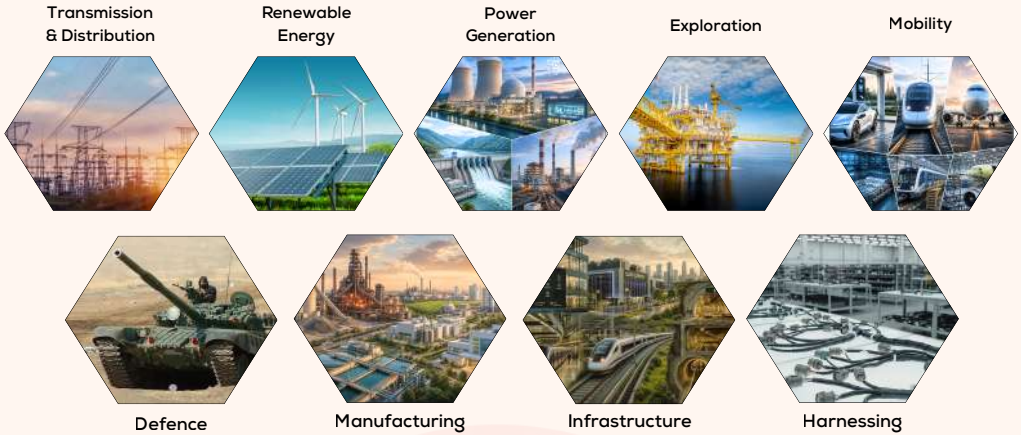




Eight Decades of Trust & Innovation







PIONEERS IN THE INDIAN CABLE MANUFACTURING INDUSTRY

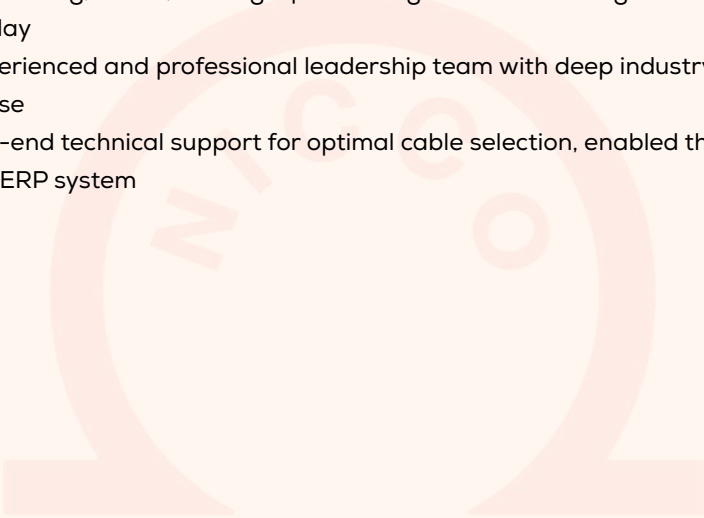
- **80 Years Strong:** Among the pioneers of India's cable manufacturing industry, proudly wiring the nation for over eight decades
- **Nation First:** Driving Make in India and Viksit Bharat with cables engineered for critical and strategic sectors
- **Comprehensive Product Portfolio:** Manufacturing a wide range of high-performance wires and cables for diverse industrial applications
- **Innovation at the Core:** Fully in-house R&D facility with deep expertise in compounding technology, meeting the toughest national and international standards
- **Compounding Excellence:** Dedicated in-house compounds manufacturing team ensuring superior quality, consistency, and performance
- **Breaking Barriers:** First private sector company in India to install a 3 MeV Electron Beam Accelerator (Radiation Dynamics Inc., USA) for advanced irradiated curing Cable Technology
- **Diverse Reach:** Supplying electrical cables to defence, railways, metros, power, utilities, windmills, mining, and other strategic infrastructure sectors
- **Future-Ready Manufacturing:** World-class plant and machinery with cutting-edge automation, designed for precision, scale, and reliability
- **Large-Scale Infrastructure:** State-of-the-art manufacturing facility spread across around 5,00,000 sq. ft.
- **Tested. Trusted. Certified.:** NABL-accredited testing laboratory with advanced testing infrastructure ensuring uncompromising quality and reliability
- **Always Ahead:** Continuous upgrades in manufacturing and testing capabilities to keep pace with India's rapidly evolving infrastructure growth

QUALITY THAT POWERS CONFIDENCE

- ISO 9001:2015 certified, with a strong legacy of consistently delivering high-quality products
- Robust Environment, Occupational Health & Safety systems aligned with ISO 14001 and ISO 45001:2018 standards
- NABL-accredited, full-fledged in-house testing laboratory ensuring stringent quality assurance

THE POWER BEHIND OUR PERFORMANCE

- Around 5,00,000 sq. ft. of state-of-the-art infrastructure equipped with the latest technology
- A 500+ strong, skilled, and high-performing workforce driving excellence every day
- An experienced and professional leadership team with deep industry expertise
- End-to-end technical support for optimal cable selection, enabled through a robust ERP system



THE COMPLETE SPECTRUM OF CABLE SOLUTIONS

- LT Power & Control Cables
- HT Cables Up To 11kv
- Elastomeric And Silicon Cables (Up To15kv)
- Solar Cables
- Wind Turbine Cables
- Electron Beam Cables
- Instrumentation Cables
- Fire Resistant & Fire Survival Cables
- Automotive Cables
- Overhead Conductors
- Medium Voltage Covered Conductors/ Tree Spacer Cables
- High Temperature Cables (ETFE, FEP, PTFE)
- Data & Ethernet Cables (CAT 5, CAT 6, CAT 7)
- RF Cables
- Thermocouple Cables
- UL Cables
- Hybrid Composite Cables
- Special Application LFH Cables
- Shipbuilding & Marine Cables
- HO7RN – Heavy Duty Rubber Cables
- VFD Cables
- PT Cables
- Coaxial Cables
- EV Charging Cables
- EMC Cables
- Shore Supply Cables
- Degaussing Cables
- Cable Harnessing

LT POWER & CONTROL CABLES



LT Power & Control Cables are designed for efficient low-voltage power distribution and control applications in industrial, commercial, and infrastructure projects. These cables are manufactured with high-quality conductors and insulation materials, available up to 1.1 kV in XLPE or PVC insulation, with armoured/unarmoured constructions and FR, FRLS, or LSZH sheath options including fire-survival properties. They are widely used for power supply in factories, buildings, substations, and utilities, as well as for control, monitoring, and signalling circuits in automation systems and machinery. The cables offer excellent insulation strength, mechanical protection, fire safety, and reliable performance in demanding industrial environments



TECHNICAL DETAILS:

- **Construction:** Multi-core stranded conductors with insulation, laid up with fillers and protective layers
- **Voltage Rating:** Up to and including 1.1 kV (1100 V)
- **Conductor (Material & Type):** Aluminium or Copper, Solid, stranded & Flexible (Class 1/ Class 2 / Class 5)

- **Insulation:** PVC /HR PVC/ XLPE /PE
- **Inner Sheath:** PVC / FR PVC / FRLS PVC / LSZH / HDPE / PE
- **Armouring:** Galvanized steel wire / strip armour (for armoured cables), Aluminium Wire & Strip Armour (Applicable for single core armoured)
- **Outer Sheath:** PVC / FR PVC / FRLS / LSZH / HDPE / PE
- **Operating Temperature Range:**
 - i)PVC and HR PVC insulated: up to +70°C and +85°C respectively
 - ii)XLPE insulated: up to +90°C
 - iii)Short circuit temperature: up to +160°C (PVC), +250°C (XLPE)
- **Standards / Specifications:** IS 1554 (Part 1), IS 7098 (Part 1), IEC 60502-1, IEC 60227 / 60228 (as applicable), BS/EN and other international standards as applicable
- **Special Features:** Flame retardant /Fire Resistant / FRLS / LSZH options, Oil and moisture resistant, Suitable for indoor and outdoor installations, good flexibility for easy installation



HT CABLES UP TO 11KV

HT Power Cables up to 11 kV are designed for reliable transmission and distribution of electrical power in medium voltage networks ranging from 3.3 kV to 11 kV earthed systems. Manufactured using high-quality materials and advanced processes, these cables ensure electrical safety, durability, and consistent performance in industrial and utility applications. The range includes armoured and unarmoured variants with FR, FRLS, and LSZH sheath options, suitable for underground, duct, trench, and tray installations. They provide excellent insulation strength, resistance to moisture and mechanical stress, and long service life in demanding environments.



