

BHARAT HEAVY ELECTRICALS LIMITED, JHANSI

Specification No	9318/R1
Item No	SP/ELEC/9318

SPECIFICATION CUM COMPLIANCE CERTIFICATE OF H.T. CABLE

NOTE :

1	VENDOR must submit complete information against clause No. 12 (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 / equipments 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 H.T.CABLE (11 KV 1 X 500 SQ MM)

S.NO.	DESCRIPTION FOR BHEL REQUIREMENT	SPECIFIED / TO BE CONFIRMED BY	OFFERED	DEVIATIONS
1	SCOPE			
1.1	This specification governs the quality requirements of design, manufacturing, testing, packing at supplier works and delivery of H.T.cable complete in all respect.	VENDER TO CONFIRM		
2	REQUIREMENT			
2.1	11 KV grade (E) stranded Aluminium conductor, Conductor screened with extruded semi conducting compound,extruded XLPE insulated,screened with semi conducting compound followed by metallic screening of copper tape,PVC TYPE ST-2 inner sheathed, aluminium round wire armoured, PVC TYPE ST-2 outer sheathed cable confirming to IS :7098/II/ with latest amendments.	VENDER TO CONFIRM		
2.2	No. of core, size and quantity of cable			
2.2.1	1 Core x 500 sq. mm Quantity - 1500 METER	VENDER TO CONFIRM		
3	APPLICABLE STANDARDS			
3.1	H.T.Cable for working voltage 11 KV (E) as per IS 7098 partII	VENDER TO CONFIRM		
3.2	Conductor for insulated electric cable and flexible cords - IS8130	VENDER TO CONFIRM		
3.3	PVC insulated and sheat of electric cables - IS 5831	VENDER TO CONFIRM		
3.4	Wooden drums for electric cables - IS 10418	VENDER TO CONFIRM		
3.5	The cable shall also conform to the provision of Indian Electricity Rules and other statutory requirement as applicable.	VENDER TO CONFIRM		
4	SITE CONDITION AND SYSTEM DATA			
4.1	HT power cable shall be designed and to be suitable for the following site & system condition	VENDER TO CONFIRM		
4.1.1	Maximum ambient temperature. : 50 degree C	VENDER TO CONFIRM		
4.1.2	Minimum ambient temperature : 1 degree C	VENDER TO CONFIRM		
4.1.2	Maximum relative Humidity : 95%	VENDER TO CONFIRM		
4.1.3	Minimum relative humidity : 10%	VENDER TO CONFIRM		
4.1.4	Environmental condition : Dust, Laden atmosphere	VENDER TO CONFIRM		
5	POWER SYSTEM DATA			
5.1	Voltage : 11KV (3 phase +10% - 12.5%)	VENDER TO CONFIRM		
5.2	Frequency : 50HZ (+2% - 3%)	VENDER TO CONFIRM		
5.3	System earthing : Grounded	VENDER TO CONFIRM		
6	TESTS			
6.1	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		
7	GENERAL			
7.1	Cable shall be delivered in length of 500 meters +/- 5% length.	VENDER TO CONFIRM		
7.2	Cables shall be neatly rolled on wooden drums (seasoned wood) with both ends sealed with moisture proof sealing.	VENDER TO CONFIRM		
7.3	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		
7.4	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		
8	DOCUMENTATIONS			
8.1	Technical data sheet shall be submitted in given format only(refer specification point No. 10.0)	VENDER TO SUBMIT		
8.2	QAP shall be furnished along with the offer	VENDER TO SUBMIT		

