



Certificate of Conformance to Requirements for Welding Electrode

Product Type: SDX EM14K
Classification: EM14K
Specifications: AWS A5.17/A5.17M; ASME SFA5.17
Diameter Tested: 5/32"
Date Tested: 10/20/2023
Date Generated: 10/24/2023

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.

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)
SWX-150 (F7A8-EM14K)	525 / DCEP	29	42 (1.1)	1.25 (32)	Room Temp	300(149)	15 (38.1)
HN-590 (F7A6-EM14K)	575 / DCEP	27	50 (1.3)	1 (25)	Room Temp	300(149)	15 (38.1)

Mechanical Properties - Tensile

Shielding Medium	Ref. No.	Testing Conditions	Ult. Tensile Strength psi (MPa)	Yield Strength psi (MPa)	Elong.% in 2"
SWX-150 (F7A8-EM14K)	PE2151	As Welded	87,000 (600)	78,000 (540)	27
HN-590 (F7A6-EM14K)	PE7136	Aged 48 Hrs 220F	84,000 (577)	74,000 (507)	28

Mechanical Properties - Impact

Shielding Medium	Ref. No.	Testing Conditions	Temp. F (C)	Individuals ft.lb.(J)	Avg. ft.lb.(J)	Type
SWX-150 (F7A8-EM14K)	PE2151	As Welded	-80 (-62)	86,76,80 (117,103,108)	81 (109)	Charpy-V-Notch
SWX-150 (F7A8-EM14K)	PE2151	As Welded	-60 (-51)	80,96,100 (108,130,136)	92 (125)	Charpy-V-Notch
SWX-150 (F7P8-EM14K)	PE2199	SR 1 Hr @ 1150F	-80 (-62)	74,79,67 (100,107,91)	73 (99)	Charpy-V-Notch
SWX-150 (F7P8-EM14K)	PE2199	SR 1 Hr @ 1150F	-60 (-51)	93,94,84 (126,127,114)	90 (122)	Charpy-V-Notch
HN-590 (F7A6-EM14K)	PE7136	As Welded	-40 (-40)	87,93,94 (118,126,127)	91 (124)	Charpy-V-Notch
HN-590 (F7A6-EM14K)	PE7136	As Welded	-60 (-51)	70,59,57 (95,80,77)	62 (84)	Charpy-V-Notch

Ref.No.	Radiographic Inspection	Fillet Weld Test			
PE2151	Conforms	Horizontal :	Overhead :	Vertical :	
PE7136	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	
SWX-150 (F7A8-EM14K) / PE2151	0.09	1.27	0.015	0.007	0.47	0.08						0.01														
HN-590 (F7A6-EM14K) / PE7136	0.13	1.93	0.020	0.007	0.54	0.04						0.02														

Diffusible Hydrogen Collected per AWS A4.3

SWX 150 (F7A8-EM14K)	5.6 ml/100g of weld metal for 5/32 in diameter 32% relative humidity
HN-590 (F7A6-EM14K)	2.7 ml/100g of weld metal for 5/32 in diameter 43% 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.