

**BHARAT HEAVY ELECTRICALS LIMITED, JHANSI**

**SPECIFICATION CUM COMPLIANCE CERTIFICATE OF L.T.CABLE**

**NOTE :**

- 1 VENDOR must submit complete information against clause No. 11 ( Qualifying condition). The offer meeting this clause would only be processed.
- 2 The " offered" Column and where applicable, the " Deviations" Column of this format shall be filled in by the Vender and submitted along with the offer. Technical details also submitted with the offer. Inadequate / incomplete, ambiguous, or unsustainable information against any of the clauses of the specification / requirements shall be treated as non - compliance.
- 3 The offer and all documents enclosed with offer should be in English language only.

**SCOPE :**

**DESIGN, MANUFACTURING, TESTING, PACKING AND SUPPLY OF L.T.CABLE**

S.NO.	DESCRIPTION FOR BHEL REQUIREMENT	OFFERED	DEVIATIONS
<b>1.0</b>	<b>SCOPE</b>		
1.1	This specification governs the quality requirements of design, manufacturing, testing, packing at supplier works and delivery of L.T.cable complete in all respect.	VENDER TO CONFIRM	
<b>2.0</b>	<b>REQUIREMENT</b>		
2.1	Aluminium conductor PVC insulated, PVCsheated overall 1100 volt grade armoured cable confirming to IS 1554 part -I.	VENDER TO CONFIRM	
2.1.1	The required No. of conductor, conductor size and quantity are as below:	VENDER TO CONFIRM	
2.1.1.1	<b>3 1/2 core x 300 sq. mm Quantity - 2000 meter</b>	VENDER TO QUOTE	
<b>3.0</b>	<b>APPLICABLE STANDARDS</b>		
3.1	PVC insulated (heavy duty) electric cables part -I for working voltage upto and including 1100 volt - IS 1554 (Part -I)	VENDER TO CONFIRM	
3.2	Conductor for insulated electric cable and flexible cords - IS 8130	VENDER TO CONFIRM	
3.3	PVC insulated and sheat of electric cables - IS 5831	VENDER TO CONFIRM	
3.4	Mild steel formed wires and taps for armouring of cables - IS 3975	VENDER TO CONFIRM	
3.5	Recommended current ratings for cables : part -2 PVC insulated and PVC sheated heavy duty cables - IS 3961 (Part -2)	VENDER TO CONFIRM	
3.6	Specification for hot dip galvanised coating on round steel wires - IS 4826	VENDER TO CONFIRM	
3.7	Wooden drums for electric cables - IS 10418	VENDER TO CONFIRM	
3.8	The cable shall also confirm to the provision of Indian Electricity Rules and other statory requirement as applicable.	VENDER TO CONFIRM	
<b>4.0</b>	<b>CONSTRUCTIONAL REQUIREMENTS</b>		
4.1	Voltage grade : 1100 volt	VENDER TO CONFIRM	
4.2	Conductor : Strandard aluminium conductor as per IS 8130	VENDER TO CONFIRM	
4.3	Conductor : Standard EC grade High conductivity Copper class 2 as per IS 8130	VENDER TO CONFIRM	
4.4	Insulation : Extruded PVC type A IS 5831 , Nominal thickness as per IS	VENDER TO CONFIRM	
4.5	Type of cable : Armoured multicore	VENDER TO CONFIRM	
4.6	Core identification : as per IS 1554	VENDER TO CONFIRM	
4.7	Inner sheath : Type ST-1 extruded PVC	VENDER TO CONFIRM	
4.8	Armoured : Armouring shall be as per method (b) of IS 1554 (part-1)	VENDER TO CONFIRM	
4.9	Outer sheath : Type ST-1	VENDER TO CONFIRM	
<b>5.0</b>	<b>TESTS</b>		
5.1	All acceptance and routine test shall be carried out on all cables at vender's works in the presence of BHEL representative. Type test reports of similar cables shall be furnished.	VENDER TO CONFIRM	


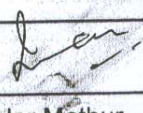
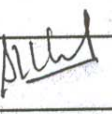