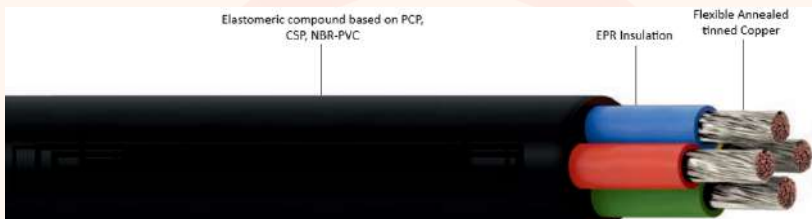
TECHNICAL DETAILS:

- **Construction:** Single core or three core, stranded compacted circular conductor with Conductor screen, insulation, insulation screen, metallic screen, and protective layers
- **Voltage Rating:** Earthed systems: 1.9/3.3 kV, 3.8/6.6 kV, 6.35/11 kV
- **Unearthed system:** 3.3/3.3 kV and 6.6/6.6 kV
- **Conductor (Material & Type):** Aluminium or Copper Stranded Compacted Circular
- **Insulation:** XLPE (Cross-linked Polyethylene)
- **Screening (if any):** Conductor screen and insulation screen (taped/extruded as per Standard)
- **Metallic Screen:** Copper tape / copper wire screen (as per standard)
- **Inner Sheath:** PVC / FR PVC / PE /HDPE
- **Armouring:** Galvanized steel wire / strip armour (for armoured cables), Aluminium Wire & Strip Armour (Applicable for single core armoured)
- **Outer Sheath:** PVC / FR PVC / FRLS / LSZH (as per requirement)
- **Operating Temperature Range:**
Conductor temperature: up to +90°C
Short circuit temperature: up to +250°C
- **Standards / Specifications:** IS 7098 (Part 2), IEC 60502-2, OEM / Utility specifications (on request), BS/EN and other international standards as applicable.

ELASTOMERIC AND SILICON CABLES (UP TO 15 KV)



Elastomeric Mining Cables are designed for reliable transmission and distribution of electrical power and control in industrial, mining, and utility applications, manufactured in compliance with IS 14494, BS 6708, NEMA WC-58, IEC 60502-1 & 2, and IS 9968 standards. These cables offer high electrical performance, mechanical strength, and durability under harsh operating conditions. The product range includes low voltage cables up to 1.1 kV and medium voltage cables from 3.3 kV to 15 kV, available in single-core, multicore, and control cables up to 61 cores. They are widely used for flexible reeling, festoon duty, high-temperature environments, and applications requiring heat, oil, and flame resistance with high mechanical toughness.



TECHNICAL DETAILS:

- **Construction:** Flexible conductor with extruded insulation, outer sheath and protective layers
- **Voltage Rating:** 1.0 kV to 15 kV
- **Conductor (Material & Type):** Flexible Annealed Tinned Copper
- **Insulation:** Elastomeric as per applicable standard
- **Screening (if any):**
 - a. Non-Metallic- Extruded / Taped Semi-conducting Screen (for MV Cables)
 - b. Metallic- ATC Wires Braiding or Spirally
- **Sheath:** Elastomeric as per Applicable standard and application
- **Operating Temperature Range:** Normal operation: up to 90°C
- **Special Features (if any):** - Flame Retardant (FR), Flame Retardant Low Smoke (FRLS), Halogen Free, Oil & Chemical Resistant, Fire Survival (FS)

SOLAR CABLES



Solar Cables are specially engineered flexible stranded cables used for power transmission and interconnection in photovoltaic (solar) systems. Designed to withstand harsh outdoor conditions such as UV radiation, moisture, dust, and temperature variations, these cables ensure reliable and efficient performance. They are commonly used for interconnecting solar panels, DC/AC connections between modules, combiner boxes, inverters, and rooftop or industrial solar installations. With high flexibility, superior insulation, chemical resistance, and long service life (25+ years), solar cables provide safe and stable power transmission in renewable energy systems.



TECHNICAL DETAILS:

- **Construction for Solar Energy Cables:** Flexible stranded conductor with special cross-linked insulation and outer sheath, suitable for demanding solar environments.
- **Voltage Rating:** Up to 1.0 kV AC / 1.5 kV DC
- **Conductor (Material & Type):** Electrolytic Tinned Copper, Class 5/6
- **Insulation:** Cross-Linked Polyolefin (XLPO) of 120°C
- **Sheath:** UV Resistant, Halogen Free Compound
- **Operating Temperature Range:** -40°C to +120°C
- **Standards / Specifications:** IS 17293, IEC 62893, EN 50618
- **Special Features (if any):** UV, ozone, and weather resistant, highly flexible, Halogen free and flame retardant, long service life (Fire retardant / Halogen free / Oil resistant, etc.)

WIND TURBINE CABLES



Torsion cables are specially designed flexible cables capable of withstanding continuous twisting and dynamic mechanical stress in demanding applications. They are engineered with fine-stranded conductors and robust insulation systems to ensure reliable electrical performance under repeated torsional movements. These cables offer excellent resistance to abrasion, UV, and environmental conditions. Ideal for wind turbine tower loop applications, torsion cables ensure long service life and high operational reliability. These cables are mainly used in: Wind turbine tower loop applications, Rotating machinery, Moving equipment.



TECHNICAL DETAILS:

- **Conductor:** Annealed copper (bare / tinned) / Aluminium (for NAYY type), Class 2 (stranded) / Class 5 (flexible – for dynamic use)
- **Insulation:** XLPE / PVC / EPR / Elastomer
- **Core Identification:** Color coded/Numbered, With or without green-yellow earth core (for NAYY-J / NAYY-O)
- **Shielding (Optional):** Aluminium foil / Copper braid, Drain wire: Tinned copper
- **Inner Sheath / Bedding:** PVC / LSZH compound
- **Armouring (if required):** Galvanized steel wire / strip
- **Outer Sheath:** PVC/ FRLS/ LSZH / PUR
- **Special Properties:** UV resistant, Oil resistant, Flame retardant, Weather resistant
- **Rated Voltage:** 0.6/1k V
- **Operating Temperature:** -25°C to +90°C (PVC/XLPE)

- **Short Circuit Temperature:** 160°C (PVC) / 250°C (XLPE)
- **Fire & Safety Properties:** Flame retardant (IEC 60332-1), FRLS / LSZH options available, Low smoke emission (IEC 61034), Halogen free (IEC 60754)
- **Applicable Standards:** IEC 60092-350 (General construction & testing), IEC 60092-353 (Power cables for rated voltage 0.6/1 kV), IEC 60092-354 (Single & multicore cables), IEC 60228 (Conductor), IEC 60502-1 (Power cable construction), DIN VDE (NAYY-J / NAYY-O type reference)
- **Typical Sizes:** Power cables: 1.5 sq.mm to 400 sq.mm
Control cables: 0.5 sq.mm to 2.5 sq.mm
Multicore configurations available up to 4C for power cable and 61 core for control Cable

TORSION TEST REQUIREMENT (WIND TURBINE CABLES):

A torsion test shall be carried out to verify the mechanical performance and durability of the proposed cable design under simulated wind turbine operating conditions.

