



**KEI**<sup>®</sup>  
**Wires & Cables**

# MARINE & OFFSHORE CABLES



# CMD'S MESSAGE



**MR. ANIL GUPTA**

Chairman & Managing Director  
KEI Industries Limited

KEI Industries, an Indian MNC founded in 1968, is a global leader in wire and cable solutions having an extensive range of world-class products and services. With multiple robust & cutting edge manufacturing facilities and a vast network of more than 30,000 channel partners, KEI serves clients in 65+ countries, establishing itself as a one-stop-shop for comprehensive wire and cable solutions. The company achieved a turnover of INR 9735.88+ Crore in the fiscal year 2024-25.

As the world faces the pressing challenges of global warming and climate change, KEI Industries is dedicated to leading the way towards a sustainable and a carbon-neutral future. Our

dedication involves using clean gas and solar energy, alongside advanced air and water treatment systems, to eliminate hazardous chemicals and ensure a safe, sustainable environment. Our diverse array of products also reflects our strong commitment towards building an eco-friendly efficient surrounding. With an ongoing focus on innovation, KEI is positioned to lead in sustainability while meeting the demands of global consumers through using cutting-edge technologies, driving progress and setting new standards for environmental responsibility.

## STATE OF THE ART MANUFACTURING 7 UNITS



**BHIWADI**  
RAJASTHAN



**CHOPANKI**  
RAJASTHAN



**PATHREDI-1**  
RAJASTHAN



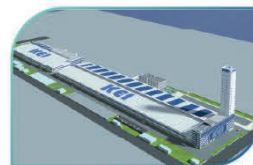
**PATHREDI-2**  
RAJASTHAN



**RAKHOLI**  
DADRA AND NAGAR  
HAVELI

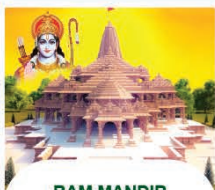


**CHINCPADA**  
DADRA AND NAGAR  
HAVELI



**SANAND\***  
GUJARAT

## BUILDING THE NATION...! PRESTIGIOUS PROJECTS WIRED BY KEI



**RAM MANDIR**



**WORLD'S TALLEST  
STATUE OF UNITY**



**WORLD'S LARGEST NARENDRA  
MODI STADIUM**



**PARLIAMENT OF  
INDIA**



**KONKAN RAILWAY  
PROJECT**



**INDIA'S LONGEST  
BOGIBEEL BRIDGE**



**BULLET TRAIN**



**INDIAN INSTITUTE  
OF TECHNOLOGY  
BOMBAY**



**AIROLI-KATAI  
NAKA TUNNEL**



**MUMBAI COASTAL  
ROAD MEGA PROJECT**



**MUMBAI MONORAIL**



**MUMBAI NAGPUR  
SAMRUDDHI HIGHWAY**

# MARINE & OFFSHORE CABLES

• KEI is proud to supply Marine and offshore cables to important projects of Indian defense shipyards and private shipyards in India and abroad. Cables have been supplied to renowned shipyards like Mazagon Docks, Garden Reach Shipyard, Naval Dockyards, Goa Shipyard, Cochin Shipyard, Hindustan Shipyard, Larsen & Toubro, Gunasua, ONGC in India & also exported to Sime-Darby Malaysia, ZADCO UAE, NPCC UAE, etc.

KEI offers Marine Cables complete range in general in categories Power, control instrumentation, Fire Resistant, Mud resistant, High temperature cables.

## CONSTRUCTION

### Conductor

- Tinned or untinned copper with stranding class 2 or class 5 from 0.5 to 1000 sq mm. or 22-19 AWG to 2000Kcmil
- Solid single strand for communication cables as required.
- Standards IEC 60228, BS 6360 or UL.

### For Thermocouple Cables

- KX, JX, EX, TX, KX/VX, SX/RX

### Insulations

- EPDM, XLPE, Halogen free EVA based, Silicon rubber glass braided and varnished, PE, PVC
- Dual layer EPDM + HF or PVC + Polyamide(Nylon)
- Fibreglass tape insulation as per NES standard

### Fire resistant cable

- Heat barrier of glass mica tape lapped in double layer shall be provided over the conductor, before the insulation

### Sheath

- Thermoplastic Halogen free Type SHF1, Cross Linked thermo set Type SHF2 or EVA, Silicon, FR PVC, HDPE, MUD RESISTANT SHF2
- PCP, CPE or CSP sheaths for EPDM or Silicon insulated cables
- TPR sheath
- Oil resistant sheath also available in SHF2 or SW4 grade

### Braiding/ Armour

- ATC wire, plain copper, bronze, stainless steel, Aluminium alloy wire
- Copper braid of desired conductivity can be designed as required to meet installation specific requirement or to serve as Earth continuity conductor

### Instrumentation Cables

- Cores twisted in pairs, Triads or Quad to form an element

Screen provision:

- Each element can have individual screen or shielding of Aluminium Mylar backed tape or copper Mylar backed tape.



