Thermo Cables

Thermo Cables is a recognized and preferred brand across various industries including Oil & Gas, Railways, Navy, Defence, Renewable Energy, Nuclear Power, Process Industries, Power etc, exporting 50% of products. Established in 1990, it is a leading manufacturer of various types of speciality cables. Thermo Cables is a part of Thermo Group - a multi-product & multi-service organization with other group companies: Thermopads: A specialist in Commercial, Domestic and Industrial Heating Thermosystems: An EPC company in the field of Fuel Oil Handling Systems, Fire Detection Protection Systems etc.

Major Approvals

ADNOC - OFFSHORE
ADNOC - ONSHORE
ALBA
AP GENCO
AP TRANSCO
AVANT GARDE
BDL, BEL
BHEL, BLW
BOROUGE
BPCL
CLW, CMRL, CSL
DLW, DMW
DLRL, DMRL
DMRC
DESEIN LTD
DGMS, DVC
DRDO, DRDL
EGA
ENGINEERS INDIA LTD
FICHTNER CONSULTING
GRSE, GSPC
GOA SHIPYARD
HINDUSTAN SHIPYARD
HPCL, HAL, HMRL
IOCL, ICF, ISRO
JACOB'S H & G
KNPC, KUWAIT
KOC, KUWAIT
L & T
MATERIAL ORGANISATION - KARWAR
MATERIAL ORGANISATION - MUMBAI
MATERIAL ORGANISATION - VIZAG
MECON, MCF
MN DASTUR & CO.
MAZGOAN DOCK LIMITED
MUMBAI PORT TRUST
NPCIL, NSTL, NTPC
ONGC
PDIL, PGCIL
PDO OMAN, PETRONAS
QATAR PETROLEUM
RCF
SAIL
TATA CONSULTING ENGINEERS
TECNIMONT ICB LTD
TOYO ENGINEERING INDIA LTD
THYSSENKRUPP

Stringent quality requirements, global standards of precision and increasingly demanding customers are the order of the day. Thermo Cables, sensitive to this reality, designs, manufactures and supplies a wide range of cables to satisfy customers' specifications and requirements.

Product Range

- Instrumentation Cables
- LV Power & Control Cables
- Thermocouple Cables
- Fire Resistant Cables
- Railway Cables
- Naval Application Cables
- Marine / Shipboard Cables
- Pressure Tight (PT) Cables
- Renewable Energy Cables
- High Temperature Cables
- Material Handling Cables
- Foundation Fieldbus Cables
- Special Application (LFH) Cables
- Co-Axial Cables (RG Series)
- VFD Cables
- Cathodic Protection Cables

Why Us

- Leading & reputed manufacturer of Specialty Cables
- One stop solution for all Low Voltage Cables
- Serving satisfied customers since 30 years across 60+ countries
- In-house wire drawing, compounding, Electron beaming and testing facilities
- Quick response time and offer submission in less than 24 hours

Standards

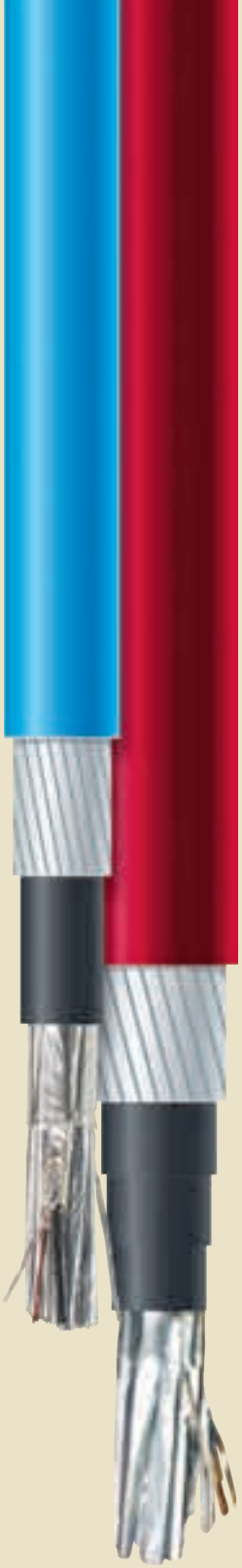
- Cables designed and manufactured conforming to various National and International Standards:
  ANSI MC 96.1, BS-6346, BS-5467, BS-7919, BS-7629, BS-6387, BS-7846, BS-5308-I & II, BSEN 50288-7, DEF-02 526, DEF-02 527, EED 50-12, 50-13, IEC-60502-I, IEC-60189-I & II, IEC-60228, IEC-60092 350 353 376, IEC-60584-I & III , IEC-60331, IS-8784, IS-613, IS-694, IS-1554-I, IS-7098-I, IS-9968-I, JSS-51034, JSS-51038, MIL-C-17, MIL-DTL-22759/86A, MIL-DTL-22759/87A, MIL-DTL-27500H, MIL-DTL-24640C, MIL-DTL-24643C, UL-1581, UL-758, VDE-0815, VDE-0816, VG-95218 60-66 etc.

Quality & Reliability

- An ISO 9001, 2015 certified company with proven track record of delivering quality products
- NABL accredited full-fledged in-house testing laboratory
- Environment, Occupational Health and Safety Systems adhering to ISO 14001-2015, 45001-2018
- 15% of power consumption sourced through in-house generated renewable energy

Valuable Assets

- Over 3,00,000 sq ft of infrastructure facilities with latest technology
- 1000+ dedicated & high performing workforce
- Experienced & professional leadership team
- Offers technical support in cable selection through SAP



Instrumentation Cables

Instrumentation Cables are specially designed to transmit signals without any external interference. They are used in Data Acquisition Systems, Connections to Instruments, Computer Networking, PA Systems, Digital / Analog Control / Measuring & Communication Systems, Data Communication, Sensors, Transducers etc.

Construction : Cores, pairs, triads or quads

Voltage Grade : Up to 1100 V

Conductor : Electrolytic Grade Copper Bare / Tinned / Nickel Plated / Silver Plated Solid / Stranded / Flexible Conductors

Range : 0.5 / 0.75 / 1.0 / 1.5 / 2.5 Sq mm up to 100 pair

Primary Insulation : General Purpose PVC / Heat Resistant PVC / PE / XLPE / PTFE / FEP / PFA / EPR / Silicone Rubber / Fibre Glass

Screening : Individual and / or overall with following options -
- Aluminum Mylar / Copper Tape with Tinned Copper Drain Wire
- Braided with Bare or Tinned or Nickel Plated or Silver Plated Copper

Inner Sheath : PVC / HRPVC / FRPVC / FRLS PVC / ZHFR / LSF

Armouring : GI Round Wire / Flat Strip or GI / SS Wire Braiding

Outer Sheath : PVC / HRPVC / FRPVC / FRLS PVC / ZHFR / LSF

Rip Cord : For easy removal of sheath

Standards : BS-5308 Part-1 & 2, BS-7655, IEC-189 (1 & 2), VDE-0815 & 0816 and BS-EN 50288-7, IEC-60332-1, IEC-60332-3-22, 23, 24

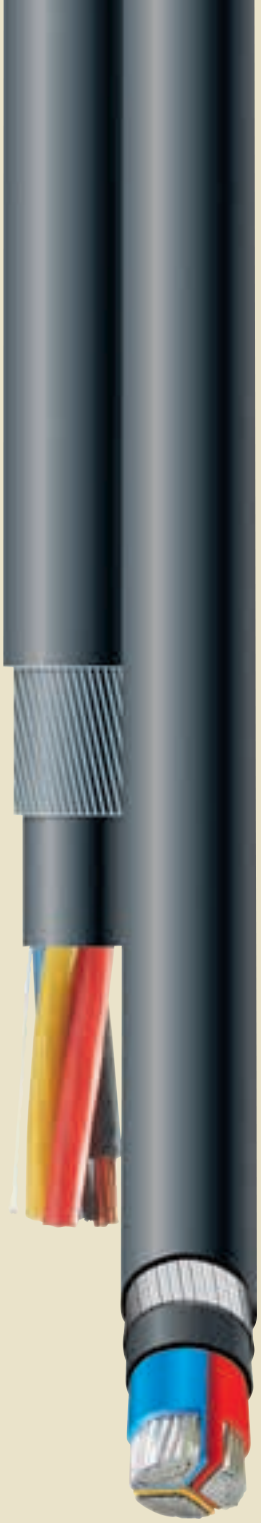
Additional Features : Communication pairs, Bi-colour extrusion, Band marking

Optional Bedding : Aluminum Tape + HDPE + Polyamide Sheath for Alternate Lead Sheath Cables

