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संस्थान क्रय विनिर्देश (सी.एफ.एफ.पी. - हरिद्वार)

FF77197 Rev 02

PLANT PURCHASE SPECIFICATION
(CFFP - HARDWAR)

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LOW HYDROGEN TYPE COVERED ARC WELDING ELECTRODES FOR CARBON / CARBON - MANGANESE STEEL

1.0 Scope

This specification covers the quality of carbon / carbon manganese steel low hydrogen covered arc welding electrodes. The electrodes are to be used for rectification welding of C / C-Mn steel.

2.0 Compliance with National and International Standards

Assistance has been taken from TLV 905901 and ASME Section II (c) in preparing the specification.

3.0 Condition of Delivery

Electrodes shall be supplied in seaworthy and tight packing to avoid any damage / exposure to atmosphere during handling, transit and storage.

4.0 Manufacture

The core wire and the coating used for the manufacture of the electrode shall be at the discretion of the supplier

5.0 Chemical Composition

Chemical composition of deposited weld metal, when tested in accordance with ASME Sec. II (c) shall conform to the following requirements

Element	Min. (%)	Max. (%)
Carbon	0.050	0.100
Sulphur	---	0.025
Phosphorus	---	0.025
Manganese	1.200	1.600
Silicon	0.300	0.600
Chromium	---	0.200
Molybdenum	---	0.300
Nickel	---	0.300




Note: Total value of Mn, Cr, Mo and Ni shall not exceed 1.75.

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स्वतंत्रताधिकार एवं गोपनीयता
 यह दस्तावेज़ भारतीय विद्युत निर्माण लिमिटेड की संपत्ति है। इसमें शामिल की गई जानकारी को बिना लिखित अनुमति के किसी भी तृतीय पक्ष को नहीं देना चाहिए।

RNI	KBS	अनुवादक	TRANSLATED BY	
MRP	KB SOOD	निर्माणकर्ता	WORKED BY	VIVEK GUPTA
CHIEF MANAGER	H RAHA	जांचकर्ता	CHECKED BY	VK AGARWAL
सहायक निदेशक	नाम	पर्यवेक्षणकर्ता	SUPERVISED BY	AK GARG
NORIED DEPT	नाम	दिनांक एवं हस्ताक्षर	DATE & SIGNATURE	
		रखीकृति	संस्थान मानक समिति	
		APPROVED	PLANT STANDARDS COMMITTEE	
		निर्माण	जारी	दिनांक
		PREPARED: WELDING TECH	ISSUED: WELDING TECHNOLOGY	DATE 20.10.06

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दिनांक एवं दिनांक SIGN & DATE		संस्थान क्रय विनिर्देश (सी.एफ.एफ.पी - हरिद्वार) PLANT PURCHASE SPECIFICATION (CFFP - HARDWAR)	FF77197 Rev 02 पृष्ठ का Page 2 of 4													
सुपरसेडि SUPERSEDES INVENTORY NO		<p>6.0 Mechanical Properties</p> <p>The following mechanical properties shall be obtained after stress relieving at $560 \pm 10^\circ \text{C}$</p> <table border="0"> <tr> <td>Yield Strength (0.2 % offset)</td> <td>-</td> <td>400 Mpa min.</td> </tr> <tr> <td>Tensile Strength</td> <td>-</td> <td>530 Mpa min.</td> </tr> <tr> <td>% Elongation</td> <td>-</td> <td>22.0 min.</td> </tr> <tr> <td>Charpy V notch (ISO-V)</td> <td>-</td> <td>27.0 J avg. of 3 specimens at -46°C</td> </tr> </table> <p>7.0 Selection of Test Samples</p> <p>The selection of test samples for acceptance for chemical composition and mechanical properties shall be done as follows</p> <ol style="list-style-type: none"> 7.1 Electrodes shall be drawn from one or more than one packet from each batch no. for carrying out chemical and mechanical properties. 7.2 Test Sample for chemical analysis shall be made according to ASME Sec. II (c) 7.3 Electrode shall be deposited on carbon steel plates for radiography and mechanical properties in accordance with ASME Sec. II (c). <p>8.0 Preparation of Test Samples</p> <p>Tensile and Impact specimen shall be prepared in accordance with ASME Sec. II (c).</p> <p>9.0 Freedom from Defects</p> <p>Weldment on the test plate made as per ASME Sec. II (c) shall be free from inclusions, cracks and lack of fusion etc , on radiography, as per recommendation of ASME Sec. II (c).</p> <p>10.0 Acceptance</p> <ol style="list-style-type: none"> 10.1 Each batch of electrodes supplied by approved vendor shall be accepted on the basis of properties given in Cl. 5.0 and properties as per Cl. 6.0 shall be checked on surveillance basis. 10.2 For a new vendor the initial approval will be done on the basis of properties (given in Cl. 5.0, 6.0 and 9.0) obtained on the test samples prepared from the test plate made as per ASME Sec. II (c) at BHEL <p>11.0 Test Certificates</p> <p>The supplier shall submit five copies of test certificates giving the following information along with delivery</p> <ol style="list-style-type: none"> 11.1 BHEL REFERENCE <ol style="list-style-type: none"> 11.1.1 PO Number 11.1.2 Specification No. 			Yield Strength (0.2 % offset)	-	400 Mpa min.	Tensile Strength	-	530 Mpa min.	% Elongation	-	22.0 min.	Charpy V notch (ISO-V)	-	27.0 J avg. of 3 specimens at -46°C
Yield Strength (0.2 % offset)	-	400 Mpa min.														
Tensile Strength	-	530 Mpa min.														
% Elongation	-	22.0 min.														
Charpy V notch (ISO-V)	-	27.0 J avg. of 3 specimens at -46°C														
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	स्वत्वधिकार एवं गोपनीयता इस दस्तावेज की सम्पत्ति है इसका प्रयोग एवं प्रसारण इस से विना भी अज्ञेयता, जो कि कंपनी के हित में दृष्टिकोण हो न किया जाए।															
दिनांक एवं दिनांक SIGN & DATE																
राबर्ट गुप्ता संस्था			निर्माणकर्ता WORKED BY VIVEK GUPTA													
			जांचकर्ता CHECKED BY VK AGARWAL													