TEST PROCEDURE:

The torsion test shall consist of the following two stages:

LOW TEMPERATURE TORSION TEST:

Torsion cycles shall be applied at the following temperatures depending on cable type:

LT Version Cable: $-40^{\circ}\text{C} \pm 5^{\circ}\text{C}$,

STD Version Cable: $-20^{\circ}\text{C} \pm 5^{\circ}\text{C}$,

TT Version Cable: $0^{\circ}\text{C} \pm 2^{\circ}\text{C}$

Number of Cycles: 270 torsion cycles

AMBIENT TEMPERATURE TORSION TEST:

Temperature: $20^{\circ}\text{C} \pm 15^{\circ}\text{C}$, Number of Cycles: 5000 torsion cycles

Test Sample Requirements

- The torsion test at 20°C shall be performed on a cable sample of minimum 1 meter length.

AMBIENT TEMPERATURE TORSION TEST:

- The sample length for tests conducted at 0°C, -20°C, or -40°C shall be mutually agreed between the supplier and the client during the design phase.
- The cable shall demonstrate reliable performance under torsional stress conditions typically encountered in wind turbine tower loop applications.



ELECTRON BEAM CABLES

Railway Cables are specially designed for rolling stock, coaching stock, and railway power and control applications, offering high safety, reliability, and durability. Manufactured in accordance with BS EN 50264, BS EN 50306, BS EN 50382, and RDSO/EDTS/CLW specifications, these cables are suitable for low, medium, and high voltage railway environments. The range includes thin-walled flexible elastomeric cables, single and multi-core power & control cables, high-temperature rolling stock cables, and locomotive cable sets. They are used for power supply, signalling, control circuits, traction equipment, and onboard electrical systems, providing high flexibility, vibration resistance, and superior fire safety for railway operations.



TECHNICAL DETAILS:

- **Construction:** Single core or multi-core flexible stranded copper /Tinned Copper conductors, insulated and sheathed
- **Voltage Rating:** From 300/300 V up to & Including 3.6/6.0 kV
- **Conductor (Material & Type):** Annealed flexible copper/ Tinned Copper, Class 5 / Class 6
- **Insulation:** Elastomeric compound (halogen free, heat resistant)

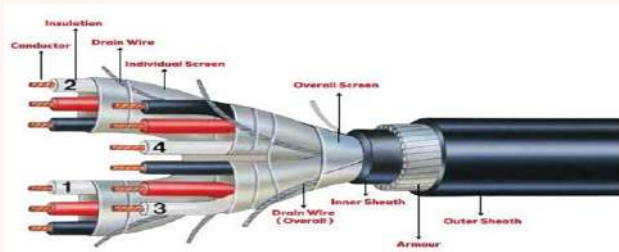
- **Outer Sheath:** Elastomeric, halogen free, flame retardant
- **Operating Temperature Range:** +90°C, 120 °C, 180 °C
- **Continuous operating temperature:** As per EN Standard/RDSO Specification /As per design)
- **Short-circuit temperature:** As per EN Standard/RDSO Specification
- **Fire Performance:** Low smoke emission, Halogen free, Flame retardant, Low toxicity and low corrosive gas emission
- **Standards / Specifications:** BS EN 50264 (Railway rolling stock power & control cables), BS EN 50306 (Thin wall railway cables), OEM / RDSO specifications (as applicable)
- **Special Features (if any):** Designed for railway rolling stock fire safety requirements, Excellent flexibility and mechanical robustness, Suitable for high temperature zones, Resistant to oils, fuels, ozone, and weathering.

Note: We also supply Electron Beam Irradiated insulated and sheathed cables to Indian Railways, manufactured in accordance with customized specifications issued by RDSO and various railway organizations.

INSTRUMENTATION CABLES



Instrumentation Cables are specialized cables designed to transmit low-level electrical signals from field instruments such as sensors, transmitters, and control devices to monitoring and control systems with high accuracy. They feature twisted pairs, shielding, and robust construction to minimize electromagnetic interference (EMI) and signal loss, ensuring reliable performance in industrial environments. These cables are widely used in oil & gas, power plants, chemical industries, refineries, water treatment plants, and automation systems for data communication, control, and monitoring applications. The product range includes 0.2 to 2.5 sq.mm sizes up to 50 cores, pairs, triads, and quads, suitable for both indoor and outdoor installations.



TECHNICAL DETAILS:

- **Construction:** Cores, Pairs, Triad's and Quads
- **Voltage Rating:** 24 V / 60 V / 150 V / 300 V / 500 V / 600 V/1000V/ 1100V (as per standard)
- **Conductor (Material):** Electrolytic Grade Annealed Bare copper / Tinned copper/ Nickel Plated/Silver Plated
- **Conductor Type:** (Class-1/Class 2 / Class 5 & Class-6)
- **Insulation:** PVC / XLPE / LDPE / HDPE / XLPO / EPR / HEPR / Silicon Rubber
- **Shielding:** Individual Pair Shielding and/ or Overall Shielding by Al-Mylar Tape / copper tape /Braiding with tinned copper drain wire
- **Inner Sheath:** PVC / FR PVC / FRLS PVC / LSZH
- **Ripcord:** For Easy Removal of Sheath
- **Armouring:** Galvanized Steel Round Wire / Flat Strip armour/ SS Wire Braiding/GI Wire Braiding /Copper Wire Braiding
- **Outer Sheath:** PVC / FR PVC / FRLS PVC / LSZH
- **Multi-Layer Sheath:** Aluminium Tape (Longitudinally) + HDPE + Polyamide sheath for alternate Lead sheath cables.
- **Operating Temperature Range:** PVC insulated: -15°C to +70°C, 85 °C, 105 °C, XLPE insulated: -40°C to +90°C , Silicon Rubber: - 60°C to 150 °C, EPR Rubber: -40°C to +90°C, XLPO insulated: -40°C to +120°C
- **Standards:** BS EN 50288-7, IEC 60502-1, IEC 60079-14 (where applicable), BS 5308 Part-1 & 2, IEC-189 (Part-1 & 2), VDE-0815 & 0816
- **Special Features:** Fire Survival / FRLS / LSZH options, Excellent noise rejection, Oil, moisture, and chemical resistant, Suitable for hazardous area installations

FIRE RESISTANT AND FIRE SURVIVAL CABLES



Fire Survival Cables (Rated up to 950°C) are specialized circuit integrity cables designed to maintain electrical functionality during fire conditions for critical safety systems. Using mica tape and fire-resistant insulation, these cables protect copper conductors and ensure continuous operation of fire alarms, emergency lighting, and public address systems during emergencies. The range includes Fire Survival (FS), Fire Resistant (FR), and Flame Retardant Low Smoke (FRLS) cables, widely used in airports, metro systems, high-rise buildings, malls, and industrial facilities. They provide reliable circuit integrity at temperatures up to 950°C, ensuring power continuity and safe evacuation during fire incidents.



TECHNICAL DETAILS:

- **Construction:** Single & Multi Cores / Pairs/ Triads / Quads
- **Voltage Grade:** 300 V / 500 V / 600 V/1100V
- **Conductor:** Solid or Stranded Annealed Bare or Tinned Copper Conductor
- **Fire Barrier:** Glass Mica Tape
- **Insulation:** XLPE/XLPO, EPR and Silicone Rubber
- **Screening:** Individual and/or overall, with following options- - Aluminium 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 Round Wire / Flat Strip armour/ SS Wire Braiding/GI Wire Braiding/ ATC Wire Braiding
- **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 IS 17505, IEC 60754, IEC 61034
- **Special Features:** Fire resistant and fire survival construction, Halogen free, low smoke, low corrosive gas emission, Maintains functionality during fire, water spray, and mechanical impact, Suitable for emergency and life safety systems.
- **Testing Standard:**

Fire Temperature and Duration

Standard	Temp.	Duration
BS 6387	650°C (C), 650°C + water (W), 950°C (Z)	15–30 min depending on category
BS 7629-1	830–950°C	30 / 60 / 120 min (PH rating)
BS 8434-1	830–950°C	30 / 60 / 120 min
BS 8434-2	830–950°C	30 / 60 / 120 min
EN 50200	830–850°C	30 / 60 / 120 min

AUTOMOTIVE CABLES



Automotive Cables are specially designed electrical cables used in vehicles for power distribution, control systems, signal transmission, and electronic communication. Engineered to operate reliably under high temperature, vibration, oil exposure, moisture, and mechanical stress, they support the safe and efficient functioning of modern vehicles including ICE, hybrid, and electric vehicles. The product range complies with international standards such as ISO, JASO, SAE, and IS, covering PVC, XLPE/XLPO, silicone, ETFE, and PTFE insulated cables. These cables are widely used in vehicle wiring harnesses, power distribution, sensors, infotainment, safety systems, and EV charging applications.