Note: We also offer Data Communication and Low Capacitance Cables

Technical Data

Conductor Resistance at 20° C Ohms/Km	Conductor Size mm^2	0.5	0.75	1.0	1.5	2.5
	Maximum Resistance (Plain Copper, Class-2 Conductor)	39.0	26.0	19.5	13.3	7.98
Capacitance nf/Km	Between Conductors	< 250 for PVC < 150 for Polyolefin				
Inductance mH/Km		<1.0				
L/R Ratio μH/Ohm	Conductor Size mm^2	0.5	0.75	1.0	1.5	2.5
	L/R	< 25	< 25	< 25	< 40	< 60
Insulation Resistance at 20° C MOhm-Km	PVC	More than 100				
	PE/XLPE	More than 5000				
Electrostatic noise rejection ratio		More than 76.0 db				



LV Power & Control Cables

Construction	:	Single Core / Multi Core
Voltage Grade	:	Upto 1800 / 3300 V AC
Conductor	:	Aluminum / Copper, Solid / Standard / Flexible Conductor
Range	:	Single Core up to 1000 Sq mm Multi Core up to 400 Sq mm Max 61 Cores of 1.5, 2.5, 4.0, & 6.0 Sq mm
Primary Insulation	:	General Purpose PVC / Heat Resistant PVC / LDPE / XLPE / EPR / HEPR
Inner Sheath	:	PVC / HRPVC / FRPVC / FRLS PVC / ZHFR / LSF
Armouring	:	GI Round Wire / Flat Strip or GI / SS Wire Braiding Non-Magnetic Armour / Braiding for Single Core
Outer Sheath	:	General purpose PVC / HRPVC / FRLS PVC / ZHFR / LSF
Standards	:	IS-694, IS-1554 (Part-I), IS-7098 (Part-I), IEC-60502-1 & BS-6346, BS-5467, IEC-60227, BS-6004, IEC-60332-1, IEC-60332-3-22, 23, 24
Optional Bedding	:	Aluminium Tape + HDPE + Polyamide Sheath for an alternate Lead Sheath Cables

Core Identification

Cores shall be identified by different colours of PVC insulation. Following colour scheme shall be adopted

1 Core	:	Black or any Single colour
2 Core	:	Red & Black
3 Core	:	Red, Yellow & Blue
4 Core	:	Red, Yellow, Blue & Black
5 Core	:	Red, Yellow, Blue, Black & Grey
6 Cores and above	:	Two adjacent Cores (counting and direction Core) in each layer, Blue & Yellow, remaining Cores Grey

In addition to these, combinations from the following colours can also be offered -
Red, Black, Blue, Brown, Green, Grey, Orange, Violet, White, Yellow.

Alternately, any single colour insulation on all Cores with number printing can also be provided.

Designation Code

Y	--	PVC insulation
W	--	Steel round wire armour
F	--	Steel strip armour
WW	--	Steel double round wire armour
FF	--	Steel double strip armour
Y	--	PVC outer sheath
Wa	--	Non-magnetic round wire armour
A	--	Aluminium conductor

No Abbreviations used when the conductor material is Copper

Thermocouple Extension/Compensating Cables

Construction	:	Single or Multiple Pairs
Voltage Grade	:	Up to 1100 V
Cable Code	:	Kx, Kx (A), Tx, Jx, Ex, Sx / Rx, Bx, Nx, Ux, Wx
Range	:	16 AWG / 18 AWG / 20 AWG up to 48 Pair
Primary Insulation	:	General purpose PVC / Heat Resistant PVC / PE / XLPE / PTFE / FEP / PFA / Silicone Rubber / Fibre Glass
Screening	:	Individual and/or overall with following options - - Aluminum Mylar / Copper Tape with Tinned Copper Drain Wire - Braided with Bare or Tinned or Nickel Plated or Silver Plated Copper
Inner Sheath	:	PVC / HRPVC / FRPVC / FRLS PVC / ZHFR / LSF / PTFE / PFA / FEP / Fibre Glass
Armouring	:	GI Round Wire / Flat Strip or Wire Braiding
Outer Sheath	:	PVC / HRPVC / FRPVC / FRLSPVC / ZHFR / LSF/ PTFE / Fibre Glass / PFA / FEP
Rip Cord	:	For easy removal of sheath
Standards	:	ANSI: MC-96.1, IS-8784, DIN, BS & IEC-584-3, IEC-60332-1, IEC-60332-3-22, 23, 24

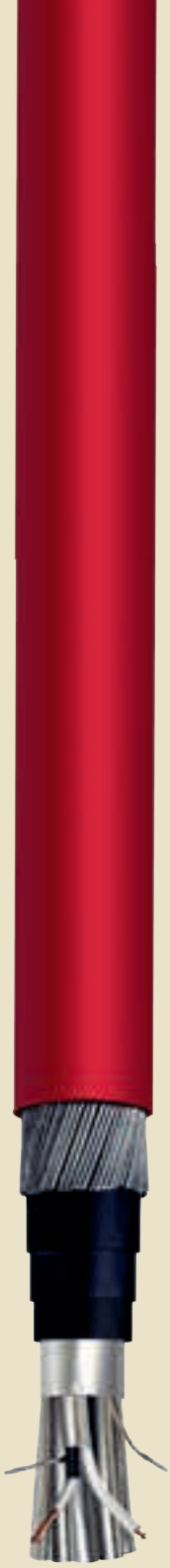
Note:- Other conductor sizes and insulation materials on request

Technical Data

CABLE CODE		Kx	Kx (A)	Tx	Jx	Ex	Sx / Rx
CABLE TYPE		EXT.	COMP	EXT.	EXT.	EXT.	COMP
Conductor	+Ve leg	Chromel	Copper	Copper	Iron	Chromel	Copper
	-Ve leg	Alumel	Constantan	Constantan	Constantan	Constantan	Copper Alloy
Suitable for Thermocouple Type		Kx	Kx	Tx	Jx	Ex	Sx / Rx
Conductor Combination		Chromel / Alumel	Copper / Alumel	Copper / Constantan	Iron / Constantan	Chromel / Constantan	Platinum 10/13% Rhodium / Platinum
Temperature range of measuring junction °C		0 to +1100	☆	-185 to +300	+20 to +700	0 to +800	0 to + 1550 0 to + 1600
Applicable standards for ouput of Thermocouple conductors		BS-4937 part 4 ANSI/MC 96.1 type K DIN 43710 NF C 42-321 JISC 1602	☆	BS-4937 part 5 ANSI/MC 96.1 type T NF C 42-321 JISC 1602	BS-4937 part 3 ANSI/MC 96.1 type J NF C 42-321 JISC 1602	BS-4937 part 6 ANSI/MC 96.1 type E NF C 42-321 JISC 1602	BS-4937 part 1 ANSI/MC 96.1 type S, R, NF C 42-321 JISC 1602
COLOUR CODING	BS						
	ANSI						
	DIN						
	NF						
	JISC						
Approximate generated EMF change per °C mV/C at	100°C	42	☆	46	46	68	8/8
	500°C	43	☆	—	56	81	9/10

NOTES : ☆ Used for interconnecting Type 'K' thermocouples and instrumentation as an alternative to type 'K' material. Only used where the interconnection temperature is in the range 0° C to + 80° C

We can also offer NX, UX and WX Cables ◐ Kx (A) - also known as Vx



Fire Resistant Cables

Finds application where electrical integrity of the cable has to remain intact for at least three hours, so as to activate and maintain crucial functions such as fire fighting, public announcements, smoke extraction systems, sprinklers, emergency lighting, evacuation path lighting systems etc.

The areas for Fire Resistant cable applications include places where large number of people congregate for short or limited period of time such as shopping malls, cinema theaters, educational institutions, airport terminals, mass transit systems (metro rail networks), high rise office buildings etc. FR cables also find use in power generation facilities, petrochemical complexes, nuclear power facilities, mines etc. for phased shut down of the plant and to keep critical functions like communication, rescue and evacuation systems functional during a fire.

Construction	:	Single & Multi Cores / Pairs / Traids
Voltage Grade	:	600 / 1100 V AC
Conductor	:	- Solid or Stranded Annealed Bare or Tinned Copper Conductor / - Stranded Aluminium Conductor
Fire Barrier	:	Glass Mica Tape
Insulation	:	XLPE or EPR or Silicone Rubber
Screening	:	Individual and/or overall with following options - - Aluminum Mylar / Copper Tape with Tinned Copper Drain Wire - Braided with Bare or Tinned or Nickel Plated or Silver Plated Copper
Inner Sheath	:	LSOH / ZHFR / SHF1 / SHF2 or equivalent
Armouring	:	Galvanized Steel Wire Helical Armour / Steel Wire Braid
Outer Sheath	:	LSOH / ZHFR / SHF1 / SHF2 or equivalent
Standards	:	BS-7846, BS-7629, BS-8434 or equivalent with fire test confirming resistance to BS-6387 category CWZ 'or' IEC-60331-21

- Fire Resistance cable type tested at BRE Global (UK) for BS-6387 CWZ category

0578

Railway Cables

Thin Walled Electron Beam Irradiated Flexible Elastomeric Cables With Copper Conductors

Electron beam irradiated thin walled flexible cables with copper conductor, limited fire hazard, minimum flame spread, low smoke emission and limited toxic fume emission properties.

