PARAMOUNT CABLES

HT POWER CABLES

Paramount Cables specialises in the manufacture and supply of high voltage polymeric cables (from 3300 to 33000 volts). Today Paramount Cables is a name recognised to meet any challenge and requirement. Maintaining quality standards has always been a top priority for the group. The standards are maintained and nourished by one and all within the organisation. The following specifications are followed during designing, manufacturing and testing of cables:

Construction

Conductor

Copper or Aluminium as per the requirement and following standard specifications.

Extrusion

Extrusion is done in a closed triple crosshead. Inner semiconducting compound, XLPE insulating compound and outer semiconducting compound are fed into respective extruders in a contamination-free and moisture-free closed circuit system through preheater and dehumidifier.

Curing

Curing under oxygen-free nitrogen gas pressure is carried out in catenary continuous vulcanisation (CCV) line as per the recommended practice.

Paramount also specialises in cables up to 33 kV grade produced with Sioplas, wherein the insulating compound used have characteristics similar to the cables produced on CCV line.

Screening

Screening with copper tape along with suitable overlap ensures a uniform radial stress distribution around the axis of the cable core, thus ensuring stable performance. As per customer requirements, suitable screen structure can be designed.

Assembling

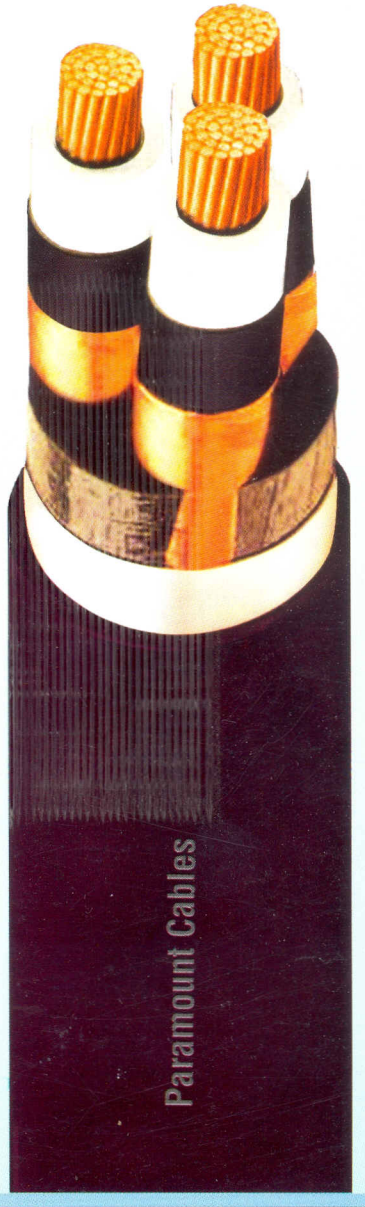
Assembly of cores is done in a precisely controlled drum twister with an anti-torsion device so as to avoid any stress formation on the cores and applied screen. Interstices are filled with suitable non-hygroscopic fillers.

Inner Sheath

Extruded PVC or polythene inner sheath is applied over the assembly of the cores. The material is free of any pinholes and is impervious to moisture.

Armouring

Galvanised steel wire or strips are used to armour the cable with suitable layer and so ensuring required armour resistance value for diverting fault current as per specific requirement. For mining purposes, special armour construction is considered due to safety reasons for fixed installation within a gaseous mine.



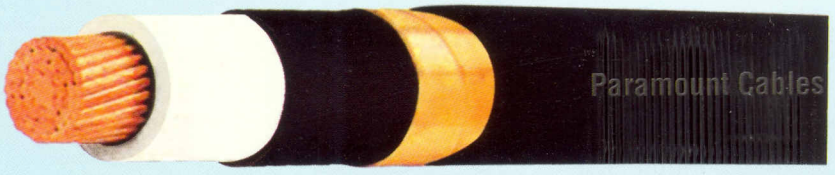
Outer Sheath

The outer sheath is made to be Anti-corrosive and moisture and water proof. The outer covering is applied with high quality PVC or polythene of desired colour to ensure a long and durable life of the cable. It protects the cable from the influence of surrounding affluents like Acid, Alkalies, Salts Emulsions and Organic substances. Normally the colour of the outer sheath is kept black so as to protect the sheath from ultraviolet radiations.