TECHNICAL DETAILS:

- **Construction:** Single core / multi-core, flexible multi-stranded conductor
- **Voltage Rating:** 60 V and 600 V single core cables, 600 V AC or 900 V DC and 1000 V AC or 1500 V DC
- **Conductor (Material & Type):** Flexible and stranded electrolytic copper or tinned copper (CuSn), Silver plated copper (CuAg), Nickel plated copper (CuNi)
- **Insulation:** PVC, Silicone Rubber, Cross-linked Polyolefin (XLPO / XLPE), PTFE, ETFE
- **Screening (if any):** Copper braid / aluminium foil shield (for shielded variants)
- **Outer Sheath:** PVC, FEP, TPE-E (for shielded cables) / Not applicable for single-wall types
- **Operating Temperature Range:** -40°C to +85°C, +105°C, +125°C, +150°C, +180°C, +200°C, +250°C
- **Standards / Specifications:** ISO 6722, ISO 19642, JASO D 611, JASO D 618, SAE J1128 – Low voltage primary cables, SAE J1127, IS 2465 – Battery cables
- **Special Features (if any):** Flame retardant, Halogen free (XLPO & Silicone variants), Oil, fuel, and chemical resistant, Abrasion resistant, EMI / EMC protection (shielded cables)

OVERHEAD CONDUCTORS

Overhead Transmission Conductors (Bare Conductors) are designed for efficient and reliable transmission of electrical power over long distances in overhead line systems. Manufactured from high-quality aluminium or aluminium alloy with or without steel reinforcement, they provide excellent electrical performance and mechanical strength for diverse terrains and climatic conditions. The range includes AAC, AAAC, ACSR, ACSR/AW, and ACAR conductors, used in high-voltage transmission, sub-transmission, and distribution networks across urban, rural, and remote areas. These conductors offer high current carrying capacity, low electrical losses, strong corrosion resistance, and long-term reliability in demanding environments.



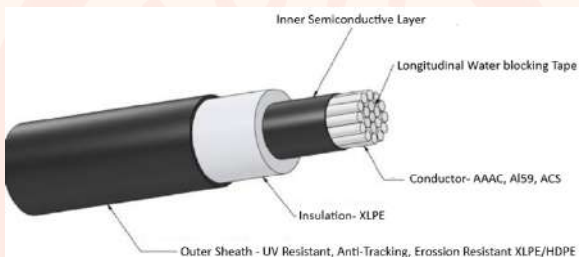
TECHNICAL DETAILS:

- **Construction:** Concentric stranded construction, Single or multi-layer stranding
- **Conductor Material:** EC-grade aluminium / aluminium alloy, Galvanized steel / aluminium-clad steel (for reinforced conductors)
- **Voltage Range:** From LV distribution to EHV transmission systems
- **Operating Temperature:** Continuous operation up to 75°C / 90°C, Higher temperature ratings available on request
- **Standards / Specifications:** IEC 61089, IS 398 (Part-2), BS EN 50182, ASTM B231 / B232 / B399 (on request)/ IS 398 (Part 4)/ SS-424-08-13/SS-424-08-14

MEDIUM VOLTAGE COVERED CONDUCTORS/TREE SPACER CABLES



MVCC (Medium Voltage Covered Conductor) / Tree Spacer Cables are overhead conductors designed for medium voltage distribution networks from 11 kV to 33 kV, featuring aluminium or aluminium alloy conductors with a durable UV-resistant polymer covering. This covering improves electrical safety and reduces faults caused by vegetation, animals, or external contact, making it ideal for urban, coastal, polluted, and vegetation-dense areas. The product range includes AAAC, ACSR, AL59, AL59 ACS, AL7 and aluminium MVCC conductors. These conductors offer high mechanical strength, weather and corrosion resistance, improved reliability, and reduced maintenance for overhead distribution systems.



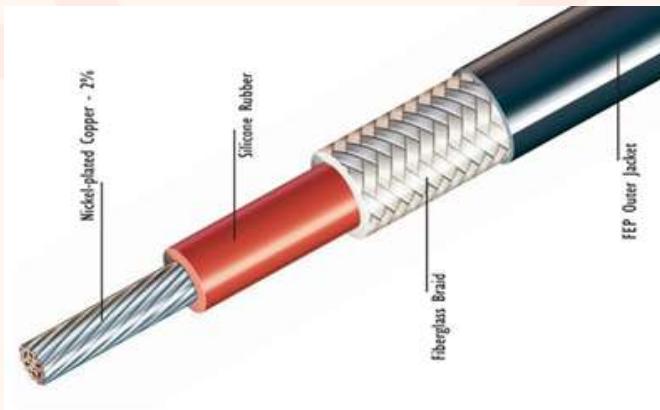
TECHNICAL DETAILS:

- **Construction:** Stranded conductor (concentric / Non-compacted as required)
- **Voltage Application:** Suitable for MV control cables rated from 11 kV to 33 kV
- **Conductor Material & Type:** Longitudinally watertight stranded all aluminium alloy (AAAC), AL-7, AL-59, or AL-59 Aluminium Clad Steel (ACS).
- **Stranding:** as per applicable standard
- **Conductor Screen:** Semi-Conductive
- **Inner Covering:** XLPE compound

- **Outer Covering:** Anti Tracking, UV Resistant and erosion resistant XLPE/HDPE Compound
- **Applicable Standards:** IEC 61089, IS 398 Part-2, IS 398 Part-4, IS 398 Part-6, BS EN 50182, BS EN 50397, SS4240813, SS 4240814
- **Operating Temperature:** As per cable design (up to +90°C continuous conductor temperature)
- **Special Features:** Uniform stranding and diameter control, Suitable for XLPE insulated MV control cables, Good tensile strength and elongation properties, Compatible with extrusion and screening processes

HIGH TEMPERATURE CABLES (ETFE, FEP, PTFE)

High Temperature Cables are high-performance wires designed for reliable operation in extreme temperature and harsh environmental conditions. Manufactured using irradiation crosslinking technology and compliant with SAE AS81044, SAE AS22759, and NEMA WC27500 standards, these cables offer excellent abrasion resistance, flexibility, and an extended temperature range from -65°C to +200°C. The range includes silicone rubber, PTFE/FEP/ETFE insulated, fiberglass braided, single and multi-core, shielded and fire-resistant cables. They are widely used in aerospace, defence, railways, power plants, industrial furnaces, EV systems, and high-temperature instrumentation applications.



TECHNICAL DETAILS:

- **Construction:** Single Core high temperature hook-up wires & Multi Core / Multi Pair, Screened & Unscreened and Armoured & Unarmoured Cables
- **Voltage Rating:** 250 V AC, 600 V AC & 1000 V AC (Rating as per MIL-16878, VDE, DIN, JSS)
- **Conductor (Material & Type):** Annealed Bare copper (up to 200° C) / Annealed tinned copper conductor (up to 180° C) Annealed Silver-Plated copper conductor (up to 200° C) Nickel plated conductor (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 200° 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
Special High Temperature Yarn	1000° C	Superior resistance to temperatures. excellent resistant against radiant heat.

