

Clause No.	TECHNICAL SPECIFICATION ELECTRICAL
	Power and Control Cables
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1.00	CABLES:
1.01	HT CABLES 33 KV cables will be unearthed grade suitable for use in medium resistance earthed system, with stranded & compacted aluminium conductors, extruded semi-conducting compound screen, extruded XLPE insulated, extruded semi-conducting compound with a layer of non-magnetic metallic tape for insulation screen, extruded PVC (Type ST-2) FRLS inner sheath, Aluminum / galvanized steel round wire armored extruded PVC (Type ST-2) FRLS outer sheathed, single / multicore conforming to IS 7098 (Part II) IEC-60502 for constructional details and tests.
1.01.01	The cables required as follows : a) 33kV, XLPE Cable, aluminum armored cable confirming to IS 7098 of required length shall be provided for interconnection from transformer to 33 kV switchgear. b) 33kV, XLPE cable, aluminium armoured cable required length shall be provided for interconnections from 33 kV cubicle to outgoing feeder poles. c) 1.1kV, XLPE Cable, Aluminium for connection from Inverter/LT Panel to Transformer.
1.01.02	Necessary quantity of Cable termination kits as per relevant IS/IEC: Suitable for 33kV, Cable Gland, Cable Lug etc. shall be provided.
1.01.03	The HT cable with insulation screen/armour insulated at one end should with stand the system fault current
1.02	LT POWER CABLES: LT Power Cable will be 1100V, grade, single / multicore, stranded aluminum conductor, XLPE, insulated with PVC inner sheath and outer sheath made on FRLS PVC compound. The armouring will be of Aluminum / galvanized steel round wire. The cable used for DC system will be of single core type. All other details will be as applicable. Minimum conductor cross section of power cables will be 4 Sq.mm. Cable lug, cable gland shall be provided.
1.03	CONTROL CABLES: Control cables will be 1100V Grade, multicore, stranded copper conductor with 20% spare, PVC insulated, inner PVC sheathed / galvanized steel wire armored and outer sheath made of FRLS PVC compound. In situations where accuracy of measurement or voltage drop in control circuit, warrant, higher cross sections as required will be used. 4 sq.mm copper conductor cables will be used for CT circuits all other specifications remaining same. Cable lug, cable gland shall be provided.
1.04	All the cables shall be run in suitable conduit pipes or trenches as applicable. Cable tray if required shall be provided in the cable trench.

- 1.05 The cable shall be subject to all type, routine and acceptance tests in accordance with the relevant standards.

Note: HT and LT Cable sizes shall be selected considering the power loss, current carrying capacity, voltage drop, maximum short circuit duty and period of short circuit current to meet the anticipated current.