- Each unit has ATC drain wire
- Multi element cable can have overall screen or shielding of Aluminium Mylar backed tape or copper Mylar backed tape, with a ATC drain wire.
- ATC wire braiding can be offered as alternative to tape type screen for an individual element or overall screen.

#### Special Protection

- Cables can be supplied with special sheath like Lead alloy sheath or Polyamide(Nylon) sheath as a proven moisture barrier in highly contaminated areas

#### Core Identification & Sheath Color

- Standard color coding as per CENELEC for cores and Black or Grey for the sheath.
- However, we can provide any customized color coding as per project requirement.

#### Current Ratings

- Cables meet the respective Current rating requirements as specified by the specifications under different installation and operating conditions.
- In general Commercial ships and offshore cables rating are as per IEC 60092-352.
- Ratings of Cables as per Naval Standards are as specified in these standards.

#### Packing

- On wooden drums or reels as per Indian Standard.
- For overseas supply seaworthy wooden drum treated with fumigation shall be supplied.
- Plastic or Steel reels can be offered on request.
- Packing Lengths: 250/500/1000m.
- Wires in 100m reel

#### Testing & Inspection

- Our factory provides Routine TC for each drum. Type TC can be provided on prior request.
- Cost of Inspection at our works in India by customer or by any appointed Inspection / certification agency shall be to the buyers account.

#### Warrantee

Cables shall have standard warrantee of 12 months from the date of installation or 18 months from the date of shipment whichever is earlier.

#### Datasheet

For each order KEI shall furnish standard datasheet for each size of cable.

#### ROHS

Cables not having a lead sheath are ROHS compliant



# SPECIFICATION COMPLIANCE

## SPECIFICATION

IEC 60092- 350, 353

## TYPES OFFERED

POWER & CONTROL Cables 0.6/1.0KV EPDM, HEPR or XLPE or Silicon rubber or PVC insulated

NEK 606

POWER & CONTROL Cables 0.6/1.0KV EPDM insulated RFOU, RFCU, BFOU, BFCU

NEK 606

Instrumentation Cables 250V EPDM insulated RFOU(o), RFOU(i), RFCU(o), RFCU(i), BFOU(o), BFOU(i), BFCU(o), BFCU(i)

IEC 60092- 350, 354

POWER Cables 3, 6, 10, 15KV EPDM or XLPE insulated

IEC 60092- 350, 376

INSTRUMENTATION & CONTROL Cables 250V EPDM or XLPE or PE or Silicon rubber or PVC insulated