Specification : ELRS / SPEC / ELC / 0019, Rev.4
Temperature Range : - 40° C to 120° C
Conductor : Electrolytic flexible annealed tinned copper (Class 5)
Application : For use in power, auxiliary as well as control circuits of conventional tap changer electric locomotives AC / DC EMU, BG AC EMU & MEMU / coaching stock
Cable Type : Singe Core Cable (single layer)
Size : 1.5 Sq mm to 150 Sq mm
Voltage Grade : Up to 750 V
Insulation : EBXL EVA

Cable Type : Singe Core Cable (dual layer)
Size : 1.5 Sq mm to 300 Sq mm
Voltage Grade : Above 750 V & up to 1.8 / 3.0 KV
Insulation : EBXL EPDM
Sheath : EBXL EVA
Colours : Red / Yellow / Blue / Black / Grey / GNYE / Chocolate / White as per customer requirement

Cable Type : Multi Core Cables 19 Core 2.5 Sq mm and 19 Core 4.0 Sq mm
Voltage Grade : Above 750 V & up to 1.8 / 3.0 KV
Insulation : EBXL EPDM
Sheath : EBXL EVA

Thin Walled Electron Beam Irradiated Flexible Elastomeric Cables With Copper Conductors as per EDTS 132, REV-C

LFH type cables i.e. minimum flame spread, low smoke and toxic fume emission.

Data Sheet-1 (Single Core Cable)
Voltage Grade : 1800 V / 3000 V
Conductor : Circular annealed tinned copper (Class 5)
Insulation : EBXL EPDM
Sheath : EBXL EVA (black)

Data Sheet-2 (Single Core Cable)
Voltage Grade : 600 V / 1000 V
Conductor : Circular annealed tinned copper (Class 5)
Insulation : EBXL EVA (grey)

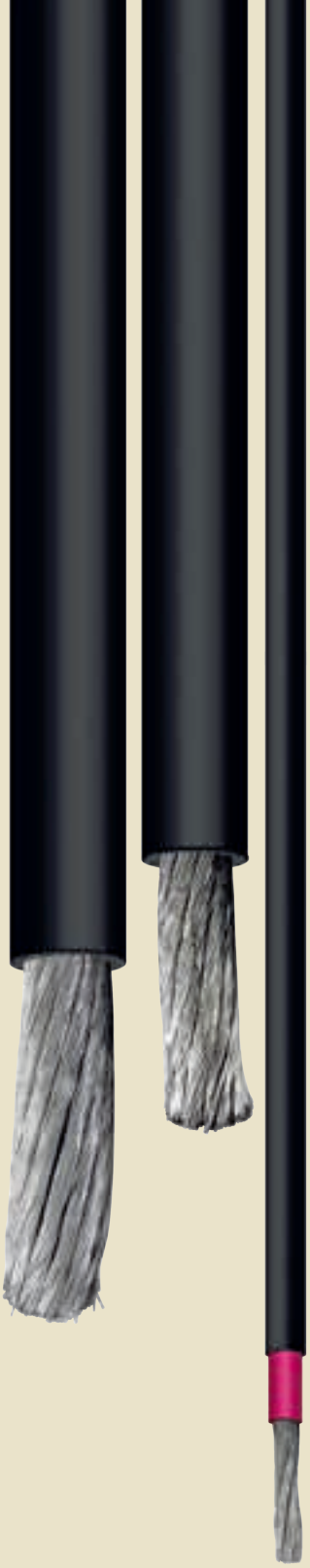
Data Sheet-3 (Multi Core Unscreened Cable)
Voltage Grade : 600 V /1000 V
Conductor : Circular annealed tinned copper (Class 5)
Insulation : EBXL EPDM (white, brown, black & green / yellow coloured cores)
Sheath : EBXL EVA (black)

Data Sheet-4 (Multi Core Screened Cable)
Voltage Grade : 600 V
Conductor : Circular annealed tinned copper (Class 5)
Insulation : EBXL EPDM (white, brown, black & green / yellow coloured cores)
EMC Screen : Annealed tinned copper
Sheath : EBXL EVA (black)

Data Sheet-5 (UIC Cable)
ITEM 1-4Q x 1 Sq mm + 1P x 0.75 Sq mm (18 core cable)
ITEM 2-5Q x 1 Sq mm + 1P x 0.75 Sq mm (22 core cable)
Voltage Grade :300 / 300 V
Conductor : Circular annealed tinned copper (Class 5)
Insulation : EBXL EPDM (white numbered cores)
EMC Screen : Annealed tinned copper
Sheath : EBXL EVA (black)

Data Sheet-6 (Multi Core Unscreened Cable)
Voltage Grade :600 V / 1000 V
Conductor : Circular annealed tinned copper (Class 5)
Insulation : EBXL EPDM (white numbered cores)
Sheath : EBXL EVA (black)

Temperature Range: -40° C to 120° C
Application : For power, signalling & control application in coaches



Railway Cables

Single Core Cables for Electric Locomotives Types WAG-9, WAG-9H, WAP-5 & WAP-7

Limited fire hazard electrical insulation cable, dual wall insulation, low smoke halogen free, flame retardant, excellent resistance to high and low temperature, oil, ozone, weathering and abrasion flexible easy strippable.

Specification : CLW / ES / 3 / 0458 Alt. E
Temperature Range : - 40° C to 120° C
Application : For the purpose of use in power, control, sensor and driver circuits for protected installation, inside and outside railway rolling stock to connect fixed and moving parts.

Data Sheet-1
Cable Type : Single Core Cable
Size : 1.5 Sq mm to 150 Sq mm
Voltage Grade : 4 GKW (1.8 KV)
Conductor : Circular flexible annealed tinned copper (Class 5)
Insulation : EBXL EPDM
Sheath : EBXL EVA

Data Sheet-2
Cable Type : Single Core Cable
Size : 10 Sq mm to 150 Sq mm
Voltage Grade : 9 GKW (4.0 KV)
Conductor : Circular flexible annealed tinned copper (Class 5)
Insulation : EBXL EPDM
Sheath : EBXL EVA

Data Sheet-3
Cable Type : Single Core wire red / GY colour 0.5 Sq mm
Voltage Grade : 300 V / 500 V
Conductor : Stranded tin plated copper
Insulation : EBXL EVA

Multi Core Cables for Electric Locomotives Types WAG-9, WAG-9H, WAP-5 & WAP-7

Limited fire hazard electrical insulation cable, dual wall insulation, low smoke halogen free, flame retardant, excellent resistance to high and low temperature, oil, ozone, weathering and abrasion flexible easy strippable.

Specification : CLW / ES / 3 / 0459 Alt. C
Temperature Range : - 40° C to 120° C
Application : For the purpose of use in control, sensor and driver circuits for protected installation, inside and outside railway rolling stock to connect fixed and moving parts.

Data Sheet-1
Cable Type : Multi Core Screened & Unscreened Cables
Voltage Grade : 300 V / 300 V (0.5 Sq mm)
Conductor : Circular flexible annealed tinned copper (Class 5)
Insulation : EBXL EPDM
EMC Screen : Annealed tinned copper
Sheath : EBXL EVA

Data Sheet-2
Cable Type : Multi Core Screened & Unscreened Cables
Voltage Grade : 600 V / 1000 V (1.0 Sq mm)
Conductor : Circular flexible annealed tinned copper (Class 5)
Insulation : EBXL EPDM
EMC Screen : Annealed tinned copper
Sheath : EBXL EVA

Railway Cables

Control Wires for Diesel Electric Locomotives including AWG size # 3

Thermosetting, flame retardant, oil grease resistant compound also resistant to moisture, caustic cleaning solutions, high ambient conditions, electrical overload conditions, abrasion, cut-through, compression and crush force and low smoke and acid gas generation properties.

Specification : EDPS 179
Temperature Range : - 65° C to 125° C
Cable Type : Single Core Wires
Voltage Grade : 600 V to 2100 V
Conductor : Annealed tinned copper (Class 5)
Insulation : Thermosetting flame retardant compound
Application : For use within the electrical control system of diesel electric locomotives and other heavy duty industrial equipment

Power Cables for Diesel Electric Locomotives including AWG size # 1 & larger

Thermosetting, flame retardant, oil grease resistant compound that is also resistant to moisture, caustic cleaning solutions, high ambient conditions, electrical overload conditions, abrasion, cut-through, compression and crush force and low smoke and acid gas generation.