- **Screening:** Individual and / or overall, with following options - Aluminium 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 / Cement:** 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 SHF 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.

DATA & ETHERNET CABLES (CAT 5, CAT 6, CAT 7)

Ethernet (LAN) Cables are designed to deliver high-speed and reliable data transmission for modern communication networks. Built with precision construction and advanced insulation systems, they ensure stable performance, low signal loss, and strong resistance to electromagnetic interference (EMI). The range includes CAT 5e, CAT 6, CAT 6A, and CAT 7 cables in UTP, FTP, and SFTP variants for indoor, outdoor, and industrial use. These cables are widely used in LAN networks, data centres, industrial automation, CCTV systems, telecom infrastructure, and smart building applications.

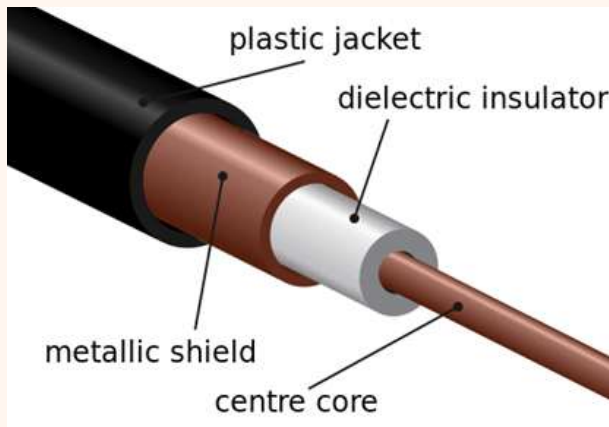


TECHNICAL DETAILS (FOR STANDARD CABLES)

- **Construction:** 4 twisted pairs (8 conductors), precisely twisted to control crosstalk
- **Conductor (Material & Type):** Solid or stranded annealed copper
- **Conductor Size:** 23–26 AWG (as per category)
- **Insulation:** HDPE / Foamed PE
- **Screening (if any):** UTP – Unshielded, FTP – Overall foil screen, SFTP – Individual pair foil + overall braid
- **Outer Sheath:** PVC / FR PVC / LSZH / PE (for outdoor use)
- **Operating Temperature Range:** -20°C to +75°C (typical)
- **Transmission Performance:**
 - CAT 5e: Up to 1 Gbps @ 100 MHz
 - CAT 6: Up to 1 Gbps (10 Gbps short distance) @ 250 MHz
 - CAT 6A: Up to 10 Gbps @ 500 MHz
 - CAT 7: Up to 10 Gbps @ 600–1000 MHz
- **Standards / Specifications:** ANSI/TIA-568, ISO/IEC 11801, IEC 61156, IEEE 802.3, RoHS compliant (on request)

RF CABLES

RF Cables are specially designed power, control, signal, and RF communication cables capable of withstanding radial and axial pressures from 10 to 72 bar while maintaining sealing integrity. These cables feature halogen-free, flame-retardant, and fire-survival properties with low smoke and toxicity, ensuring safety in critical environments. The range includes RF and signal cables, shielded/unshielded, armoured/unarmoured, and single or multi-core variants. They are widely used in shipbuilding, submarines, offshore platforms, marine systems, radar communication, and defence applications where pressure resistance and reliability are essential



TECHNICAL DETAILS

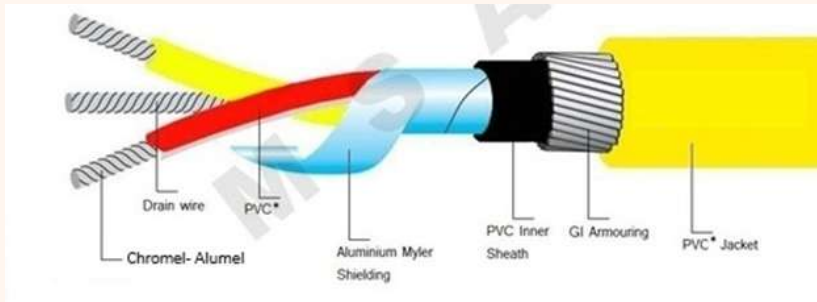
- **Construction:** Single Core, Multi Core, Multi Pair, Unscreened, Individually Screened & Collectively Screened
- **Voltage Grade:** 38V AC, 250 V, 600 V, 660 V, 690 V, 1000 V
- **Conductor:** Circular electrolytic Bare and Tinned or Silver-Plated Copper
- **Temperature Range:** - 30° C to +120° C
- **Insulation:** Special halogen free and fire retardant with low smoke generation and low toxic polymers with E-beam curing process
- **Screening:** Annealed Bare / Tinned / Silver Plated Copper
- **Outer Sheath:** Special halogen free and fire retardant with low smoke generation and low toxic polymers with E-beam curing process
- **Water Blocking:** Provided to withstand pressure requirement by Compound/Tape
- **Specifications:** Def Stan 02-512 & MIL-DTL-17H & customer specification

THERMOCOUPLE CABLES

Thermocouple Extension and Compensating Cables are specially designed to transmit low-level thermoelectric signals from thermocouple sensors to measuring and control instruments with high accuracy and stability. Manufactured with matched alloy conductors, these cables ensure reliable reproduction of thermocouple EMF characteristics over long distances. The range includes extension and compensating cables for types K, J, T, E, N, R, S, and B, available in screened, armoured / unarmoured, and single or multi-pair constructions. They are widely used in power plants, oil & gas, steel, cement, glass industries, and process automation systems for precise temperature measurement and control.

TECHNICAL DETAILS

- **Construction:** Single or Multiple Pairs
- **Voltage Rating:** Up to 1100V RF
- **Cable Code:** Kx, Kx(A), Tx, Jx, Sx, /Rx, Bx, Nx
- **Conductor:** Chromel, Copper, Iron, Nicrosil, Constantan
- **Insulation:** General purpose PVC/ Heat Resistant PVC, PE, XLPE, PTFE, FEP, Silicon Rubber/Fibre Glass
- **Screening:** Individual and overall, with following option:
 - Aluminium 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 and SS wire Braiding, Copper Braiding
- **Outer Sheath:** PVC/HRPVC/FRPVC/FRLS
PVC/ZHFR/LSF/PTFE/PFA/FEP/Fibre Glass
- **Standards / Specifications:** ANSI: MC-96.1, IEC-584-3, DIN, BS/EN IEC-60332-1, IEC-60332-3-22, 23, 24, IS-874



TECHNICAL DETAILS

CABLE CODE	Kx	Kx (A)	Tx	Jx	Ex	Sx / Rx	N	
CABLE TYPE	EXT.	COMP	EXT.	EXT.	EXT.	COMP	EXT.	
Conductor	+ve Leg	Chromel	Copper	Copper	Iron	Chromel	Copper	Nicosil
	-ve Leg	Alumel	Constantan	Constantan	Constantan	Constantan	Copper Alloy	Nisil
Suitable for Thermocouple Type	Kx	Kx	Tx	Jx	Ex	Sx / Rx	N	
Conductor Combination	Chromel	Copper	Copper	Iron	Chromel	Platinum 10/13% Rhodium Platinum	Nicosil /Nisil	
	Alumel	Constantan	Constantan	Constantan	Constantan			
Temperature range °C of	0 to +1100	(0°C to +80°C)	,-185 to +300°C	,-20 to +700	0 to +800	0 to 1550 0 to +1600	,-200 to +1300	
measuring junction								
Application Standards for output of thermocouple conductos	BS 1843 ANSI/MC 96.1 type K, DIN 43710 NFC 42-324, JIS C 1610, IEC 60584-3, IS 8784/1987	Used for inter-connecting type of K Thermocouples	BS 1843 ANSI/MC 96.1 type K, DIN 43710 NFC 42-324, JIS C 1610, IEC 60584-3, IS 8784/1987				BS 1843, ASTM E 230 IEC 60584-3	
Approximate generated EMF Change °C μV/°C at	100 °C	42	46	54	68	8/8	30	
	500 °C	43	--	56	81	9/10	38	

UL CABLES



UL Cables are engineered to meet stringent Underwriters Laboratories (UL) standards, ensuring superior safety, performance, and reliability. They are widely used across power distribution, building wiring, industrial installations, and solar photovoltaic systems. The range includes thermoset insulated wires, service entrance cables (USE/USE-2/SER/SEU), and photovoltaic (PV) wires. Designed for both indoor and outdoor applications, these cables offer excellent resistance to heat, moisture, and mechanical stress. With compliance to global standards, UL cables provide dependable performance in demanding environments.

