



## Certificate of Conformance to Requirements for Welding Electrode

**Product Type:** FabCOR Element XP  
**Classification:** E70C-6M H4  
**Specifications:** AWS A5.18/A5.18M; SFA 5.18  
**Diameter Tested:** 1/16"  
**Date Tested:** 9/16/2024  
**Date Generated:** 1/20/2026

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.

**THE STEEL USED IN THIS LOT OF MATERIAL WAS MELTED AND MANUFACTURED IN THE U.S.A.**

**Test Settings**

Shielding Medium	Amps / Polarity	Volts	WFS in/min(m/min)	ESO in(mm)	Preheat F(C)	Interpass F(C)	Travel Speed in/min(cm/min)
M21-ArC-25	334.3 / DCEP	28.8	259.1 (6.6)	3/4 (19)	Room Temp	300(149)	14.1 (35.8)
M20-ArC-10	333.8 / DCEP	27.8	260 (6.6)	3/4 (19)	Room Temp	300(149)	14.0 (35.6)
M12-ArC-5	334.4 / DCEP	26.3	262 (6.7)	3/4 (19)	Room Temp	300(149)	14.9 (37.8)

**Mechanical Properties - Tensile**

Shielding Medium	Ref. No.	Testing Conditions	Ult. Tensile Strength psi (MPa)	Yield Strength psi (MPa)	Elong.% in 2"
M21-ArC-25	PE8611	As Welded	80,000 ( 552 )	69,000 ( 476 )	28
M20-ArC-10	PE8658	Aged 48 Hrs 220F	85,000 ( 586 )	76,000 ( 526 )	27
M12-ArC-5	PE8681	Aged 48 Hrs 220F	89,000 ( 616 )	79,000 ( 544 )	26

**Mechanical Properties - Impact**

Shielding Medium	Ref. No.	Testing Conditions	Temp. F (C)	Individuals ft.lb.(J)	Avg. ft.lb.(J)	Type
M21-ArC-25	PE8611	As Welded	-20 (-29)	50,67,66 (68,91,89)	61 ( 83 )	Charpy-V-Notch
M21-ArC-25	PE8611	As Welded	-40 (-40)	64,64,61 (87,87,83)	63 ( 85 )	Charpy-V-Notch
M20-ArC-10	PE8658	As Welded	-20 (-29)	57,57,59 (77,77,80)	58 ( 78 )	Charpy-V-Notch
M20-ArC-10	PE8658	As Welded	-40 (-40)	53,57,56 (72,77,76)	55 ( 75 )	Charpy-V-Notch
M12-ArC-5	PE8681	As Welded	-20 (-29)	58,61,51 (79,83,69)	57 ( 77 )	Charpy-V-Notch
M12-ArC-5	PE8681	As Welded	-40 (-40)	42,44,53 (57,60,72)	46 ( 63 )	Charpy-V-Notch

Ref.No.	Radiographic Inspection	Fillet Weld Test					
PE8611	Conforms	Horizontal :		Overhead :		Vertical :	
PE8658	Conforms	Horizontal :		Overhead :		Vertical :	
PE8681	Conforms	Horizontal :		Overhead :		Vertical :	

**Chemical Analysis**

Shielding Medium / 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
M21-ArC-25 / PE8611	0.04	1.08	0.010	0.011	0.64	0.05	0.03	< .01	0.42	0.01		0.033			0.0057										
M20-ArC-10 / PE8658	0.04	1.20	0.009	0.010	0.71	0.04	0.03	< .01	0.41	0.01		0.043			0.0050										
M12-ArC-5 / PE8681	0.05	1.23	0.009	0.010	0.75	0.04	0.03	< .01	0.40	0.01		0.058			0.0057										

**Hydrogen Analysis**

Shielding Medium	Polarity	Ref. No.	Diffusible Hydrogen Collected per AWS A4.3
M12-ArC-5	DCEP	HB7848	3 ml/100g of weld metal for 1/16 in diameter 17% relative humidity
M21-ArC-25	DCEP	HB7853	3 ml/100g of weld metal for 1/16 in diameter 17% relative humidity
M20-ArC-10	DCEP	HB8564	3 ml/100g of weld metal for 1/16 in diameter 13% relative humidity

*James A. Owens*

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.