Specification : EDPS 304
Temperature Range : - 70° C to 130° C
Cable Type : Single Core Power Cables
Voltage Grade : 600 V to 2100 V
Conductor : Annealed tinned copper (Class 5)
Insulation : Thermosetting flame retardant compound
Application : For use within the power distribution of diesel electric locomotives and other heavy duty industrial equipment with variable duty cycle

Traction / Rolling Stock / Metro Application as per BSEN Specification

Cable Type	Specification	Voltage Grade
Railway rolling stock high temperature power cables having special fire performance	BSEN-50382-1 BSEN-50382-2	• 1.8 / 3 KV unscreened, unsheathed with or without textile braid (1.5 mm^2 to 400 mm^2) • 1.8 / 3 KV unscreened, sheathed (1.5 mm^2 to 400 mm^2) • 3.6 / 6 KV unscreened, unsheathed with or without textile braid (2.5 mm^2 to 400 mm^2) • 3.6 / 6 KV unscreened, sheathed (2.5 mm^2 to 400 mm^2)
Railway rolling stock power and control cables having special fire performance	BSEN-50264-1 BSEN-50264-3-1 BSEN-50264-3-2	• 0.6 / 1 KV unscreened & unsheathed (1 Sq mm to 400 Sq mm) • 1.8 / 3 KV unscreened & unsheathed (1.5 Sq mm to 400 Sq mm) • 1.8 / 3 KV unscreened & sheathed (1.5 Sq mm to 400 Sq mm) • 3.6 / 6 KV unscreened & sheathed (2.5 Sq mm to 400 Sq mm)
Railway rolling stock cables having special fire performance thin wall	BSEN-50306-1 BSEN-50306-2 BSEN-50306-3 BSEN-50306-4	EN 50306-4 specifies requirements for and constructions and dimensions of multi core & multi pairs cables rated 300 V to earth of the following type • Unscreened, sheathed for either exposed or protected wiring (Size: 0.5 to 2.5 Sq mm & no of cores: 2 to 48) • Screened, sheathed for either exposed or protected wiring (Size: 0.5 to 2.5 Sq mm & no of cores: 2 to 8) • Screened, sheathed for either exposed or protected wiring (Size: 0.5 to 2.5 Sq mm & no of cores: 2 to 7)

Naval Application Cables

On Board Indian Naval Ships and Crafts Cables

For use on onboard Surface Ships, Submarines and Crafts for Power, Lighting, Control, Communication and Instrumentation. Used in Fuel and Lubrication Oils, Hydraulic Fluids and Water Surfaces.

Standards	:	EED-50-12-Thin Walled, Insulated, Electron Beam Cross Linked Irradiated Electric Cables EED-50-13-Fire Survival, High Temperature Zone, Fire Retardant Halogen Free Sheathed Electron Beam Cross Linked
Construction	:	Single Core, Multi Core, Multi Pair & Triad Cables, Unscreened / Individually Screened or Collectively Screened
Voltage Grade	:	440 V AC, 600 V AC and 1800 V AC (for Single Core Cables)
Conductor	:	Circular Electroplated, Annealed Tinned Flexible (Class V) Copper Conductor conformity to IEC-60228
Temperature Range	:	- 65° C to 120° C (EED-50-12 Cables) - 30° C to 120° C (EED-50-13 Cables)
Insulation	:	Electron Beam Cross Linked Polyolefin compound (EPR / EPDM LFH) / Silicone Rubber
Screening	:	Annealed Tinned Copper / GI Wire Braids
Outer Sheath	:	Electron Beam Cross Linked Polyolefin Compound (EVA / EMA / EEA LFH)
Protective Barrier	:	Fibre Glass Braid / Lacquer Mica glass tape to meet the Fire Performance (applicable for EED-50-13 Cables)

Special Navy Cables

VG 95218 Part 61- 66 - Power Navy Cables, Light Power Navy Cables, Telecommunication Navy Cables, Light Telecommunication Navy Cables.

Construction	:	Multi Core Cables, Multi Pair Cables Unscreened or Individually Screened or Collectively Screened (Optional GI braided armoured) Limited Fire Hazard Sheathed
Conductor	:	Circular Annealed Bare Copper conductor
Insulation	:	EPR / HEPR as per relevant spec
Screening	:	Annealed Tinned Copper Braid, Individually Screened or Collectively Screened as per relevant spec
Outer Sheath	:	LFH Elastomeric Thermoset Compound
Temperature Range	:	- 30° C to + 90° C
Application	:	For use on board surface ships and crafts and power, control, lighting, submarines for communication and instrumentation circuits

Marine / Shipboard Cables

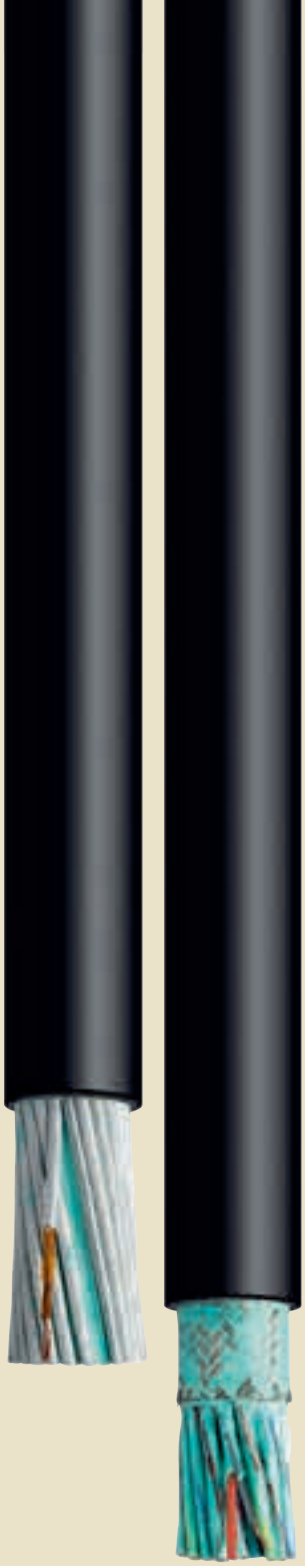
DEF STAN 02-526 (NES 526) and DEF STAN 02-527 (NES 527)

For use on onboard surface ships, submarines and crafts for power, control, lighting and communication and instrumentation circuits with or without fire survival characteristics.

Construction	:	Single Core, Multi Core, Multi Pair & Triad, Unscreened or Individually Screened or Collectively Screened, Limited Fire Hazardous Sheathed Cables
Voltage Grade	:	440 V AC
Conductor	:	Circular Electroplated, Annealed Tinned Copper
Temperature Range	:	- 30^0 C to + 105^0 C
Insulation	:	Dual layer of Gp5 and LFH Material / Silicone Rubber
Screening	:	Annealed Tinned Copper Braid
Outer Sheath	:	LFH Elastomeric Compound
Protective Barrier	:	Glass Braid/Lacquer, Mica Glass Tape to meet the fire performance applicable for DEF STAN 02-527 (NES 527)

IEC 60092-350, 353, 360 & 376, BS-6883, BS-7917

Construction	:	Single Core, Multi Core, Single, Multi Pair, Multi Triad and Quad Screened & Unscreened, Armoured & Unarmoured
Voltage Grade	:	150 V / 250 V and 600 V / 1000 V AC
Conductor	:	Electroplated Annealed Bare / Tinned Copper of various classes
Temperature Range	:	-15^0 C to 95^0 C
Insulation	:	XLPE / EPR / HEPR, HF 90 / S 95
Screening	:	Al-Mylar Tape along with Drain Wire / ABC or ATC Braiding
Inner Sheath	:	SHF1 / SHF2 / SH / SF
Outer Sheath	:	SHF1 / SHF2 / SH / SF
Braid Armouring	:	Bare Copper / Tinned Copper / GI Wire Braid with >90% coverage MIL W-22759 / 32-35 & 41-46 and MIL STD-2223



Pressure Tight (PT) Cables

Power, Control & Signal Cables, Halogen Free and Flame Retardant, Fire Survival with low smoke generation and low toxic properties of insulation & sheath. These cables are suitable and designed to withstand radial and axial pressure up to 10 to 72 bar pressure.

Specification	:	EED 57-03 & EED 57-04
Construction	:	Single Core, Multi Core, Multi Pair, Unscreened, Individually Screened & Collectively Screened
Voltage Grade	:	600 V AC to 1000 V AC
Conductor	:	Circular electrolytic bare copper (Class 2)
Temperature Range	:	- 30° C to +120° C
Insulation	:	Special halogen free and fire retardant with low smoke generation and low toxic properties with E-beam curing process
Screening	:	Annealed tinned copper braid
Outer Sheath	:	Special halogen free and fire retardant with low smoke generation and low toxic properties with E-beam curing process
Water Blocking Compound/Tape	:	Provided to withstand pressure requirement
Application	:	Used in Submarines for Power, Control, Lighting and Communication and Instrumentation circuits

UL/CSA Listed High Temperature Aerospace & Missile Wires & Cables

High Temperature Cables are used in areas where both working temperature and ambient temperatures are too high. They are made with a wide range of conductors, insulating materials and screening materials depending on the temperatures and conditions under which the cable has to perform.