BS 6883

POWER, CONTROL & Instrumentation Cables EPDM insulated up to 11KV

IEEE 1580, UL 1309

XLPE/ EPR/ EVA/LSZH/PVC NYLON/ POLYOLEFINE, Types E, X, T, S, T/N, LSE, LSX, LSS, P

## NAVAL STANDARDS

NES 525

SMALL WIRES

NES 526 & DEFSTAN 512 P3

DUAL EXTRUDED INSULATION EPR + LFH, LFH SHEATHED POWER & CONTROL CABLES

NES 527 & DEFSTAN 512 P2

SILICON RUBBER INSUALTED, GLASS FIBRE BRAIDED AND LFH SHEATHED POWER AND CONTROL CABLES

DEFSTAN 61-12

ZHFR INSULATED WIRES, CORES

VG 95218 P 60, 62 & 63

POLYOLEFINE INSULATED SCREENED INSTRUMENTATION. TYPES MGS GO, FMGS GO, FMGS GSGO

VG 95218 P 61

EPR INSULATED, SCREENED INSTRUMENTATION. TYPES LMGSGO

## ONGC OFFSHORE

FS 4011

Power, Control & Instrumentation cables for Offshore installations

FS 3508

Instrumentation cables for Offshore installations

## FIRE TESTS REFERENCE

IEC 60332-1-2 -test

Flame-retardant test for single insulated wire and cable

IEC 60332-3-22 -test

Flame-retardant (FR)-test for bunched wires and cables, category A

IEC 60754 - 1,2

Halogen-evolution from insulation or sheath material

IEC 61034 series

Smoke emission test

IEC 60331-21

Fire-resistant test for the FIRE RESISTANT CABLES

NES 713, 718

Measurement of toxicity of gases evolved, where applicable



# APPROVALS

Sl. No.	Certification Authority	Cable Types	Certificate No.	Manufacturing Standard Specifications	Types	Voltage Grade	Conductor Temperature Class
1	DET NORSKE VERITAS (D N V) TYPE APPROVAL	Instrumentation and Communication Cables MUD RESISTANT & FIRE RESISTANT, Flame Retardent Cat. A, Halogen Free, Low Smoke	E - 10486	NEK : 606 (2009-05) (S-Types); IEC : 60092 - 376 (2003-05)	BFOU (i) S3 / S7 250 V; BFOU (c) S4 / S8 250 V; BFCU (i) & (c) 250 V	250 V	90°C
2	DET NORSKE VERITAS (D N V) TYPE APPROVAL	Instrumentation and Communication Cables MUD RESISTANT, Flame Retardent Cat. A, Halogen Free, Low Smoke	E - 10487	NEK : 606 (2009-05) (S-Types); IEC : 60092 - 376 (2003-05)	RFOU (i) S1 / S5 250 V; RFOU (c) S2 / S6 250 V; RFCU (i) & (c) 250 V	250 V	90°C
3	DET NORSKE VERITAS (D N V) TYPE APPROVAL	General Power and Lightining, MUD RESIATANT & FIRE RESISTANT, Flame Retardent Cat. A, Halogen Free, Low Smoke	E - 10488	NEK : 606 (2009-05) (P-Types); IEC : 60092 - 353 (2001-04)	BFOU P5 / P12 0.6/1 KV; BFCU 0.6/1 KV; BFOU VFD 0.6/1 KV	0.6/1 KV	90°C
4	DET NORSKE VERITAS (D N V) TYPE APPROVAL	General Power and Lightining, MUD RESIATANT, Flame Retardent Cat. A, Halogen Free, Low Smoke	E - 10489	NEK : 606 (2009-05) (P-Types); IEC : 60092 - 353 (2001-04)	RFOU P1 / P8 0.6/1K V; RFCU 0.6/1K V; RFOU VFD 0.6/1K V	0.6/1 KV	90°C
5	INDIAN REGISTER OF SHIPING (I R S)	Power, Control and Instrumentation Cables, Fame Retardent Cat A, FIRE RESISTANT, Halogen Free, Low Smoke	2012WAC022	IEC : 60092 - 350, 351, 359, 60092 - 353	XLPE / EPR / PVC / LFH; Power & Control Cables	0.6/1 KV	90°C
				IEC : 60092 - 376	Instrumentation Cables Fire Resistant	250 V	
6	Directorate of Quality Assurance (DQAN), Govt. Of India, Ministry Of Defence		Registration No. : DQAN/464/2008; Control No.: N0803905A	DGS 211 / NES 527	Silicon Rubber Insulated LFH Cables	440 V	105°C
				DGS 212 / NES 526	Cable Electrical LFH type	440 V	85°C
				NES-09,Def Stan 61-12 Part-18, Pt-25 & Pt.-31	Cable Electrical and miniature Type		85°C
				DIN 89158	Power Cables with copper braid MGCG	0.6/ 1.0 KV	85°C
				DIN 89159	Communication cables	250V	90°C
				DIN (VG) 95218	Degaussing Cable	550 V	85°C
				Gost, MIL C017, NES 526, 527, 518, 525, Def Stan 61-12 Part 18, Pt 25, Pt.31 and related specification	LFH Cables	440V / 250 V	90°C
				IS : 7098 Part-I	XLPE Insulated Cables Upto 1.1KV	1.1 KV	90°C
				IS : 7098 Part-II	XLPE Insulated Cables Upto 33KV	33 KV	90°C
				IS : 9968 Part-1 and Part -II	Elastomer Insulated Cables	1.1, 3.3 6.6KV	90°C

\*KEI Marine & Offshore cables have been type tested by all above authorities.

