



Certificate of Conformance to Requirements for Welding Electrode

Product Type: HOBART 18AC
Classification: E7018 H8
Specifications: AWS A5.1/A5.1M; ASME SFA 5.1
Diameter Tested: 1/8"; 5/32"
Date Tested: 3/11/2021
Date Generated: 3/15/2021

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)
1/8X14 in	AC	140	26	225°F ()	300°F ()
1/8X14 in	DCEP	130	26	225°F ()	300°F ()
5/32X14 in	AC	180	26	225 (107)	300°F ()
5/32X14 in	DCEP	170	26	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"
1/8X14 in / AC	PE1744	As Welded	90,000 (622)	78,000 (538)	29
1/8X14 in / DCEP	PE1745	As Welded	86,000 (596)	72,000 (500)	29
5/32X14 in / AC	PE1746	As Welded	81,000 (560)	71,000 (491)	28
5/32X14 in / DCEP	PE1747	As Welded	81,000 (557)	70,000 (485)	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 / AC	PE1744	As Welded	-20 F (-29 C)	62,34,63 (84,46,85)	53 (72)	Charpy-V-Notch
1/8X14 in / DCEP	PE1745	As Welded	-20 F (-29 C)	64,56,61 (87,76,83)	60 (82)	Charpy-V-Notch
5/32X14 in / AC	PE1746	As Welded	-20 F (-29 C)	77,75,72 (104,102,98)	75 (101)	Charpy-V-Notch
5/32X14 in / DCEP	PE1747	As Welded	-20 F (-29 C)	33,72,68 (45,98,92)	58 (78)	Charpy-V-Notch

Size / Polarity	Ref. No.	Radiograph	Fillet Weld Test			
1/8X14 in / AC	PE1744	Conforms	Horizontal :	Overhead :	Vertical :	Conforms
1/8X14 in / DCEP	PE1745	Conforms	Horizontal :	Overhead :	Vertical :	Conforms
5/32X14 in / AC	PE1746	Conforms	Horizontal :	Overhead :	Vertical :	Conforms
5/32X14 in / DCEP	PE1747	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
5/32X14 in / AC / CD72170	0.04	0.97	0.009	0.019	0.23		0.03	0.02	0.02	0.01															
5/32X14 in / DCEP / CD72171	0.05	1.00	0.008	0.017	0.27		0.03	0.02	0.01	0.01															
1/8X14 in / AC / PE1744	0.05	1.16	0.010	0.012	0.48		0.05	0.02	0.06	0.01															
1/8X14 in / DCEP / PE1745	0.05	1.20	0.009	0.014	0.49		0.05	0.02	0.06	0.01															

5/32X14 in / CD72171	Total H2O Method : Train - As Received	Total Coating Moisture : 0.145
1/8X14 in / PE1745	Total H2O Method : Train - As Received	Total Coating Moisture : 0.218

Diffusible Hydrogen Collected per AWS A4.3

3.3 ml/100g of weld metal for 1/8X14 in diameter 23% relative humidity
4.0 ml/100g of weld metal for 5/32X14 in diameter 22% 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.