Construction	:	Single Core high temperature hook-up wires & Multi Core / Multi Pair, Screened / Unscreened and Armoured / Braided Cables
Voltage Grade	:	250 V AC, 600 V AC & 1000 V AC (Rating as per MIL-16878, VDE, DIN, ANSI)
Insulation Materials	:	PTFE / FEP / PFA / PEEK / ETFE / XL-ETFE / Silicone Rubber / Varnished Fibre Glass Braid

Electron Beam Cross Linked ETFE (XL-ETFE), a type of Thermoset Insulation, provides excellent fluid / oil / moisture resistance also creates increased stability at higher temperatures. Wires and Cables conforming to MIL-W-22759/32-35 & 41-46 and MIL-STD-2223.

Renewable Energy Cables

Solar Photovoltaic Cables

Solar photovoltaic cables are used for transmitting electrical power generated from the solar panel to the charging units, battery banks, change over systems, inverters etc. These cables have to function effectively while remaining exposed to a wide range of severe environmental conditions.

Construction

Size (Sq mm)	Number of Strands/ Diameter	Nominal Outer Dia (mm)	Max Conductor Resistance Ohms/km
2.5	50/0.25	5.50	8.21
4.0	56/0.30	6.00	5.09
6.0	85/0.30	6.80	3.39
10.0	140/0.30	7.70	1.95
16.0	128/0.40	8.80	1.24

Size (Sq mm)	Single Cable in Air (Amps)	Single Cable on Surface (Amps)	Multiple Cable on Surface (Amps)
2.5	41	39	33
4.0	55	52	44
6.0	70	67	57
10.0	98	93	79
16.0	132	125	107

Voltage Grade : 600 / 1000 V AC
1000 / 1800 V DC

Temperature Range : - 40° C to 90° C

Maximum Conductor Temperature : 120° C withstands 250° C for 5 seconds

Conductor : Tin Coated Copper Class 5 conductor

Insulation : Electron Beam Irradiated Cross linked Polyolefin Compound

Standards : TUV-2PIG 1169 / 07 2008 (Standard for Photovoltaic cables) or BSEN 50618-2014 (Covers upto 240 Sq mm)

Features : Resistant to ozone, water absorption & severe environmental conditions
Working life of more than 25 years

Wind Power Cables

Torsion Cables

These cables are used for transmitting power from the generator mounted in the nacelle of the wind tower to base station. These are flexible cables made of special elastomeric compounds, so as to meet the torsional stresses exerted on the cable due to rotation of the nacelle in relation to wind direction.

Voltage Grade : 600 V / 1100 V

Conductor : Flexible Class-5 tinned or bare copper conductors, made to IEC-60228 / IS-8130

Range (Single Core) : 10 Sq mm to 300 Sq mm

Insulation : EPR - in conformance to IEC-60502 / IS-6380

Sheath : Special elastomer compound with Oil, Fire, Hydrolysis & Torsion resistant properties (Zero halogen sheath available on request)

Features

Maximum conductor temperature (continuous) : + 90° C

Short circuit temperature (max) for up to 5 seconds : + 250° C

Maximum permissible tensile load on cable : 15 N/mm^2

Torsion angle : ± 100° per meter

Minimum bending radius : 8 D

Control & Instrumentation Cables

These cables are used in Wind Energy applications such as rotor blade pitch control, Yaw control, Top Box, Anemometer feedback, Remote data logging etc. Construction of Cables shall be as per Customers' requirement and conforming to various National/International Standards.

Complete In-house expertise & facilities to provide the entire range of High Temperature Insulations

High Temperature Cables

High temperature cables are used in areas where both working temperatures and ambient temperatures are too high. They are made with a wide range of conductors, insulating materials and screening materials depending on the temperatures and conditions under which the cable has to perform.

Single Core high temperature hook-up wires & Multi Core / Multi Pair, Screened & Unscreened and Armoured & Unarmoured Cables

Construction : Single Core or Multi Core / Pairs

Voltage Grade : 250 V AC, 600 V AC & 1000 V AC (Rating as per MIL-16878, VDE, DIN, ANSI)

Conductors : Annealed bare and / or tinned copper conductor (up to 120° C)
Annealed silver plated copper conductor (up to 200° C)
Nickel plated conductors (up to 260° C)

Insulation

Insulation Material	Temperature Range	Characteristics
PTFE	- 200° C to 260° C	Excellent chemical resistance. High temperature stability
FEP	- 200° C to 200° C	Good chemical resistance Thin wall insulation due to good electrical properties
PFA	- 200° C to 250° C	Good chemical resistance, Thin wall insulation due to good electrical properties. Good flexibility
PTFE	- 150° C to 150° C	Mechanically tough
XL ETFE	- 150° C to 250° C	Good electric insulation, radiation resistance, ARC tracking and cold flow
PEEK	- 160° C to 250° C	Mechanically very tough High temperature and radiation resistance
Kapton Tape	- 250° C to 300° C	Very thin wall insulation. High temperature resistance
Silicon Rubber	- 40° C to 180° C	Flexible and abrasion resistance
Ceramic Yarn / Quartz Yarn Braiding	600° C	Chemically stable and higher thermal resistance

Screening : Individual and / or overall with following options
- Aluminum Mylar / Copper Tape with Tinned Copper Drain Wire
- Braided with Bare or Tinned or Nickel Plated or Silver Plated Copper

Armouring : Steel galvanized wire, stainless steel wire, high strength steel wire braiding

Standards : JSS-51034, JSS-51038, UL-1581

Industry & Applications

Steel : Cables for blast furnace, electric arc furnace, hot & cold rolling mills, steel refining facilities etc.

Communication : High frequency co-axial cables for VHF, UHF and XHF transmission

Marine : Engine proximity wiring for good resistance to high temperatures, fuel oils, chemicals, saline air/water etc.

Petrochemical : Instrumentation & control, temperature sensing, fire warning etc.

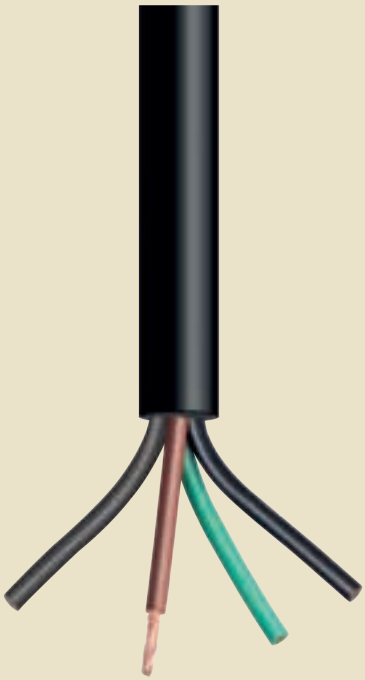
Power : In proximity to the turbines, boilers, ash handling etc.

Material Handling Cables

CRD & Trailing Cables

These cables are used in conveyor machinery such as transfer cars, boom-stackers, side arm chargers, bulk material conveyors etc. They find application in almost every industry segment like Steel Mills, Cement Plants, Docks, Power Plants, Automobile Industries & Refineries and Petrochemicals.

Construction	:	Single cable comprising multiple elements like power Cores, control Cores, signaling pairs, etc for multipurpose functions
Voltage Grade	:	600 / 1100 V AC
Conductor	:	Class 5 flexible tinned or bare copper
Insulation	:	EPR
Screening	:	Tinned or bare copper wire braid
Inner Sheath	:	HOFR Elastomer
Anti Kink Braid	:	Fabric braid embedded between inner and outer sheath
Outer Sheath	:	HOFR Elastomer
Features	:	Designed to withstand continuous reeling and unreeling sheath materials that have a high degree of flex fatigue resistance, excellent heat, oil and fire resistant properties
Operating Temperature	:	- 20° C to + 90° C
Test Voltage	:	2500 V AC
Bending Radius	:	10 D
Core Marking	:	1-5 Cores colour coded as Green / Yellow, Blue, Brown, Black, Grey or Coloured Rubberised cotton tapes. 6 Cores and above with numbered Cores, with one earth Core of Green / Yellow
Standards	:	IEC-60228, IEC-60502, IEC-60332



HO7RN-F-Heavy Duty Rubber Cables

These heavy duty elastomer cables are used in generators, heavy machinery, portable power tools and equipment, moving machinery in wet, hot or oily environments. Their flexibility permits use in constricted spaces with sharp and complex bends. They can be made with special abrasion resistant sheaths to withstand rough use in portable equipment.