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PLANT PURCHASE SPECIFICATION
(CFFP - HARDWAR)

शुद्धी का क्रम
SHOW & DATE

व्यापारिक
INSTRUMENT NO.

प्रकृत गति शक्ति
शक्ति शक्ति शक्ति

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स्वत्वाधिकार एवं गोपनीयता
इस दस्तावेज़ में दी गई जानकारी सी.एफ.एफ.पी. की संपत्ति है। इस दस्तावेज़ की प्रतिलिपि या इसमें दी गई जानकारी को किसी भी रूप में बिना सी.एफ.एफ.पी. की लिखित अनुमति के प्रसारित नहीं किया जा सकता है।

संस्था का नाम
SICIL, A. DALL

संस्था का पता
SICIL, A. DALL

- 11.2 SUPPLIER REFERENCE
- 11.2.1 Supplier Name and Emblem.
 - 11.2.2 Chemical Analysis
 - 11.2.3 Result of Mechanical Properties
 - 11.2.4 Diameter of core wire and length of electrodes
 - 11.2.5 Batch No.
 - 11.2.6 Date of manufacture
- 11.3 Party shall certify that the electrodes have been manufactured in accordance with FF77197 Rev 02.

12.0 Marking

Each electrode shall be marked by imprint of Plant Standard No./ AWS No. and brand name of supplier near to the gripping end. Ink used for imprinting shall provide sufficient contrast with the electrode covering, so that it is legible before and after normal welding operation. Party shall imprint following information on each carton.

- Brand Name
- Size of electrode
- Batch no. and Date of Manufacture
- Quantity and net weight.

निर्माणकर्ता WORKED BY	VIVEK GUPTA		
जांचकर्ता CHECKED BY	VK AGARWAL		



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RECORD OF CHANGES

REV CODE	NO. OF CHANGES	DOCU. NO.	SHEET NO.	SIGN	DATE
02	Clause No. 2.0 DIN 17245 (87) replaced with TLV 905901		1 of 4		20.10.06
	Clause No. 6.0 SR temperatures specified		2 of 4		20.10.06
	Clause No. 7.4 deleted		2 of 4		20.10.06
	Clause No. 9.0 Radiography added		2 of 4		20.10.06
	Clause no. 10.0 added		2 of 4		20.10.06
	Clause No. 12.0 AWS No. added		3 of 4		20.10.06

DISTRIBUTION OF PRINTS

RMI	✓
STANDARD SECTION	✓
MPIC	✓

निर्माणकर्ता WORKED BY	VIVEK GUPTA	
जांचकर्ता CHECKED BY	VK AGARWAL	

हस्ताक्षर एवं तिथि
SIGN & DATE

सामग्री सूची संख्या
INVENTORY NO

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स्वातंत्र्यकार एवं गोपनीयता
रु इस प्रतीक में की गई सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है। इसका प्रयोग एवं अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो, न किया जाए।

हस्ताक्षर एवं तिथि
SIGN & DATE

सामग्री सूची संख्या
INVENTORY