



Certificate of Conformance to Requirements for Welding Electrode

Product Type: FabCO 81N1
Classification: E80T1-Ni1CJ H8, E80T1-Ni1MJ H8
Specifications: AWS A5.29/A5.29M; ASME SFA 5.29
Diameter Tested: 3/32"
Date Tested: 8/01/2023
Date Generated: 8/31/2023

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)
M21-ArC-25	400 / DCEP	27	160 (4.1)	1 (25)	300(149)	300(149)	12.5 (31.8)
C1	400 / DCEP	28	160 (4.1)	1 (25)	300(149)	300(149)	12.5 (31.8)

Mechanical Properties - Tensile

Shielding Medium	Ref. No.	Testing Conditions	Ult. Tensile Strength psi (MPa)	Yield Strength psi (MPa)	Elong.% in 2"
M21-ArC-25	PE6692	Aged 48 Hrs 220F	97,000 (670)	87,000 (597)	23
C1	PE6693	Aged 48 Hrs 220F	89,000 (614)	79,000 (546)	24

Mechanical Properties - Impact

Shielding Medium	Ref. No.	Testing Conditions	Temp. F (C)	Individuals ft.lb.(J)	Avg. ft.lb.(J)	Type
M21-ArC-25	PE6692	As Welded	-20 (-29)	42,43,41 (57,58,56)	42 (57)	Charpy-V-Notch
M21-ArC-25	PE6692	As Welded	-40 (-40)	31,27,25 (42,37,34)	28 (38)	Charpy-V-Notch
C1	PE6693	As Welded	-20 (-29)	43,37,35 (58,50,47)	38 (52)	Charpy-V-Notch
C1	PE6693	As Welded	-40 (-40)	22,32,33 (30,43,45)	29 (39)	Charpy-V-Notch

Ref.No.	Radiographic Inspection	Fillet Weld Test			
PE6692	Conforms	Horizontal :	Conforms	Overhead :	Vertical :
PE6693	Conforms	Horizontal :	Conforms	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 / CD97853	0.06	1.30	0.007	0.009	0.64	0.02	0.03	0.02	0.99	0.01					0.0057										
C1 / CD97854	0.05	1.01	0.007	0.009	0.45	0.04	0.03	0.02	0.93	0.01					0.0041										

Diffusible Hydrogen Collected per AWS A4.3

C1	5.2 ml/100g of weld metal for 3/32 in diameter 26% relative humidity
M21-ArC-25	7.1 ml/100g of weld metal for 3/32 in diameter 26% 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.