TECHNICAL DETAILS

- **Construction:** Single Core / Multi Core stranded or solid conductor with insulation and protective layers
- **Voltage Rating:** 600 V / 1000 V / 2000 V (as per applicable UL standard)
- **Conductor (Material & Type):** Aluminium / Copper / tinned copper, solid or stranded
- **Insulation:** PVC / XLPE (as per UL type)
- **Screening (if any):** Not applicable
- **Outer Sheath:** PVC / XLPE (integral with insulation or jacketed)
- **Operating Temperature Range:**
 - UL 44 / UL 83: up to +90°C (dry/wet as applicable)
 - UL 4703: up to +90°C (wet/dry), sunlight resistant
- **Standards / Specifications:** UL 44, USE/USE-2/SERVICE ENTRANCE SE-STYLE R & SE-STYLE U Wire UL- 854, UL 83, UL 4703, CSA (on request)
- **Special Features (if any):** Flame retardant, Sunlight resistant, Oil and moisture resistant, Suitable for indoor and outdoor use, RoHS compliant (on request)
- **Sizes & Variants**
 - Number of cores: Single Core / Multi Core
 - Size range: 14 AWG 2000 KCMIL (as per UL standard)
 - Voltage options: 600 V / 1000 V / 2000 V

CABLE TYPE

- **UL 44:** XHHW-2, XHHW, XHH, RHW-2, RHW, RHH, SIS, RWU75 and RWU90 (CT Rating not applicable), RW75 and RW90 (CT Rating not applicable), R90 (CT Rating not applicable)
- **PHOTOVOLTAIC WIRE (UL 4703):** RHW-2 (US requirements)
- **SERVICE-ENTRANCE CABLE (UL 854):** USE-2, single and/or coverless multiple insulated Conductors, USE, single and/or coverless multiple insulated Conductors.

CABLE MARKING

- **UL 44:** "SR, PR I, PR II, GR I, GR II, CT, FT 4, "-40C" rating (7 strands or larger), "VW-1" (Applicable for 2000V), "FT1" (Applicable for 2000V)
- **PHOTOVOLTAIC WIRE (UL 4703):** Wet and Dry Temperature rating, "Sunlight Resistant" or "Sun Res", "-40C" (optional) if authorized. (7 strands or larger), VW-1" (optional) if authorized. (7 strands or larger), "Direct Burial", "Dir Bur", or "for direct burial" (7 strands or larger)
- **SERVICE-ENTRANCE CABLE (UL 854):** Sunlight Resistant" or "Sun Res", "-40C" Rating, "oil-resistant I" rating (PR I), "oil-resistant II" rating (PR II), "gasoline and oil-resistant I" rating (GR I), "gasoline and oil-resistant II" rating (GR II)



HYBRID COMPOSITE CABLES

Hybrid Composite Cables are advanced multi-function cables that combine power, control, signal, and data transmission within a single integrated construction. They are designed to simplify cabling systems by reducing installation time, space requirements, and overall project cost while improving efficiency. Available in various configurations such as power-control, power-signal-data, and copper-optical fibre combinations, these cables support a wide range of modern applications. They are widely used in telecom, industrial automation, transportation, renewable energy, and smart infrastructure projects where multiple functions must be transmitted simultaneously. By minimizing the number of cables and connection points, they enhance system reliability and performance. With excellent shielding and robust construction, hybrid composite cables ensure stable operation even in demanding environments.



TECHNICAL DETAILS

- **Construction:** Integrated cable with individually insulated power, control, signal conductors and/or optical fiber
- **Conductor (Material & Type):** Annealed copper / tinned copper, stranded (Class 2 / Class 5)
- **Power Element Voltage Rating:** Up to 1.1 kV (higher on request)
- **Data Element:** Twisted pairs / Coaxial / Optical Fiber (SM/MM)

- **Insulation:** Elastomeric/Thermoplastic/Plastic/Polymeric
- **Screening (if any):** Individual and/or overall copper braid / Aluminium-Mylar tape
- **Armouring:** Steel wire / steel strip / aluminium wire (optional)
- **Outer Sheath:** PVC / FR PVC / FRLS / LSZH / PE (outdoor grade)
- **Operating Temperature Range:** -40°C to +90°C (typical)
- **Standards / Specifications:**
IEC / IS / BS / EN standards, IEC 60228, IEC 60502, IEC 61156, IEC 60754, IEC 61034, Customer / OEM specifications

SPECIAL APPLICATION (LFH) CABLES

Limited Fire Hazard (LFH) Cables are specially designed power, control, and signal cables manufactured with halogen-free, flame-retardant insulation and sheath materials that ensure low smoke and low toxicity during fire conditions. These cables are engineered to enhance safety by minimizing hazardous emissions while maintaining reliable electrical performance. Available in power, control, instrumentation, and communication variants, they come in single-core and multi-core configurations with options for armoured/unarmoured and shielded/unshielded constructions. LFH cables are widely used in critical defence applications such as radar and missile launching systems for power, lighting, control, and communication circuits. Their excellent fire performance helps maintain circuit integrity, ensuring safe operation and evacuation during emergencies. With high mechanical and thermal stability, they are well-suited for demanding and high-risk environments.



TECHNICAL DETAILS

- **Construction:** Multi Core, Multi Pair, Composite Cables, Unscreened, Individually Screened & Collectively Screened
- **Voltage Rating:** 600V
- **Conductor:** Circular electroplated & annealed tinned copper
- **Temperature Range:** - 50°C to +120°C
- **Insulation:** Special Halogen free and fire retardant with low smoke generation and low toxic polymers 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 polymers with E-beam curing process
- **Standards / Specifications:** Def Stan 61-12 (Part-18 & Part-31)

SHIPBUILDING & MARINE CABLES



Shipbuilding & Marine Cables are specially engineered to meet the demanding requirements of marine and offshore environments, ensuring reliable performance under extreme conditions. Designed to withstand moisture, oil, vibration, salt spray, fire risks, and mechanical stress, these cables support power transmission, control, communication, and signal integrity across various marine applications. The range includes power, instrumentation, RF, data, EMC/VFD, and specialized cables for shipboard and offshore use. Widely used in naval vessels, commercial ships, submarines, and offshore platforms, they play a critical role in propulsion, automation, and communication systems. These cables are available in halogen-free, flame-retardant, and fire-resistant variants for enhanced safety. Their robust construction ensures long-term reliability, excellent mechanical strength, and stable performance in harsh marine conditions.



