

Research Designs and Standards Organisation
(Traction Installation Directorate)

Reasoned document of RDSO's Final Draft Specification No. TI/SPC/OHE/JMP/0941 for Annealed Stranded Copper Conductor for Jumper Wire for Electric Traction

1. RDSO's Final Specification No. TI/SPC/OHE/JMP/0941 for Annealed Stranded Copper Conductor for Jumper Wire was uploaded on RDSO website for 15 days for seeking comments,
2. Comments/Suggestion received from viewers are as below.

Clause No.	Particular	Comments Recieved	RDSO's Remark										
5.1	The wire shall be drawn out of Continuous Cast Copper rods.Copper used to make continuous cast copper rods should be Electrolytic grade copper cathodes conforming to the requirements of LME Grade "A" copper as listed in the London Metal Exchange	M/s Vedanta The wire shall be drawn from continuous cast & rolled copper wire rods which are made out of LME Grade A copper cathodes and also whose chemical composition conforming to Cu-Cath-1 of IS:191-2007 or latest, and having oxygen < 450 ppm	May be accepted..										
--	---	CORE/Allahabad Specification may be reviewed to include the checks required to ensure correctness of counter, to avoid cases of supply of short drum lengths of Conductor on account of faulty counter meter. Specification may be reviewed to include the aspect of actual weightment of Tare weight of drum during RITES inspection.	May be accepted. New para added as 8.2.1 & 8.2.3										
9.7	The trace elements shall be determined by Spectrometric method. The copper shall be determined in accordance with IS: 440-1964 or latest. The chemical composition shall be as below: Element Percentage Cu+Ag 99.90 Min	M/s Vedanta <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Element</th> <th>% ppm</th> </tr> </thead> <tbody> <tr> <td>Cu+Ag</td> <td>99.95% min</td> </tr> <tr> <td>Bi</td> <td>< 2 ppm</td> </tr> <tr> <td>Te</td> <td>< 2 ppm</td> </tr> <tr> <td>Se</td> <td>< 2 ppm</td> </tr> </tbody> </table>	Element	% ppm	Cu+Ag	99.95% min	Bi	< 2 ppm	Te	< 2 ppm	Se	< 2 ppm	May be accepted.
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	Bi 0.001 Pb 0.005 Other impurities excluding silver and oxygen 0.03 Oxygen 0.06	Bi+Te+Se Pb Sb As Fe S Sn+Ni+Fe+Si+Zn+Co Cr+Mn+Sb+Cd+As+P Oxygen Total impurities (Excluding oxygen)	< 3 ppm < 5 ppm < 4 ppm < 5 ppm < 10 ppm < 15 ppm < 20 ppm < 15 ppm <450 ppm <65 ppm	
10(a)	Proof of purchase(Invoice) of Continuous Cast Copper Rod	-----		Proof of purchase of Cathode also included, if rod is manufactured in-house
10(b)	For imported Continuous Cast Copper Rod the Supplier shall submit proof of import i.e. i) Bill of Entry. ii) Bill of Lading/Air way bill. iii) Payment details to overseas manufacturer. iv) Test Certificate	-----		
10(g)	-----	-----		Para added regarding verification of authenticity of proof of purchase documents by Inspecting Engineer.