Within these construction specifications, Paramount Cables generally produce fire-resistant PVC outer sheath. In special cases, when required by customers, low smoke (FRLS) cables are also supplied. For installation in wet grounds and areas where water seepage is regular, water-blocking tape is provided to prevent any ingress of moisture and water. To maintain the integrity of the outer sheath, suitable voltage test is carried out to ensure that there are no pinholes existing on sheath. This is normally done by spark testing method, unless special requirement for graphite coating is asked for, we apply a standing voltage of 10 kV between the armour and the coated sheath.

Quality and Testing

During every stage of the production process, quality control personnel diligently check and ensure that the cables are produced as per standard norms. No deviations are allowed at any stage. It is a constant effort of Paramount Cables to produce material with long lasting life and total customer satisfaction. It is the diligent quality efforts that have enabled the group to manufacture cables as per any international standard, including IEC, VDE, BSS and NFC. The cables even comply with ASTM requirements of material testing. Paramount is an expert in providing huge quantities of PVC, PE and XLPE-insulated cables as per customer-required standard. Last, but not the least, we also specialise in offering specific cables for refineries, space centres, as well as per Lloyds specifications.



Indian Specifications

As per the requirement, varied products are manufactured according to the specifications laid down by Bureau of Indian Standards (BIS), Indian Railway Specifications (IRS), Engineers India Ltd. (EIL), National Thermal Power Corporation (NTPC), Power Grid Corporation of India Ltd. (PGCIL) and Defence services.

Paramount Cables has been licensed by the Bureau of Indian Standards (BIS) to mark its products with IS:7098 Part II, for XLPE power cables ranging from 3.3 kV to 33 kV;

International Specifications

We have been awarded certificates of conformity by BASEC (British Approvals Service for Cables) .Our product have also been approved by SABS (South African Bureau of Standard).

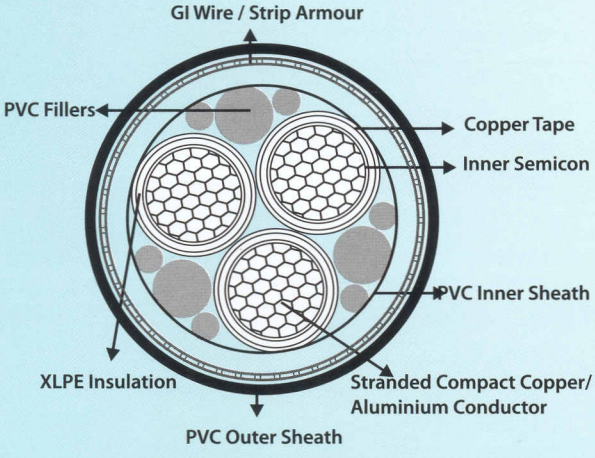
For the international market, we also conform to the specifications laid down by bodies such as , British Standard Specifications (BSS), American Standard for Testing Methods (ASTM), International Electrotechnical Committee Specifications (IEC), Vereingte Deutsche Elktrotechniker (VDE), Japanese Industrial Standards (JIS), French Standards (NFC) and Russian Standards (GOST)