# SPECIALITY CABLES

- MINING Cables: Rubber flexible trailing cables, Landline cables, PVC and XLPE cables.
- Elastomeric cables: for Material handling, reeling duty, Pump and other applications. H07RNF and H05RRF VDE certified cables available
- High Temperature Cable: Silicon and other special polymer cables .
- Cables for Sub Zero temperature installations offshore or onshore and underground systems suitable up to - 60°C
- Solar Cables: TUV approved
- Control Cables: In various designs and sizes
- Instrumentation cables: As per international standards and industry specific requirements.
- Thermocouple Extension and compensating cables.
- Halogen Free cables, Non toxic cables.
- FIRE SURVIVAL cables meeting C W Z and other international categories
- Cables with Lead Alloy sheath as per IEC and EEMUA
- Field Bus cables
- Composite cables having combinations of different types.
- Motor coil leads, Power and control cables for machines and industry

# TESTING FACILITIES

TEST LABORATORY Certified: ISO /IEC 17025 Bhiwadi factory.

Inspection Authorities visiting: ABS, BS, BSI, BVQI, Crown, CSA, DASEIN, DNV, EIL, ERDA, Intertek, IRS, JACOBS, KAVENER, LRS, RITES, SGS, Tata Projects, TOYO, TUV & VDE etc.

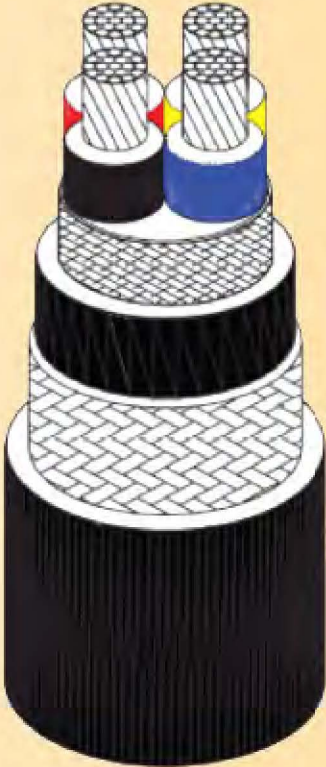
EHV cables tested at CPRI, KEMA, 220KV Type Test at FGH Engineering & Test GmbH Lab (CESI) at the Mannheim Germany



# CABLE CONSTRUCTION



SINGLE CORE LT CABLE



MULTI CORE LT CABLE



INDIVIDUAL & OVERALL SCREENED INSTRUMENT CABLE



OVERALL SCREENED INSTRUMENT CABLE

# CERTIFICATION



## DET NORSKE VERITAS

### TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. E-10488

This is to certify that the  
Low Voltage Cable

with type designation(s)  
BPOU (I) 0.6/1 230 V, BPOU (C) 0.6/1 230 V, BPOU (A) (C) 230V

Manufactured by  
**KEI INDUSTRIES LTD**  
New Delhi, India

is found to comply with  
Det Norske Veritas Rules for Classification of Ships, High Speed & L. 1)1 and Det Norske Veritas Offshore Standards  
IEC 60369-375:2003-03  
IEC 60311-2:1996-03  
IEC 60332-3:2000-03  
IEC 60341:1994-07  
IEC 60754-2:1997-04  
IEC 61034-2:2003-04  
IEC 60332-3:2003-03 (Type 01)

Application:  
Substation and communication.  
Fire resistant, Flame retardant Cat. A, Halogen free, Low smoke, Mud resistant.

Type	Voltage class (kV)	Temp. class (°C)
BPOU (I) 0.6/1 230 V	230	90
BPOU (C) 0.6/1 230 V	230	90
BPOU (A) (C) 230V	230	90

Mark: 2010-10-25  
for Det Norske Veritas AS



DNV India office  
Mumbai

This Certificate is valid until  
2014-10-25

Ivan Bull  
Ivan Bull  
Surveyor

Mark Laurmann  
Mark Laurmann  
Head of Section



## DET NORSKE VERITAS

### TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. E-10487

This is to certify that the  
Low Voltage Cable

with type designation(s)  
BPOU (C) 0.6/1 230 V, BPOU (A) 0.6/1 230V, BPOU (I) (C)

Manufactured by  
**KEI INDUSTRIES LTD**  
New Delhi, India

is found to comply with  
Det Norske Veritas Rules for Classification of Ships, High Speed & L. 1)1 and Det Norske Veritas Offshore Standards  
IEC 60369-375:2003-03  
IEC 60311-2:1996-03  
IEC 60332-3:2000-03  
IEC 60341:1994-07  
IEC 60754-2:1997-04  
IEC 61034-2:2003-04  
IEC 60332-3:2003-03 (Type 01)

Application:  
Instrumentation and communication.  
Flame retardant Cat. A, Halogen free, Low smoke, Mud resistant.

