

XLPE POWER CABLES



# LT CROSS-LINKED POLYETHYLENE (XLPE) POWER CABLES

An ISO 9001:2000 Certified Co.

a german innovation



Meets additional requirements of international standards



# LT CROSS-LINKED POLYETHYLENE (XLPE) POWER CABLES



SUPPLIERS



## LT 'HILLS' CROSS LINKED POLYTHYLENE (XLPE) INSULATED POWER CABLES

Hills Cab has developed a special grade XLPE compound to be used as the insulating material suitable for LT (upto 1100 volts) applications. This is a thermoset type of polymer enriched with cross linking agent. This is extruded over the conductor using modern extruders and is thoroughly cross linked under controlled conditions. This XLPE insulation overcomes the drawbacks of PVC, hitherto extensively used as an insulating material, without losing any of PVC's desirable properties.

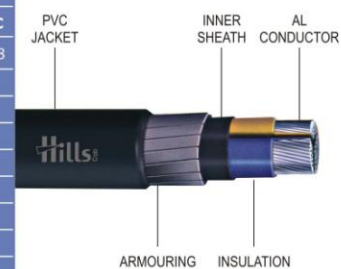
Following are the advantages of XLPE Insulated Cables over that of PVC Insulated cables.

- **Higher Current Rating :**  
Withstands continuous conductor temperature of 90°C, whereas PVC withstands only 70°C, which means higher current carrying capacity.
- **Higher Overload Capacity :**  
XLPE cables can operate at 130°C, during emergency, unlike PVC Cables which cannot operate beyond 120°C. Thus in an emergency, the entire system need not go out of commission if some of the cables fail, because the other cables in parallel can carry a higher load.
- **Higher Short Circuit Rating :**  
Can withstand conductor temperatures of upto 250°C during a short circuit - PVC cannot withstand more than 160°C.
- **Lighter weight, smaller bending radius :**  
Lighter weight, smaller bending radius that PVC enables installation of XLPE cables even in cramped space conditions. The cables require less support, thus lowering installation costs.
- **Lower Di-electric Constant and Power Factor :**  
Results in saving in power losses which means saving in costs, particularly for higher voltage.
- **Better Impact, Abrasion, Corrosion, Resistance :**  
Safer than PVC Cables against mechanical damage, abrasion and corrosion.
- **Easier Jointing and Termination :**  
Requires no special skills or equipment for jointing and termination.

### COMPARISON OF PROPERTIES

		XLPE	PVC
Dielectric Constant		2.35	6 to 8
Dielectric strength	KV/mm	22	14
Volume Resistivity at 27°C	Ohm-cm	10 <sup>14</sup>	10 <sup>13</sup>
Thermal Resistivity	°C cm/W	350	600
Power Factor at maximum conductor temperature		0.008	0.1
Normal conductor operating temperature	°C	90	70
Emergency overload temperature	°C	130	120
Maximum short circuit temperature	°C	250	160

### TYPICAL CABLE CONSTRUCTION



### QUALITY ASSURANCE

- At Hills Cab, Quality Assurance is ensured through planned, stage-wise quality checks. These quality checks are made starting from the raw material right through every stage of manufacturing.
- In particular, the property and specified test for XLPE compound is checked and the absence of contamination in the compound is noted against each batch of material received.

All information given herein is in good faith. Hills Cab shall not be liable for any damages arising out of incorrect uses or interpretation. The company reserves the right to change any of the above specification without any prior notice.

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