 |
| 3C x 25 | 6 | 0.9 | 0.3 | 4 x 0.8 | 1.6 | 1.40 | 1.40 | 20.1 | 21.7 | 1150 | 1350 | 0.727 | 0.931 | 0.080 | 0.41 | 122 | 102 | 119 |
| 3C x 35 | 6 | 0.9 | 0.3 | 4 x 0.8 | 1.6 | 1.40 | 1.40 | 22.2 | 23.8 | 1450 | 1650 | 0.524 | 0.671 | 0.080 | 0.47 | 146 | 122 | 147 |
| 3C x 50 | 6 | 1.0 | 0.3 | 4 x 0.8 | 1.6 | 1.40 | 1.56 | 24.6 | 26.5 | 1900 | 2200 | 0.387 | 0.495 | 0.078 | 0.50 | 173 | 144 | 179 |
| 3C x 70 | 12 | 1.1 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 28.9 | 31.3 | 2550 | 3050 | 0.268 | 0.343 | 0.077 | 0.53 | 212 | 177 | 226 |
| 3C x 95 | 15 | 1.1 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 31.1 | 33.5 | 3250 | 3800 | 0.193 | 0.247 | 0.074 | 0.61 | 254 | 212 | 279 |
| 3C x 120 | 18 | 1.2 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.72 | 35.7 | 38.4 | 4000 | 4650 | 0.153 | 0.196 | 0.072 | 0.63 | 287 | 240 | 320 |
| 3C x 150 | 18 | 1.4 | 0.5 | 4 x 0.8 | 2.0 | 1.72 | 1.88 | 39.2 | 42.0 | 4950 | 5650 | 0.124 | 0.159 | 0.072 | 0.63 | 321 | 269 | 365 |
| 3C x 185 | 30 | 1.6 | 0.5 | 4 x 0.8 | 2.5 | 1.88 | 2.04 | 43.3 | 47.0 | 6000 | 7100 | 0.0991 | 0.127 | 0.072 | 0.63 | 362 | 304 | 422 |
| 3C x 240 | 34 | 1.7 | 0.6 | 4 x 0.8 | 2.5 | 2.04 | 2.20 | 46.3 | 50.0 | 7600 | 8850 | 0.0754 | 0.097 | 0.072 | 0.63 | 418 | 352 | 500 |
| 3C x 300 | 34 | 1.8 | 0.6 | 4 x 0.8 | 2.5 | 2.20 | 2.36 | 51.6 | 53.3 | 9350 | 10750 | 0.0601 | 0.077 | 0.071 | 0.67 | 469 | 396 | 574 |
| 3C x 400 | 53 | 2.0 | 0.7 | 4 x 0.8 | 3.15 | 2.52 | 2.68 | 58.4 | 63.3 | 12200 | 14400 | 0.0470 | 0.060 | 0.070 | 0.67 | 528 | 447 | 662 |

3 CORE, COPPER CONDUCTOR, XLPE INSULATED, UNARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires | Thickness of XLPE Insulation (nom) | Min thickness of PVC Inner Sheath | Nom Thickness of PVC Outer sheath | Approx Overall diameter of Cable with ± 2 mm tolerance | Approx weight of cable | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 90°C | Approx Reactance at 50 Hz | Approx Capacitance at 30 Hz | CURRENT RATINGS | | |
|------------------------------------|-----------------|------------------------------------|-----------------------------------|-----------------------------------|--|------------------------|---|--|---------------------------|-----------------------------|------------------------------------|----------------------------------|---------------|
| | | | | | | | | | | | Buried Direct in the Ground @ 30°C | In Single way buried Duct @ 30°C | In Air @ 40°C |
| Sq.mm | No's | mm | mm | mm | (mm) | Kg/Km | Ohm/Km | Ohms/Km | Ohms/Km | uF/Km | Amps | Amps | Amps |
| 3C x 4 | 1 | 0.7 | 0.3 | 1.8 | 13.7 | 275 | 4.61 | 5.90 | 0.0927 | 0.22 | 45 | 38 | 41 |
| 3C x 4 | 7 | 0.7 | 0.3 | 1.8 | 14.5 | 275 | 4.61 | 5.90 | 0.0927 | 0.22 | 45 | 38 | 41 |
| 3C x 6 | 1 | 0.7 | 0.3 | 1.8 | 14.8 | 350 | 3.08 | 3.94 | 0.0884 | 0.25 | 56 | 47 | 52 |
| 3C x 6 | 7 | 0.7 | 0.3 | 1.8 | 15.5 | 350 | 3.08 | 3.94 | 0.0884 | 0.25 | 56 | 47 | 52 |
| 3C x 10 | 7 | 0.7 | 0.3 | 1.8 | 17.7 | 475 | 1.83 | 2.34 | 0.0837 | 0.31 | 74 | 62 | 70 |
| 3C x 16 | 6 | 0.7 | 0.3 | 1.8 | 17.3 | 600 | 1.15 | 1.47 | 0.0808 | 0.36 | 95 | 79 | 89 |
| 3C x 25 | 6 | 0.9 | 0.3 | 2.0 | 19.7 | 900 | 0.727 | 0.93 | 0.080 | 0.41 | 122 | 102 | 119 |
| 3C x 35 | 6 | 0.9 | 0.3 | 2.0 | 21.8 | 1200 | 0.524 | 0.67 | 0.080 | 0.47 | 146 | 122 | 147 |
| 3C x 50 | 6 | 1.0 | 0.3 | 2.0 | 24.2 | 1600 | 0.387 | 0.495 | 0.078 | 0.50 | 173 | 144 | 179 |
| 3C x 70 | 12 | 1.1 | 0.4 | 2.2 | 28.6 | 2200 | 0.268 | 0.343 | 0.077 | 0.53 | 212 | 177 | 226 |
| 3C x 95 | 15 | 1.1 | 0.4 | 2.2 | 30.8 | 2900 | 0.193 | 0.247 | 0.074 | 0.61 | 254 | 212 | 279 |
| 3C x 120 | 18 | 1.2 | 0.4 | 2.2 | 35.4 | 3600 | 0.153 | 0.196 | 0.072 | 0.63 | 287 | 240 | 320 |
| 3C x 150 | 18 | 1.4 | 0.5 | 2.4 | 39.0 | 4500 | 0.124 | 0.159 | 0.072 | 0.63 | 321 | 269 | 365 |
| 3C x 185 | 30 | 1.6 | 0.5 | 2.6 | 43.1 | 5500 | 0.0991 | 0.127 | 0.072 | 0.63 | 362 | 304 | 422 |
| 3C x 240 | 34 | 1.7 | 0.6 | 2.8 | 46.2 | 7000 | 0.0754 | 0.097 | 0.072 | 0.63 | 418 | 352 | 500 |
| 3C x 300 | 34 | 1.8 | 0.6 | 3.0 | 51.6 | 8700 | 0.0601 | 0.077 | 0.071 | 0.67 | 469 | 396 | 574 |
| 3C x 400 | 53 | 2.0 | 0.7 | 3.2 | 58.2 | 11400 | 0.0470 | 0.060 | 0.070 | 0.67 | 528 | 447 | 662 |

3.5 CORE, ALUMINIUM CONDUCTOR, XLPE INSULATED, ARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires (Main/Neutral) | Thickness of XLPE Insulation (nom) (Main/Neutral) | Min thickness of PVC Inner Sheath | Nominal Dimension of Armour | | Min Thickness of PVC Outer sheath | | Approx Overall diameter of Cable with ± 2 mm tolerance | | Approx weight of cable | | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 90°C | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | CURRENT RATINGS | | |
|------------------------------------|--------------------------------|---|-----------------------------------|-----------------------------|------|-----------------------------------|------|--|------|------------------------|---------|---|--|---------------------------|-----------------------------|------------------------------------|----------------------------------|---------------|
| | | | | Strip | Wire | Strip | Wire | Strip | Wire | Strip | Wire | | | | | Buried Direct in the Ground @ 30°C | In Single way buried Duct @ 30°C | In Air @ 40°C |
| Sq.mm | No's | mm | mm | mm x mm | mm | mm | mm | mm | mm | (Kg/Km) | (Kg/Km) | Ohm/Km | Ohm/Km | Ohm/Km | uF/Km | Amps | Amps | Amps |
| 3.5C x 25/16 | 6/6 | 0.9/0.7 | 0.3 | 4 x 0.8 | 1.6 | 1.40 | 1.40 | 22.2 | 23.8 | 750 | 1000 | 1.20 | 1.54 | 0.080 | 0.41 | 95 | 79 | 93 |
| 3.5C x 35/16 | 6/6 | 0.9/0.7 | 0.3 | 4 x 0.8 | 1.6 | 1.40 | 1.40 | 23.9 | 25.5 | 875 | 1200 | 0.868 | 1.11 | 0.080 | 0.47 | 114 | 94 | 114 |
| 3.5C x 50/25 | 6/6 | 1.0/0.9 | 0.3 | 4 x 0.8 | 1.6 | 1.40 | 1.40 | 27.1 | 29.0 | 1110 | 1500 | 0.641 | 0.820 | 0.078 | 0.50 | 134 | 112 | 138 |
| 3.5C x 70/35 | 12/6 | 1.1/0.9 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 31.6 | 34.0 | 1475 | 2000 | 0.443 | 0.567 | 0.077 | 0.53 | 164 | 137 | 175 |
| 3.5C x 95/50 | 15/6 | 1.1/1.0 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 35.2 | 37.6 | 1825 | 2450 | 0.320 | 0.410 | 0.074 | 0.61 | 197 | 164 | 216 |
| 3.5C x 120/70 | 15/12 | 1.2/1.1 | 0.4 | 4 x 0.8 | 2.0 | 1.72 | 1.72 | 37.8 | 40.2 | 2200 | 2900 | 0.253 | 0.324 | 0.072 | 0.63 | 223 | 187 | 249 |
| 3.5C x 150/70 | 15/12 | 1.4/1.1 | 0.5 | 4 x 0.8 | 2.0 | 1.72 | 1.88 | 42.4 | 45.2 | 2625 | 3350 | 0.206 | 0.264 | 0.072 | 0.63 | 249 | 209 | 284 |
| 3.5C x 185/95 | 30/15 | 1.6/1.1 | 0.5 | 4 x 0.8 | 2.5 | 1.88 | 2.04 | 46.0 | 49.7 | 3175 | 4350 | 0.164 | 0.210 | 0.072 | 0.63 | 282 | 238 | 329 |
| 3.5C x 240/120 | 30/15 | 1.7/1.2 | 0.6 | 4 x 0.8 | 2.5 | 2.04 | 2.20 | 51.7 | 55.4 | 4000 | 5300 | 0.125 | 0.160 | 0.072 | 0.63 | 327 | 276 | 392 |
| 3.5C x 300/150 | 30/15 | 1.8/1.4 | 0.6 | 4 x 0.8 | 2.5 | 2.20 | 2.36 | 55.6 | 59.3 | 4750 | 6175 | 0.100 | 0.128 | 0.071 | 0.67 | 369 | 312 | 452 |
| 3.5C x 400/185 | 53/30 | 2.0/1.6 | 0.7 | 4 x 0.8 | 3.15 | 2.52 | 2.68 | 64.1 | 69.2 | 6000 | 8350 | 0.0778 | 0.100 | 0.070 | 0.67 | 420 | 356 | 526 |

