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| | | <p>outer sheathed. The conductor screen and insulation screen shall both be of extruded semiconducting compound and shall be applied along with the XLPE insulation in a single operation of triple extrusion process so as to obtain continuously smooth interfaces. Method of curing shall be “dry curing / gas curing / steam curing “. The metallic screen for each core shall be capable of carrying the system earth fault current and shall consist of copper wires or tape with minimum overlap of 20%. However, for single core armoured cables, the armouring shall constitute the metallic part of the screening.</p> <p>15. The standard length for HT power cables shall be 1000 meter for all single core cables and 750 meters for 3 core cables. The length per drum shall be subjected to a maximum tolerance of +/- 5% of the standard drum length. The Employer shall have the option of rejecting cable drums with shorter lengths.</p> <p>16. All cable glands for equipment located in hazardous area shall be flameproof type.</p> <p>17. Both the ends of the cables shall be properly sealed with heat shrinkable PVC/ rubber caps secured by 'U' nails to eliminate ingress of water during transportation, storage, and erection.</p> |
| 13 | LT Power Cables | <p>1. 1.1 KV grade XLPE power cables shall have compacted aluminium conductor, XLPE insulated, PVC inner-sheathed (as applicable), armoured/ unarmoured, PVC outer sheathed conforming to IS:7098. (Part-I).</p> <p>2. 1.1KV grade PVC power cables shall have aluminium conductor (compacted type for sizes above 10 sq.mm), PVC Insulated, PVC inner sheathed (as applicable) armoured/ unarmoured, PVC outer-sheathed conforming to IS:1554 (Part-I).</p> <p>3. 1.1 KV grade Trailing cables shall have tinned copper (class 5) conductor, insulated with heat resistant elastomeric compound based on Ethylene Propylene Rubber(EPR) suitable for withstanding 90 deg.C continuous conductor temperature and 250deg C during short circuit, inner-sheathed with heat resistant elastomeric compound, nylon cord reinforced, outer-sheathed with heat resistant, oil resistant and flame retardant heavy duty elastomeric compound conforming to IS 9968.</p> <p>4. The cables shall be suitable for laying on racks, in ducts, trenches, conduits and underground (buried) installation with chances of flooding by water.</p> <p>5. Copper/ Aluminium conductor used in power cables shall have tensile strength as per relevant standards. Conductors shall be multi stranded.</p> |

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| | | <p>6. XLPE insulation shall be suitable for continuous conductor temperature of 90 deg. C and short circuit conductor temperature of 250 deg. C. For single-core armoured cables, the armouring may constitute the metallic part of insulation screening.</p> <p>7. The cable cores shall be laid up with non-hygroscopic fillers between the cores wherever necessary. It shall not stick to insulation and inner sheath.</p> <p>8. All the cables, other than single core cables, shall have distinct extruded PVC inner sheath of black colour as per IS: 5831. In case of single core cables where there are both metallic screening and armouring, there shall be extruded inner sheath between them.</p> <p>9. All cables and wires shall be FRLSH conforming to category AF as per IS: 10810.</p> <p>10. The Armour used shall be galvanized round steel wire and shall conform the latest IS-3975.</p> <p>11. Aluminium conductor used in power cables shall have tensile strength of more than 100 N/ sq.mm. Conductors shall be multi stranded.</p> <p>12. Cores of three core cables shall be identified by colouring of insulation or by providing coloured tapes helically over the cores, with Red, Yellow & Blue colours.</p> <p>13. All cables shall meet the fire resistance requirement as per Category-B of IEC-332 Part-3.</p> <p>14. Allowable tolerances on the overall diameter of the cables shall be ± 2 mm maximum, over the declared value in the technical data sheets.</p> <p>15. All LT power cables of sizes more than 120 sq.mm. shall be XLPE insulated and preferable sizes are 1Cx150, 1Cx300, 1Cx630, 3Cx150 & 3Cx240 sq.mm.</p> <p>16. Cables shall be supplied in non-returnable wooden or steel drums of heavy construction. The surface of the drum and the outer most cable layer shall be covered with water proof cover. Both the ends of the cables shall be properly sealed with heat shrinkable PVC/ rubber caps secured by 'U' nails so as to eliminate ingress of water during transportation, storage and erection. Wood preservative anti-termite treatment shall be applied to the entire drum. Wooden drums shall comply with IS: 10418.</p> |
| 14 | Cable Selection & Sizing | <p>Cables shall be sized based on the following considerations:</p> <ol style="list-style-type: none"> 1. Rated current of the equipment. 2. The voltage drop in the cable, during motor starting condition, shall be limited to 10% and during full load running condition, shall be limited to 3% of the rated voltage. |