1. INTENT OF SPECIFICATION:

This specification covers design manufacture, testing at Vendor's works and delivery of H.T. Power Cables.

2. APPLICABLE STANDARDS:

IS 9968 Part-I (1988) : Specification for Elastomer / Ethylene Propylene Rubber(EPR) insulated cables

IS 8130 (1984) : Specification for conductors of insulated electrical cables and flexible cords.

IS 6380 : Specification for elastomer / EPR insulation and sheath of electric cables

3. CLASS F3 CABLE CONSTRUCTION REQUIREMENTS:

3.0	Insulation	:	Cross linked Polyethylene with extruded Semi-conducting core shielding.
3.1	Voltage grade	:	3300 V/6600V
3.2	Conductor	:	Conductor shall be tinned annealed Copper wires complying with requirements of IS : 8130 – 1984.
3.3	Separator Tape	:	A separator tape made of suitable material shall be applied over the conductor.
3.4	Outer Sheath	:	Insulation shall be of elastomeric/EPR compound conforming to Type IE - 2 of IS: 6380- 1984.
3.5	Core identification	:	As per IEC
3.6	Tape	:	Proofed tape or PETP tape or plastic tape or any other suitable tape may be applied over insulation. The tape when provided shall be applied with an overlap.
3.7	Braiding	:	Braiding of suitable material shall be applied reasonably close, but not so tight as to damage the insulation.
3.8	Compounding and Varnishing	:	Proper Compounding and Varnishing shall be done.
3.9	Laying of cores	:	Cores shall be laid together with a suitable right hand lay. Fillers in interstices shall be

used to provide reasonable circularity of laid up cable.

3.10 Binder Tape : Proofed Tape or PETP tape or Plastic tape or any other suitable tape over laid up cores shall be applied.

3.11 Sheath : Sheath shall be applied by extrusion process and the colour of sheath shall be black. Sheath shall consist of elastomeric compound complying with requirements of type SE – 4 of IS : 6380

4. **TESTS:**

All acceptance tests and routine tests shall be carried out on all cables as per IS 9968 part 1, at vendor's work in the presence of purchaser's representative. Type test reports of similar cables wherever they are called for shall be furnished.

5. **CABLE IDENTIFICATION, PACKING AND MARKING**

Manufacturer and cable identification shall be done through out the length of the cable by printing or indenting or embossing or any other suitable method. Distance between any two consecutive printings shall be not more than 1 metre.
Cables shall be delivered in neatly rolled on wooden drums, with both ends sealed with moisture proof sealing.
All information regarding cable shall be marked on cable drum.

6. **DOCUMENTATION:**

- 2 Copies of filled-up Technical data sheets to be furnished along with the bid.
- Quality Assurance Schedules.
- 3 Copies of Test Certificates within one week after the inspection.
- 5 Sets of final documents comprising of TDS, catalogues & certificates.
- Cables offered by Non-Indian vendors shall comply with IEC 502 & other relevant IEC specifications.

TECHNICAL DATA SHEETS

(To be filled in and sent along with the bid for each type of cable)

S.No. Description

Make

Type

Applicable Standard

Voltage Grade

Max. Conductor temperature:

Continuous Deg. C.
Short time Deg. C.

CONDUCTOR:
Material
Size (Sq. mm)
No. of wires & diameter of each wire (No. / mm)

INSULATION:

Material
Size (sq. mm)
Thickness(normal) mm.

INNER SHEATH:

Material
Type
Thickness (normal) mm.
Extruded (Yes/No.)
Approx. outside dia over inner sheath (mm).

Thickness (normal) mm

Date:	Prepared By:	Approved By:

OVERALL SHEATH:
Material
Type
Thickness (nominal) mm.

APPROX OVERALL DIAMETER (MM):

CONTINUOUS CURRENT RATING FOR STANDARD IS CONDITION LAID
DIRECT : (Amps)

In ground
In duct
In all

SHORT CIRCUIT CURRENT FOR 1 Sec (KA)

ELECTRICAL PARAMETERS AT Max. OPERATING TEMP (Ohm/km)

Resistance (DC/AC)
Reactance at 50 Hz.
Capacitance.

TOTAL LOSSES (WATTS/METER):