3.5 CORE, ALUMINIUM CONDUCTOR, XLPE INSULATED, UNARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires (Main/Neutral) | Thickness of XLPE Insulation (nom) (Main/Neutral) | Min thickness of PVC Inner Sheath | Nom Thickness of PVC Outer sheath | Approx Overall diameter of Cable with ± 2 mm tolerance | Approx weight of cable | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 90°C | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | CURRENT RATINGS | | |
|------------------------------------|--------------------------------|---|-----------------------------------|-----------------------------------|--|------------------------|---|--|---------------------------|-----------------------------|------------------------------------|----------------------------------|---------------|
| | | | | | | | | | | | Buried Direct in the Ground @ 30°C | In Single way buried Duct @ 30°C | In Air @ 40°C |
| Sq.mm | No's | mm | mm | mm | (mm) | Kg/Km | Ohm/Km | Ohm/Km | Ohm/Km | μ F/Km | Amps | Amps | Amps |
| 3.5C x 25/16 | 6/6 | 0.9/0.7 | 0.3 | 2.0 | 21.8 | 550 | 1.20 | 1.54 | 0.080 | 0.41 | 95 | 79 | 93 |
| 3.5C x 35/16 | 6/6 | 0.9/0.7 | 0.3 | 2.0 | 23.5 | 675 | 0.868 | 1.11 | 0.080 | 0.47 | 114 | 94 | 114 |
| 3.5C x 50/25 | 6/6 | 1.0/0.9 | 0.3 | 2.0 | 26.7 | 875 | 0.641 | 0.820 | 0.078 | 0.50 | 134 | 112 | 138 |
| 3.5C x 70/35 | 12/6 | 1.1/0.9 | 0.4 | 2.2 | 31.3 | 1150 | 0.443 | 0.567 | 0.077 | 0.53 | 164 | 137 | 175 |
| 3.5C x 95/50 | 15/6 | 1.1/1.0 | 0.4 | 2.2 | 34.9 | 1450 | 0.320 | 0.410 | 0.074 | 0.61 | 197 | 164 | 216 |
| 3.5C x 120/70 | 15/12 | 1.2/1.1 | 0.4 | 2.2 | 37.2 | 1800 | 0.253 | 0.324 | 0.072 | 0.63 | 223 | 187 | 249 |
| 3.5C x 150/70 | 15/12 | 1.4/1.1 | 0.5 | 2.4 | 42.2 | 2200 | 0.206 | 0.264 | 0.072 | 0.63 | 249 | 209 | 284 |
| 3.5C x 185/95 | 30/15 | 1.6/1.1 | 0.5 | 2.6 | 45.8 | 2700 | 0.164 | 0.210 | 0.072 | 0.63 | 282 | 238 | 329 |
| 3.5C x 240/120 | 30/15 | 1.7/1.2 | 0.6 | 2.8 | 51.6 | 3400 | 0.125 | 0.160 | 0.072 | 0.63 | 327 | 276 | 392 |
| 3.5C x 300/150 | 30/15 | 1.8/1.4 | 0.6 | 3.0 | 55.6 | 4150 | 0.100 | 0.128 | 0.071 | 0.67 | 369 | 312 | 452 |
| 3.5C x 400/185 | 53/30 | 2.0/1.6 | 0.7 | 3.4 | 64.3 | 5400 | 0.0778 | 0.100 | 0.070 | 0.67 | 420 | 356 | 526 |

3.5 CORE, COPPER CONDUCTOR, XLPE INSULATED, ARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires (Main/Neutral) | Thickness of XLPE Insulation (nom) (Main/Neutral) | Min thickness of PVC Inner Sheath | Nominal Dimension of Armour | | Min Thickness of PVC Outer sheath | | Approx Overall diameter of Cable with ± 2 mm tolerance | | Approx weight of cable | | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 90°C | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | CURRENT RATINGS | | |
|------------------------------------|--------------------------------|---|-----------------------------------|-----------------------------|------|-----------------------------------|------|--|------|------------------------|---------|---|--|---------------------------|-----------------------------|------------------------------------|----------------------------------|---------------|
| | | | | Strip | Wire | Strip | Wire | Strip | Wire | Strip | Wire | | | | | Buried Direct in the Ground @ 30°C | In Single way buried Duct @ 30°C | In Air @ 40°C |
| Sq.mm | No's | mm | mm | mm x mm | mm | mm | mm | mm | mm | (Kg/Km) | (Kg/Km) | Ohm/Km | Ohm/Km | Ohm/Km | uF/Km | Amps | Amps | Amps |
| 3.5C x 25/16 | 6/6 | 0.9/0.7 | 0.3 | 4 x 0.8 | 1.6 | 1.40 | 1.40 | 22.2 | 23.8 | 1300 | 1550 | 0.727 | 0.931 | 0.080 | 0.41 | 122 | 102 | 119 |
| 3.5C x 35/16 | 6/6 | 0.9/0.7 | 0.3 | 4 x 0.8 | 1.6 | 1.40 | 1.40 | 23.9 | 25.5 | 1625 | 1850 | 0.524 | 0.671 | 0.080 | 0.47 | 146 | 122 | 147 |
| 3.5C x 50/25 | 6/6 | 1.0/0.9 | 0.3 | 4 x 0.8 | 1.6 | 1.40 | 1.56 | 27.1 | 29.0 | 2150 | 2500 | 0.387 | 0.495 | 0.078 | 0.50 | 173 | 144 | 179 |
| 3.5C x 70/35 | 12/6 | 1.1/0.9 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 31.6 | 34.0 | 2900 | 3450 | 0.268 | 0.343 | 0.077 | 0.53 | 212 | 177 | 226 |
| 3.5C x 95/50 | 15/6 | 1.1/1.0 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 35.2 | 37.6 | 3800 | 4350 | 0.193 | 0.247 | 0.074 | 0.61 | 254 | 212 | 279 |
| 3.5C x 120/70 | 18/12 | 1.2/1.1 | 0.4 | 4 x 0.8 | 2.0 | 1.72 | 1.72 | 37.8 | 40.2 | 4750 | 5400 | 0.153 | 0.196 | 0.072 | 0.63 | 287 | 240 | 320 |
| 3.5C x 150/70 | 18/12 | 1.4/1.1 | 0.5 | 4 x 0.8 | 2.0 | 1.72 | 1.88 | 42.4 | 45.2 | 5650 | 6400 | 0.124 | 0.159 | 0.072 | 0.63 | 321 | 269 | 365 |
| 3.5C x 185/95 | 30/15 | 1.6/1.1 | 0.5 | 4 x 0.8 | 2.5 | 1.88 | 2.04 | 46.0 | 49.7 | 6975 | 8200 | 0.0991 | 0.127 | 0.072 | 0.63 | 362 | 304 | 422 |
| 3.5C x 240/120 | 34/18 | 1.7/1.2 | 0.6 | 4 x 0.8 | 2.5 | 2.04 | 2.20 | 51.7 | 55.4 | 8800 | 10100 | 0.0754 | 0.097 | 0.072 | 0.63 | 418 | 352 | 500 |
| 3.5C x 300/150 | 34/18 | 1.8/1.4 | 0.6 | 4 x 0.8 | 2.5 | 2.20 | 2.36 | 55.6 | 59.3 | 10800 | 12350 | 0.0601 | 0.077 | 0.071 | 0.67 | 469 | 396 | 574 |
| 3.5C x 400/185 | 53/30 | 2.0/1.6 | 0.7 | 4 x 0.8 | 3.15 | 2.52 | 2.68 | 64.1 | 69.2 | 14050 | 16450 | 0.0470 | 0.060 | 0.070 | 0.67 | 528 | 447 | 662 |

3.5 CORE, COPPER CONDUCTOR, XLPE INSULATED, UNARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires (Main/Neutral) | Thickness of XLPE Insulation (nom) (Main/Neutral) | Min thickness of PVC Inner Sheath | Nom Thickness of PVC Outer sheath | Approx Overall diameter of Cable with ± 2 mm tolerance | Approx weight of cable | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 90°C | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | CURRENT RATINGS | | |
|------------------------------------|--------------------------------|---|-----------------------------------|-----------------------------------|--|------------------------|---|--|---------------------------|-----------------------------|------------------------------------|----------------------------------|---------------|
| | | | | | | | | | | | Buried Direct in the Ground @ 30°C | In Single way buried Duct @ 30°C | In Air @ 40°C |
| Sq.mm | No's | mm | mm | mm | mm | Kg/Km | Ohm/Km | Ohm/Km | Ohm/Km | uF/Km | Amps | Amps | Amps |
| 3.5C x 25/16 | 6/6 | 0.9/0.7 | 0.3 | 2.0 | 21.8 | 1050 | 0.727 | 0.931 | 0.080 | 0.41 | 122 | 102 | 119 |
| 3.5C x 35/16 | 6/6 | 0.9/0.7 | 0.3 | 2.0 | 23.5 | 1350 | 0.524 | 0.671 | 0.080 | 0.47 | 146 | 122 | 147 |
| 3.5C x 50/25 | 6/6 | 1.0/0.9 | 0.3 | 2.0 | 26.7 | 1850 | 0.387 | 0.495 | 0.078 | 0.50 | 173 | 144 | 179 |
| 3.5C x 70/35 | 12/6 | 1.1/0.9 | 0.4 | 2.2 | 31.3 | 2550 | 0.268 | 0.343 | 0.077 | 0.53 | 212 | 177 | 226 |
| 3.5C x 95/50 | 15/6 | 1.1/1.0 | 0.4 | 2.2 | 34.9 | 3550 | 0.193 | 0.247 | 0.074 | 0.61 | 254 | 212 | 279 |
| 3.5C x 120/70 | 18/12 | 1.2/1.1 | 0.4 | 2.2 | 37.2 | 4250 | 0.153 | 0.196 | 0.072 | 0.63 | 287 | 240 | 320 |
| 3.5C x 150/70 | 18/12 | 1.4/1.1 | 0.5 | 2.4 | 42.2 | 5150 | 0.124 | 0.159 | 0.072 | 0.63 | 321 | 269 | 365 |
| 3.5C x 185/95 | 30/15 | 1.6/1.1 | 0.5 | 2.6 | 45.8 | 6400 | 0.0991 | 0.127 | 0.072 | 0.63 | 362 | 304 | 422 |
| 3.5C x 240/120 | 34/18 | 1.7/1.2 | 0.6 | 2.8 | 51.6 | 8150 | 0.0754 | 0.097 | 0.072 | 0.63 | 418 | 352 | 500 |
| 3.5C x 300/150 | 34/18 | 1.8/1.4 | 0.6 | 3.0 | 55.6 | 10100 | 0.0601 | 0.077 | 0.071 | 0.67 | 469 | 396 | 574 |
| 3.5C x 400/185 | 53/30 | 2.0/1.6 | 0.7 | 3.4 | 64.3 | 13250 | 0.0470 | 0.060 | 0.070 | 0.67 | 528 | 447 | 662 |

