



Certificate of Conformance to Requirements for Welding Electrode

Product Type: HOBART 718MC
Classification: E7018, E7018-1 H4R
Specifications: AWS A5.1/A5.1M; ASME SFA 5.1
Diameter Tested: 1/8", 5/32"
Date Tested: 8/9/2024
Date Generated: 8/9/2024

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)
1/8X14 in	DCEP	140	24	300 (149)	300 (149)
5/32X14 in	AC	200	24	225 (107)	300 (149)
5/32X14 in	DCEP	185	25	225 (107)	300 (149)
1/8X14 in	AC	140	24	225 (107)	300 (149)

Mechanical Properties - Tensile

Size / Polarity	Ref. No.	Testing Conditions	Ult. Tensile Strength psi(MPa)	Yield Strength psi(MPa)	Elong.% in 2"
1/8X14 in / DCEP	PE8135	As Welded	82,000 (565)	64,000 (443)	28
1/8X14 in / AC	PE8489	As Welded	85,000 (585)	65,000 (446)	29
5/32X14 in / AC	PE8345	As Welded	81,000 (560)	68,000 (465)	30
5/32X14 in / DCEP	PE8373	As Welded	78,000 (538)	66,000 (457)	29

Mechanical Properties - Impact

Size / Polarity	Ref. No.	Testing Conditions	Test Temp. F(C)	Individuals ft.lb.(J)	Average ft.lb.(J)	Type
1/8X14 in / DCEP	PE8135	As Welded	-50 F (-46 C)	85,89,88 (115,121,119)	87 (118)	Charpy-V-Notch
5/32X14 in / AC	PE8345	As Welded	-50 F (-46 C)	67,75,37 (91,102,50)	60 (81)	Charpy-V-Notch
5/32X14 in / DCEP	PE8373	As Welded	-50 F (-46 C)	103,101,129 (140,137,175)	111 (150)	Charpy-V-Notch
1/8X14 in / AC	PE8489	As Welded	-50 F (-46 C)	66,54,52 (89,73,70)	57 (78)	Charpy-V-Notch

Size / Polarity	Ref. No.	Radiograph	Fillet Weld Test			
1/8X14 in / DCEP	PE8135	Conforms	Horizontal :	Overhead :	Vertical :	Conforms
5/32X14 in / AC	PE8345	Conforms	Horizontal :	Overhead :	Vertical :	Conforms
5/32X14 in / DCEP	PE8373	Conforms	Horizontal :	Overhead :	Vertical :	Conforms
1/8X14 in / AC	PE8489	Conforms	Horizontal :	Overhead :	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	Sb	As
1/8X14 in / DCEP / CF03689	0.06	0.93	0.016	0.011	0.42		0.04	0.01	0.06	0.01															
5/32X14 in / DCEP / CF05898	0.03	0.84	0.010	0.008	0.26		0.05	0.01	0.05	0.01															
5/32X14 in / AC / PE8345	0.05	1.01	0.011	0.008	0.38		0.05	0.01	0.06	0.01															
1/8X14 in / AC / PE8489	0.07	1.06	0.016	0.010	0.50		0.05	< .01	0.06	0.01															

1/8X14 in / CF03689	Total H2O Method : Train - As Received	Total Coating Moisture : 0.057
5/32X14 in / CF05898	Total H2O Method : Train - As Received	Total Coating Moisture : 0.055
5/32X14 in / PE8345	Total H2O Method : Train - 9 Hour	Total Coating Moisture : 0.153
1/8X14 in / PE8489	Total H2O Method : Train - 9 Hour	Total Coating Moisture : 0.087

Diffusible Hydrogen Collected per AWS A4.3

2.6 ml/100g of weld metal for 1/8X14 in diameter 14% relative humidity
2.6 ml/100g of weld metal for 1/8X14 in diameter 23% relative humidity
2.8 ml/100g of weld metal for 5/32X14 in diameter 18% relative humidity
3.0 ml/100g of weld metal for 5/32X14 in diameter 18% relative humidity

James A. Owens, Q.A. Specialist

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.