Type	Voltage class (kV)	Temp. class (°C)
BPOU (C) 0.6/1 230 V	230	90
BPOU (A) 0.6/1 230V	230	90
BPOU (I) (C)	230	90

Mark: 2010-10-25  
for Det Norske Veritas AS



DNV India office  
Mumbai

This Certificate is valid until  
2014-10-25

Ivan Bull  
Ivan Bull  
Surveyor

Mark Laurmann  
Mark Laurmann  
Head of Section



## DET NORSKE VERITAS

### TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. E-10489

This is to certify that the  
Electric Power Cable

with type designation(s)  
BPOU PWR2 0.6/1 kV, BPOU 0.6/1 kV, BPOU VFD 0.6/1 kV

Manufactured by  
**KEI INDUSTRIES LTD**  
New Delhi, India

is found to comply with  
Det Norske Veritas Rules for Classification of Ships, High Speed & L. 1)1 and Det Norske Veritas Offshore Standards  
IEC 60369-375:2003-03  
IEC 60311-2:1996-03  
IEC 60332-3:2000-03  
IEC 60341:1994-07  
IEC 60754-2:1997-04  
IEC 61034-2:2003-04  
IEC 60332-3:2003-03 (Type 01)

Application:  
General power and lighting.  
Fire resistant, Flame retardant Cat. A, Halogen free, Low smoke, Mud resistant.

Type	Voltage class (kV)	Temp. class (°C)
BPOU PWR2 0.6/1 kV	0.6/1	90
BPOU 0.6/1 kV	0.6/1	90
BPOU VFD 0.6/1 kV	0.6/1	90

Mark: 2010-10-25  
for Det Norske Veritas AS



DNV India office  
Mumbai

This Certificate is valid until  
2014-10-25

Ivan Bull  
Ivan Bull  
Surveyor

Mark Laurmann  
Mark Laurmann  
Head of Section



## DET NORSKE VERITAS

### TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. E-10486

This is to certify that the  
Electric Power Cable

with type designation(s)  
BPOU PWR2 0.6/1 kV, BPOU 0.6/1 kV, BPOU VFD 0.6/1 kV

Manufactured by  
**KEI INDUSTRIES LTD**  
New Delhi, India

is found to comply with  
Det Norske Veritas Rules for Classification of Ships, High Speed & L. 1)1 and Det Norske Veritas Offshore Standards  
IEC 60369-375:2003-03  
IEC 60311-2:1996-03  
IEC 60332-3:2000-03  
IEC 60341:1994-07  
IEC 60754-2:1997-04  
IEC 61034-2:2003-04  
IEC 60332-3:2003-03 (Type 01)

Application:  
General power and lighting.  
Flame retardant Cat. A, Halogen free, Low smoke, Mud resistant.

Type	Voltage class (kV)	Temp. class (°C)
BPOU PWR2 0.6/1 kV	0.6/1	90
BPOU 0.6/1 kV	0.6/1	90
BPOU VFD 0.6/1 kV	0.6/1	90

Mark: 2010-10-25  
for Det Norske Veritas AS



DNV India office  
Mumbai

This Certificate is valid until  
2014-10-25

Ivan Bull  
Ivan Bull  
Surveyor

Mark Laurmann  
Mark Laurmann  
Head of Section



# Indian Register of Shipping

Place: Mumbai

Date: 17 November 2012

Certificate No: 2012RAC022

## Works Approval Certificate for Manufacture of Electrical Cables

This is to certify that subject to the existing manufacturing practices and satisfactory compliance of Manufacture and Quality Control procedures by our Surveyors, the works of:

**M/s. KEI INDUSTRIES LIMITED**  
SP-920, Risco Industrial Area, Phase-III, Bhiwadi, Alwar,  
Rajasthan-301109

is being included in the list of approved manufacturers for Electrical Cables to be used on ships classed or intended to be classed with IRI