TECHNICAL DETAILS

- **Construction:** Single core / multi-core stranded conductors with marine-grade insulation and protective layers
- **Voltage Rating:** Up to 1.8 kV
- **Conductor (Material & Type):** Copper / tinned copper, flexible stranded
- **Insulation:** XLPE / EPR / Silicone Rubber / PE (as per cable type)
- **Screening (if any):** Copper braid/Tinned Copper braid / Aluminium-Mylar tape/ Copper Mylar Tape (for EMC, VFD, RF & data cables)
- **Inner Sheath:** LSZH / FR compound
- **Armouring:** Galvanized steel wire / Tinned Copper Wire Armour/braid (as required)
- **Outer Sheath:** LSZH / FR / Oil & mud resistant compound
- **Operating Temperature Range:**
Standard marine cables: -25°C to +90°C
Silicone cables: up to +180°C
- **Standards / Specifications:** IEC 60092-350, IEC 60092-353, IEC 60092-376, BS 6883 & BS 7917, VG 95218 (Series), IEC 60092 (SERIES), GOST-7866, 11326, 17301, NES / DEF STAN – 526 & 527, EED-50-12 (EPR Insulated, EVA Sheathed), EED-50-13 (Silicon Insulated EVA Sheathed), EED-57-03 (Pressure Tight, PT-10), EED-57-04 (Pressure Tight, PT-45), DMDE Standard
- **Special Features:** Flame retardant, fire resistant, LSZH, EMC / EMI shielding for VFD & sensitive electronics, Oil, fuel, salt water, and chemical resistant, Suitable for fixed and flexible shipboard installations

H07RN- HEAVY DUTY RUBBER CABLES

H07RN-F Heavy Duty Rubber Cables are highly flexible and robust power cables designed for reliable performance in harsh industrial, outdoor, and mobile applications. Manufactured with elastomeric insulation and sheath, they offer excellent resistance to mechanical stress, abrasion, oil, weather, and extreme temperatures, ensuring long service life. Available in single-core and multi-core configurations, these cables are suitable for both fixed and mobile installations. They are widely used in generators, heavy machinery, portable tools, and construction or mining environments where flexibility and durability are essential. Their superior resistance to oil, chemicals, and environmental conditions makes them ideal for wet, damp, and outdoor applications. Overall, H07RN-F cables provide dependable power supply even under continuous movement and demanding operating conditions.



TECHNICAL DETAILS

- **Construction:** Multi-core flexible stranded copper conductors
- **Conductor (Material & Type):** Annealed copper, fine stranded (Class 5)
- **Insulation:** EPR (Ethylene Propylene Rubber)
- **Outer Sheath:** PCP / Chloroprene Rubber (heavy duty)
- **Voltage Rating:** 450 / 750 V
- **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
- **Operating Temperature Range:**
Fixed installation: -40°C to +90°C
Flexible use: -25°C to +60°C, 110 °C
- **Fire Performance:** Flame retardant
- **Environmental Resistance:** Oil, ozone, UV, moisture resistant
- **Standards / Specifications:** EN 50525-2-21 (H07RN-F)

VFD CABLES

VFD Cables are specially designed cables used to connect variable frequency drives (VFDs) to motors, enabling precise control of speed and torque. During operation, VFD systems generate electrical noise, voltage spikes, and high dv/dt stresses, which are effectively managed through the cable's specialized design. These cables are available in configurations such as symmetrical three-core with ground, shielded and armoured constructions, and flexible variants for dynamic applications. Widely used in industrial motor drives, HVAC systems, pumps, and process industries, they ensure efficient and reliable power transmission. Their advanced shielding minimizes EMI, while optimized construction reduces motor stress and bearing currents. This results in enhanced performance, protection, and long service life under continuous operation.



TECHNICAL DETAILS

- **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.

PT CABLES

Pressure Tight (PT) Power, Control & Signal Cables, Data Communication, RF 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. The range includes PT power cables (PT-10, PT-45), and signal cables, shielded/unshielded, armoured/unarmoured, and single or multi-core variants. They are widely used in shipbuilding, submarines, offshore platforms, marine systems, radar communication, and defence applications where pressure resistance and reliability are essential



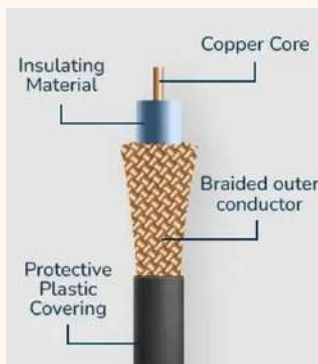
TECHNICAL DETAILS

- **Specification:** EED 57-03 (PT-10) & EED 57-04 (PT-45)
- **Construction:** Single Core, Multi Core, Multi Pair, Unscreened, Individually Screened & Collectively Screened
- **Voltage Grade:** 250 V AC, 600 V AC to 1000 V AC
- **Conductor:** Circular electrolytic Bare and Tinned or Silver Plated Copper
- **Temperature Range:** - 30° C to +120° C
- **Insulation:** Special halogen free and fire retardant with low smoke generation and low toxic polymers with E-beam curing process
- **Screening:** Annealed Bare / Tinned / Silver Plated Copper

- **Outer Sheath:** Special halogen free and fire retardant with low smoke generation and low toxic polymers 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

CO-AXIAL CABLES

Co-Axial cables are specially designed for high-frequency applications using polyethylene, XLPE, fluoropolymer or other dielectric insulation materials, along with halogen-free, flame-retardant, low-smoke and low-toxic sheath compounds. Coaxial cables are engineered to provide minimal signal loss and excellent shielding effectiveness, ensuring stable impedance and superior noise immunity. Their concentric construction enables reliable performance in RF, video, data and communication systems across industrial, telecom, defence and broadcasting sectors. The product range includes low, medium and high-frequency RF coaxial cables, video coaxial cables, flexible and semi-rigid types, low-loss variants, and both armoured and unarmoured constructions with FR and LSZH options. These cables are widely used in VHF transmission, CCTV systems, broadcasting, telecom networks, radar, aerospace, shipbuilding and railway applications. They are highly reliable due to stable impedance control, strong EMI/RFI shielding, low attenuation, and durable mechanical construction suitable for wide frequency ranges.



TECHNICAL DETAILS

- **Construction:** Single Core Screened Cables Primary
- **Conductor:** ABC / ATC / SPC & special conductors like CCS (Copper Clad Steel) etc
- **Temperature Range:** - 30°C to +120°C
- **Insulation:** Polyethylene / XLPE / Fluoropolymer
- **Outer Conductor:** Aluminium Mylar Tape / Annealed Tinned / Bare Copper Braid
- **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, RG188, RG 58, RG 59, RG 214
- **Specifications:** Def Stan 02-512 (Part-5) & MIL-DTL-17H & customer specification

EV CHARGING CABLES – AC & DC ELECTRIC VEHICLE CHARGING



EV charging cables are specially designed for safe, reliable, and efficient power transfer between electric vehicles and charging infrastructure. They are engineered to handle high electrical loads, frequent bending, thermal stress, and harsh outdoor environmental conditions, making them suitable for both AC and DC charging systems. The product range includes AC EV charging cables (Mode 2 & Mode 3), DC fast charging cables, single and multi-core variants, and liquid-cooled cables on request. These cables are used in home charging units, public charging stations, commercial EV infrastructure, fast charging networks, and fleet depots. They are highly reliable due to their excellent flexibility, strong resistance to abrasion, oils and UV exposure, weatherproof construction, and enhanced insulation safety.



TECHNICAL DETAILS

- **Construction:** Single core or multi-core flexible stranded copper conductors with insulation and outer sheath
- **Voltage Rating:** AC charging: Up to 450/750 V AC, DC charging: Up to 1500 V DC (and above, as per design)
- **Current Rating:** High current capacity suitable for slow, fast, and ultra-fast charging
- **Conductor (Material & Type):** Annealed flexible copper, Class 5
- **Insulation:** LSZH Specially formulated compound, Thermoplastic elastomer (TPE) / Cross-linked elastomer (XLPE / XLPO)
- **CC/CP Cores:** LSZH Specially formulated compound
- **Outer Sheath:** TPE / TPU, abrasion resistant, oil resistant, UV resistant
- **Operating Temperature Range:** -40°C to +90°C (higher for short duration)
- **Environmental Protection:** Weather resistant, oil resistant, ozone and UV resistant
- **Standards / Specifications:** IEC 62893, IEC 61851, IEC 62196, EN 50620, IS / OEM specifications (as applicable)
- **Special Features (if any):** High flexibility and torsion resistance, Flame retardant and halogen free options, Suitable for indoor and outdoor EV charging systems, Long flex life for frequent plugging and unplugging

EMC CABLES – ELECTROMAGNETIC COMPATIBILITY CABLES

EMC cables are specially designed to ensure reliable signal and power transmission in environments with high electromagnetic interference (EMI). They are engineered with advanced shielding systems to minimize signal distortion, prevent interference, and maintain stable electrical performance. These cables are widely used in industrial automation, control systems, data communication, instrumentation, and power installations where electromagnetic compatibility is critical. They offer excellent shielding effectiveness, electrical stability, and resistance to environmental and mechanical stresses, ensuring consistent performance in harsh industrial environments.