4 CORE, ALUMINIUM CONDUCTOR, XLPE INSULATED, ARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires | Thickness of XLPE Insulation (nom) | Min thickness of PVC Inner Sheath | Nominal Dimension of Armour | | Min Thickness of PVC Outer sheath | | Approx Overall diameter of Cable with ± 2 mm tolerance | | Approx weight of cable | | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 90°C | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | CURRENT RATINGS | |
|------------------------------------|-----------------|------------------------------------|-----------------------------------|-----------------------------|------|-----------------------------------|------|--|------|------------------------|---------|---|--|---------------------------|-----------------------------|------------------------------------|----------------------------------|
| | | | | Strip | Wire | Strip | Wire | Strip | Wire | Strip | Wire | | | | | Buried Direct in the Ground @ 30°C | In Single way buried Duct @ 30°C |
| 4C x 4 | 3 | 0.7 | 0.3 | mm x mm | mm | mm | mm | mm | mm | [Kg/Km] | [Kg/Km] | Ohm/Km | Ohm/Km | Ohm/Km | uF/Km | Amps | Amps |
| 4C x 6 | 1 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 17.3 | --- | 500 | 7.41 | 9.48 | 0.0927 | 0.22 | 35 | 30 |
| 4C x 6 | 3 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 17.7 | --- | 550 | 4.61 | 5.90 | 0.0884 | 0.25 | 46 | 38 |
| 4C x 10 | 1 | 0.7 | 0.3 | --- | 1.4 | --- | 1.24 | --- | 18.5 | --- | 550 | 4.61 | 5.90 | 0.0884 | 0.25 | 46 | 38 |
| 4C x 10 | 7 | 0.7 | 0.3 | --- | 1.4 | --- | 1.40 | --- | 20.1 | --- | 725 | 3.08 | 3.94 | 0.0837 | 0.31 | 57 | 48 |
| 4C x 16 | 6 | 0.7 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.40 | --- | 21.4 | --- | 725 | 3.08 | 3.94 | 0.0837 | 0.31 | 57 | 48 |
| 4C x 25 | 6 | 0.9 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.40 | 19.6 | 21.2 | 675 | 850 | 1.91 | 2.44 | 0.0808 | 0.36 | 74 | 61 |
| 4C x 35 | 6 | 0.9 | 0.3 | 4 x 0.8 | 1.6 | 1.4 | 1.40 | 22.2 | 23.8 | 825 | 1050 | 1.20 | 1.54 | 0.080 | 0.41 | 95 | 79 |
| 4C x 50 | 6 | 1.0 | 0.3 | 4 x 0.8 | 1.6 | 1.56 | 1.56 | 24.4 | 26.0 | 1000 | 1300 | 0.868 | 1.11 | 0.080 | 0.47 | 114 | 94 |
| 4C x 70 | 12 | 1.1 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 27.9 | 29.5 | 1300 | 1550 | 0.641 | 0.820 | 0.078 | 0.50 | 134 | 112 |
| 4C x 95 | 15 | 1.1 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.72 | 31.7 | 34.1 | 1650 | 2200 | 0.443 | 0.567 | 0.077 | 0.53 | 164 | 137 |
| 4C x 120 | 15 | 1.2 | 0.5 | 4 x 0.8 | 2.0 | 1.72 | 1.88 | 35.2 | 37.9 | 2000 | 2650 | 0.320 | 0.410 | 0.074 | 0.61 | 197 | 164 |
| 4C x 150 | 15 | 1.4 | 0.5 | 4 x 0.8 | 2.5 | 1.88 | 2.04 | 39.1 | 41.9 | 2450 | 3200 | 0.253 | 0.324 | 0.072 | 0.63 | 223 | 187 |
| 4C x 185 | 30 | 1.6 | 0.5 | 4 x 0.8 | 2.5 | 2.04 | 2.20 | 42.6 | 46.3 | 2900 | 4100 | 0.206 | 0.264 | 0.072 | 0.63 | 249 | 209 |
| 4C x 240 | 30 | 1.7 | 0.6 | 4 x 0.8 | 2.5 | 2.20 | 2.36 | 47.8 | 51.5 | 3600 | 4800 | 0.164 | 0.210 | 0.072 | 0.63 | 282 | 238 |
| 4C x 300 | 30 | 1.8 | 0.7 | 4 x 0.8 | 3.15 | 2.36 | 2.52 | 53.8 | 57.5 | 4500 | 5900 | 0.125 | 0.160 | 0.072 | 0.63 | 327 | 276 |
| 4C x 400 | 53 | 2.0 | 0.7 | 4 x 0.8 | 3.15 | 2.68 | 2.84 | 59.5 | 64.5 | 5400 | 7600 | 0.100 | 0.128 | 0.071 | 0.67 | 369 | 312 |
| | | | | | | | | 67.1 | 72.1 | 6800 | 9200 | 0.0778 | 0.100 | 0.070 | 0.67 | 420 | 356 |

4 CORE, ALUMINIUM CONDUCTOR, XLPE INSULATED, UNARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires | Thickness of XLPE Insulation (nom) | Min thickness of PVC Inner Sheath | Nom Thickness of PVC Outer sheath | Approx Overall diameter of Cable with ± 2 mm tolerance | Approx weight of cable | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 90°C | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | CURRENT RATINGS | | |
|------------------------------------|-----------------|------------------------------------|-----------------------------------|-----------------------------------|--|------------------------|---|--|---------------------------|-----------------------------|------------------------------------|----------------------------------|---------------|
| | | | | | | | | | | | Buried Direct in the Ground @ 30°C | In Single way buried Duct @ 30°C | In Air @ 40°C |
| Sq,mm | No's | mm | mm | mm | [mm] | Kg/Km | Ohm/Km | Ohm/Km | Ohm/Km | uF/Km | Amps | Amps | Amps |
| 4C x 4 | 1 | 0.7 | 0.3 | 1.8 | 14.7 | 225 | 7.41 | 9.48 | 0.0927 | 0.22 | 35 | 30 | 32 |
| 4C x 4 | 3 | 0.7 | 0.3 | 1.8 | 15.5 | 225 | 7.41 | 9.48 | 0.0927 | 0.22 | 35 | 30 | 32 |
| 4C x 6 | 1 | 0.7 | 0.3 | 1.8 | 15.9 | 260 | 4.61 | 5.90 | 0.0884 | 0.25 | 46 | 38 | 42 |
| 4C x 6 | 3 | 0.7 | 0.3 | 1.8 | 16.7 | 260 | 4.61 | 5.90 | 0.0884 | 0.25 | 46 | 38 | 42 |
| 4C x 10 | 1 | 0.7 | 0.3 | 1.8 | 17.9 | 350 | 3.08 | 3.94 | 0.0837 | 0.31 | 57 | 48 | 54 |
| 4C x 10 | 7 | 0.7 | 0.3 | 1.8 | 19.2 | 350 | 3.08 | 3.94 | 0.0837 | 0.31 | 57 | 48 | 54 |
| 4C x 16 | 6 | 0.7 | 0.3 | 1.8 | 18.8 | 425 | 1.91 | 2.44 | 0.0808 | 0.36 | 74 | 61 | 69 |
| 4C x 25 | 6 | 0.9 | 0.3 | 2.0 | 21.8 | 600 | 1.20 | 1.54 | 0.080 | 0.41 | 95 | 79 | 93 |
| 4C x 35 | 6 | 0.9 | 0.3 | 2.0 | 24.0 | 750 | 0.868 | 1.11 | 0.080 | 0.47 | 114 | 94 | 114 |
| 4C x 50 | 6 | 1.0 | 0.3 | 2.0 | 27.2 | 975 | 0.641 | 0.820 | 0.078 | 0.50 | 134 | 112 | 138 |
| 4C x 70 | 12 | 1.1 | 0.4 | 2.2 | 31.8 | 1300 | 0.443 | 0.567 | 0.077 | 0.53 | 164 | 137 | 175 |
| 4C x 95 | 15 | 1.1 | 0.4 | 2.2 | 34.9 | 1600 | 0.320 | 0.410 | 0.074 | 0.61 | 197 | 164 | 216 |
| 4C x 120 | 15 | 1.2 | 0.5 | 2.4 | 38.9 | 2050 | 0.253 | 0.324 | 0.072 | 0.63 | 223 | 187 | 249 |
| 4C x 150 | 15 | 1.4 | 0.5 | 2.6 | 42.4 | 2500 | 0.206 | 0.264 | 0.072 | 0.63 | 249 | 209 | 284 |
| 4C x 185 | 30 | 1.6 | 0.5 | 2.8 | 47.7 | 3050 | 0.164 | 0.210 | 0.072 | 0.63 | 282 | 238 | 329 |
| 4C x 240 | 30 | 1.7 | 0.6 | 3.0 | 53.8 | 3850 | 0.125 | 0.160 | 0.072 | 0.63 | 327 | 276 | 392 |
| 4C x 300 | 30 | 1.8 | 0.7 | 3.2 | 59.6 | 4800 | 0.100 | 0.128 | 0.071 | 0.67 | 369 | 312 | 452 |
| 4C x 400 | 53 | 2.0 | 0.7 | 3.6 | 67.3 | 6175 | 0.0778 | 0.100 | 0.07 | 0.67 | 420 | 356 | 526 |

4 CORE, COPPER CONDUCTOR, XLPE INSULATED, ARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires | Thickness of XLPE Insulation (nom) | Min thickness of PVC Inner Sheath | Nominal Dimension of Armour | | Min Thickness of PVC Outer sheath | | Approx. Overall diameter of Cable with ± 2 mm tolerance | | Approx weight of cable | | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 90°C | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | CURRENT RATINGS | | |
|------------------------------------|-----------------|------------------------------------|-----------------------------------|-----------------------------|------|-----------------------------------|------|---|------|------------------------|-------|---|--|---------------------------|-----------------------------|------------------------------------|----------------------------------|---------------|
| | | | | Strip | Wire | Strip | Wire | Strip | Wire | Strip | Wire | | | | | Buried Direct in the Ground @ 30°C | In Single way buried Duct @ 30°C | In Air @ 40°C |
| 4C x 4 | 4 | 0.7 | 0.3 | --- | 1.4 | 1.24 | --- | 16.5 | --- | 600 | --- | 4.61 | 5.90 | 0.0927 | 0.22 | 45 | 38 | 41 |
| 4C x 4 | 7 | 0.7 | 0.3 | --- | 1.4 | 1.24 | --- | 17.3 | --- | 600 | --- | 4.61 | 5.90 | 0.0927 | 0.22 | 45 | 38 | 41 |
| 4C x 6 | 1 | 0.7 | 0.3 | --- | 1.4 | 1.24 | --- | 17.7 | --- | 700 | --- | 3.08 | 3.94 | 0.0884 | 0.25 | 56 | 47 | 52 |
| 4C x 6 | 7 | 0.7 | 0.3 | --- | 1.4 | 1.24 | --- | 18.5 | --- | 700 | --- | 3.08 | 3.94 | 0.0884 | 0.25 | 56 | 47 | 52 |
| 4C x 10 | 7 | 0.7 | 0.3 | --- | 1.4 | 1.40 | --- | 21.4 | --- | 950 | --- | 1.83 | 2.34 | 0.0837 | 0.31 | 74 | 62 | 70 |
| 4C x 16 | 6 | 0.7 | 0.3 | 4 x 0.8 | 1.6 | 1.40 | 1.40 | 19.6 | 21.2 | 1050 | 1050 | 1.15 | 1.47 | 0.0808 | 0.36 | 95 | 79 | 89 |
| 4C x 25 | 6 | 0.9 | 0.3 | 4 x 0.8 | 1.6 | 1.40 | 1.40 | 22.2 | 23.8 | 1450 | 1450 | 0.727 | 0.931 | 0.080 | 0.41 | 122 | 102 | 119 |
| 4C x 35 | 6 | 0.9 | 0.3 | 4 x 0.8 | 1.6 | 1.40 | 1.40 | 24.4 | 26.0 | 1850 | 1850 | 0.524 | 0.671 | 0.080 | 0.47 | 146 | 122 | 147 |
| 4C x 50 | 6 | 1.0 | 0.3 | 4 x 0.8 | 1.6 | 1.56 | 1.56 | 27.9 | 29.5 | 2475 | 2475 | 0.387 | 0.495 | 0.078 | 0.50 | 173 | 144 | 179 |
| 4C x 70 | 12 | 1.1 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 31.7 | 34.1 | 3300 | 3300 | 0.268 | 0.343 | 0.077 | 0.53 | 212 | 177 | 226 |
| 4C x 95 | 15 | 1.1 | 0.4 | 4 x 0.8 | 2.0 | 1.56 | 1.56 | 35.2 | 37.9 | 4200 | 4200 | 0.193 | 0.247 | 0.074 | 0.61 | 254 | 212 | 279 |
| 4C x 120 | 18 | 1.2 | 0.5 | 4 x 0.8 | 2.0 | 1.72 | 1.88 | 39.1 | 41.9 | 5250 | 5250 | 0.153 | 0.196 | 0.072 | 0.63 | 287 | 240 | 320 |
| 4C x 150 | 18 | 1.4 | 0.5 | 4 x 0.8 | 2.5 | 1.88 | 2.04 | 42.6 | 46.3 | 6450 | 6450 | 0.124 | 0.159 | 0.072 | 0.63 | 321 | 269 | 365 |
| 4C x 185 | 30 | 1.6 | 0.5 | 4 x 0.8 | 2.5 | 2.04 | 2.20 | 47.8 | 51.5 | 7950 | 7950 | 0.0991 | 0.127 | 0.072 | 0.63 | 362 | 304 | 422 |
| 4C x 240 | 34 | 1.7 | 0.6 | 4 x 0.8 | 2.5 | 2.20 | 2.36 | 53.8 | 57.5 | 10000 | 10000 | 0.0754 | 0.097 | 0.072 | 0.63 | 418 | 352 | 500 |
| 4C x 300 | 34 | 1.8 | 0.7 | 4 x 0.8 | 3.15 | 2.36 | 2.52 | 59.5 | 64.5 | 12350 | 12350 | 0.0601 | 0.077 | 0.071 | 0.67 | 469 | 396 | 574 |
| 4C x 400 | 53 | 2.0 | 0.7 | 4 x 0.8 | 3.15 | 2.68 | 2.84 | 67.1 | 72.1 | 16000 | 16000 | 0.0470 | 0.060 | 0.070 | 0.67 | 528 | 447 | 662 |