HT-XLPE CABLES

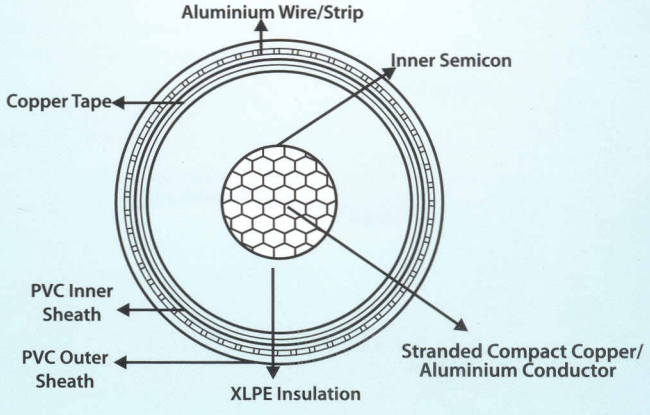
Main Features

- HT-XLPE Cables have longer life as compared to conventional PVC Cables
- HT-XLPE Cables have a higher conductor temperature rating i.e. 90°C
- HT-XLPE Cables have a higher emergency overload capacity 130°C
- Max. temperature limit under short circuit conditions for XLPE Cables is 250°C. Hence XLPE Cables have higher short circuit rating
- Insulation resistance of HT-XLPE Cable is excellent & superior to Identical PVC / PILC Cables
- HT-XLPE Cables have high corrosion resistance in polluted atmosphere
- HT-XLPE Cables have better properties of resistance to chemical and corrosive gases
- HT-XLPE Cables have low installation cost because of light weight, dimensions and are far more flexible
- HT-XLPE Cables have better properties to withstand vibrations, hot impacts
- Jointing of HT-XLPE Cables is easier and quicker

Cross Section



Paramount 3 Core HT XLPE Cable



Paramount 1 Core HT XLPE Cable

Rating Factors

HT-XLPE CABLES

Main Features

• Max conductor temperature	90°C	
• Max conductor temperature during Short Circuit	250°C	
• Thermal Resistivity of Soil	150°C	cm/w
• Thermal Resistivity of PVC	650°C	cm/w
• Thermal Resistivity of XLPE	350°C	cm/w
• Ground Temperature	30°C	
• Ambient Air Temperature	40°C	
• Duration of Short Circuit	1 Second	
• Depth of laying(to the highest point of cables Laid direct in the ground or on top of surface of duct)	3.3 kV to 11 kV ----------900 mm 22 kV to 33 kV ----------1050 mm	

• Type of Cables

Multi Core Cables Installed Single

Single Core Cables*

*Three Single core cables installed in Trefoil & Touching formation

Three Single core cables installed in Flat formation

RATING FACTORS FOR VARIATION IN AMBIENT AIR TEMPERATURE

Ground Temperature °C	25	30	35	40	45	50	55	60
Rating factor	1.15	1.11	1.06	1.00	0.91	0.88	0.81	0.74

RATING FACTORS FOR VARIATION IN SOIL TEMPERATURE FOR CABLES IN GROUND

Ground Temperature°C	15	20	25	30	35	40	45	50	55
Rating factor	1.12	1.08	1.04	1.00	0.96	0.91	0.87	0.82	0.76

RATING FACTORS FOR VARIATION IN GROUND TEMPERATURE FOR CABLES IN THE DUCTS

Ground Temperature °C	15	20	25	30	35	40	45	50	55
Rating factor	1.12	1.08	1.04	1.00	0.96	0.91	0.87	0.82	0.76

RATING FACTORS FOR DEPTH OF LAYING

Depth of Laying [mm]	900	1050	1200	1500	1800	2000	2500 or more
3.3, 6.6, & 11 kV Cables	1.00	0.99	0.97	0.95	0.94	0.93	0.91

RATING FACTORS FOR DEPTH OF LAYING

Depth of Laying [mm]	1050	1200	1500	1800	2000	2500 or more
22 & 33 kV Cables	1.00	0.99	0.97	0.95	0.94	0.92

RATING FACTORS FOR VARIATION IN THERMAL RESISTIVITY OF SOIL

Thermal Resistivity (°C cm/W)	100	120	150	200	250	300
Rating factor	1.20	1.11	1.00	0.87	0.79	0.72

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