# DESIGN, MANUFACTURING, TESTING, PACKING AND SUPPLY OF L.T.CABLE

S.NO.	DESCRIPTION FOR BHEL REQUIREMENT	OFFERED	DEVIATIONS
<b>6.0</b>	<b>GENERAL</b>		
6.1	Cable shall be delivered in maximum possible length of not less than 500 meter length for cable size 3 1/2 core 300 sq. mm and 185 sq mm cables and not less than 1000 meter length for other required cables.	VENDER TO CONFIRM & SPECIFY	
6.2	Cables shall be neatly rolled on wooden drums (seasoned wood) with both ends sealed with moisture proof sealing.	VENDER TO CONFIRM	
6.3	Sequential marking of the length of the type and size of cable, voltage grade cable shall be provided on the outer sheath at every one meter. The imbossing shall be legible and indelible.	VENDER TO CONFIRM	
6.4	On the flange of the drum necessary information such as manufacturer's name, type, size, voltage grade, length of the cable shall be printed. An arrow shall be printed on the drum with suitable instructions to show the direction of rotation of the drum.	VENDER TO CONFIRM	
<b>7.0</b>	<b>DOCUMENTATIONS</b>		
7.1	Technical data sheet in given format only (refer specification point No. 8.0)	VENDER TO SUBMIT	
7.2	QAP shall be furnished along with the offer	VENDER TO SUBMIT	
7.3	Final data sheet after BHEL Purchase Order	VENDER TO CONFIRM	
7.4	3 copies of test certificates and technical data sheets with in one week after inspection	VENDER TO CONFIRM	
<b>8.0</b>	<b>TECHNICAL DATA SHEETS:</b>		
8.1	Make	VENDER TO SUBMIT	
8.2	Type	VENDER TO SUBMIT	
8.3	Applicable Standrad	VENDER TO SUBMIT	
8.4	Voltage grade	VENDER TO SUBMIT	
8.5	Suitable for system with:	VENDER TO SUBMIT	
	a) Service voltage	VENDER TO SUBMIT	
	b) Nature earthed/ unearthed	VENDER TO SUBMIT	
8.6	Maximum conductor temp.	VENDER TO SUBMIT	
	a) Continuous Deg. C	VENDER TO SUBMIT	
	b) Short Deg. C	VENDER TO SUBMIT	
8.7	Conductor	VENDER TO SUBMIT	
	a) Material	VENDER TO SUBMIT	
	b) Size (SQ. mm)	VENDER TO SUBMIT	
	c) No. of wires & diameter of each wire (No/mm)	VENDER TO SUBMIT	
8.8	Insulation	VENDER TO SUBMIT	
	a) Material	VENDER TO SUBMIT	
	b) Type	VENDER TO SUBMIT	
	c) Thickness (nominal) mm	VENDER TO SUBMIT	
8.9	Inner sheath	VENDER TO SUBMIT	
	a) Material	VENDER TO SUBMIT	
	b) Type	VENDER TO SUBMIT	
	c) Thickness (nominal) mm	VENDER TO SUBMIT	
	d) Extruded Yes/ No	VENDER TO SUBMIT	
	e) Approx. outside dia over inner sheath mm.	VENDER TO SUBMIT	
8.10	Armouring	VENDER TO SUBMIT	
	a) Material	VENDER TO SUBMIT	
	b) Size	VENDER TO SUBMIT	
	c) DC resistance at 20 degree C (Ohm/km)	VENDER TO SUBMIT	
8.11	Overall sheath	VENDER TO SUBMIT	
	a) Material	VENDER TO SUBMIT	
	b) Type	VENDER TO SUBMIT	
	c) Thickness (nominal) mm	VENDER TO SUBMIT	
8.12	Approx. overall diameter (mm)	VENDER TO SUBMIT	
8.13	Standard drum length with tolerance (m)	VENDER TO SUBMIT	



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S.NO.	DESCRIPTION FOR BHEL REQUIREMENT	OFFERED	DEVIATIONS
8.14	Net weight of cable (Kg/ Km)	VENDER TO SUBMIT	
8.15	Continous current rating for standard IS condition laid direct :Amps	VENDER TO SUBMIT	
	a) In ground	VENDER TO SUBMIT	
	b) In duct	VENDER TO SUBMIT	
	c) In air	VENDER TO SUBMIT	
8.16	Short circuit current for -I see.(KA)	VENDER TO SUBMIT	
8.17	Electrical parameters at maximum operating temp.(ohm/km)	VENDER TO SUBMIT	
	a) Resistance	VENDER TO SUBMIT	
	b) Reactance at 50 hz	VENDER TO SUBMIT	
	c) Impedence	VENDER TO SUBMIT	
8.18	Recommended minimum bending radius	VENDER TO SUBMIT	
8.19	Dearating factor for following ambient temp. in air ground.	VENDER TO SUBMIT	
	a) At 30° C	VENDER TO SUBMIT	
	b) At 35° C	VENDER TO SUBMIT	
	c) At 45 ° C	VENDER TO SUBMIT	
	d) At 50 ° C	VENDER TO SUBMIT	
8.20	Cable identification code	VENDER TO SUBMIT	
8.21	List of routine and type tests certificates enclosed.	VENDER TO SUBMIT	
<b>9.0 INSPECTION AND TESTING</b>			
9.1	Inspection and testing of cables shall be done at manufacturer works.	VENDER TO CONFIRM	
9.2	15 days advance information shall be given so that BHEL representative can be deputed for inspection and testing.	VENDER TO CONFIRM	
<b>10.0 GUARANTEE</b>			
10.1	The cable shall be guaranted for satisfactory operation of 24 months from the date of receipt.	VENDER TO CONFIRM	
<b>11.0 QUALIFYING CONDITION</b>			
11.1	Only those vender, who are in the line of cable manufacturing or authorised agents of cable manufacturer shall quote. The following informations are to be submitted with the offer. This is required from venders for qualifications of their offers.	VENDER TO SUBMIT	
11.2	Name of the cable manufacturer and company profile	VENDER TO SUBMIT	
11.3	Details of manufacturing facilities available at manufacturer works.	VENDER TO SUBMIT	
11.4	Details of test facilities available at manufacturer works.	VENDER TO SUBMIT	
11.5	BHEL reserves the right to verify information submitted by vender. In case the information is found to be false/ incorrect, the offer shall be rejected.	VENDER TO CONFIRM	
 Sujeet Srivastava Dy. Manager (WE&S)		 Inder Mathur Sr. Manager (WE&S)	
		 S.J. Chakraborty Sr. DGM (WE&S)	