4 CORE, COPPER CONDUCTOR, XLPE INSULATED, UNARMoured POWER CABLES

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Min No of wires | Thickness of XLPE Insulation (nom) | Min thickness of PVC Inner Sheath | Nom Thickness of PVC Outer sheath | Approx Overall diameter of Cable with ± 2 mm tolerance | Approx weight of cable | Max D.C Resistance of Conductor at 20°C | Approx A.C Resistance of Conductor at 90°C | Approx Reactance at 50 Hz | Approx Capacitance at 50 Hz | CURRENT RATINGS | | |
|------------------------------------|-----------------|------------------------------------|-----------------------------------|-----------------------------------|--|------------------------|---|--|---------------------------|-----------------------------|------------------------------------|----------------------------------|---------------|
| | | | | | | | | | | | Buried Direct in the Ground @ 30°C | In Single way buried Duct @ 30°C | In Air @ 40°C |
| Sq.mm | No's | mm | mm | mm | [mm] | Kg/Km | Ohm/Km | Ohm/Km | Ohm/Km | uF/Km | Amps | Amps | Amps |
| 4C x 4 | 1 | 0.7 | 0.3 | 1.8 | 14.8 | 300 | 4.61 | 5.90 | 0.0927 | 0.22 | 45 | 38 | 41 |
| 4C x 4 | 7 | 0.7 | 0.3 | 1.8 | 15.5 | 300 | 4.61 | 5.90 | 0.0927 | 0.22 | 45 | 38 | 41 |
| 4C x 6 | 1 | 0.7 | 0.3 | 1.8 | 16.0 | 400 | 3.08 | 3.94 | 0.0884 | 0.25 | 56 | 47 | 52 |
| 4C x 6 | 7 | 0.7 | 0.3 | 1.8 | 16.7 | 400 | 3.08 | 3.94 | 0.0884 | 0.25 | 56 | 47 | 52 |
| 4C x 10 | 7 | 0.7 | 0.3 | 1.8 | 19.6 | 575 | 1.83 | 2.34 | 0.0837 | 0.31 | 74 | 62 | 70 |
| 4C x 16 | 6 | 0.7 | 0.3 | 1.8 | 18.8 | 775 | 1.15 | 1.47 | 0.0808 | 0.36 | 95 | 79 | 89 |
| 4C x 25 | 6 | 0.9 | 0.3 | 2.0 | 22.4 | 1150 | 0.727 | 0.93 | 0.080 | 0.41 | 122 | 102 | 119 |
| 4C x 35 | 6 | 0.9 | 0.3 | 2.0 | 24.6 | 1550 | 0.524 | 0.67 | 0.080 | 0.47 | 146 | 122 | 147 |
| 4C x 50 | 6 | 1.0 | 0.3 | 2.0 | 27.8 | 2100 | 0.387 | 0.495 | 0.078 | 0.50 | 173 | 144 | 179 |
| 4C x 70 | 12 | 1.1 | 0.4 | 2.2 | 32.0 | 2900 | 0.268 | 0.343 | 0.077 | 0.53 | 212 | 177 | 226 |
| 4C x 95 | 15 | 1.1 | 0.4 | 2.2 | 35.5 | 3800 | 0.193 | 0.247 | 0.074 | 0.61 | 254 | 212 | 279 |
| 4C x 120 | 18 | 1.2 | 0.5 | 2.4 | 39.5 | 4775 | 0.153 | 0.196 | 0.072 | 0.63 | 287 | 240 | 320 |
| 4C x 150 | 18 | 1.4 | 0.5 | 2.6 | 43.0 | 5900 | 0.124 | 0.159 | 0.072 | 0.63 | 321 | 269 | 365 |
| 4C x 185 | 30 | 1.6 | 0.5 | 2.8 | 48.3 | 7250 | 0.0991 | 0.127 | 0.072 | 0.63 | 362 | 304 | 422 |
| 4C x 240 | 34 | 1.7 | 0.6 | 3.0 | 54.6 | 9300 | 0.0754 | 0.097 | 0.072 | 0.63 | 418 | 352 | 500 |
| 4C x 300 | 34 | 1.8 | 0.7 | 3.2 | 60.6 | 11600 | 0.0601 | 0.077 | 0.071 | 0.67 | 469 | 396 | 574 |
| 4C x 400 | 53 | 2.0 | 0.7 | 3.6 | 68.3 | 15250 | 0.0470 | 0.060 | 0.070 | 0.67 | 528 | 447 | 662 |

PVC INSULATED, ARMoured CONTROL CABLES AS PER IS: 1554 (P-1)

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Thickness of PVC Insulation (nom) | Min thickness of PVC Inner Sheath | STRIP ARMoured CABLE | | | | WIRE ARMoured CABLE | | | | Standard Delivery/ DrumLength | Current Rating | |
|------------------------------------|-----------------------------------|-----------------------------------|-----------------------|-----------------------------------|--|------------------------|--------------------------|-----------------------------------|--|------------------------|-------------------------------|------------------------------------|--------------------|
| | | | Nominal size of strip | Min Thickness of PVC Outer sheath | Approx Overall diameter of Cable with ± 2 mm tolerance | Approx weight of cable | Nominal diameter of wire | Min Thickness of PVC Outer sheath | Approx Overall diameter of Cable with ± 2 mm tolerance | Approx weight of cable | | Buried Direct in the Ground @ 30°C | In Air/Duct @ 40°C |
| Sq.mm | mm | mm | mm x mm | mm | mm | Kg/Km | mm | mm | mm | Kg/Km | meters | Amps | Amps |
| 2C x 1.5 | 0.8 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 14.0 | 375 | 1000 | 25 | 20/22 |
| 3C x 1.5 | 0.8 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 14.5 | 400 | 1000 | 21 | 17/18 |
| 4C x 1.5 | 0.8 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 15.4 | 450 | 1000 | 21 | 17/18 |
| 5C x 1.5 | 0.8 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 16.3 | 500 | 1000 | 21 | 17/18 |
| 6C x 1.5 | 0.8 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 17.3 | 550 | 1000 | 15 | 13 |
| 7C x 1.5 | 0.8 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 17.3 | 575 | 1000 | 14 | 13 |
| 10C x 1.5 | 0.8 | 0.3 | --- | --- | --- | --- | 1.4 | 1.4 | 20.0 | 750 | 1000 | 13 | 11 |
| 12C x 1.5 | 0.8 | 0.3 | 4 x 0.8 | 1.24 | 19.4 | 675 | 1.6 | 1.4 | 21.4 | 900 | 1000 | 12 | 10 |
| 14C x 1.5 | 0.8 | 0.3 | 4 x 0.8 | 1.4 | 21.2 | 775 | 1.6 | 1.4 | 22.8 | 975 | 1000 | 11 | 10 |
| 16C x 1.5 | 0.8 | 0.3 | 4 x 0.8 | 1.4 | 22.1 | 850 | 1.6 | 1.4 | 23.7 | 1050 | 1000 | 11 | 9 |
| 19C x 1.5 | 0.8 | 0.3 | 4 x 0.8 | 1.4 | 23.1 | 925 | 1.6 | 1.4 | 24.7 | 1150 | 1000 | 10 | 9 |
| 24C x 1.5 | 0.8 | 0.3 | 4 x 0.8 | 1.4 | 25.1 | 1150 | 1.6 | 1.4 | 26.7 | 1375 | 1000 | 9 | 8 |
| 27C x 1.5 | 0.8 | 0.3 | 4 x 0.8 | 1.4 | 26.9 | 1200 | 1.6 | 1.4 | 28.5 | 1450 | 1000 | 9 | 8 |
| 30C x 1.5 | 0.8 | 0.3 | 4 x 0.8 | 1.4 | 27.8 | 1300 | 1.6 | 1.4 | 29.4 | 1550 | 1000 | 9 | 7 |
| 37C x 1.5 | 0.8 | 0.3 | 4 x 0.8 | 1.4 | 29.7 | 1500 | 1.6 | 1.4 | 31.3 | 1750 | 1000 | 8 | 7 |
| 2C x 2.5 | 0.9 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 15.2 | 425 | 1000 | 33 | 26/28 |
| 3C x 2.5 | 0.9 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 15.8 | 500 | 1000 | 28 | 23/24 |
| 4C x 2.5 | 0.9 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 16.8 | 550 | 1000 | 28 | 23/24 |
| 5C x 2.5 | 0.9 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 17.9 | 625 | 1000 | 28 | 23/24 |
| 6C x 2.5 | 0.9 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 19.1 | 700 | 1000 | 21 | 18 |
| 7C x 2.5 | 0.9 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 19.1 | 725 | 1000 | 20 | 17 |
| 10C x 2.5 | 0.9 | 0.3 | 4 x 0.8 | 1.4 | 21.0 | 850 | 1.6 | 1.4 | 22.6 | 975 | 1000 | 18 | 15 |
| 12C x 2.5 | 0.9 | 0.3 | 4 x 0.8 | 1.4 | 22.2 | 900 | 1.6 | 1.4 | 23.8 | 1100 | 1000 | 17 | 14 |
| 14C x 2.5 | 0.9 | 0.3 | 4 x 0.8 | 1.4 | 23.8 | 1000 | 1.6 | 1.4 | 25.4 | 1225 | 1000 | 16 | 13 |
| 16C x 2.5 | 0.9 | 0.3 | 4 x 0.8 | 1.4 | 24.9 | 1100 | 1.6 | 1.4 | 26.5 | 1325 | 1000 | 15 | 13 |
| 19C x 2.5 | 0.9 | 0.3 | 4 x 0.8 | 1.4 | 26.10 | 1250 | 1.6 | 1.4 | 27.7 | 1500 | 1000 | 14 | 12 |
| 24C x 2.5 | 0.9 | 0.3 | 4 x 0.8 | 1.4 | 28.4 | 1500 | 1.6 | 1.56 | 30.4 | 1800 | 1000 | 13 | 11 |
| 27C x 2.5 | 0.9 | 0.3 | 4 x 0.8 | 1.4 | 30.6 | 1625 | 1.6 | 1.56 | 32.6 | 1950 | 1000 | 12 | 10 |
| 30C x 2.5 | 0.9 | 0.3 | 4 x 0.8 | 1.56 | 32.0 | 1775 | 1.6 | 1.56 | 33.6 | 2050 | 1000 | 12 | 10 |
| 37C x 2.5 | 0.9 | 0.4 | 4 x 0.8 | 1.56 | 34.5 | 2050 | 2.0 | 1.56 | 36.9 | 2600 | 1000 | 11 | 9 |

Construction

1. Solid/Stranded annealed copper conductor & Tinned/Bare
2. General Purpose PVC-A/HR PVC-C Insulation
3. Cores laid up (filled if needed)
4. FR/FRLS/HR/General Purpose PVC ST-1 or 2 inner sheath
5. Armouring round Galvanized steel wires/strips
6. FR/FRLS/HR/General Purpose PVC ST-1 or 2 outer sheath

Max. Conductor D.C. Resistance at 20°C - Conductor Size :

- 1.5 sq.mm - 12.1 Ohm/Km (bare), 12.2 Ohm/Km (tinned)
- 2.5 sq.mm - 7.41 Ohm/Km (bare), 7.56 Ohm/Km (tinned)

* Dimensions specified are with stranded conductor

Approx Reactance at 50 Hz

- 1.5 sq.mm - 0.126 Ohm/Km, 2.5 sq.mm - 0.119 Ohm/Km

Approx Capacitance at 50 Hz

- 1.5 sq.mm - 0.14 uF/Km, 2.5 sq.mm - 0.15 uF/Km

PVC INSULATED, UNARMoured CONTROL CABLES AS PER IS: 1554 (P-1)

