

TD-201 Rev No. 00	Form No.	 HYDERABAD	PRODUCT STANDARD PROJECT ENGINEERING & SYSTEMS DIVISION HYDERABAD		PY 56286 REV 01 Page 1 of 9																
COPYRIGHT AND CONFIDENTIAL The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED, It must not be used directly or indirectly in any way detrimental to the interest of the company. <u>SPECIFICATION for SIGNAL Cables</u> 1. SCOPE This technical specification covers the Design, Manufacturing, testing at vendor works, inspection by purchaser, packing and transportation to site of SIGNAL cables. 2. SCOPE of SUPPLY – As per enquiry 3. INSTRUCTIONS TO BIDDERS 3.1 Bidders are advised to contact BHEL for essential technical queries in writing within one week of issue of Enquiry. Offers with incomplete information will not be considered for evaluation, and are likely to be rejected outright without any further interaction with the Bidder. 3.2 Any technical features [over & above BHEL enquiry specification requirements] proposed by Bidder will not be given preference for the purpose of evaluation. 3.3 In the event of any conflict between these specifications, data sheets, related standards, codes etc. the vendor shall refer the matter to the purchaser for clarifications and only after obtaining the same shall proceed with the manufacture of the items in question. 3.4 Bidder shall mandatorily quote all the items against each material code of enquiry. No deviation is acceptable. If any deviation taken on this aspect, then offer will be rejected without any intimation. Hence bidder shall offer all the items. 4. CODES and STANDARDS The cable shall conform to the latest editions of various standards mentioned in the specification. In case of conflict between any standard and these specifications the matter shall be referred to the Purchaser before proceeding with the manufacturing of the cables. <table border="0" style="width: 100%;"> <tr> <td style="width: 40%;">IS-7098 (Part 1)</td> <td>XLPE insulated (heavy duty) electric cables (Part-1 for working voltage up to and including 1100V).</td> </tr> <tr> <td>IS-2633</td> <td>Method for testing uniformity of coating on zinc coated articles.</td> </tr> <tr> <td>IS-3975</td> <td>Mild steel wires, formed wires and tapes for armouring of cables.</td> </tr> <tr> <td>IS-5831</td> <td>PVC insulation and sheath of electric cable.</td> </tr> <tr> <td>BS-5308 (Part 2)</td> <td>Instrumentation Cable</td> </tr> <tr> <td>ASTM D-2863</td> <td>Test method for measuring the minimum oxygen concentration to support cable like combustion of plastics (oxygen index)</td> </tr> <tr> <td>DIN-50049</td> <td>Document on material testing</td> </tr> <tr> <td>IEC-332-3 (Part 3)</td> <td>Tests on bunched wires and cables</td> </tr> </table>						IS-7098 (Part 1)	XLPE insulated (heavy duty) electric cables (Part-1 for working voltage up to and including 1100V).	IS-2633	Method for testing uniformity of coating on zinc coated articles.	IS-3975	Mild steel wires, formed wires and tapes for armouring of cables.	IS-5831	PVC insulation and sheath of electric cable.	BS-5308 (Part 2)	Instrumentation Cable	ASTM D-2863	Test method for measuring the minimum oxygen concentration to support cable like combustion of plastics (oxygen index)	DIN-50049	Document on material testing	IEC-332-3 (Part 3)	Tests on bunched wires and cables
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Ref. Doc	Revision :00 Refer Record of Revisions	Revised :  VINEET	Approved :  SUJATHA	Date : 24.07.2018																	

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5. CHECK LIST (To be filled by BIDDER and submitted along with Technical offer)

Vendor shall submit the following documents mandatorily as part of COMPLTE technical offer.