Voltage Grade	:	450 / 750 V AC
Conductor	:	Bare or tinned flexible Class 5 conductors as per IEC-60228/1
Range	:	Single Core: up to 300 Sq mm Multi Core: 1 Sq mm - 2.5 Sq mm up to 61 Cores 4 Sq mm - 6 Sq mm up to 19 Cores 10 Sq mm - 300 Sq mm up to 5 Cores
Insulation	:	EPR
Sheath	:	Black heavy duty elastomer
Temperature Range	:	- 25° C to + 85° C
Colour Coding	:	1-5 Cores colour coded as Green / Yellow, Blue, Brown, Black, Grey or Coloured Rubberised cotton tapes. 6 Cores or more with numbered Cores and earth Core of Green / Yellow

Foundation Fieldbus Cables

These Cables are meant for bi-directional communications protocol used for communications among field devices and to the control system. Installed in many process applications such as refining, petrochemicals, power generation, even in food & beverage, pharmaceuticals and nuclear applications.

Voltage Grade	:	300 V / 600 V
Conductor	:	Plain/Tinned Annealed Copper (up to 120° C) Silver Plated Annealed Copper (up to 200° C) Nickel Plated Annealed Copper (up to 260° C)
Range	:	22 AWG / 18 AWG / 16 AWG / 14 AWG
Insulation	:	Solid Polyethylene / XLPE / PFA for temp. >150° C
Screening	:	Individual and / or overall with following options - Aluminum Mylar / Copper Tape with Tinned Copper Drain Wire - Braided with Bare or Tinned or Nickel Plated or Silver Plated Copper
Inner Sheath	:	PVC / HR PVC / FR PVC / FRLS PVC / ZHFR / LSF / FEP / PFA
Armouring	:	Round Galvanized Steel Wire / Flat Strip / Steel Wire Braid
Outer Sheath	:	PVC / HR PVC / FR PVC / FRLS PVC / ZHFR / LSF / FEP / PFA with Plain Orange Jacket or with strip for easy identification and Blue jacket available for Intrinsically Safe applications
Standards	:	Cable specification Foundation Fieldbus FF-844 H1, Cable design based on EN 50288-7 / BS-5308 Part 1, IEC-60332 Electrical properties: FF-844 H1 and IEC-61158-2, Type A
Our FF Cable Features	:	Excellent Electrical Characteristics Low Capacitance (for long runs) RoHs compliant and CE marked

Special Application (LFH) Cables

Power, Control & Signal Cables, Limited Fire Hazard Insulation & Sheath materials with halogen free, fire retardant with low smoke generation and low toxic properties.

Specification	:	Def Stan 61-12 (PT-18 & PT-31)
Construction	:	Multi Core, Multi Pair, Composite Cables, Unscreened, Individually Screened & Collectively Screened
Voltage Grade	:	600 V
Conductor	:	Circular electroplated & annealed tinned copper
Temperature Range	:	- 50^0 C to $+120^0$ C
Insulation	:	Special Halogen free and fire retardant with low smoke generation and low toxic properties with E-beam curing process
Screening	:	Annealed tinned copper braid
Outer Sheath	:	Special halogen free and fire retardant with low smoke generation and low toxic properties with E-beam curing process
Application	:	Used in defence especially in Radar & Missile launching system for Power, Control, Lighting and Communication and Instrumentation circuits

Co-Axial Cables (RG Series)

Radio Frequency or Signal Transmission Cables, Polyethylene Dielectric Insulation & Sheath material with Halogen Free, Fire Retardant with low smoke generation and low toxic properties.

Specification	:	Def Stan 02-512 (PT-5) & customer specification
Construction	:	Single Core, Multi Core Cables, Unscreened Collectively Screened
Primary Conductor	:	ABC / ATC / SPC & special conductors like CCS (Copper Clad Steel) etc
Temperature Range	:	-30^0 C to $+120^0$ C
Insulation	:	Polyethylene / FEP Dielectric Compound
Outer Conductor	:	Aluminium Mylar Tape / Annealed Tinned / Bare Copper Braid if applicable
Outer Sheath	:	Special halogen free and fire retardant with low smoke generation and low toxic properties with E-beam curing process
Type of Cables	:	RG 11, RG 213, RG 188 etc.
Application	:	For use of VHF (Very High Frequency) signal transmission

VFD Cables

VFD cables are used to connect the VFD drive to the variable frequency motors, drives precisely controls the speed and torque of the motors. During this operation of controlling the motor by changing the frequency there is every chance of lot of noise getting generated, induced voltage and sudden spikes generation and intense electric field around the conductor which can be suppressed with special design.

Construction	:	Metallic layer over the core/cable will reduce the noise/strong electric field around the core / earthing of all spikes generated during the operation.
Voltage Grade	:	Up to 1800 / 3300 V AC
Conductor	:	Circular electrolytic bare copper / tinned copper (stranded / flexible)
Insulation	:	XLPE or EPR or HEPR
Screening	:	Combination of copper tape and copper wire braid or double layer of copper tape and concentric braiding
Outer Sheath	:	PVC / ZHFR / SHF1 / SHF2
Application	:	This construction of metallic layer over the core/cable will reduce the noise / strong electric field around the core / earthing of all spikes generated during the operation.

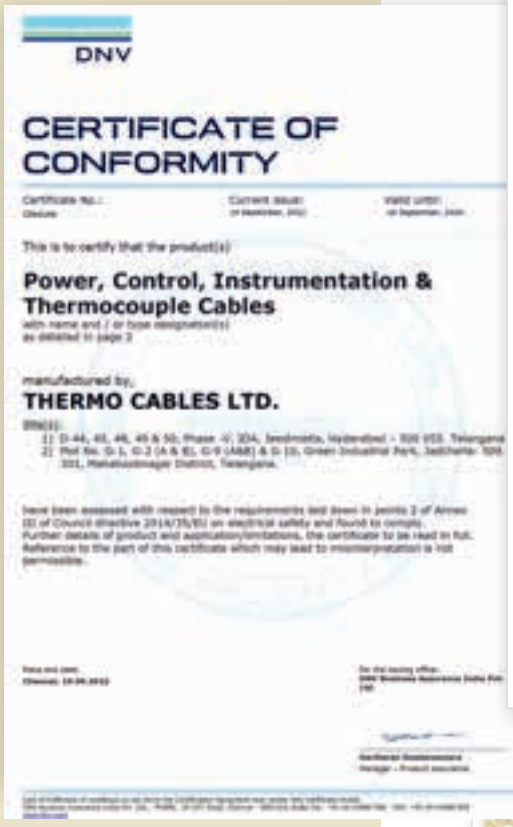
Cathodic Protection Cables

For added protection against corrosive gases and brackish water, a PVDF fluoropolymer insulation covered by an HMWPE jacket can be used. Polyvinylidene difluoride (PVDF) inner layer has exceptional chemical resistance when present in chlorine, sulfuric acid and hydrochloric acid. High molecular weight polyethylene (HMWPE) exhibits superior dielectric and tensile strength and protection and can withstand considerable abuse during installation.

Used for underground DC power supply feeder to cathodic protection systems for pipelines, storage tanks, and other buried or submerged structures

Construction/Range	:	Single Core up to 95 Sq mm
Voltage Grade	:	Up to 1000 V
Conductor	:	Bare Copper / Tinned Copper Standard / Flexible Conductor
Primary Insulation	:	PVDF Fluoropolymer / ECTFE (Halar)
Outer Sheath	:	High molecular weight polyethylene (HMWPE)

Certificates



DNV

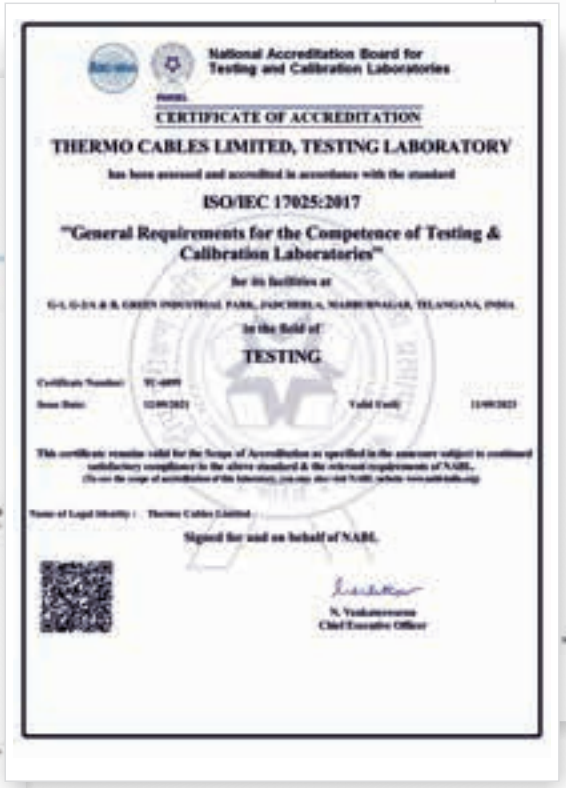
CERTIFICATE OF CONFORMITY

This is to certify that the product(s)

Power, Control, Instrumentation & Thermocouple Cables

manufactured by,

THERMO CABLES LTD.