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Thickness of PVC Insulation (nom) | Min thickness of PVC Inner Sheath | Nom. Thickness of PVC Outer Sheath | Approx Overall diameter of Cable with ± 2 mm tolerance | Approx weight of cable | Standard Delivery/ Drum length | Current Rating | |
|------------------------------------|-----------------------------------|-----------------------------------|------------------------------------|--|------------------------|--------------------------------|------------------------------------|--------------------|
| | | | | | | | Buried Direct in the Ground @ 30°C | In Air/Duct @ 40°C |
| Sq.mm | mm | mm | mm | mm | Kg/Km | meters | Amps | Amps |
| 2C x 1.5 | 0.8 | 0.3 | 1.8 | 12.2 | 150 | 1000 | 25 | 20/22 |
| 3C x 1.5 | 0.8 | 0.3 | 1.8 | 12.7 | 175 | 1000 | 21 | 17/18 |
| 4C x 1.5 | 0.8 | 0.3 | 1.8 | 13.6 | 200 | 1000 | 21 | 17/18 |
| 5C x 1.5 | 0.8 | 0.3 | 1.8 | 14.5 | 250 | 1000 | 21 | 17/18 |
| 6C x 1.5 | 0.8 | 0.3 | 1.8 | 15.5 | 275 | 1000 | 15 | 13 |
| 7C x 1.5 | 0.8 | 0.3 | 1.8 | 15.5 | 300 | 1000 | 14 | 13 |
| 10C x 1.5 | 0.8 | 0.3 | 1.8 | 17.8 | 400 | 1000 | 13 | 11 |
| 12C x 1.5 | 0.8 | 0.3 | 1.8 | 18.8 | 450 | 1000 | 12 | 10 |
| 14C x 1.5 | 0.8 | 0.3 | 1.8 | 20.2 | 500 | 1000 | 11 | 10 |
| 16C x 1.5 | 0.8 | 0.3 | 1.8 | 21.1 | 560 | 1000 | 11 | 9 |
| 19C x 1.5 | 0.8 | 0.3 | 2.0 | 22.5 | 660 | 1000 | 10 | 9 |
| 24C x 1.5 | 0.8 | 0.3 | 2.0 | 24.5 | 800 | 1000 | 9 | 8 |
| 27C x 1.5 | 0.8 | 0.3 | 2.0 | 26.3 | 875 | 1000 | 9 | 8 |
| 30C x 1.5 | 0.8 | 0.3 | 2.0 | 27.2 | 950 | 1000 | 9 | 7 |
| 37C x 1.5 | 0.8 | 0.3 | 2.0 | 29.1 | 1125 | 1000 | 8 | 7 |
| 2C x 2.5 | 0.9 | 0.3 | 1.8 | 13.4 | 200 | 1000 | 33 | 26/28 |
| 3C x 2.5 | 0.9 | 0.3 | 1.8 | 14.0 | 225 | 1000 | 28 | 23/24 |
| 4C x 2.5 | 0.9 | 0.3 | 1.8 | 15.0 | 275 | 1000 | 28 | 23/24 |
| 5C x 2.5 | 0.9 | 0.3 | 1.8 | 16.1 | 325 | 1000 | 28 | 23/24 |
| 6C x 2.5 | 0.9 | 0.3 | 1.8 | 17.3 | 375 | 1000 | 21 | 18 |
| 7C x 2.5 | 0.9 | 0.3 | 1.8 | 17.3 | 400 | 1000 | 20 | 17 |
| 10C x 2.5 | 0.9 | 0.3 | 1.8 | 20.0 | 550 | 1000 | 18 | 15 |
| 12C x 2.5 | 0.9 | 0.3 | 2.0 | 21.6 | 650 | 1000 | 17 | 14 |
| 14C x 2.5 | 0.9 | 0.3 | 2.0 | 23.2 | 725 | 1000 | 16 | 13 |
| 16C x 2.5 | 0.9 | 0.3 | 2.0 | 24.3 | 800 | 1000 | 15 | 13 |
| 19C x 2.5 | 0.9 | 0.3 | 2.0 | 25.5 | 900 | 1000 | 14 | 12 |
| 24C x 2.5 | 0.9 | 0.3 | 2.0 | 27.8 | 1125 | 1000 | 13 | 11 |
| 27C x 2.5 | 0.9 | 0.3 | 2.0 | 30.0 | 1225 | 1000 | 12 | 10 |
| 30C x 2.5 | 0.9 | 0.3 | 2.0 | 31.0 | 1350 | 1000 | 12 | 10 |
| 37C x 2.5 | 0.9 | 0.4 | 2.2 | 33.9 | 1600 | 1000 | 11 | 9 |

Construction

1. Solid/Stranded annealed copper conductor & Tinned/Bare
2. General Purpose PVC-A/HR PVC-C Insulation
3. Cores laid up (filled if needed)
4. FR/FRLS/HR/General Purpose PVC ST-1 or 2 inner sheath
5. FR/FRLS/HR/General Purpose PVC ST-1 or 2 outer sheath

Max. Conductor D.C Resistance at 20°C - Conductor Size :

1.5 sq.mm - 12.1 Ohm/Km (bare), 12.2 Ohm/Km (tinned)
 2.5 sq.mm - 7.41 Ohm/Km (bare), 7.56 Ohm/Km (tinned)

* Dimensions specified are with stranded conductor.

Approx Reactance at 50 Hz

1.5 sq.mm - 0.126 Ohm/Km, 2.5 sq.mm - 0.119 Ohm/Km

Approx Capacitance at 50 Hz

1.5 sq.mm - 0.14 uF/Km, 2.5 sq.mm - 0.15 uF/Km

XLPE INSULATED, ARMoured CONTROL CABLES AS PER IS: 7098 (P-1)

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Thickness of PVC Insulation (nom) | Min thickness of PVC Inner Sheath | STRIP ARMoured CABLE | | | | WIRE ARMoured CABLE | | | | Standard Delivery/ Drum Length | Current Rating | |
|------------------------------------|-----------------------------------|-----------------------------------|-----------------------|-----------------------------------|--|------------------------|--------------------------|-----------------------------------|--|------------------------|--------------------------------|------------------------------------|--------------------|
| | | | Nominal size of strip | Min Thickness of PVC Outer sheath | Approx Overall diameter of Cable with ± 2 mm tolerance | Approx weight of cable | Nominal diameter of wire | Min Thickness of PVC Outer sheath | Approx Overall diameter of Cable with ± 2 mm tolerance | Approx weight of cable | | Buried Direct in the Ground @ 30°C | In Air/Duct @ 40°C |
| Sq.mm | mm | mm | mm x mm | mm | mm | Kg/Km | mm | mm | mm | Kg/Km | meters | Amps | Amps |
| 2C x 1.5 | 0.7 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 13.6 | 350 | 1000 | 31 | 27 |
| 3C x 1.5 | 0.7 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 14.1 | 375 | 1000 | 26 | 23/22 |
| 4C x 1.5 | 0.7 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 14.9 | 425 | 1000 | 26 | 23/22 |
| 5C x 1.5 | 0.7 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 15.8 | 475 | 1000 | 26 | 23/22 |
| 6C x 1.5 | 0.7 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 16.7 | 525 | 1000 | 22 | 19 |
| 7C x 1.5 | 0.7 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 16.7 | 550 | 1000 | 21 | 18 |
| 10C x 1.5 | 0.7 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 18.9 | 700 | 1000 | 18 | 16 |
| 12C x 1.5 | 0.7 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 19.8 | 750 | 1000 | 17 | 15 |
| 14C x 1.5 | 0.7 | 0.3 | --- | --- | --- | --- | 1.4 | 1.4 | 21.5 | 825 | 1000 | 16 | 14 |
| 16C x 1.5 | 0.7 | 0.3 | 4 x 0.8 | 1.4 | 21.2 | 750 | 1.6 | 1.4 | 22.8 | 950 | 1000 | 16 | 14 |
| 19C x 1.5 | 0.7 | 0.3 | 4 x 0.8 | 1.4 | 22.1 | 850 | 1.6 | 1.4 | 23.7 | 1025 | 1000 | 15 | 13 |
| 24C x 1.5 | 0.7 | 0.3 | 4 x 0.8 | 1.4 | 24 | 1000 | 1.6 | 1.4 | 25.6 | 1250 | 1000 | 13 | 12 |
| 27C x 1.5 | 0.7 | 0.3 | 4 x 0.8 | 1.4 | 25.7 | 1050 | 1.6 | 1.4 | 27.3 | 1300 | 1000 | 13 | 11 |
| 30C x 1.5 | 0.7 | 0.3 | 4 x 0.8 | 1.4 | 26.5 | 1150 | 1.6 | 1.4 | 28.1 | 1400 | 1000 | 12 | 11 |
| 37C x 1.5 | 0.7 | 0.3 | 4 x 0.8 | 1.4 | 28.3 | 1300 | 1.6 | 1.4 | 29.9 | 1550 | 1000 | 11 | 10 |
| 44C x 1.5 | 0.7 | 0.3 | 4 x 0.8 | 1.4 | 31.4 | 1500 | 1.6 | 1.56 | 33.4 | 1850 | 1000 | 11 | 9 |
| 52C x 1.5 | 0.7 | 0.3 | 4 x 0.8 | 1.56 | 33.1 | 1700 | 1.6 | 1.56 | 34.7 | 2000 | 1000 | 10 | 9 |
| 61C x 1.5 | 0.7 | 0.4 | 4 x 0.8 | 1.56 | 34.9 | 1950 | 2.0 | 1.56 | 37.3 | 2450 | 1000 | 9 | 8 |
| 2C x 2.5 | 0.7 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 14.4 | 400 | 1000 | 41 | 36/35 |
| 3C x 2.5 | 0.7 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 15.0 | 425 | 1000 | 34 | 30/29 |
| 4C x 2.5 | 0.7 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 15.9 | 500 | 1000 | 34 | 30/29 |
| 5C x 2.5 | 0.7 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 16.9 | 550 | 1000 | 34 | 30/29 |
| 6C x 2.5 | 0.7 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 17.9 | 600 | 1000 | 29 | 26 |
| 7C x 2.5 | 0.7 | 0.3 | --- | --- | --- | --- | 1.4 | 1.24 | 17.9 | 625 | 1000 | 27 | 25 |
| 10C x 2.5 | 0.7 | 0.3 | 4 x 0.8 | 1.24 | 19.6 | 725 | 1.6 | 1.4 | 21.2 | 925 | 1000 | 24 | 21 |
| 12C x 2.5 | 0.7 | 0.3 | 4 x 0.8 | 1.4 | 20.6 | 800 | 1.6 | 1.4 | 22.2 | 1000 | 1000 | 22 | 20 |
| 14C x 2.5 | 0.7 | 0.3 | 4 x 0.8 | 1.4 | 22.0 | 875 | 1.6 | 1.4 | 23.6 | 1050 | 1000 | 21 | 19 |
| 16C x 2.5 | 0.7 | 0.3 | 4 x 0.8 | 1.4 | 23.1 | 950 | 1.6 | 1.4 | 24.7 | 1150 | 1000 | 20 | 18 |
| 19C x 2.5 | 0.7 | 0.3 | 4 x 0.8 | 1.4 | 24.1 | 1050 | 1.6 | 1.4 | 25.7 | 1300 | 1000 | 19 | 17 |
| 24C x 2.5 | 0.7 | 0.3 | 4 x 0.8 | 1.4 | 26.2 | 1300 | 1.6 | 1.4 | 27.8 | 1550 | 1000 | 17 | 16 |
| 27C x 2.5 | 0.7 | 0.3 | 4 x 0.8 | 1.4 | 28.1 | 1375 | 1.6 | 1.4 | 29.7 | 1650 | 1000 | 16 | 16 |
| 30C x 2.5 | 0.7 | 0.3 | 4 x 0.8 | 1.4 | 29.0 | 1500 | 1.6 | 1.4 | 30.6 | 1750 | 1000 | 16 | 14 |
| 37C x 2.5 | 0.7 | 0.3 | 4 x 0.8 | 1.4 | 31.1 | 1700 | 1.6 | 1.56 | 33.1 | 2050 | 1000 | 15 | 13 |
| 44C x 2.5 | 0.7 | 0.4 | 4 x 0.8 | 1.56 | 35.4 | 2050 | 2.0 | 1.56 | 37.8 | 2600 | 1000 | 14 | 12 |
| 52C x 2.5 | 0.7 | 0.4 | 4 x 0.8 | 1.56 | 36.8 | 2300 | 2.0 | 1.56 | 39.2 | 2850 | 1000 | 13 | 12 |
| 61C x 2.5 | 0.7 | 0.4 | 4 x 0.8 | 1.56 | 38.9 | 2575 | 2.0 | 1.56 | 41.3 | 3200 | 1000 | 12 | 11 |

