HOBART FILLER METALS

Certificate of Conformance to Requirements for Welding Electrode

Product Type:	**FabCO 115K3**
Classification:	**E110T5-K3C; E110T5-K3M H4**
Specifications:	**AWS A5.29/A5.29M; ASME SFA 5.29**
Diameter Tested:	**1/16"; 3/32"**
Date Tested:	**10/21/2024**
Date Generated:	**10/31/2024**

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.

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	400 / DCEP	26	170 (4.3)	1 (25)	300(149)	300(149)	14 (35.6)
M21-ARC-25	409.4 / DCEP	26.2	195 (5)	1 (25)	300(149)	300(149)	13 (33)
C1	270 / DCEP	24	280 (7.1)	3/4 (19)	300(149)	300(149)	13 (33)
M21-ArC-25	270 / DCEP	25	280 (7.1)	3/4 (19)	300(149)	300(149)	13 (33)

Mechanical Properties - Tensile

Shielding Medium	Ref. No.	Testing Conditions	Ult. Tensile Strength psi (MPa)	Yield Strength psi (MPa)	Elong.% in 2"
C1	PE8714	Aged 48 Hrs 220F	114,000 (786)	98,000 (676)	21
M21-ARC-25	PE8715	Aged 48 Hrs 220F	113,000 (779)	103,000 (710)	22
C1	PE8911	Aged 48 Hrs 220F	111,000 (765)	99,000 (681)	23
M21-ArC-25	PE8913	Aged 48 Hrs 220F	116,000 (800)	109,000 (752)	22

Mechanical Properties - Impact

Shielding Medium	Ref. No.	Testing Conditions	Temp. F (C)	Individuals ft.lb.(J)	Avg. ft.lb.(J)	Type
C1	PE8649	As Welded	-60 (-51)	63,54,58 (85,73,79)	58 (79)	Charpy-V-Notch
M21-ARC-25	PE8715	As Welded	-60 (-51)	39,46,42 (53,62,57)	42 (57)	Charpy-V-Notch
C1	PE8911	As Welded	-60 (-51)	52,53,52 (70,72,70)	52 (71)	Charpy-V-Notch
M21-ArC-25	PE8913	As Welded	-60 (-51)	44,43,38 (60,58,52)	42 (56)	Charpy-V-Notch

Ref.No.	Radiographic Inspection	Fillet Weld Test					
PE8649	Conforms	Horizontal :	Conforms	Overhead :		Vertical :	
PE8715	Conforms	Horizontal :	Conforms	Overhead :		Vertical :	
PE8911	Conforms	Horizontal :	Conforms	Overhead :		Vertical :	
PE8913	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
C1 / PE8714	0.05	1.73	0.011	0.012	0.51	0.04	0.05	0.01	2.27	0.38															
M21-ARC-25 / PE8715	0.06	1.79	0.010	0.011	0.52	0.04	0.04	0.01	2.29	0.37															
C1 / PE8911	0.05	1.59	0.011	0.009	0.51	0.04	0.04	0.01	1.86	0.35															
M21-ArC-25 / PE8913	0.06	1.75	0.010	0.009	0.56	0.04	0.04	0.01	2.00	0.38															

Diffusible Hydrogen Collected per AWS A4.3

C1	1.3 ml/100g of weld metal for 1/16 in diameter 19% relative humidity
M21-ArC-25	1.7 ml/100g of weld metal for 1/16 in diameter 20% relative humidity
C1	2.1 ml/100g of weld metal for 3/32 in diameter 15% relative humidity
M21-ArC-25	2.5 ml/100g of weld metal for 3/32 in diameter 15% 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.