

हस्ताक्षर एवं दिनांक SIGN & DATE			संस्थान क्रय विनिर्देश (हीप - हरिद्वार) PLANT PURCHASE SPECIFICATION (HEEP - HARIDWAR)	HW 10778 पृष्ठ का Page 1 of 4																																								
सामग्री सूची संख्या को INVENTORY NO.	SUPERSEDES INVENTORY NO.	<u>AUSTENITIC STAINLESS STEEL WIRE</u>																																										
COPYRIGHT AND CONFIDENTIAL The information on these documents is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company	TLV6227/02, 01/09	1.0 GENERAL : This specification governs the quality of Stainless steel wire of material grade X4CrNi18-12 (material no. 1.4303) of EN10088-3. 2.0 APPLICATION : Wires shall be used for fixing of sealing strips in inter-stage and rotor end's sealing of steam turbine. 3.0 CONDITION OF DELIVERY: Wires shall be supplied in the cold rolled and solution annealed condition. 4.0 DIMENSION AND TOLERANCES : The dimensions and tolerances shall be as per Annexure - I for square wire and Annexure - II for rectangular wire. 5.0 CHEMICAL COMPOSITION: Heat analysis shall be as per EN10088-3: <table border="1" style="width:100%; border-collapse: collapse; text-align: center;"> <tr> <th>C</th> <th>Si</th> <th>Mn</th> <th>P</th> <th>S</th> <th>N</th> <th>Cr</th> <th>Ni</th> </tr> <tr> <td>≤ 0.06</td> <td>≤ 1.00</td> <td>≤ 2.00</td> <td>≤ 0.045</td> <td>≤ 0.030</td> <td>≤ 0.11</td> <td>17.00 – 19.00</td> <td>11.00 – 13.00</td> </tr> </table> 6.0 HEAT TREATMENT: As per EN10088-3. Solution annealing: 1000-1100°C/Water 7.0 MECHANICAL PROPERTIES: The following properties shall be achieved at room temperature: <table border="1" style="width:100%; border-collapse: collapse; text-align: center;"> <tr> <th>Nominal Dimension d (mm)</th> <th>Tensile Strength (N/mm²)</th> <th>Elongation A (%)</th> </tr> <tr> <td>0.05 < d ≤ 0.10</td> <td>≤ 1100</td> <td>≥ 20</td> </tr> <tr> <td>0.10 < d ≤ 0.20</td> <td>≤ 1050</td> <td>≥ 20</td> </tr> <tr> <td>0.20 < d ≤ 0.50</td> <td>≤ 1000</td> <td>≥ 30</td> </tr> <tr> <td>0.50 < d ≤ 1.00</td> <td>≤ 950</td> <td>≥ 30</td> </tr> <tr> <td>1.00 < d ≤ 3.00</td> <td>≤ 900</td> <td>≥ 30</td> </tr> <tr> <td>3.00 < d ≤ 5.00</td> <td>≤ 850</td> <td>≥ 35</td> </tr> <tr> <td>5.00 < d ≤ 16.00</td> <td>≤ 800</td> <td>≥ 35</td> </tr> </table> 0.2% Yield Strength and % Reduction in area also to be reported for information.			C	Si	Mn	P	S	N	Cr	Ni	≤ 0.06	≤ 1.00	≤ 2.00	≤ 0.045	≤ 0.030	≤ 0.11	17.00 – 19.00	11.00 – 13.00	Nominal Dimension d (mm)	Tensile Strength (N/mm ²)	Elongation A (%)	0.05 < d ≤ 0.10	≤ 1100	≥ 20	0.10 < d ≤ 0.20	≤ 1050	≥ 20	0.20 < d ≤ 0.50	≤ 1000	≥ 30	0.50 < d ≤ 1.00	≤ 950	≥ 30	1.00 < d ≤ 3.00	≤ 900	≥ 30	3.00 < d ≤ 5.00	≤ 850	≥ 35	5.00 < d ≤ 16.00	≤ 800	≥ 35
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सामग्री सूची संख्या INVENTORY NO.	P-2318	स्वीकृति : संस्थान मानक समिति APPROVED : PLANT STANDARDS COMMITTEE			Gr. No 2.60																																							
		निर्माण PREPARED : MTE	जारी : मानक विभाग ISSUED : STANDARDS DIVISION	दिनांक DATE : 02.01.99																																								



संस्थान क्रय विनिर्देश (हीप - हरिद्वार)

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8.0 PACKING AND MARKING:

The marking of the material shall be such that Purchase Order Number, Size, Heat No., BHEL Specification number, material designation, Manufacturer identification are legible.

The above details are to be clearly punched on metallic sheet tagged properly with the supply. The wire should be properly packed to protect against corrosion and to avoid damage during transit.

9.0 DOCUMENTATION:

The supplier shall supply four copies of test certificates as per EN 10204, inspection certificate 3.1, unless otherwise stated in the order. The test certificates shall bear the following:

Suppliers references:

- Name, emblem, material designation, Melt no, Heat-treatment batch no.