Construction

1. Solid/Stranded annealed copper conductor & Tinned/Bare
2. Cross Linked Polyethylene (XLPE) Insulation
3. Cores laid up (filled if needed)
4. FR/FRLS/HR PVC Type ST-2 inner sheath outer sheath
5. Armouring round Galvanized steel wires/strips
6. FR/FRLS/HR PVC Type ST-2

Max. Conductor D.C Resistance at 20°C - Conductor Size :

1.5 sq.mm - 12.1 Ohm/Km (bare), 12.2 Ohm/Km (tinned) 2.5 sq.mm - 7.41 Ohm/Km (bare), 7.56 Ohm/Km (tinned) *Dimensions specified are with stranded conductor

Approx Reactance at 50 Hz 1.5 sq.mm - 0.107 Ohm/Km, 2.5 sq.mm - 0.0985 Ohm/Km

Approx Capacitance at 50 Hz 1.5 sq.mm - 0.15 uF/Km, 2.5 sq.mm - 0.18 uF/Km

XLPE INSULATED, UNARMoured CONTROL CABLES AS PER IS: 7098 (P-1)

FOR WORKING VOLTAGES UP TO AND INCLUDING 1100 V

| No of Cores & Cross sectional Area | Thickness of PVC Insulation (nom) | Min thickness of PVC Inner Sheath | Nom. Thickness of PVC Outer Sheath | Approx Overall diameter of Cable with ± 2 mm tolerance | Approx weight of cable | Standard Delivery/ Drum length | Current Rating | |
|------------------------------------|-----------------------------------|-----------------------------------|------------------------------------|--|------------------------|--------------------------------|------------------------------------|--------------------|
| | | | | | | | Buried Direct in the Ground @ 30°C | In Air/Duct @ 40°C |
| Sq.mm | mm | mm | mm | mm | Kg/Km | meters | Amps | Amps |
| 2C x 1.5 | 0.7 | 0.3 | 1.8 | 11.8 | 140 | 1000 | 31 | 27 |
| 3C x 1.5 | 0.7 | 0.3 | 1.8 | 12.3 | 160 | 1000 | 26 | 23/22 |
| 4C x 1.5 | 0.7 | 0.3 | 1.8 | 13.1 | 200 | 1000 | 26 | 23/22 |
| 5C x 1.5 | 0.7 | 0.3 | 1.8 | 14.0 | 225 | 1000 | 26 | 23/22 |
| 6C x 1.5 | 0.7 | 0.3 | 1.8 | 14.9 | 250 | 1000 | 22 | 19 |
| 7C x 1.5 | 0.7 | 0.3 | 1.8 | 14.9 | 260 | 1000 | 21 | 18 |
| 10C x 1.5 | 0.7 | 0.3 | 1.8 | 17.1 | 340 | 1000 | 18 | 16 |
| 12C x 1.5 | 0.7 | 0.3 | 1.8 | 18.0 | 400 | 1000 | 17 | 15 |
| 14C x 1.5 | 0.7 | 0.3 | 1.8 | 19.3 | 430 | 1000 | 16 | 14 |
| 16C x 1.5 | 0.7 | 0.3 | 1.8 | 20.2 | 475 | 1000 | 16 | 14 |
| 19C x 1.5 | 0.7 | 0.3 | 1.8 | 21.1 | 540 | 1000 | 15 | 13 |
| 24C x 1.5 | 0.7 | 0.3 | 2.0 | 23.4 | 665 | 1000 | 13 | 12 |
| 27C x 1.5 | 0.7 | 0.3 | 2.0 | 25.1 | 750 | 1000 | 13 | 11 |
| 30C x 1.5 | 0.7 | 0.3 | 2.0 | 25.9 | 820 | 1000 | 12 | 11 |
| 37C x 1.5 | 0.7 | 0.3 | 2.0 | 27.7 | 975 | 1000 | 11 | 10 |
| 44C x 1.5 | 0.7 | 0.3 | 2.0 | 30.8 | 1100 | 1000 | 11 | 9 |
| 52C x 1.5 | 0.7 | 0.3 | 2.0 | 32.1 | 1275 | 1000 | 10 | 9 |
| 61C x 1.5 | 0.7 | 0.4 | 2.2 | 34.5 | 1500 | 1000 | 9 | 8 |
| 2C x 2.5 | 0.7 | 0.3 | 1.8 | 12.6 | 175 | 1000 | 41 | 36/35 |
| 3C x 2.5 | 0.7 | 0.3 | 1.8 | 13.2 | 200 | 1000 | 34 | 30/29 |
| 4C x 2.5 | 0.7 | 0.3 | 1.8 | 14.1 | 250 | 1000 | 34 | 30/29 |
| 5C x 2.5 | 0.7 | 0.3 | 1.8 | 15.1 | 275 | 1000 | 34 | 30/29 |
| 6C x 2.5 | 0.7 | 0.3 | 1.8 | 16.1 | 325 | 1000 | 29 | 26 |
| 7C x 2.5 | 0.7 | 0.3 | 1.8 | 16.1 | 350 | 1000 | 27 | 25 |
| 10C x 2.5 | 0.7 | 0.3 | 1.8 | 18.6 | 475 | 1000 | 24 | 21 |
| 12C x 2.5 | 0.7 | 0.3 | 1.8 | 19.6 | 525 | 1000 | 22 | 20 |
| 14C x 2.5 | 0.7 | 0.3 | 1.8 | 21.0 | 600 | 1000 | 21 | 19 |
| 16C x 2.5 | 0.7 | 0.3 | 2.0 | 22.5 | 675 | 1000 | 20 | 18 |
| 19C x 2.5 | 0.7 | 0.3 | 2.0 | 23.5 | 775 | 1000 | 19 | 17 |
| 24C x 2.5 | 0.7 | 0.3 | 2.0 | 25.6 | 950 | 1000 | 17 | 16 |
| 27C x 2.5 | 0.7 | 0.3 | 2.0 | 27.5 | 1025 | 1000 | 16 | 16 |
| 30C x 2.5 | 0.7 | 0.3 | 2.0 | 28.4 | 1125 | 1000 | 16 | 14 |
| 37C x 2.5 | 0.7 | 0.3 | 2.0 | 30.5 | 1300 | 1000 | 15 | 13 |
| 44C x 2.5 | 0.7 | 0.4 | 2.2 | 34.8 | 1600 | 1000 | 14 | 12 |
| 52C x 2.5 | 0.7 | 0.4 | 2.2 | 36.2 | 1825 | 1000 | 13 | 12 |
| 61C x 2.5 | 0.7 | 0.4 | 2.2 | 38.3 | 2050 | 1000 | 12 | 11 |

Construction

1. Solid/Stranded annealed copper conductor & Tinned/Bare
2. Cross Linked Polyethylene (XLPE) Insulation
3. Cores laid up (filled if needed)
4. FR/FRLS/HR PVC Type ST-2 inner sheath
5. FR/FRLS/HR PVC Type ST-2 outer sheath

Max. Conductor D.C Resistance at 20°C - Conductor Size :

1.5 sq.mm - 12.1 Ohm/Km (bare), 12.2 Ohm/Km (tinned) 2.5 sq.mm - 7.41 Ohm/Km (bare), 7.56 Ohm/Km (tinned) * Dimensions specified are with

stranded conductor Approx Reactance at 50 Hz

1.5 sq.mm - 0.107 Ohm/Km, 2.5 sq.mm - 0.0985 Ohm/Km

Approx Capacitance at 50 Hz

1.5 sq.mm - 0.15 uF/Km, 2.5 sq.mm - 0.18 uF/Km

Instrumentation Cables

KEI Industries Limited manufactures a wide variety of cables suitable for process instrumentation. In the projects related to power generation & distribution, chemical & fertilizer industries and various other types of engineering industries, the process instrumentation plays a vital role in measurement, supervision and control of the process. Introduction of microprocessor based/computerised instrumentation has demanded stringent quality requirements alongwith special electrical parameters for instrumentation cables. Very low level electrical signals pass between measuring end and display units/controllers which are situated far off. These low level signals are prone to external noise pickups and heavy silenuation during transmission.

All this means that the cables to be used for instrumentation should be designed and manufactured very carefully. KEI, with its meticulous efforts in maintaining quality, stringent in process control during manufacture and the knowledge of cable designing, is proud to say that it is capable of supplying instrumentation cables meeting any Indian/ International standard or a specific requirement desired by project authority. The efforts done by KEI are regarded by acceptance of our quality by the country's prime organisations such as NTPC, PDIL, EIL, BHEL, TATA's, IOCL, L&T, ABB, KRUPP Ind, BPCL, HPCL, ESSAR, SIEMENS, Electricity Boards, Reliance, IOTL, Mukand, Honeywell, etc.

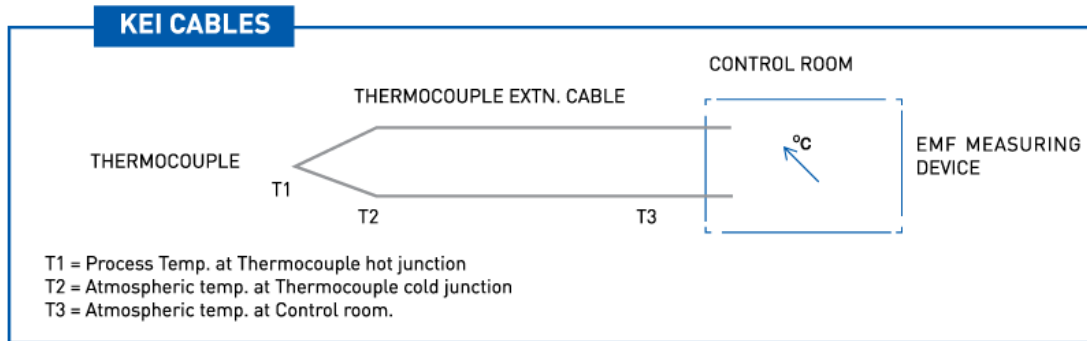
Range of Instrumentation Cables :-

| | |
|-----------------------|---|
| Conductor | : 0.4 mm dia [0.126 sq.mm] to 2.5 sq.mm. or higher sizes of electrolytic copper wire, Tinned/untinned, solid/stranded copper conductors. |
| Insulation | : 70° C/85° C. Grade PVC, Polyethylene, Halogen Free FRLS Polymeric Compounds. |
| Elements | : Pairs/Triples/Quads, colour coded/number printed ring marked/dual colour extruded. |
| Shields | : Aluminium Polyester tape screen with Copper drain wire or alternately with with Copper wire braiding. Individual element or overall shielding as specified. |
| Element laying | : Concentric formation or unit & group formation as per applicable specification. |
| Amounting | : Galvanised steel wire/strip amount. |
| Sheathing | : PVC 70° C/90° C grade, PVC FRLS, ZHFR, CSP, PCP, EVA, etc. |
| Specification | : BS:5308 (1 & 2), iec-189 (1 & 2), VDE 0815, ENI 0181.00 and customers specifications. |

Thermocouple Extension/Compensating Cables

These cables can also be termed as instrumentation cables, since they are used for process temperature measurement. The construction is similar to paired instrumentation cable but the conductor material is different. Thermocouples are used in processes to sense temperature and is connected to the pyrometers for indication and control. The thermocouple

and pyrometers are electrically conducted by thermocouple extension/compensating cables. The conductors used for these cables are required to have similar thermo-electric (emf) properties as that of the thermocouple used for sensing the temperature. The cables are manufactured as per IS:8784, ANSI-MC 96. 1, B.S., ENI, DIN and customers specification.