National Accreditation Board for Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

THERMO CABLES LIMITED, TESTING LABORATORY

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

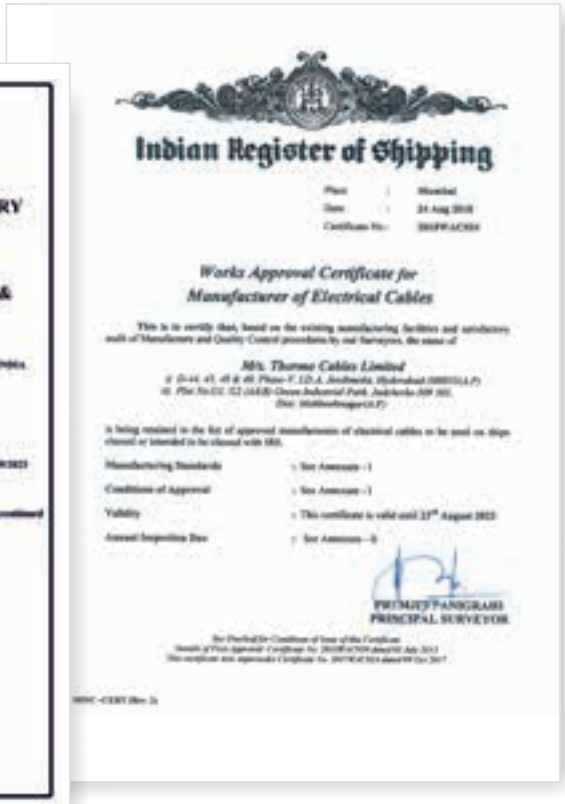
G-1, G-2A & B, GREEN INDUSTRIAL PARK, JADCHERLA, MAHBUBNAGAR, TELANGANA, INDIA

in the field of

TESTING

Signed for and on behalf of NABL

N. Venkateswarlu
Chief Executive Officer



Indian Register of Shipping

Works Approval Certificate for Manufacturer of Electrical Cables

M/s. Thermo Cables Limited

PRITAM P. PANIGRAHI
PRINCIPAL SURVEYOR

Type Approval Certificate

Manufacturer	Thermo Cables Limited
Address	
Place of Production	
Place of Production	
Type	
Description	
Trade Name	
Application	
Specified Standard	

EAC

СЕРТИФИКАТ СООТВЕТСТВИЯ

UL

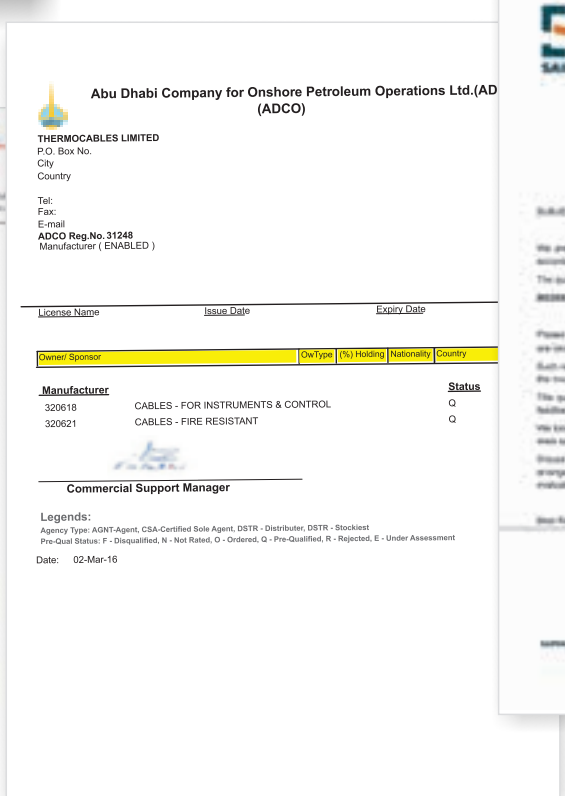
International Approvals

شركة البترول الوطنية الكويتية
KNPC

VENDORS & CONTRACTORS EVALUATION COMMITTEE

Petroleum Development Oman L.L.C.

CERTIFICATE OF REGISTRATION - PRODUCT VENDOR



Abu Dhabi Company for Onshore Petroleum Operations Ltd.(AD
(ADCO)

THERMOCABLES LIMITED
P.O. Box No.
City
Country

Tel:
Fax:
E-mail
ADCO Reg.No. 31248
Manufacturer (ENABLED)

License Name	Issue Date	Expiry Date

Owner/ Sponsor	OwType	(%) Holding	Nationality	Country

Manufacturer		Status
320618	CABLES - FOR INSTRUMENTS & CONTROL	Q
320621	CABLES - FIRE RESISTANT	Q

Commercial Support Manager

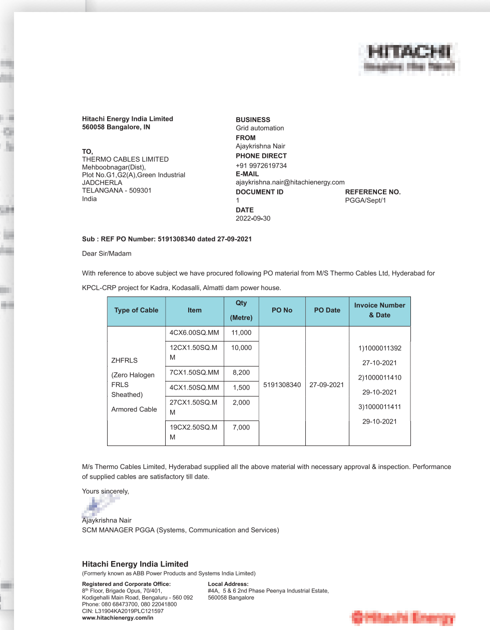
Legends:
Agency Type: AGNT-Agent, CSA-Certified Sole Agent, DSTR - Distributer, DSTR - Stockiest
Pre-Qual Status: F - Disqualified, N - Not Rated, O - Ordered, Q - Pre-Qualified, R - Rejected, E - Under Assessment

Date: 02-Mar-16

SAIPEM

Major Approvals

Accolades



HITACHI

Hitachi Energy India Limited
560058 Bangalore, IN

TO,
THERMO CABLES LIMITED
Mehboobnagar(Dist),
Plot No.G1,G2(A),Green Industrial
JADCHERLA
TELANGANA - 509301
India

BUSINESS
Grid automation
FROM
Ajaykrishna Nair
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+91 9972619734
E-MAIL
ajaykrishna.nair@hitachienergy.com
DOCUMENT ID
1
REFERENCE NO.
PGGA/Sept/1
DATE
2022-09-30

Sub : REF PO Number: 5191308340 dated 27-09-2021

Dear Sir/Madam

With reference to above subject we have procured following PO material from M/S Thermo Cables Ltd, Hyderabad for KPCL-CRP project for Kadra, Kodasalli, Almatti dam power house.

Type of Cable	Item	Qty (Metre)	PO No	PO Date	Invoice Number & Date
ZHFRLS (Zero Halogen FRLS Sheathed) Armored Cable	4CX6.00SQ.MM	11,000	5191308340	27-09-2021	1)1000011392 27-10-2021 2)1000011410 29-10-2021 3)1000011411 29-10-2021
	12CX1.50SQ.MM	10,000			
	7CX1.50SQ.MM	8,200			
	4CX1.50SQ.MM	1,500			
	27CX1.50SQ.MM	2,000			
	19CX2.50SQ.MM	7,000			

M/s Thermo Cables Limited, Hyderabad supplied all the above material with necessary approval & inspection. Performance of supplied cables are satisfactory till date.