Enquiry No. / Date :
Name of the Bidder :
Project Name :
Item Description :

S. No	Document	Supplier confirmation (Yes/No)	Remarks
1	Technical offer complies with the specifications in Toto and there are no technical deviations; Signed copy of specifications attached.		
2	In case of deviation, vendor to confirm that these are technically not feasible deviations and same are submitted in BHEL format . In case technically feasible deviations are proposed by the bidder and subsequently withdrawn, <u>no commercial implications can be claimed by the bidder</u>		
3	All items are manufactured confirming to latest version of material grade standard and manufacturing standard mentioned in this specifications		
4	Material packing is confirmed as per this specification.		
5	Inspection & testing requirements are compiled as per this specifications.		
6	Unpriced Price schedule material code wise is submitted.		
7	<i>For addition/reduction of quantity, unit rate quoted in the present offer shall be considered during ordering and shall be valid up to execution of the contract to the extent of ± 10% of order Value.</i>		
8	Drum length for each type of cable shall be 1000 meters minimum & cable length < 1000 meters shall be in single length. Tolerance over the total ordered length shall be as follows: ± 5% for total length less than 5 km, ± 2% for total length more than 5 km.		
9	<u>Valid type test Certificate not older than five years (as on date of enquiry for all types of cables) is furnished along with offer for cables similar to those being offered.</u> (OR) <u>If Type tests certificates are not available for any size of cable, same shall be conducted by vendor at his own cost. There shall not be any delivery and commercial implications on account of this.</u>		

Ref. Doc

(Bidder's Signature and stamp with date)

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COPYRIGHT AND CONFIDENTIAL The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED . It must not be used directly or indirectly in any way detrimental to the interest of the company.	8. DOCUMENTATION 8.1 Information to be included with offer Vendor shall make the offer in detail, with respect to every item of the Purchaser’s specifications. Any offer not conforming to this shall be summarily rejected. a) Signed and stamped copy of enquiry technical specification, b) Unpriced price schedule (To be submitted compulsorily without fail) c) Deviation list, if any (as per “No deviation format” given in this specification). Data sheets shall not be submitted during technical offer; <u>even if it is submitted only signed technical specification will be considered for evaluation</u> 8.2 Documentation submission within 2 weeks of placement of LOI (for approval by BHEL and / or BHEL’s customer in 4 sets) a) Data sheets of each and every Cable. b) Comprehensive Quality Assurance plan (QAP). 8.3 Documents to be submitted <u>after Inspection</u> (Note: submission of these documents are commercially linked) a) Final Data sheets b) All test certificates including material test certificates, inspection reports shall be furnished within 1 week of completion of Inspection by BHEL and / or BHEL’s Third Party. 2 sets of CD-ROM – containing Test certificates and Engineering documents (1 set to be included with item dispatch and balance to BHEL purchase department).				
	9. NAME PLATE Each cable drum shall be marked with the following information at a visible place a) Manufacturer’s name and emblem. b) Type of cable and voltage grade Length of the Cable c) Gross Weight d) Direction of rotation of drum by means of an arrow for unwinding e) Purchase order number f) BHEL Material Code g) BHEL Part no. (Printed on Purchase Order copy) h) Reference to applicable standard i) Nominal cross sectional area of conductor. j) Cable Code k) Length of cable in drum l) Gross weight m) Country of Manufacture n) Year of manufacture o) Order No. p) Manufacturing batch no.				
Ref. Doc	10. SHIPPING 10.1 Cables shall be dispatched in wooden drums, securely battened with takeoff end fully protected against damage. 10.2 The ends of the cable shall be sealed with suitable PVC/rubber caps to prevent ingress of moisture. 10.3 The total length of the cable against each material code to be supplied by vendor as per BHEL enquiry. Further if any additional length required for conducting tests as per BHEL specification shall be considered by vendor over and above the length mentioned in the BHEL enquiry. 10.4 Mandatory Spare parts shall be packaged separately and clearly marked as ‘Mandatory Spares’. 10.5 Mandatory spare cables shall be sent in pre-decided lots in drums distinctly marked in Red color with boldly written "S" mark on each face of the drums. 10.6 In case of imported/exported items, seaworthy packing shall be done as per specification no: AA00490004 (latest revision) and the type of packing applicable for cable is “CP”. This specification shall be obtained by vendor on request from BHEL.				

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