



**Certificate of Conformance
to Requirements for Welding Electrode**

Product Type: **FabCO 811N1**
 Classification: **E81T1-Ni1CJ H4; E81T1-Ni1MJ H4**
 Specifications: **AWS A5.29/A5.29M; ASME SFA 5.29**
 Diameter Tested: **1/16"**
 Date Tested: **2/16/2023**
 Date Generated: **9/27/2023**

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)
C1	300 / DCEP	26	250 (6.4)	3/4 (19)	300(149)	300(149)	10 (25.4)
M21-ArC-25	300 / DCEP	27	250 (6.4)	3/4 (19)	300(149)	300(149)	10 (25.4)

Mechanical Properties - Tensile

Shielding Medium	Ref. No.	Testing Conditions	Ult. Tensile Strength psi (MPa)	Yield Strength psi (MPa)	Elong.% in 2"
C1	PE5642	Aged 48 Hrs 220F	85,000 (584)	74,000 (514)	27
M21-ArC-25	PE5643	Aged 48 Hrs 200F	92,000 (634)	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
C1	PE5642	As Welded	-40 (-40)	84,97,101 (114,132,137)	94 (127)	Charpy-V-Notch
M21-ArC-25	PE5643	As Welded	-40 (-40)	71,72,68 (96,98,92)	70 (95)	Charpy-V-Notch

Ref.No.	Radiographic Inspection	Fillet Weld Test			
		Horizontal :	Overhead :	Vertical :	Conforms
PE5642	Conforms	Horizontal :	Overhead :	Vertical :	Conforms
PE5643	Conforms	Horizontal :	Overhead :	Vertical :	Conforms

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	
C1 / PE5642	0.05	1.26	0.010	0.007	0.23	0.02	0.04	0.02	0.94	< .01	< .01				0.0040											
M21-ArC-25 / PE5643	0.05	1.58	0.010	0.007	0.37	0.02	0.04	0.02	0.96	< .01	< .01				0.0054											

Diffusible Hydrogen Collected per AWS A4.3

C1	4.0 ml/100g of weld metal for 1/16 in diameter 16% relative humidity
M21-ArC-25	4.1 ml/100g of weld metal for 1/16 in diameter 16% 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.