Eight Decades of Trust & Innovation

ABOUT US

- 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

1. WHAT IS DATA CENTRE MEANT FOR

Data Centre: A data centre is a highly integrated facility used for storing, processing, and managing large volumes of digital data. It supports critical services such as cloud computing, AI, networking, and enterprise applications. These facilities are designed for high reliability, scalability, and continuous operation (24/7 uptime). At its core, **a data center** is a **facility for managing digital data and IT infrastructure** in a secure and controlled environment.

PRIMARY FUNCTIONS:

- **Store Data**
  Hosts massive volumes of data (cloud storage, enterprise data, streaming platforms)
- **Process Data**
  Supports:
  AI & Machine Learning
  Data analytics
  Enterprise applications
- **Distribute Data**
  Enables high-speed connectivity through:
  Internet backbone
  Fiber optic networks

2. WHAT ARE THE VARIOUS COMPONENTS INSTALLED THERE

Various Components Installed Within A data center isn't just a room full of computers; it's an ecosystem of hardware and supporting infrastructure.

IT EQUIPMENT

- **Servers:** The workhorses (rack-mounted, blade, or tower) that run applications.
- **Storage Systems:** Hard drives (HDD) and Solid State Drives (SSD) organized in SAN (Storage Area Networks).
- **Networking Gear:** Switches, routers, and firewalls that move data in and out.
- Support Infrastructure

- **Uninterruptible Power Supply (UPS):** Battery systems that provide instant power if the grid fails.
- **CRAC Units:** Computer Room Air Conditioning units that manage the immense heat generated.
- **PDUs:** Power Distribution Units that act as high-tech "power strips" for the server racks.

These components collectivelyensure efficient, scalable, and reliable performance of the data centre. Modern data centres focus on modular and plug-and-play connectivity systems to improve efficiency: Faster installation and deployment, Reduced downtime and maintenance, Improved system reliability, Optimized space and energy usage, Advanced connectorized solutions help reduce installation time from weeks to days and improve uptime.

3. WHAT ARE THE CABLE TYPES REQUIRE TO SUPPLY POWER TO THOSE COMPONENTS

CABLE TYPES USED FOR POWER SUPPLY IN DATA CENTRES

Reliable cabling is critical for uninterrupted operation. The following cable types are used:

- Powering a data center requires heavy-duty cabling capable of handling high amperage and ensuring redundancy.
- **Feeder Cables:** Large, copper or aluminum conductors (often THHN or XHHW) that bring power from the utility transformer to the main switchgear.
- **Busways (Bus Drops):** Overhead power distribution systems where "plug-in" units allow power to be dropped down to individual racks.
- **Power Cords (Jumper Cables):** * IEC C13/C14: The most common for standard servers.
- **IEC C19/C20:** Used for high-power equipment like blade chassis or large switches.
- **SOOW/SJOOW Cables:** Flexible, heavy-duty cords often used for portable power or temporary connections.

POWER DISTRIBUTION CABLES:

- LT Power Cables (0.6/1 kV) – main power supply from transformer to panels
- MV Power Cables – for higher voltage distribution
- Flexible Power Cables – for rack-level connections

CONTROL & MONITORING CABLES:

- LT Power Cables (0.6/1 kV) – main power supply from transformer to panels
- MV Power Cables – for higher voltage distribution
- Flexible Power Cables – for rack-level connections

DATA & COMMUNICATION CABLES:

- LAN / Ethernet Cables (Cat 6A, Cat 7) – high-speed data transfer
- Fiber Optic Cables – backbone connectivity

KEY REQUIREMENTS FOR DATA CENTRE CABLES:

- High reliability and continuous performance
- Low smoke & halogen-free for safety
- High current carrying capacity
- Excellent insulation and shielding
- Compatibility with modular / plug-and-play systems

COMPONENTS IN A DATA CENTRE (FROM CABLE INDUSTRY PERSPECTIVE)