Results of Testing:

- Melting process, melt analysis,
- Mechanical properties, all individual values shall be reported,
- Dimensional results
- Complete information on all heat treatments performed,
- Confirmation of the material identity check.

10.0 CROSS REFERRED STANDARDS:

EN 10088-3, EN 10204

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स्वतंत्राधिकार एवं गोपनीय ;

इस प्रलेख में दी गई सूचना भारत भारत भारी इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रत्यक्ष एवं अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कम्पनी के हित में हानिकारक हो ना किया जाए

हस्ताक्षर एवं दिनांक
SIGN/ & DATE

10/10/13

सामग्री सूची संख्या
INVENTORY NO.

AP-2318

REV 02

निर्माणकर्ता
WORKED BY

Pankaj
Agarwal

Pankaj

5.10.13

जांचकर्ता
CHECKED BY

Ashish
Ranjan

Ashish

5.10.13



संस्थान क्रय विनिर्देश (हीप - हरिद्वार)

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SUPERSEDES
INVENTORY NO.

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अधिकृत करता है

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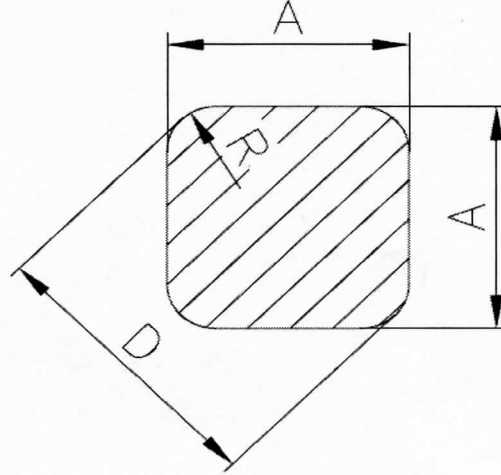
Ashish
Ranjan

Ashish

5.10.13

ANNEXURE - I

DIMENSION AND TOLERANCES OF SQUARE WIRE (IN MM)



Dimension (A)	Permissible Tolerances	Dimension (D)	Permissible Tolerances	Dimension (R)	Permissible Tolerances	Weight (Kg/M*)
0.5	± 0.025	0.56	- 0.1	0.3	- 0.05	0.002
0.6	± 0.025	0.67	- 0.1	0.4	- 0.05	0.003
1.0	± 0.030	1.12	- 0.1	0.6	- 0.05	0.008
1.2	± 0.030	1.35	- 0.1	0.7	- 0.05	0.011
1.6	± 0.030	1.79	- 0.1	0.9	- 0.05	0.020
2.0	± 0.030	2.25	- 0.1	1.2	- 0.05	0.031
2.6	± 0.030	3.20	- 0.1	1.6	- 0.05	0.053

*Weight is calculated with a density 7.85 g/cc



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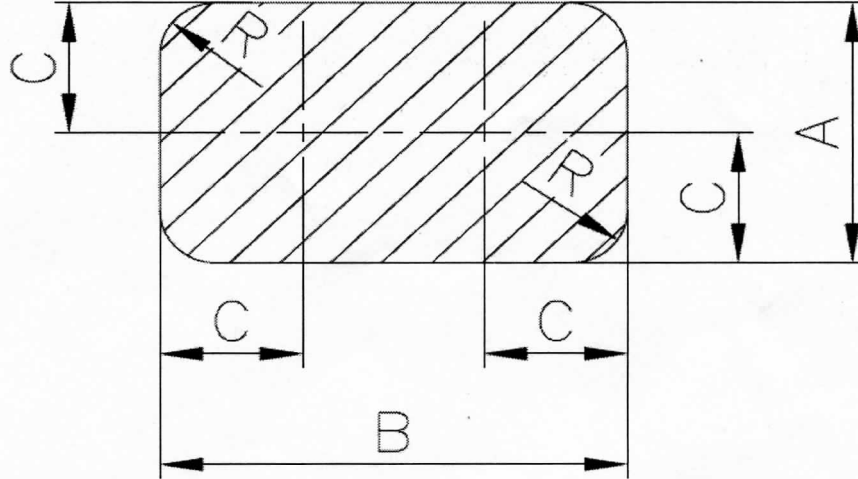
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ANNEXURE - II

DIMENSION AND TOLERANCES OF RECTANGULAR WIRE (IN MM)



Nominal Dimension				Permissible Tolerances				Weight (Kg/M*)
A	B	C	R	A	B	C	R	
1.4	1.7	0.8	0.9	± 0.03	± 0.03	± 0.03	- 0.05	0.018
1.75	2.15	0.8	0.9	± 0.03	± 0.03	± 0.03	- 0.05	0.026
1.6	2.2	0.8	0.9	± 0.03	± 0.03	± 0.03	- 0.05	0.028
1.75	2.7	0.8	0.9	± 0.03	± 0.03	± 0.03	- 0.05	0.034

*Weight is calculated with a density 7.85 g/cc

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