Range of Thermocouple Extension/Compensation cables :-

| Extension Cables | Conductor Material | |
|-----------------------|--------------------|------------|
| | Positive | Negative |
| KX (NiCr/Nia) | Chromel | Alumel |
| JX (Fe/CuNi) | Iron | Constantan |
| EX (NiCr/CuNi) | Chromel | Constantan |
| TX (Cu/CuNi) | Copper | Constantan |
| Compensating Cables | | |
| KX (A)/VX (NiCr/NiAl) | Copper | Constantan |
| SX/RX (PtRh-Pt) | Copper | Constantan |

COLOUR CODES as per various standard specifications

| STANDARDS REFERRED | | | | | | | | | | | | |
|---------------------|--------------|-----|---------|--------------|--------|---------|-----------|------|---------|-------|-----|---------|
| | ANSI MC-96.1 | | | ENI - 163.00 | | | IS : 8784 | | | B. S. | | |
| | +ve | -ve | overall | +ve | -ve | overall | +ve | -ve | overall | +ve | -ve | overall |
| EXTENSION CABLES | | | | | | | | | | | | |
| KX | Yellow | Red | Yellow | Red | Green | Green | Brown | Blue | Red | | | |
| JX | White | Red | Black | Red | Blue | Blue | Yellow | Blue | Black | | | |
| TX | Blue | Red | Blue | Red | Black | Black | White | Blue | Blue | | | |
| EX | Purple | Red | Purple | Red | Violet | Violet | Brown | Blue | Brown | | | |
| COMPENSATING CABLES | | | | | | | | | | | | |
| KX(A)/VX | — | — | — | Red | Green | Green | White | Blue | Red | | | |
| SX/RX | Black | Red | Green | Red | White | White | White | Blue | Green | | | |

Rubber Cables

In keeping with the company's commitment to technological advancement, elastomer materials such as Polychloroprene (PCP), Chloro-Sulphonated Polyethylene (CSP), Nitrile Rubber / PVC blends, Ethylene Propylene Rubber (EPR), Ethylene Vinyl Acetate (EVA) and Silicone have been specially compounded to meet numerous heat oil and fire resisting requirements. In the recent years KEI has also developed special Elastomeric Fire Survival Cables for power, control and instrumentation wiring.

Elastomeric compounds for insulating and sheathing of cables are formulated to meet the requirement of IS 6380, BS 6899, IEC 60502 and other international specification.

GENERAL CONSTRUCTION (Conforming to IS 9968 Part 1 & II)

- Conductor – Annealed tinned Copper wires Solid (Class 1), Stranded (Class 2), flexible (Class 5) complying with the requirement of IS 8130
- Separator Tape – Suitable material separator tape may be applied over the conductor
- Insulation – General service elastomer compound Type IE1 of IS 6380
Heat Resisting elastomer compound Type IE2 of IS 6380
Silicone Rubber Type IE 5 of IS 6380
- Core Identification – Coloured insulation, Nos. PE tape, Coloured proofed tape, Nos. printing
- Fillers – Natural or synthetic fibres or elastomer suitable for the operating temperature and compatible with the insulating material
- Sheath – General service sheath Type SE1/SE2 of IS 6380
Heavy Duty Sheath Type SE3/SE4 of IS 6380

Working Temperature of Commonly used Elastomeric Insulating and Sheathing Materials

| Material | Max. Cond. Temp. for continuous operation °C. | Max. Cond. Temp. for short circuit °C. | Min. Working Temp. °C. |
|--------------------------------------|---|--|------------------------|
| Ethylene Propylene Rubber (EPR) | 90 | 250 | -50 |
| Polychloroprene (PCP) | 70 | 200 | -40 |
| Chlorosulphonated Polyethylene (CSP) | 90 | 200 | -35 |
| Silicone Rubber | 150/180 | 350 | 55 |
| Chloropropylene Ethylene (CPE) | 90 | 250 | -30 |
| Styrene Butadiene Rubber | 60 | 200 | -55 |
| NBR PVC | 90 | 250 | -30 |

Rubber Cables

Current carrying capacities for Multicore Flexible Trailing cables Armoured / Unarmoured, insulated with EPR for all Voltage Grades

| Nominal Cross-sectional Area Of conductor | Max. Resistance at 20°C for tinned flexible conductor(class 5) | Current Rating upto 10 kV E2(EPR) | Current Rating Above 10 kV EPR |
|---|--|-----------------------------------|--------------------------------|
| mm ² | ohms/km | (A) | (A) |
| 2.5 | 8.21 | 32 | - |
| 4 | 5.09 | 43 | - |
| 6 | 3.39 | 56 | - |
| 10 | 1.95 | 78 | - |
| 16 | 1.24 | 104 | 110 |
| 25 | 0.795 | 138 | 146 |
| 35 | 0.565 | 171 | 181 |
| 50 | 0.393 | 213 | 226 |
| 70 | 0.277 | 263 | 279 |
| 95 | 0.21 | 317 | 336 |
| 120 | 0.164 | 370 | 391 |
| 150 | 0.132 | 425 | 450 |
| 185 | 0.108 | 485 | 514 |

Note:

- 1) This table covers current rating of flexible trailing cable armoured / unarmoured conforming to IS:9968 I & II, IS 14494, VDE 0250 , NCB & other equivalent international specifications for flexible cables.
- 2) The rating is given above are based on ambient temp.30°C for higher temp. please refer to the following table of correction factors.

| Temp.°C | EPR |
|---------|------|
| 25 | 1.05 |
| 30 | 1.00 |
| 35 | 0.93 |
| 40 | 0.86 |
| 45 | 0.80 |
| 50 | 0.72 |
| 55 | 0.63 |
| 60 | 0.54 |
| 70 | 0.31 |

- 3) Rating factor for 'MONOSPIRAL' reeling drum winding duty is 0.85 .
- 4) For reeling-unreeling operation rating factors are as follows :

| No. of Times | 1 | 2 | 3 | 4 |
|------------------|------|------|------|------|
| Derating Factors | 0.76 | 0.58 | 0.47 | 0.40 |

*Current rating for higher sizes upon request.

Rubber Cables

| Elaslomenc Cables Range | Application |
|---------------------------------|--|
| Cables up to 11 kV | Machine Trailing. Mining, Power |
| Flexible Trailing Cables | Reeling unreeling, Trailing. Festooning. Mobile Machines Cranes, Coal Handling and Conveyors |
| Mining Cables | FT or Pliable Armoured or Landline type as per IS 14494, NCB. SABS specs tor UG, Open cast Coal or other mines and mining machines |
| Thermal Power Plants | For coal handling plants, flexible power and control application |
| Cables for Steel Plants | Flexible and high temp withstanding cables tor tumace. melting shops, material handling |
| Wind Energy | Flexible cables lor power and control lor Wind Mill generator connection |
| Fire Survival Cables | Fire Survival lor 3 Hrs or 20 Min |
| Ship Wiring | As per IEC specs and Naval specs DGS of DEFSTAN, NES |
| Offshore and Onshore | For platforms and Ring as per IEC. BS and NEK Specs |
| Shore Supply & Generator Cables | For charging of ship batteries and supply from mobile generators |
| Motor Coil Leads | Elastomeric and Silicon as per IS. BS, or OEM Specs |
| High Temp Cables | Silicon insulated, glass fiber braided or unbraided |
| Pump Cables | For water, submersible and sewerage pumps |
| Cables for Railway | Coach wiring, Metro railway |
| Wire | HFFR Low toxic emission under fire |
| Panel Wiring | For flexible, high power high temp zone, polluted or moist atmospheres |
| Battery Cables | For High current and long life |
| Low Temperature installations | Suitable tor subzero temp installations and operations |
| Misc Applications | outdoor high mast lighting site power supply, while goods, oil or chemical resistant |
| Type | Power and Control cables up to 61 Crores Instrumentation Pairs 30 pairs, triads, quad Wires, flat cables |
| Voltage Grades | 11 kV, 6.6 kV, 3.3 kV, 1.1 kV, 750 V, 250 V, 110 V, 60 V |
| Conductor Range | 0.5 to 630 sq. mm |
| Polymers Processed Compounds | EPR, EPDM, PCP, CSP, CPE, SILICONE, EVA HALOGEN FREE AND FIRE RESISTANT NONTOXIC COMPOUNDS |
| Braiding Offered | ATC, GI wire braid. Synthetics or Textile Yarn. Glass Fiber |
| Armouring | Pliable armour or Steel / Copper Wires / Stainless steel |

Conductor Data

Conductor Technical data for Single Core and Multicore cables conforming to IS: 8130 (Stranded-Class-2) Aluminium Conductor or Annealed Copper conductor, compacted circular or shaped

| Nominal Size of Conductor | Minimum no of wires | | Max DC Resistance at 20°C | | Approx. AC Resistance at 70°C | | Approx. AC Resistance at 85°C | | Approx. AC Resistance at 90°C | |
|---------------------------|---------------------|-----------|---------------------------|-----------|-------------------------------|-----------|-------------------------------|-----------|-------------------------------|-----------|
| | Non-compacted | | Plain Copper | Aluminium | Plain Copper | Aluminium | Plain Copper | Aluminium | Plain Copper | Aluminium |
| | COPPER | ALUMINIUM | PLAIN COPPER | ALUMINIUM | PLAIN COPPER | ALUMINIUM | PLAIN COPPER | ALUMINIUM | PLAIN COPPER | ALUMINIUM |
| No's | No's | No's | Ohm/Km | Ohm/Km | Ohm/Km | Ohm/Km | Ohm/Km | Ohm/Km | Ohm/Km | Ohm/Km |
| 1.0 | - | - | 18.1 | - | 21.7 | - | 22.8 | - | 23.2 | - |
| 1.5 | 3 | 3 | 12.1 | 18.1 | 14.5 | 21.7 | 15.2 | 22.8 | 15.5 | 23.2 |
| 2.5 | 3 | 3 | 7.41 | 12.1 | 8.89 | 14.5 | 9.34 | 15.2 | 9.48 | 15.5 |
| 4 | 3 | 3 | 4.61 | 7.41 | 5.53 | 8.89 | 5.81 | 9.3 | 5.90 | 9.48 |
| 6 | 3 | 3 | 3.08 | 4.61 | 3.70 | 5.53 | 3.88 | 5.8 | 3.94 | 5.90 |
| 10 | 7 | 7 | 1.83 | 3.08 | 2.20 | 3.70 | 2.31 | 3.9 | 2.34 | 3.94 |
| 16 | 7 | 7 | 1.15 | 1.91 | 1.38 | 2.29 | 1.45 | 2.41 | 1.47 | 2.44 |
| 25 | 7 | 7 | 0.727 | 1.20 | 0.872 | 1.44 | 0.916 | 1.51 | 0.931 | 1.54 |
| 35 | 7 | 7 | 0.524 | 0.868 | 0.629 | 1.04 | 0.660 | 1.09 | 0.671 | 1.11 |
| 50 | 19 | 19 | 0.387 | 0.641 | 0.464 | 0.769 | 0.488 | 0.808 | 0.495 | 0.820 |
| 70 | 19 | 19 | 0.268 | 0.443 | 0.322 | 0.532 | 0.338 | 0.558 | 0.343 | 0.567 |
| 95 | 19 | 19 | 0.193 | 0.320 | 0.232 | 0.384 | 0.243 | 0.403 | 0.247 | 0.410 |
| 120 | 37 | 37 | 0.153 | 0.253 | 0.184 | 0.304 | 0.193 | 0.319 | 0.196 | 0.324 |
| 150 | 37 | 37 | 0.124 | 0.206 | 0.149 | 0.247 | 0.156 | 0.260 | 0.159 | 0.264 |
| 185 | 37 | 37 | 0.0991 | 0.164 | 0.119 | 0.197 | 0.125 | 0.207 | 0.127 | 0.210 |
| 240 | 61 | 61 | 0.0754 | 0.125 | 0.090 | 0.150 | 0.095 | 0.158 | 0.097 | 0.160 |
| 300 | 61 | 61 | 0.0601 | 0.100 | 0.072 | 0.120 | 0.076 | 0.126 | 0.077 | 0.128 |
| 400 | 61 | 61 | 0.0470 | 0.0778 | 0.056 | 0.093 | 0.059 | 0.098 | 0.060 | 0.100 |
| 500 | 61 | 61 | 0.0366 | 0.0605 | 0.044 | 0.073 | 0.046 | 0.076 | 0.047 | 0.077 |
| 630 | 91 | 91 | 0.0283 | 0.0469 | 0.034 | 0.056 | 0.036 | 0.059 | 0.036 | 0.060 |
| 800 | 91 | 91 | 0.0221 | 0.0367 | 0.027 | 0.044 | 0.028 | 0.046 | 0.028 | 0.047 |
| 1000 | 91 | 91 | 0.0176 | 0.0291 | 0.021 | 0.035 | 0.022 | 0.037 | 0.023 | 0.037 |
| 1200 | - | - | 0.0151 | 0.0247 | - | - | - | - | 0.019 | 0.032 |
| 1400 | - | - | 0.0129 | 0.0212 | - | - | - | - | 0.017 | 0.027 |
| 1600 | - | - | 0.0113 | 0.0186 | - | - | - | - | 0.014 | 0.024 |

