



Certificate of Conformance to Requirements for Welding Electrode

Product Type: HOBART 418
Classification: E7018, E7018-1 H4R
Specifications: AWS A5.1/A5.1M; ASME SFA 5.1
Diameter Tested: 5/32" - 1/4"
Date Tested: 4/5/2021
Date Generated: 4/7/2021

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 ISO 9001, ANSI/AWS A5.01, and other specification and Military requirements, as applicable. This document supplies actual test results of non-specific inspection in conformance with the requirements of EN 10204, type 2.2 certification.

MADE IN THE U.S. OF U.S. AND IMPORTED MATERIALS.

Test Settings

Size	Polarity	Amps	Volts	Preheat F(C)	Interpass F(C)
5/32X14 in	AC	200	24-26	225 (107)	300 (149)
5/32X14 in	DCEP	185	24-26	225°F ()	300°F ()
3/16X14 in	AC	240	27	225°F ()	300°F ()
3/16X14 in	DCEP	225	27	225 (107)	300°F ()
1/4X18 in	AC	350	28-29	225°F ()	300°F ()
1/4X18 in	DCEP	320	28-29	225°F ()	300°F ()

Mechanical Properties - Tensile

Size / Polarity	Ref. No.	Testing Conditions	Ult. Tensile Strength psi(MPa)	Yield Strength psi(MPa)	Elong.% in 2"
3/16X14 in / AC	PE2054	As Welded	73,000 (505)	59,000 (405)	31
3/16X14 in / DCEP	PE2055	As Welded	73,000 (504)	59,000 (409)	33
5/32X14 in / AC	PE2021	As Welded	76,000 (525)	62,000 (428)	30
5/32X14 in / DCEP	PE2022	As Welded	76,000 (523)	62,000 (430)	31
1/4X18 in / AC	PE2056	As Welded	77,000 (533)	61,000 (421)	28
1/4X18 in / DCEP	PE2057	As Welded	75,000 (520)	62,000 (424)	30

Mechanical Properties - Impact

Size / Polarity	Ref. No.	Testing Conditions	Test Temp. F(C)	Individuals ft.lb.(J)	Average ft.lb.(J)	Type
5/32X14 in / AC	PE2021	As Welded	-50 F (-46 C)	112,110,102 (152,149,138)	108 (146)	Charpy-V-Notch
5/32X14 in / DCEP	PE2022	As Welded	-50 F (-46 C)	148,109,164 (201,148,222)	140 (190)	Charpy-V-Notch
3/16X14 in / AC	PE2054	As Welded	-50 F (-46 C)	90,98,104 (122,133,141)	97 (132)	Charpy-V-Notch
3/16X14 in / DCEP	PE2055	As Welded	-50 F (-46 C)	269,254,257 (365,344,348)	260 (353)	Charpy-V-Notch
1/4X18 in / AC	PE2056	As Welded	-50 F (-46 C)	31,27,17 (42,37,23)	25 (34)	Charpy-V-Notch
1/4X18 in / DCEP	PE2057	As Welded	-50 F (-46 C)	44,60,51 (60,81,69)	52 (70)	Charpy-V-Notch

Size / Polarity	Ref. No.	Radiograph	Fillet Weld Test			
3/16X14 in / AC	PE2054	Conforms	Horizontal :	Conforms	Overhead :	Vertical :
3/16X14 in / DCEP	PE2055	Conforms	Horizontal :	Conforms	Overhead :	Vertical :
5/32X14 in / AC	PE2021	Conforms	Horizontal :	Conforms	Overhead :	Vertical : Conforms
5/32X14 in / DCEP	PE2022	Conforms	Horizontal :	Conforms	Overhead :	Vertical : Conforms
1/4X18 in / AC	PE2056	Conforms	Horizontal :	Conforms	Overhead :	Vertical :
1/4X18 in / DCEP	PE2057	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	Sb	As
5/32X14 in / AC / PE2021	0.06	1.01	0.008	0.012	0.51		0.04	< .01	0.03	0.01															
5/32X14 in / DCEP / PE2022	0.04	1.02	0.007	0.011	0.50		0.04	< .01	0.02	0.01															
1/4X18 in / AC / PE2056	0.07	1.28	0.011	0.014	0.52		0.06	0.01	0.05	0.01															
1/4X18 in / DCEP / PE2057	0.05	1.36	0.010	0.013	0.52		0.06	0.01	0.05	0.01															

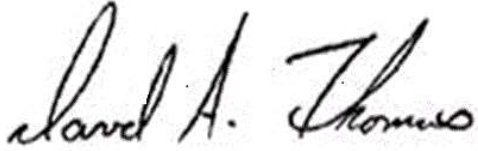
5/32X14 in / PE2021	Total H2O Method : Train - As Received	Total Coating Moisture : 0.055
5/32X14 in / PE2022	Total H2O Method : Train - 9 Hour	Total Coating Moisture : 0.06
1/4X18 in / PE2056	Total H2O Method : Train - As Received	Total Coating Moisture : 0.065
1/4X18 in / PE2057	Total H2O Method : Train - 9 Hour	Total Coating Moisture : 0.157

Diffusible Hydrogen Collected per AWS A4.3

3.5 ml/100g of weld metal for 5/32X14 in diameter 17% relative humidity

3.5 ml/100g of weld metal for 3/16X14 in diameter 2% relative humidity

3.5 ml/100g of weld metal for 1/4X18 in diameter 14% relative humidity



Dave Thomas, Quality Assurance Rep.

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.