

Enquiry No. E7190270

BHARAT HEAVY ELECTRICALS LIMITED, JHANSI			
SPECIFICATION CUM COMPLIANCE CERTIFICATE OF H.T. CABLE			
NOTE :			
1	VENDOR must submit complete information against clause No. 13 (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 H.T.CABLE			
S.NO.	DESCRIPTION FOR BHEL REQUIREMENT	OFFERED	DEVIATIONS
1.0	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	
2.0	REQUIREMENT		
2.1	11 KV (E) stranded, compact Aluminium conductor, Conductor screened with extruded semi - conducting compound, XLPE insulated, insulation screened with extruded semi conducting compound in combination with copper tape, cores laid up alongwith fillers, extruded inner sheath of PVC type ST2, galvanised steel strip armoured and over all PVC type ST2 sheathed cable confirming to IS : 7098/II/85 with latest amendments.	VENDER TO CONFIRM	
2.2	No. of core, size and quantity of cable		
2.2.1	3 Core x 95 sq. mm Quantity - 2000 meter	VENDER TO QUOTE	
2.2.2	3 Core x 400 sq.mm Quantity - 600 meter	VENDER TO QUOTE	
3.0	APPLICABLE STANDARDS		
3.1	H.T.Cable for working voltage 11 KV (E) as per IS 7098 part II	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	
3.6	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 statutory requirement as applicable.	VENDER TO CONFIRM	
4.0	CONSTRUCTIONAL REQUIREMENTS		
4.1	Voltage grade : 11KV (E)	VENDER TO CONFIRM	
4.2	Conductor : Standard EC grade High conductivity Copper class 2 as per IS 8130	VENDER TO CONFIRM	
4.3	Conductor screening- extruded semi - conducting compound	VENDER TO CONFIRM	

DESIGN, MANUFACTURING, TESTING, PACKING AND SUPPLY OF H.T.CABLE			
S.NO.	DESCRIPTION FOR BHEL REQUIREMENT	OFFERED	DEVIATIONS
4.4	Insulation material : Cross Linked Polyethylene (XLPE)	VENDER TO CONFIRM	
4.5	Insulation screening : Extruded semi conducting compound followed by helically wrapped copper tape	VENDER TO CONFIRM	
4.6	PVC filler	VENDER TO CONFIRM	
4.7	Inner sheath : Extruded PVC	VENDER TO CONFIRM	
4.8	Armouring : Galvanized flat strip	VENDER TO CONFIRM	
4.9	Outer sheath : Type ST-2 PVC of IS 5831	VENDER TO CONFIRM	
4.10	Core identification : as per IS 7098	VENDER TO CONFIRM	
5.0	SITE CONDITION AND SYSTEM DATA		
5.1	HT power cable shall be designed and to be suitable for the following site & system condition	VENDER TO CONFIRM	
5.1.1	Maximum ambient temperature. : 50 degree C	VENDER TO CONFIRM	
5.1.2	Minimum ambient temperature : 1 degree C	VENDER TO CONFIRM	
5.1.3	Maximum relative Humidity : 82%	VENDER TO CONFIRM	
5.1.4	Minimum relative humidity : 10%	VENDER TO CONFIRM	
5.1.5	Environmental condition : Dust, Laden atmosphere	VENDER TO CONFIRM	
6.0	POWER SYSTEM DATA		
6.1	Voltage : 11KV (3 phase +10% - 12.5%)	VENDER TO CONFIRM	
6.2	Frequency : 50HZ (+2% - 3%)	VENDER TO CONFIRM	
6.3	System earthing : Grounded	VENDER TO CONFIRM	
7.0	TESTS		
7.1	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	
8.0	GENERAL		
8.1	Cable shall be delivered in maximum possible length of not less than 300-500 meter length.	VENDER TO CONFIRM	
8.2	Cables shall be neatly rolled on wooden drums (seasoned wood) with both ends sealed with moisture proof sealing.	VENDER TO CONFIRM	
8.3	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	
8.4	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	
9.0	DOCUMENTATIONS		
9.1	Technical data sheet in given format only (refer specification point No. 8.0)	VENDER TO SUBMIT	