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DESIGN, MANUFACTURING, TESTING, PACKING AND SUPPLY OF H.T.CABLE (11 KV 1 X 500 SQ MM)				
S.NO.	DESCRIPTION FOR BHEL REQUIREMENT	SPECIFIED / TO BE CONFIRMED BY	OFFERED	DEVIATIONS
8.3	Final data sheet after BHEL Purchase Order	VENDER TO CONFIRM		
8.4	3 copies of test certificates and technical data sheets with in one week after inspection	VENDER TO CONFIRM		
9	TECHNICAL DATA SHEETS:			
9.1	Make	VENDER TO SUBMIT		
9.2	Type	VENDER TO SUBMIT		
9.3	Applicable Standrad	VENDER TO SUBMIT		
9.4	Voltage grade	VENDER TO SUBMIT		
9.5	Suitable for system with:			
	a) Service voltage	VENDER TO SUBMIT		
	b) Nature earthed/ unearthed	VENDER TO SUBMIT		
9.6	Maximum conductor temp.			
	a) Continuous Deg. C	VENDER TO SUBMIT		
	b) Short Deg. C	VENDER TO SUBMIT		
9.7	Conductor			
	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		
9.8	Conductor screening			
	a) Material	VENDER TO SUBMIT		
	b) Type	VENDER TO SUBMIT		
	c) Thickness (nominal) mm	VENDER TO SUBMIT		
9.9	Insulation			
	a) Material	VENDER TO SUBMIT		
	b) Type	VENDER TO SUBMIT		
	c) Thickness (nominal) mm	VENDER TO SUBMIT		
9.10	Insulation screening			
	a) Material	VENDER TO SUBMIT		
	b) Type	VENDER TO SUBMIT		
	c) Thickness (nominal) mm	VENDER TO SUBMIT		
9.11	Inner sheath			
	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		
9.12	Armouring			
	a) Material	VENDER TO SUBMIT		
	b) Size	VENDER TO SUBMIT		
	c) Type	VENDER TO SUBMIT		
9.13	Overall sheath			
	a) Material	VENDER TO SUBMIT		
	b) Type	VENDER TO SUBMIT		
	c) Thickness (nominal) mm	VENDER TO SUBMIT		
9.14	Approx. overall diameter (mm)	VENDER TO SUBMIT		
9.15	Standard drum length with tolerance (m)	VENDER TO SUBMIT		
9.16	Net weight of cable (Kg/ Km)	VENDER TO SUBMIT		
9.17	Continous current rating for standard IS condition laid direct			
	:Amps			
	a) In ground	VENDER TO SUBMIT		
	b) In duct	VENDER TO SUBMIT		
	c) In air	VENDER TO SUBMIT		
9.18	Short circuit current for -1 sec.(KA)	VENDER TO SUBMIT		
9.19	Electrical parameters at maximum operating temp.(ohm/km)			
	a) Resistance	VENDER TO SUBMIT		
	b) Reactance at 50 hz	VENDER TO SUBMIT		
	c) Impedence	VENDER TO SUBMIT		
9.20	Recommended minimum bending radius	VENDER TO SUBMIT		
9.21	Dearating factor for following ambient temp. in air ground.			
	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		
9.22	Cable identification code	VENDER TO SUBMIT		
9.23	List of routine and type tests certificates enclosed.	VENDER TO SUBMIT		
10	INSPECTION AND TESTING			

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10.1	Inspection and testing of cables shall be done at manufacturer works. All necessary test as per relevant Indian standards to ensure the quantity & performance of HT, XLPE power cable shall be carried out by the supplier at his own cost.	VENDER TO CONFIRM		
10.2	15 days advance information shall be given so that BHEL representative can be deputed for inspection and testing.	VENDER TO CONFIRM		
11	GUARANTEE			
11.1	The cable shall be guaranteed against any manufacturing and design defect for the period of 24 months from the date of receipt.	VENDER TO CONFIRM		
12	QUALIFYING CONDITION			
12.1	Only those vender, who are in the line of cable manufacturing or authorised agents(Authorisation certificate required) 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		
12.2	Name of the cable manufacturer and company profile	VENDER TO SUBMIT		
12.3	Details of manufacturing & test facilities available at manufacturer works.	VENDER TO SUBMIT		
13	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		

[Signature]

Changes required by vendor.

[Signature]
7/13/14

Y.K.Dhingra

Rahul Dixit 8/3/14

Arjun Singh

Sr. Engineer (WE&S)

Sr.Manager (TRE)

Sr.Manager (WE&S)

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Inder mathur

P K Nogrāya

S.J.Chakraborty

Sr.Manager (WE&S)

D.G.M (CQX)

A.G.M (WE&S)