* Shape of Conductor shall be Circular (from 1.0 sq mm upto 10 sq. mm)
 * Shape of Conductor shall be Circular/Sector (from 16 sq. mm upto 1000 sq. mm)
 * Shape of Conductor may be Circular/Milliken (from 1000 sq. mm and above)

SHORT CIRCUIT CURRENT RATINGS FOR XLPE/PVC CABLES

Short Circuit Rating for 1 second duration for XLPE & PVC Insulated Cables with Copper and Aluminium Conductor (Isc Current in kAmps)

| Nominal Size of Conductor | XLPE Insulated (90°C) | | PVC-A Insulated (70°C) | | PVC-C Insulated (85°C) | |
|---------------------------|-----------------------|--------|------------------------|--------|------------------------|--------|
| | Sq.mm | COPPER | ALUMINIUM | COPPER | ALUMINIUM | COPPER |
| 1.0 | 0.143 | - | 0.115 | - | 0.104 | - |
| 1.5 | 0.215 | - | 0.173 | - | 0.156 | - |
| 2.5 | 0.358 | - | 0.288 | - | 0.260 | - |
| 4 | 0.572 | 0.376 | 0.46 | 0.304 | 0.416 | 0.276 |
| 6 | 0.86 | 0.564 | 0.69 | 0.456 | 0.624 | 0.414 |
| 10 | 1.43 | 0.94 | 1.15 | 0.760 | 1.04 | 0.690 |
| 16 | 2.29 | 1.50 | 1.84 | 1.22 | 1.66 | 1.10 |
| 25 | 3.58 | 2.35 | 2.88 | 1.90 | 2.60 | 1.73 |
| 35 | 5.01 | 3.29 | 4.03 | 2.66 | 3.64 | 2.42 |
| 50 | 7.15 | 4.70 | 5.75 | 3.80 | 5.20 | 3.45 |
| 70 | 10.0 | 6.58 | 8.05 | 5.32 | 7.28 | 4.83 |
| 95 | 13.6 | 8.93 | 10.9 | 7.22 | 9.88 | 6.56 |
| 120 | 17.2 | 11.3 | 13.8 | 9.12 | 12.5 | 8.28 |
| 150 | 21.5 | 14.1 | 17.3 | 11.4 | 15.6 | 10.4 |
| 185 | 26.5 | 17.4 | 21.3 | 14.1 | 19.2 | 12.8 |
| 240 | 34.3 | 22.6 | 27.6 | 18.2 | 25.0 | 16.6 |
| 300 | 42.9 | 28.2 | 34.5 | 22.8 | 31.2 | 20.7 |
| 400 | 57.2 | 37.6 | 46.0 | 30.4 | 41.6 | 27.6 |
| 500 | 71.5 | 47.0 | 57.5 | 38.0 | 52.0 | 34.5 |
| 630 | 90.1 | 59.2 | 72.5 | 47.9 | 65.5 | 43.5 |
| 800 | 114.4 | 75.2 | 92.0 | 60.8 | 83.2 | 55.2 |
| 1000 | 143.0 | 94.0 | 115.0 | 76.0 | 104.0 | 69.0 |

Rating for any other duration :

1) Max. Initial Conductor Temperature during operation :

| | | |
|------|-------|-------|
| XLPE | PVC-A | PVC-C |
| 90°C | 70°C | 85°C |

1) Max. Final Conductor Temperature during short circuit :

| | | |
|-------|-------|-------|
| XLPE | PVC-A | PVC-C |
| 250°C | 160°C | 160°C |

Formula relating short Circuit Rating with t second duration

$$I_t = \frac{I_{sc}}{\sqrt{t}}$$

Where, A = Area of cross section
 I_{sc} = Short circuit rating for 1 second
 t = duration in seconds.
 k = a constant depends on Conductor & Insulation material
 k = 0.094 for Al conductor & XLPE Insulation
 k = 0.143 for Cu conductor & XLPE Insulation
 k = 0.076 for Al conductor & PVC-A Insulation
 k = 0.115 for Cu conductor & PVC-A Insulation
 k = 0.069 for Al conductor & PVC-C Insulation
 k = 0.104 for Cu conductor & PVC-C Insulation

Comparative Current Rating of 650/1100 Volts multicore heavy duty PVC Insulated Cable & XLPE Insulated Cables, 3, 3.5 & 4 cores Unarmoured/Armoured PVC Sheathed cables with Aluminium Conductor.

| Nominal Size of Conductor | 3, 3.5 & 4 Core PVC Insulated & Sheathed cables as per IS: 1554 [P-1] | | | | 3, 3.5 & 4 Core XLPE Insulated & Sheathed cables as per IS: 7098 [P-1] | | |
|---------------------------|---|--------|---------------------|---------------------|--|--------|---------------------|
| | In Ground | In Air | Approx Voltage Drop | Approx Voltage Drop | In Ground | In Air | Approx Voltage Drop |
| Sq.mm | Amps | Amps | V/Amps/Km | V/Amps/Km | Amps | Amps | V/Amps/Km |
| 16 | 60 | 51 | 4.0 | 4.0 | 73 | 70 | 4.24 |
| 25 | 76 | 70 | 2.5 | 2.5 | 95 | 93 | 2.67 |
| 35 | 92 | 86 | 1.8 | 1.8 | 114 | 114 | 1.94 |
| 50 | 110 | 105 | 1.3 | 1.3 | 134 | 138 | 1.44 |
| 70 | 135 | 130 | 0.94 | 0.94 | 164 | 175 | 1.00 |
| 95 | 165 | 155 | 0.68 | 0.68 | 197 | 216 | 0.70 |
| 120 | 185 | 180 | 0.55 | 0.55 | 223 | 249 | 0.56 |
| 150 | 210 | 205 | 0.46 | 0.46 | 249 | 284 | 0.48 |
| 185 | 235 | 240 | 0.37 | 0.37 | 282 | 329 | 0.40 |
| 240 | 275 | 280 | 0.30 | 0.30 | 327 | 392 | 0.30 |
| 300 | 305 | 315 | 0.26 | 0.26 | 369 | 452 | 0.26 |
| 400 | 335 | 375 | 0.22 | 0.22 | 420 | 526 | 0.21 |

Comparative Current Rating Of 650/1100 Volts Multicore Heavy Duty PVC Insulated Cable & XLPE Insulated Cables, 3, 3.5 & 4 Cores Unarmoured/Armoured PVC Sheathed Cables with Aluminium Conductor

| Nominal Size of cable | 3, 3.5 & 4 Core PVC Insulated & Sheathed cables as per IS: 1554 (P-1) | | | 3, 3.5 & 4 Core XLPE Insulated & Sheathed cables as per IS: 7098 (P-1) | | |
|-----------------------|---|---------------|----------------------------------|--|---------------|----------------------------------|
| | In Ground Amp | In Air Amp | Approx Voltage Drop V/Amps/Km | Inground Amp | In Air Amp | Approx Voltage Drop V/Amps/Km |
| 16 | 60 | 51 | 4.0 | 73 | 70 | 4.24 |
| 25 | 76 | 70 | 2.5 | 95 | 93 | 2.67 |
| 35 | 92 | 86 | 1.8 | 114 | 114 | 1.94 |
| 50 | 110 | 105 | 1.3 | 134 | 138 | 1.44 |
| 70 | 135 | 130 | 0.94 | 164 | 175 | 1.00 |
| 95 | 165 | 155 | 0.68 | 197 | 216 | 0.70 |
| 120 | 185 | 180 | 0.55 | 223 | 249 | 0.56 |
| 150 | 210 | 205 | 0.46 | 249 | 284 | 0.48 |
| 185 | 235 | 240 | 0.37 | 282 | 329 | 0.40 |
| 240 | 275 | 280 | 0.30 | 327 | 392 | 0.30 |
| 300 | 305 | 315 | 0.26 | 369 | 452 | 0.26 |
| 400 | 335 | 375 | 0.22 | 420 | 526 | 0.21 |





Handling & Storage

Handling (Unloading at Site)

On receipt of the cable drum, visual inspection of the drum should be made. While unloading the drums from the lorry/trailer, a crane or suitable derrick system with chain pulley arrangement should be used and the drums carefully lifted and deposited on the ground. When lifting the drums with a crane, it is recommended that the lagging should be kept in place to prevent the flanges from crushing on to the cable. If the crane is not available, a ramp should be prepared with approximate inclination of 1:3 or 1:4. The cable drum should be rolled over the ramp by means of ropes and winches. Under no circumstances should the drums be dropped on the ground as the shock may cause serious damage to the inner layer of the cables. Cables should not be dragged along the earth surface.

Cable ends should always be sealed by means of suitable end sealing materials to prevent miniaturization of cores and armour. Drums should be rolled in the direction of arrows marked on the drums.

Storage

The site chosen for the storage for the cable drums should be dry and covered to prevent exposure to climatic conditions and wear & tear of wooden drum. It should be preferably on a concrete / consolidated surface which will not cause the drum to sink and thus lead to flange and extremely difficult in moving the drums. The drum should be stored in such a manner as to leave sufficient space between them for air circulation. It is desirable for the drums to stand on battens placed directly under flanges. In no case shall the drums be stored flat i.e. with flanges horizontal.

Minimum Permissible Bending Radius

While installing the cables, the following minimum bending radius should be observed in order so that the cables, especially insulation, may not undergo damage. Whenever possible larger bending radius should be used.

| VOLTAGE RATING | PVC & XLPE Cables | |
|-----------------|-------------------|-----------|
| | Single Core | Multicore |
| kV | | |
| Upto 1.1 | 15D | 12D |
| Above 1.1 to 11 | 15D | 15D |
| Above 11 kV | 20D | 15D |

Where D is outer diameter of cable

Cable Selection Guide

Materials Comparison Chart

KEI offer a wide range of materials for the purpose of insulation and sheathing. KEI is pitting their effort to design the cables by careful balancing the properties of selected materials in combination with a view to meet the specific environmental and installation conditions.

Any material does not possess universal properties which is suitable for all conditions. This will be evident from the comparison chart.

Although this chart does not provide the detailed information of all the materials and combinations of them with every pertinent characteristics, it serves as a guideline of information which a cable specialist requires to ensure most appropriate design to meet specific needs.

Please do consult our experts from the Technical Services Department of KEI Industries Limited, Cable Division.

KEI Industries Limited

REGISTERED AND CORPORATE OFFICE:

D-90, OKHLA INDUSTRIAL AREA PHASE-I, NEW DELHI-110020, TEL: +91-11-26818840/8642/0242 FAX: 26817225, 26811959

E-MAIL: info@kei-ind.com WEBSITE: www.kei-ind.com CIN NO: L74899DL1992PLC051527



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E-MAIL: info@kei-ind.com WEBSITE: www.kei-ind.com CIN NO: L74899DL1992PLC051527

