



Certificate of Conformance to Requirements for Welding Electrode

Product Type: SubCOR EM13KS MOD
Classification: EC1
Specifications: AWS A5.17/A5.17M; ASME SFA 5.17
Diameter Tested: 5/32"
Date Tested: 10/16/2020
Date Generated: 10/28/2020

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.

Mechanical Properties - Tensile

Shielding Medium	Ref. No.	Testing Conditions	Ult. Tensile Strength psi (MPa)	Yield Strength psi (MPa)	Elong.% in 2"
HN-590 (F7A8-EC1 H8)	PE1385	Aged 48 Hrs 220F	74,000 (511)	64,000 (438)	29
SWX-120 (F7A8-EC1 H8)	PD9428	Aged 48 Hrs 220F	76,000 (527)	66,000 (456)	29
SWX-120 (F7P8-EC1 H8)	PD9429	SR 1 Hr @ 1150F	74,000 (508)	61,000 (421)	31
SWX-150 (F7A8-EC1 H8)	PE1104	Aged 48 Hrs 220F	73,000 (505)	61,000 (421)	29
SWX-150 (F7P8-EC1 H8)	PE1228	SR 1 Hr @ 1050F	71,000 (490)	58,000 (399)	34

Mechanical Properties - Impact

Shielding Medium	Ref. No.	Testing Conditions	Temp. F (C)	Individuals ft.lb.(J)	Avg. ft.lb.(J)	Type
SWX-120 (F7A8-EC1 H8)	PD9428	As Welded	-80 (-62)	58,27,95 (79,37,129)	60 (81)	Charpy-V-Notch
SWX-120 (F7P8-EC1 H8)	PD9429	SR 1 Hr @ 1150F	-80 (-62)	92,102,93 (125,138,126)	96 (130)	Charpy-V-Notch
SWX-150 (F7A8-EC1 H8)	PE1104	As Welded	-80 (-62)	109,106,95 (148,144,129)	103 (140)	Charpy-V-Notch
SWX-150 (F7P8-EC1 H8)	PE1228	SR 1 Hr @ 1050F	-80 (-62)	55,26,38 (75,35,52)	40 (54)	Charpy-V-Notch
HN-590 (F7A8-EC1 H8)	PE1385	As Welded	-80 (-62)	46,61,62 (62,83,84)	56 (76)	Charpy-V-Notch

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-120 (F7A8-EC1 H8) / PD9428	0.06	1.38	0.022	0.008	0.21	0.04				0.08															
SWX-150 (F7A8-EC1 H8) / PE1104	0.07	0.81	0.015	0.009	0.26	0.03				0.07															
HN-590 (F7A8-EC1 H8) / PE1385	0.05	1.10	0.026	0.011	0.20	0.04				0.08															

Diffusible Hydrogen Collected per AWS A4.3

SWX-120	6.4 ml/100g of weld metal for 5/32 in diameter 50% relative humidity
HN-590	3.2 ml/100g of weld metal for 5/32 in diameter 50% relative humidity
SWX-150	7.2 ml/100g of weld metal for 5/32 in diameter 56% relative humidity

Dave Thomas, Quality Assurance Rep.

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.