From a cable manufacturer's point of view, a data centre is divided into systems where **different types of cables are installed for power, control, and communication:**

1. POWER SUPPLY & DISTRIBUTION SYSTEM:

- Transformers
- DG Sets (Diesel Generators)
- UPS Systems
- LT/MV Panels
- Busbar Trunking / PDUs

REQUIRES: LT/MV POWER CABLES, FLEXIBLE POWER CABLES, BUSDUCT CONNECTIONS

2. SERVER & RACK SYSTEMS:

- Server racks
- Blade servers & storage units
- Rack-mounted PDUs

REQUIRES: **FLEXIBLE POWER CABLES** (RACK SUPPLY) , **LAN / FIBER CABLES** (DATA TRANSMISSION)

3. NETWORKING INFRASTRUCTURE:

- Core switches
- Routers
- Patch panels

REQUIRES: STRUCTURED LAN CABLES (CAT 6A / CAT 7) , FIBER OPTIC CABLES

4. COOLING & HVAC SYSTEMS

- CRAC/CRAH units
- Chillers and cooling towers

REQUIRES: POWER CABLES (MOTORS & COMPRESSORS), CONTROL & INSTRUMENTATION CABLES

5. MONITORING & AUTOMATION SYSTEMS:

- BMS (Building Management System)
- DCIM systems

REQUIRES: CONTROL CABLES, INSTRUMENTATION / SIGNAL CABLES

6. FIRE DETECTION & SAFETY SYSTEMS:

- Smoke detectors
- Fire alarm panels
- Fire suppression systems

REQUIRES: FIRE SURVIVAL CABLES, FRLS / LSZH CABLES

7. SECURITY SYSTEMS:

- CCTV cameras
- Access control systems

REQUIRES: LOW VOLTAGE POWER CABLES DATA / COMMUNICATION CABLES

8. EARTHING & GROUNDING SYSTEM:

- Earthing network for safety

REQUIRES: EARTHING CONDUCTORS / COPPER STRIPS / CABLES

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

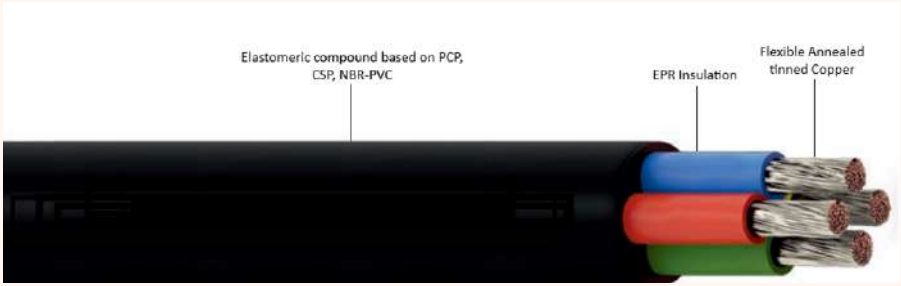
HT CABLES UP TO 11KV

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.

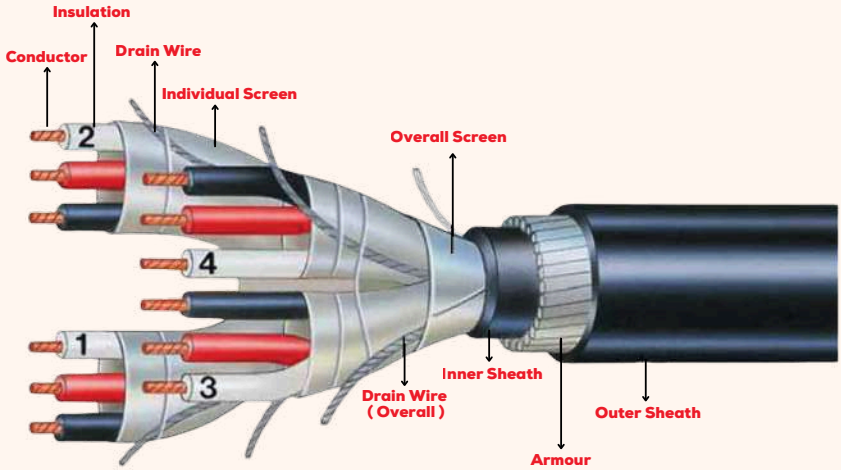


ELASTOMERIC AND SILICON CABLES (UP TO 15 KV)

