



Certificate of Conformance to Requirements for Welding Electrode

Hobart

Product Type: Hoballoy 9018G
Classification: E8018-G
Specifications: AWS A5.5/A5.5M:2006
Diameter Tested:
Date Tested: 8/22/2016
Date Generated: 12/14/2016

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
150	25	1/8X14 in	AC	225 F (107 C)	225 F (107 C)	+/- 1 in/min
140	25	1/8X14 in	DCEP	225 F (107 C)	225 F (107 C)	+/- 1 in/min
190	24	5/32X14 in	AC	225 F (107 C)	225 F (107 C)	+/- 1 in/min
180	24	5/32X14 in	DCEP	225 F (107 C)	225 F (107 C)	+/- 1 in/min

Mechanical Properties - Tensile

Size / Polarity	Ref. No.	Testing Conditions	Ult. Tensile Strength	Yield Strength	Elong.% in 2"
1/8X14 in / AC	pd1032	Aged 48 Hrs 220F	94,000 psi (650 Mpa)	79,000 psi (543 Mpa)	26
1/8X14 in / DCEP	pd1033	As Welded	112,000 psi (772 Mpa)	94,000 psi (645 Mpa)	33
5/32X14 in / AC	pd1253	As Welded	93,000 psi (643 Mpa)	81,000 psi (559 Mpa)	23
5/32X14 in / DCEP	PD1254	As Welded	89,000 psi (613 Mpa)	76,000 psi (525 Mpa)	21

Mechanical Properties - Impact

Size / Polarity	Ref. No.	Testing Conditions	Test Temp.	Individuals	Average	Type
1/8X14 in / DCEP	PD1033	As Welded	-50 F (-46 C)	48,58,75 ft.lb	60 ft.lb (82 J)	Charpy-V-Notch
1/8X14 in / DCEP	PD1083	As Welded	-50 F (-46 C)	77,70,78 ft.lb	75 ft.lb (102 J)	Charpy-V-Notch
5/32X14 in / DCEP	PD1254	As Welded	-50 F (-46 C)	89,81,82 ft.lb	84 ft.lb (114 J)	Charpy-V-Notch
1/8X14 in / DCEP	PD2037	As Welded	-50 F (-46 C)	75,66,68 ft.lb	70 ft.lb (94 J)	Charpy-V-Notch

Size / Polarity	Ref. No.	Radiograph	Fillet Weld Test			
1/8X14 in / AC	PD1032	Conforms	Horizontal :	Overhead :	Conforms	Vertical : Conforms
1/8X14 in / DCEP	PD1033	Conforms	Horizontal :	Overhead :	Conforms	Vertical : Conforms
5/32X14 in / AC	PD1253	Conforms	Horizontal :	Overhead :	Conforms	Vertical : Conforms
5/32X14 in / DCEP	PD1254	Conforms	Horizontal :	Overhead :	Conforms	Vertical : Conforms

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
1/8X14 in / DCEP / CD11678	1.37	0.011	0.016	0.38	0.06	0.06	0.06	0.00	0.08	0.23													
5/32X14 in / DCEP / CD13145	1.20	0.009	0.011	0.35	0.06	0.06	0.06	0.00	0.07	0.24													

Size : 1/8X14 in	Total H2O Method : RC412 - As Received	Total Coating Moisture : 0.14	Ref. No. : CD11678
Size : 5/32X14 in	Total H2O Method : None	Total Coating Moisture : 0.19	Ref. No. : CD13145

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

n/a	2.9	ml/100g	For	5/32X14 in	dia
n/a	2.3	ml/100g	For	1/8X14 in	dia

Dave Thomas , Quality Assurance Rep.

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").