



Certificate of Conformance to Requirements for Welding Electrode

Hobart

Product Type: Hoballoy 9015B9
 Classification: E9015-B9 H4R
 Specifications: AWS A5.5/A5.5M:2006/ASME SFA 5.5
 Diameter Tested:
 Date Tested: 09/10/13
 Date Generated: 4/1/2014

This is to certify that the product named above and supplied on the referenced order number is of the same classification, manufacturing process, and material requirements as the material which was used for the test that was concluded on the date shown, the results of which are shown below. All tests required by the specifications shown for classification were performed at that time and the material tested met all requirements. It was manufactured and supplied by the Quality System Program of Hobart Brothers, which meets the requirements of ISO9000, ANSI/AWS A5.01, and other specification and Military requirements, as applicable.

Test Settings

Amps	Volts	Size	Polarity	Preheat	Interpass	Travel Speed
190	24	5/32X14 in	DCEP	600 F (316 C)	600 F (316 C)	+/- 1 in/min
240	27	3/16X14 in	DCEP	600 F (316 C)	600 F (316 C)	+/- 1 in/min

Mechanical Properties - Tensile

Size / Polarity	Ref. No.	Testing Conditions	Ult. Tensile Strength	Yield Strength	Elong.% in 2"
5/32X14 in / DCEP	PC1164	SR 2 Hrs @ 1400F	102,000 psi (703 Mpa)	82,000 psi (565 Mpa)	20
3/16X14 in / DCEP	PC1165	SR 2 Hrs @ 1400F	108,000 psi (745 Mpa)	93,000 psi (642 Mpa)	19

Size / Polarity	Ref. No.	Radiograph	Fillet Weld Test			
5/32X14 in / DCEP	PC1164	Conforms	Horizontal :	Overhead :	Conforms	Vertical : Conforms
3/16X14 in / DCEP	PC1165	Conforms	Horizontal : Conforms	Overhead :		Vertical :

Chemical Analysis

Size / Polarity / Ref. No.	C	Mn	P	S	Si	Cu	Cr	V	Ni	Mo	Al	Ti	Nb	Co	B	W	Sn	Fe	Sb	N	Mg	Zn	Be
5/32X14 in / DCEP / CB55795	0.10	0.64	0.01	0.009	0.25	0.03	9.1	0.22	0.34	1.02	< .01		0.04							0.03			
3/16X14 in / DCEP / CB62903	0.09	0.50	0.01	0.007	0.15	0.02	8.7	0.28	0.55	0.88	< .01		0.03							0.04			

Size : 5/32X14 in	Total H2O Method : RC412 - As Received	Total Coating Moisture : 0.145	Ref. No. : CB55795
Size : 3/16X14 in	Total H2O Method : RC412 - As Received	Total Coating Moisture : 0.06	Ref. No. : CB62903

Diffusible Hydrogen Collected per AWS A4.3 - ml/100 g weld metal

n/a	2.8	ml/100g	For	5/32X14 in	dia
	3.7	ml/100g	For	3/16X14 in	dia

Steve Knostman

Steve Knostman , Quality Engineer

The information Certification and Limited Warranty - Data for the above supplied product are those obtained when welded and tested in accordance with the above specification. All tests for the above classification were satisfied. Other tests and procedures may produce different results. Hobart Brothers produces welding consumables under continuing quality assurance programs audited and approved by the American Bureau of Shipping ("ABS").