Yours sincerely,

Ajaykrishna Nair
SCM MANAGER PGGA (Systems, Communication and Services)

Hitachi Energy India Limited
(Formerly known as ABB Power Products and Systems India Limited)

Registered and Corporate Office:
8th Floor, Brigade Opus, 70/401,
Kodigehalli Main Road, Bengaluru - 560 092
Phone: 080 68473700, 080 22041800
CIN: L31904KA2019PLC121597
www.hitachienergy.com/in

Local Address:
#4A, 5 & 6 2nd Phase Peenya Industrial Estate,
560058 Bangalore

Hitachi Energy

Infrastructure

Machinery

Name of the Machine	Name of the Machine
Rod Break Down Machine (9 Die)	HOIST 'E' - 19 B Laying - 2 Nos
Rod Break Down Machine (11 Die)	HOIST 'G' - 30 Armouring - 2 Nos
Rod Break Down Machine (13 Die)	HOIST 'G' - 30 B Armouring
Skip Stranding Machine - 2 Nos	HOIST 'F' - 37 Laying
Electroplating Tinning Machine - 2 Nos	HOIST 'F' - 37 B Laying - 2 Nos
Multi Wire Drawing Machine 30 mm	HOIST 'K' - 40 Armouring
Multi Wire Drawing Machine 8 Wire - 2 Nos	HOIST 'H' - 48 Armouring - 2 Nos
Fine Wire Drawing Machine - 4 Nos	HOIST 'H' - 48 B Armouring - 2 Nos
Mixing Machine 75 mm - 3 Nos	HOIST 'J' - 72 B Armouring
Kneader Line - 2 Nos	HOIST 'F' - 96 Armouring
75 L Kneader	HOIST 'K' - HV Area
Ring Marker	HOIST 'L' - Drum Twister Area
High Speed Core Rewinding - 4 Nos	HOIST 'O' - RBD Area
Taping Machine - 7 Nos	HOIST 'I' - Despatch - 2 Nos
Vertical Taping Machine - 6 Nos	Chain Hoist 'A' - G I Rewinding - 2 Nos
Horizontal Taping Machine - 12 Nos	Chain Hoist 'C' - Simon Taping - 4 Nos
Single Twist Bunching Machine	High Speed Bunching Machine - 10 Nos
400 Single Twist Bunching Machine	Chiller - 2 Nos
Tandem Extrusion Line (Ø50 + 65/35 mm	Chiller 5 TR
Tandem Extruder Line (Ø80+ Ø100/Ø35)	Chiller 10 TR - 2 Nos
Tandem Extruder Line (Ø35+ Ø50/Ø35)	Chiller 20 TR
Extruder Machine 20 mm Bi Color	PVC Mixer
Extruder Machine 45 mm	High Speed Mixer 60 kg
Extruder Machine 45 mm Bi Color	High Speed Mixer 120 kg
Extruder Machine 65 mm - 9 Nos	High Speed Mixer 200 kg
Extruder Machine 70 mm	16 A High Speed Braiding - 3 Nos
Extruder Machine 70/35 mm	16 F High Speed Braiding - 2 Nos
Extruder Machine 75 mm - 3 Nos	24 High Speed Braiding - 2 Nos
Extruder Machine 80 mm - 4 Nos	24 A High Speed Braiding - 5 Nos
Extruder Machine 100 mm	24 E High Speed Braiding - 4 Nos
Core Rewinding Machine - 7 Nos	24 F High Speed Braiding
Cooling Tower - 6 Nos	48 High Speed Braiding
GI Rewinding Machine - 20 Nos	3 HP Air Compressor
Ceramic Butt Welding Machine	10 HP Air Compressor - 3 Nos
Butt Welding Machine - 15 Nos	15 HP Air Compressor
Electron Beam Accelerator	20 HP Air Compressor - 2 Nos
Pairing Machine - 4 Nos	25 HP Air Compressor
Pairing Back Twist Machine	100 HP Air Compressor - 3 Nos
Laying Machine (7 Bobbins)	Brazing Machine - 4 Nos
Laying Machine (7 Bobbins) - Single Twist	H V Testing - 3 Nos
Laying Machine (13 Bobbins)	Drum Twister Machine
Laying Machine (19 Bobbins) - 4 Nos	630 Single Twister Machine 7 Bobbin
Laying Machine (37 Bobbins) - 3 Nos	800 Single Twister Machine 12 Bobbin
Laying (42 Bobbin)	1250 Single Twister Machine 19 Bobbin
Armouring Machine (30 Bobbin) - 2 Nos	DT 500 Buncher Machine
Armouring Machine (40 Bobbin)	Scissor Lift 2 ton
Armouring Machine (48 Bobbin) - 4 Nos	Steam Boiler
Armouring Machine (72 Bobbin)	PVC Grinder
Armouring Machine (96 Bobbin)	Hydraulic Press
Extruder Sheathing Machine 80 mm - 2 Nos	PT Stranding & Taping Machine
Extruder Sheathing Machine 100 mm	Silicone Rubber Mixing Machine
Cable Rewinding Machine - 5 Nos	65/150 Two Stage Extruder (Compounding Line)
GI Rewinding Strip Machine - 2 Nos	60 KVA UPS
Off Line Annealer	80 KVA UPS - 2 Nos
Nickel Plating - 2 Nos	100 KVA UPS
Pointing Machine - 2 Nos	120 KVA UPS
Fork Lift - 2 Nos	160 KVA UPS
Auto Clave	200 KVA UPS
HOIST 'A' - Skip	250 KVA UPS - 2 Nos
HOIST 'B' - 54 Stranding	320 KVA DG Set
HOIST 'P' - Stores	365 KVA DG Set
HOIST 'C' - 7 B Laying	600 KVA DG Set
HOIST 'E' - 13 Laying	Inkjet Printers - 36 Nos
HOIST 'E' - 19 Laying - 2 Nos	Laser Printers - 4 Nos

Testing Equipment

Name of the Machine - Range/LC
Fourier Transmission infrared Spectrometer (FTIR)
Profile Projector
Digital Thermometer With Sensor - 2 Nos
Hot Air Ageing Oven
Hot Air Oven 6 Nos - Up to 250° C & 300° C
Hot Set Oven
Ozone Resistance Test Equipment
Smoke Density Apparatus - 3 Nos
Oxygen & Temperature index Apparatus - 2 Nos
Flammability Tester - 3 Nos
Cold Chamber - 2 Nos
Cold Bend Cold Impact Test Set - 20° C to +25° C
Hot Set Test Apparatus - 3 Nos
Toxicity Index Test Equipment
Halogen Acid Gas Emission Test Apparatus
pH & Conductivity Test Equipment - 2 Nos - 0 to 14 pH
Abrasion Resistatnce Tester - 2 Nos
Electronic Tensile Tester - 3 Nos - 0 to 1000 N
Dielectric Breakdown Tester & Leakage Current Tester
High Frequency Spark Tester - 8 Nos - 0 to 15 KV AC
Main Frequency Spark Tester - 2 Nos - 0 to 15 KV AC
Digital Micro Ohm Meter 5 Nos - 1 mΩ to 19.999 kΩ (2 Nos.) & 1 mΩ to 1.9999 kΩ (1 No.)
H V Tester 4 Nos - 0-5 / 10 KV
Million Mega Ohm Meter 4 Nos - 1 MΩ to 100 GΩ
Million Mega Ohm Meter 2 Nos - 1 MΩ to 50 TΩ & 2 MΩ to 20 GΩ
Digital L C R Q Meter
Thermal E M F Error Test Apparatus - 0 to 200 mV DC
Digital M V Source Cum Meter - 0 to 199.9° C
Digimatic Caliper - 0 to 300 mm
Acid Gas Generation Apparatus 2 Nos
Swedish Chimney Test Equipment
Water Immersion Test Equipment - Up to 100° C
4 Cell Ageing Oven with Data Scanning Logger 2 Nos - 16 Channels
Heating Oven - Up to 200° C
Thermal Stability Test Apparatus
Water Absorption Test Apparatus Gravimetric
Electronic Balance 2 Nos - 0 to 180 gms
Electronic Weighing Machine - 10 gms to 3 kgs
Kelvin Bridge - 0-11 Ω
Torsion Testing Machine (Digital Control Meter - Up to 99999 Count)
Fire Survival Test Equipment
Static Noise Rejection Ratio Meter - 60 to 100 dB
H V Break Down Tester - 0 to 2.5 KV DC
Transfer Impedance Tester
Steel Rule - 0 to 1 Metre
Steel Test Mandrel Set
Condition Chamber 2 Nos - 20° C to 40° C (Temp.) & 40 to 80 RH
Insulation Resistance Tester - 0 to 1000 MΩ / 500 V
Hydro Meter 4 Nos - 0.700 - 1.000 g / ml
Digital Stop Watch 5 Nos - 0 - 24 hrs
Mutual Capacitance Meter - 1.999 nF - 1999.9 nF
Length Counter Meter - Up to 99999 mtr
Tear Resistance Die
Coating Thickness Measurement Meter
Digital Multimeter 4 Nos - MΩ
Inductance Decade Box - 10 mH - 10 H
Capacitance Decade Box - 10 pF - 10 μF
Wet & Dry Thermometer 2 Nos - 40° C to +50° C
Glass Thermometer 05 Nos - 10° C to + 110° C & - 10° C to 250° C
Thermometer 02 Nos - 195° C to 205° C
Digital Anemo Meter - 0 - 45 m/s
Digital Thermo Hygrometer 02 Nos - 0 to 95° C / 20 to 99% RH
Senior Double Kelvin Bridge
UV Radiation Test Apparatus
Notch Propagation Tester (Analog)
Water Bath (Size 120 cm X 90 cm X 60 cm)
H V Probe Milimeter
Abrasion Resistance Tester
Dynamic Cut Through Tester
Cable Analyzer
Universal Testing Machine
PC Based Crosstalk Attentuation & Impedance Meter Attenuation 0.1 to 20 dB, Cross talk (- 40 to 100 dB), Impedance 199.9Ω to 1.999kΩ

OUR CUSTOMERS

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