Manufacturing standards: IS 15650 Part 1 & 2

Conditions of Approval: See Appendix - I

This certificate is valid until: November 2015

Annual Inspection Due: November 2013  
November 2014

U. S. KALGHATGI  
CHIEF SURVEYOR

Registration No: DQA/434/2008

Control No: N0803805A



## GOVERNMENT OF INDIA MINISTRY OF DEFENCE

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

#### REGISTRATION CERTIFICATE

This is to certify that M/s. KEI Industries Limited, SP-920, RISCO Industrial Area, Phase III, Bhiwadi Dist. Alwar-301109 Rajasthan after verification of their capacity/capability are registered and found capable of manufacturing of the items for Defence as indicated overleaf

No. of items for which registered	111 (Class) only
Monetary Limit	- Rs. 400 Crores
Category of the Vendor	- (MS- DQPA) Gls.-I
This Certificate is valid up to	28 Dec 2011

This Certificate is issued subject to the conditions indicated overleaf

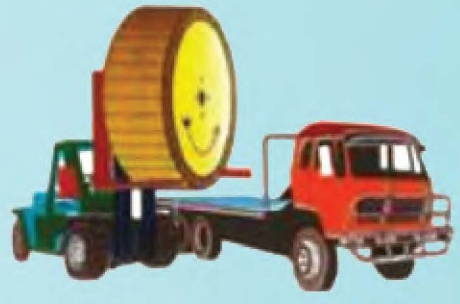
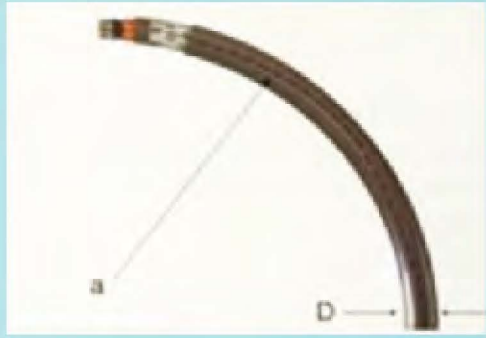
(N.R. Mishra)  
Gen. Manager  
Add: DQA, A-04

Dated 29 Dec 2008

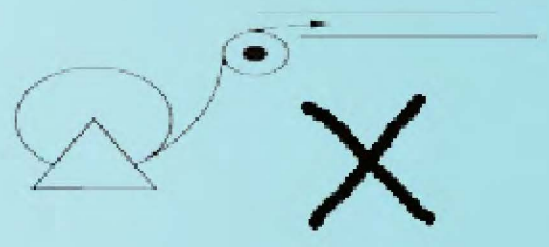
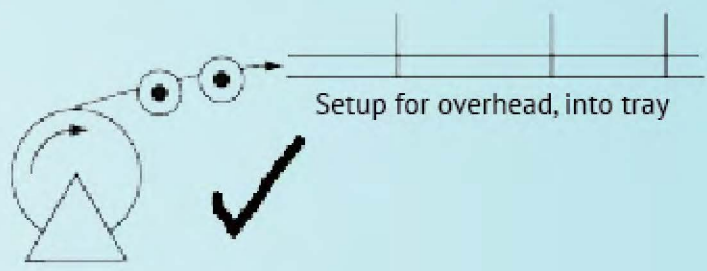
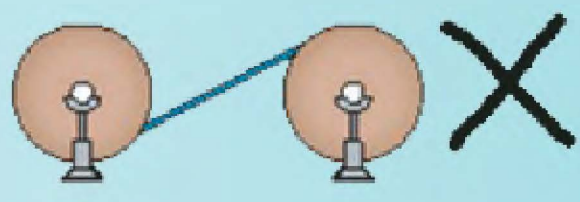
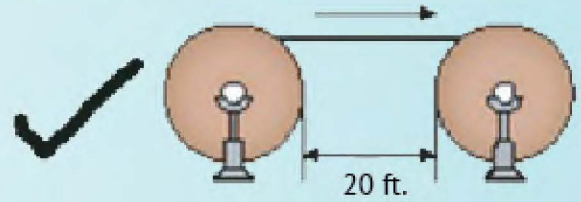


# INSTALLATION RECOMMENDATIONS

The minimum recommended installing bending radius shall be in accordance with IEC 60092-352.



## Reel-to-Reel Rewinding





# KEI<sup>®</sup>

## Wires & Cables

**BRIDGING THE GAP ACROSS 65+ DIFFERENT COUNTRIES**



**THE POWER BEHIND THE POWER**



Scan to reach other offices

**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](mailto:info@kei-ind.com) WEBSITE: [www.kei-ind.com](http://www.kei-ind.com) Toll Free no: 1800 410 0000 CIN NO: L74899DL1992PLC051527