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)



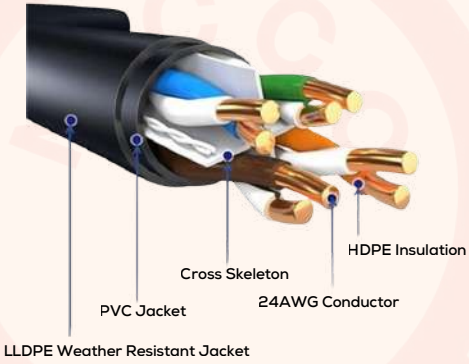
INSTRUMENTATION CABLES

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
- **Screening:** Individual Pair Screening and/ or Overall Screening 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



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:

- **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)

PVC INSULATED CABLES (IS 694)

POLYVINYL CHLORIDE INSULATED UNSHEATHED AND SHEATHED CABLES/CORDS WITH RIGID AND FLEXIBLE CONDUCTOR FOR RATED VOLTAGES UP TO AND INCLUDING 450/750 V.

PVC Insulated Cables are general-purpose electrical cables designed for safe and reliable transmission of power in domestic, commercial, and industrial wiring applications. These cables are manufactured as per IS 694 standard and are suitable for use in conduits, wiring systems, switchboards, and control panels. They provide excellent insulation, flexibility, and resistance to moisture, chemicals, and abrasion. Available in a wide range of sizes, these cables ensure efficient current carrying capacity and long service life for both indoor and limited outdoor installations.

TECHNICAL DETAILS:

- **Construction:** Single Core & Multicore (2 Core, 3 Core, 4 Core & Multicore up to 5 Core)
- **Voltage Rating:** 450/750V
- **Conductor (Material):** Electrolytic Grade Annealed Bare Copper
- **Conductor Type:** Class-1 (Solid) / Class-2 (Stranded)
- **Insulation:** PVC (Type A / Type B / FR / FRLS as per IS 5831)
- **Outer Sheath:** PVC / FR PVC / FRLS PVC (Applicable for Multicore Cables)
- **Operating Temperature Range:** PVC insulated: -15°C to +70°C (Normal) / 85°C (HR) / 90°C (FR)
- **Standards:** IS 694, IS 8130, IS 5831
- **Special Features:** FR / FRLS grades available, Good insulation resistance, Flame retardant properties, Easy installation & flexibility, Resistant to moisture, oil & chemicals, Suitable for domestic and industrial wiring
- **Construction:** Single Core & Multicore (2 Core, 3 Core, 4 Core & Multicore up to 5 Core)
- **Voltage Rating:** 450/750V
- **Conductor (Material):** Electrolytic Grade Annealed Bare Copper
- **Conductor Type:** Class-1 (Solid) / Class-2 (Stranded)
- **Insulation:** PVC (Type A / Type B / FR / FRLS as per IS 5831)
- **Outer Sheath:** PVC / FR PVC / FRLS PVC (Applicable for Multicore Cables)
- **Operating Temperature Range:** PVC insulated: -15°C to +70°C (Normal) / 85°C (HR) / 90°C (FR)
- **Standards:** IS 694, IS 8130, IS 5831
- **Special Features:** FR / FRLS grades available, Good insulation resistance, Flame retardant properties, Easy installation & flexibility, Resistant to moisture, oil & chemicals, Suitable for domestic and industrial wiring

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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