DESIGN, MANUFACTURING, TESTING, PACKING AND SUPPLY OF H.T.CABLE			
S.NO.	DESCRIPTION FOR BHEL REQUIREMENT	OFFERED	DEVIATIONS
9.2	QAP shall be furnished along with the offer	VENDER TO SUBMIT	
9.3	Final data sheet after BHEL Purchase Order	VENDER TO CONFIRM	
9.4	3 copies of test certificates and technical data sheets with in one week after inspection	VENDER TO CONFIRM	
10.0	TECHNICAL DATA SHEETS:		
10.1	Make	VENDER TO SUBMIT	
10.2	Type	VENDER TO SUBMIT	
10.3	Applicable Standrad	VENDER TO SUBMIT	
10.4	Voltage grade	VENDER TO SUBMIT	
10.5	Suitable for system with:	VENDER TO SUBMIT	
	a) Service voltage	VENDER TO SUBMIT	
	b) Nature earthed/ unearthed	VENDER TO SUBMIT	
10.6	Maximum conductor temp.	VENDER TO SUBMIT	
	a) Continuous Deg. C	VENDER TO SUBMIT	
	b) Short Deg. C	VENDER TO SUBMIT	
10.7	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	
10.8	Conductor screening		
	a) Material	VENDER TO SUBMIT	
	b) Type	VENDER TO SUBMIT	
	c) Thickness (nominal) mm	VENDER TO SUBMIT	
10.9	Insulation	VENDER TO SUBMIT	
	a) Material	VENDER TO SUBMIT	
	b) Type	VENDER TO SUBMIT	
	c) Thickness (nominal) mm	VENDER TO SUBMIT	
10.10	Insulation screening		
	a) Material	VENDER TO SUBMIT	
	b) Type	VENDER TO SUBMIT	
	c) Thickness (nominal) mm	VENDER TO SUBMIT	
10.11	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	
10.12	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	
10.13	Overall sheath	VENDER TO SUBMIT	
	a) Material	VENDER TO SUBMIT	
	b) Type	VENDER TO SUBMIT	
	c) Thickness (nominal) mm	VENDER TO SUBMIT	
10.14	Approx. overall diameter (mm)	VENDER TO SUBMIT	
10.15	Standard drum length with tolerance (m)	VENDER TO SUBMIT	
10.16	Net weight of cable (Kg/ Km)	VENDER TO SUBMIT	
10.17	Continous current rating for standard IS condition laid direct :Amps	VENDER TO SUBMIT	

DESIGN, MANUFACTURING, TESTING, PACKING AND SUPPLY OF H.T.CABLE			
S.NO.	DESCRIPTION FOR BHEL REQUIREMENT	OFFERED	DEVIATIONS
	a) In ground	VENDER TO SUBMIT	
	b) In duct	VENDER TO SUBMIT	
	c) In air	VENDER TO SUBMIT	
10.18	Short circuit current for -I see.(KA)	VENDER TO SUBMIT	
10.19	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	
10.20	Recommended minimum bending radius	VENDER TO SUBMIT	
10.21	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	
10.22	Cable identification code	VENDER TO SUBMIT	
10.23	List of routine and type tests certificates enclosed.	VENDER TO SUBMIT	
11.0	INSPECTION AND TESTING		
11.1	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	
11.2	15 days advance information shall be given so that BHEL representative can be deputed for inspection and testing.	VENDER TO CONFIRM	
12.0	GUARANTEE		
12.1	The cable shall be guaranted against any manufacturing and design defect for the period of 24 months from the date of receipt.	VENDER TO CONFIRM	
13.0	QUALIFYING CONDITION		
13.1	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	
13.2	Name of the cable manufacturer and company profile	VENDER TO SUBMIT	
13.3	Details of manufacturing facilities available at manufacturer works.	VENDER TO SUBMIT	
13.4	Details of test facilities available at manufacturer works.	VENDER TO SUBMIT	
13.5	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	
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