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:	**3/26/2024**
Date Generated:	**4/18/2024**

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)
5/32X14 in	DCEP	185	24-26	225 (107)	300 (149)
5/32X14 in	AC	200	24-26	300 (149)	300 (149)
1/4X18 in	DCEP	350	28-29	225 (107)	250 (121)
3/16X14 in	DCEP	225	27	300 (149)	300 (149)
3/16X14 in	AC	240	27	300 (149)	300 (149)
1/4X18 in	AC	340	28	300 (149)	300 (149)

Mechanical Properties - Tensile

Size / Polarity	Ref. No.	Testing Conditions	Ult. Tensile Strength psi(MPa)	Yield Strength psi(MPa)	Elong.% in 2"
1/4X18 in / DCEP	PE7751	As Welded	74,000 (510)	60,000 (414)	**31**
1/4X18 in / AC	PE7774	As Welded	79,000 (547)	63,000 (433)	**23**
5/32X14 in / DCEP	PE7722	As Welded	73,000 (503)	59,000 (407)	**31**
5/32X14 in / AC	PE7726	As Welded	75,000 (519)	60,000 (417)	**29**
3/16X14 in / DCEP	PE7754	As Welded	73,000 (505)	59,000 (408)	**32**
3/16X14 in / AC	PE7770	As Welded	76,000 (521)	61,000 (419)	**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 / DCEP	PE7722	As Welded	-50 F (-46 C)	265,259,280 (359,351,380)	268 (363)	Charpy-V-Notch
5/32X14 in / AC	PE7726	As Welded	-50 F (-46 C)	104,136,86 (141,184,117)	109 (147)	Charpy-V-Notch
1/4X18 in / DCEP	PE7751	As Welded	-50 F (-46 C)	229,274,274 (310,371,371)	259 (351)	Charpy-V-Notch
3/16X14 in / DCEP	PE7754	As Welded	-50 F (-46 C)	199,268,259 (270,363,351)	242 (328)	Charpy-V-Notch
3/16X14 in / AC	PE7770	As Welded	-50 F (-46 C)	122,99,90 (165,134,122)	104 (141)	Charpy-V-Notch
1/4X18 in / AC	PE7774	As Welded	-50 F (-46 C)	43,40,31 (58,54,42)	38 (52)	Charpy-V-Notch

Size / Polarity	Ref. No.	Radiograph	Fillet Weld Test					
1/4X18 in / DCEP	PE7751	Conforms	Horizontal :	Conforms	Overhead :		Vertical :	
1/4X18 in / AC	PE7774	Conforms	Horizontal :	Conforms	Overhead :		Vertical :	
5/32X14 in / DCEP	PE7722	Conforms	Horizontal :		Overhead :	Conforms	Vertical :	Conforms
5/32X14 in / AC	PE7726	Conforms	Horizontal :		Overhead :	Conforms	Vertical :	Conforms
3/16X14 in / DCEP	PE7754	Conforms	Horizontal :	Conforms	Overhead :		Vertical :	
3/16X14 in / AC	PE7770	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 / DCEP / PE7722	0.04	1.00	0.008	0.011	0.46		0.02	< .01	0.03	0.02															
5/32X14 in / AC / PE7726	0.07	0.92	0.009	0.012	0.45		0.02	< .01	0.02	0.02															
1/4X18 in / DCEP / PE7751	0.04	1.21	0.010	0.012	0.43		0.04	< .01	0.06	0.02															
1/4X18 in / AC / PE7774	0.07	1.34	0.010	0.012	0.50		0.04	< .01	0.05	0.02															

5/32X14 in / PE7722	Total H2O Method : Train - As Received	Total Coating Moisture : 0.057
5/32X14 in / PE7726	Total H2O Method : Train - 9 Hour	Total Coating Moisture : 0.138
1/4X18 in / PE7751	Total H2O Method : Train - As Received	Total Coating Moisture : 0.028
1/4X18 in / PE7774	Total H2O Method : Train - 9 Hour	Total Coating Moisture : 0.133

Diffusible Hydrogen Collected per AWS A4.3

2.7 ml/100g of weld metal for 5/32X14 in diameter 18% relative humidity

2.4 ml/100g of weld metal for 5/32X14 in diameter 18% relative humidity

3.2 ml/100g of weld metal for 3/16X14 in diameter 18% relative humidity

3.2 ml/100g of weld metal for 3/16X14 in diameter 19% relative humidity

3.4 ml/100g of weld metal for 1/4X18 in diameter 19% relative humidity

3.9 ml/100g of weld metal for 1/4X18 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.