



Certificate of Conformance to Requirements for Welding Electrode

Product Type: HOBART 7018 C3L
Classification: E7018C3L H4
Specifications: AWS A5.5/A5.5M; ASME SFA 5.5
Diameter Tested: 1/8" 5/32"
Date Tested: 8-12-22
Date Generated: 9/14/2022

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	23-25	225F ()	225F ()
5/32X14 in	DCEP	185	22-24	225F ()	225F ()
1/8X14 in	DCEP	140	24	225 (107)	225 (107)
1/8X14 in	AC	150	24	225 (107)	225 (107)

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	PE4178	Aged 48 Hrs 220F	79,000 (544)	66,000 (452)	33
1/8X14 in / AC	PE4190	Aged 48 Hrs 220F	81,000 (561)	67,000 (462)	30
5/32X14 in / AC	PE4173	Aged 48 Hrs 220F	80,000 (554)	68,000 (466)	26
5/32X14 in / DCEP	PE4174	Aged 48 Hrs 220F	77,000 (532)	64,000 (445)	29

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	PE4173	As Welded	-60 F (-51 C)	74,52,59 (100,70,80)	62 (84)	Charpy-V-Notch
5/32X14 in / DCEP	PE4174	As Welded	-60 F (-51 C)	105,114,113 (142,155,153)	111 (150)	Charpy-V-Notch
1/8X14 in / DCEP	PE4178	As Welded	-60 F (-51 C)	106,115,106 (144,156,144)	109 (148)	Charpy-V-Notch
1/8X14 in / AC	PE4190	As Welded	-60 F (-51 C)	86,89,91 (117,121,123)	89 (120)	Charpy-V-Notch

Size / Polarity	Ref. No.	Radiograph	Fillet Weld Test			
1/8X14 in / DCEP	PE4178	Conforms	Horizontal :	Overhead :	Vertical :	Conforms
1/8X14 in / AC	PE4190	Conforms	Horizontal :	Overhead :	Vertical :	Conforms
5/32X14 in / AC	PE4173	Conforms	Horizontal :	Overhead :	Vertical :	Conforms
5/32X14 in / DCEP	PE4174	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 / CD83817	0.06	0.8	0.01	0.01	0.22		0.05	0.01	0.92	0.01															
5/32X14 in / DCEP / CD83819	0.07	0.9	0.01	0.01	0.18		0.06	0.01	0.84	0.04															
1/8X14 in / AC / CD83822	0.03	0.8	0.01	0.01	0.22		0.05	0.01	0.92	0.01															
5/32X14 in / AC / CD83824	0.04	0.8	0.01	0.01	0.15		0.06	0.01	0.86	0.04															

1/8X14 in / CD83817	Total H2O Method : Train - As Received	Total Coating Moisture : 0.065
5/32X14 in / CD83819	Total H2O Method : Train - As Received	Total Coating Moisture : 0.072
1/8X14 in / CD83822	Total H2O Method : Train - 9 Hour	Total Coating Moisture : 0.4
5/32X14 in / CD83824	Total H2O Method : Train - 9 Hour	Total Coating Moisture : 0.27

Diffusible Hydrogen Collected per AWS A4.3

2.4 ml/100g of weld metal for 1/8X14 in diameter 28% relative humidity
2.6 ml/100g of weld metal for 1/8X14 in diameter 28% relative humidity
3.0 ml/100g of weld metal for 5/32X14 in diameter 28% relative humidity
3.3 ml/100g of weld metal for 5/32X14 in diameter 28% relative humidity

James A. Ormrod

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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.