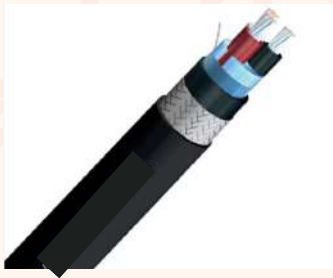
TECHNICAL DETAILS

- **Construction:** Single core or multi-core flexible stranded copper conductors with individual and overall shielding (foil/braid) and outer sheath
- **Voltage Rating:** Typically up to 300/500 V, 450/750 V, and up to 0.6/1 kV (as per design)
- **Current Rating:** As per conductor size and application requirements
- **Conductor (Material & Type):** Annealed flexible copper, Class 5 / Class 2
- **Insulation:** PVC / XLPE / PE / LSZH compounds
- **Shielding:** Aluminium/polyester tape, copper braid, or combination for high EMI protection
- **Outer Sheath:** PVC / LSZH / PUR, flame retardant and abrasion resistant
- **Operating Temperature Range:** -30°C to +90°C (depending on material)
- **Environmental Protection:** Resistant to EMI, oils, moisture, UV, and industrial conditions
- **Standards / Specifications:** IEC 60332, IEC 60754, IEC 61034, EN 50288, IS / OEM specifications

- **Special Features (if any):** High shielding effectiveness, low signal attenuation, improved EMC performance, suitable for sensitive instrumentation and control systems

SHORE SUPPLY CABLES – SHIP TO SHORE POWER CABLES

Shore supply cables are specially designed for transmitting electrical power from shore-based installations to ships at ports, docks, and harbors. These cables enable vessels to switch off onboard generators and connect to external power, reducing emissions and fuel consumption. They are engineered to handle high voltage and current loads, mechanical stress due to reeling/unreeling, and harsh marine environmental conditions such as moisture, saltwater, and UV exposure. These cables are used in ports, shipyards, offshore facilities, and marine terminals, offering high reliability, flexibility, and long service life.



TECHNICAL DETAILS

- **Construction:** Single core or multi-core flexible copper conductors with robust insulation, screening (if required), and heavy-duty outer sheath
- **Voltage Rating:** Typically 0.6/1 kV up to 6.6 kV / 11 kV (as per application)
- **Current Rating:** High current carrying capacity for continuous shore-to-ship power supply
- **Conductor (Material & Type):** Annealed flexible copper, Class 5 / Class 6
- **Insulation:** EPR / XLPE / HEPR suitable for marine applications
- **Screening (if applicable):** Copper tape or wire screen for voltage control
- **Outer Sheath:** Heavy-duty rubber / PUR / CSP, resistant to abrasion, oil, and seawater

- **Operating Temperature Range:** -40°C to +90°C
- **Environmental Protection:** resistant to saltwater, UV radiation, oil, ozone, and mechanical stress
- **Standards / Specifications:** IEC 60092, IEC 60228, IEC 60332, IEEE 1580, NEK 606, IS / OEM specifications
- **Special Features (if any):** High flexibility for reeling systems, excellent mechanical strength, weatherproof and marine-grade construction, long service life in harsh environments

DEGAUSSING CABLES – MAGNETIC SIGNATURE REDUCTION CABLES

Degaussing cables are specially designed for naval and marine applications to reduce or neutralize the magnetic signature of ships and submarines. These cables carry controlled electrical currents to generate a counter magnetic field, protecting vessels from magnetic mines and detection systems. They are engineered to provide stable electrical performance, high reliability, and durability under extreme marine and operational conditions. These cables are installed within ship hulls and are critical for defense and naval safety systems.

TECHNICAL DETAILS

- **Construction:** Single or multi-core stranded copper conductors with specialized insulation and protective sheath
- **Voltage Rating:** Typically low to medium voltage (as per system design requirements)
- **Current Rating:** Designed for continuous and controlled current flow for magnetic field generation
- **Conductor (Material & Type):** High conductivity annealed copper, Class 2 / Class 5
- **Insulation:** EPR / XLPE / specialized elastomeric compounds for thermal and electrical stability
- **Screening (if applicable):** Optional shielding for controlled electromagnetic performance

- **Outer Sheath:** LSZH / rubber / specialized marine-grade compound resistant to moisture and chemicals
- **Operating Temperature Range:** -30°C to +90°C
- **Environmental Protection:** resistant to moisture, oil, vibration, and marine conditions
- **Standards / Specifications:** IEC 60092 (marine cables), DEF / NAVAL specifications (as applicable), IS / OEM standards
- **Special Features (if any):** Stable current carrying capability, long operational life, high reliability for critical defence systems, resistance to mechanical stress and vibration

CABLE HARNESSING

Electron Beam Irradiated Thin-Walled Flexible Elastomeric Cables with copper conductors are designed with limited fire hazard properties, offering minimum flame spread, low smoke emission and reduced toxic fumes. These high-performance cables are available in single and multi-core constructions (screened or unshielded) with voltage grades up to 1800/3000 V, and are mainly used for power, auxiliary, control, sensor and driver circuits in railway rolling stock, especially AC traction motors in EMU, MEMU and electric locomotives. Their electron beam irradiated elastomeric construction provides high flexibility, durability, resistance to chemicals, temperature variations, oil and abrasion, ensuring long service life and reliable performance in demanding rail environments.



TECHNICAL DETAILS

- **Construction:** single core, multi core, screened & unscreened
- **Voltage Application:** up to 3kV
- **Operating temperature:** - 40° C to +120°
- **Conductor Material & Type:** Tin circular flexible copper conductor
- **Insulation:** EBXLEPDM
- **Sheath:** EEA/EMA/EVA
- **Filler (If required):** Cross linked poly-olefin
- **EMC-Screen (If required):** tin plated copper braiding
- **Applicable Standards:** ELRS/SPEC/ELC/0019/Rev-04, EDTS-132, REV-C, DS-3,4,5,7, CLW/ES/03/0458, With Latest Alt., CLW/ES/03/0459, With Latest Alt.
- **Special Features/Fire Safety:** Low Flame Spread / Flame Retardancy: IEC 60332-1-2, IEC 60332-3 (various parts) Low Smoke Emission: ASTM D 2843 / IEC 61034-2 Corrosivity of Combustion of gases (on Sheath only): IEC 60754-2 Toxicity of Combustion of gases (on Sheath only): NES 713

POWERING PROGRESS WITH WORLD-CLASS PLANT & MACHINERY





EXISTING CERTIFICATIONS

ISO 9001 / 14001 / 45001

Directorate of Quality Assurance (Navy) [DQAN] Registration Certificate

Defense Research and Development Laboratory (DRDL) Registration Certificate

Integrated Headquarters of Ministry of Defence (IHQ/DEE/MOD)

Research Designs and Standards Organization (RDSO)

American Bureau of Shipping (ABS)

Indian Register of Shipping (IRS)

Underwriters Laboratories (UL)

Central Power Research Institute (CPRI)

Bureau of Indian Standards (BIS)

International Railway Industry Standard (IRIS)

National Accreditation Board for Testing and Calibration Laboratories (NABL)

Det Norske Veritas (DNV)



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