



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

Hobart

Customer:	Product Type:	SDX - EM13K 5/32 55 CL
Customer P.O. No.:	Classification:	EM13K
Order No.:	Specifications:	AWS A5.17
Stock Number: 712401025H	Diameter Tested:	5/32"
Lbs. Shipped:	Date Tested:	3/07/2016
Date Generated: 3/7/2019	Diameter Shipped:	5/32 in
Lot Nos. Shipped:		

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 110 (F7A4-EM13K)	525 / DCEP	28.5	50 (1.3)	1.25 (32)	Room Temp	300(149)	16 (40.6)
SWX 120 (F7A6-EM13K)	525 / DCEP	28.5	50 (1.3)	1.25 (32)	Room Temp	300(149)	16 (40.6)
SWX 150 (F7A6-EM13K)	525 / DCEP	28.5	50 (1.3)	1.25 (32)	Room Temp	300(149)	16 (40.6)
SWX 120 (F7P8-EM13K)	475-575 / DCEP	27-29	50 (1.3)	1.25 (32)	Room Temp	275-325()	15 (38.1)
SWX 110 (F7P4-EM13K)	475-575 / DCEP	27-29	50 (1.3)	1.25 (32)	Room Temp	275-325()	15 (38.1)
SWX 150 (F7P8-EM13K)	575 / DCEP	27.5	50 (1.3)	1 (25)	325(163)	325(163)	15 (38.1)
HN-590 (F7P4-EM13K)	550 / DCEP	29	43 (1.1)	1.25 (32)	Room Temp	300(149)	16 (40.6)
HN-590 (F7A4-EM13K)	550 / DCEP	29	43 (1.1)	1.25 (32)	Room Temp	300(149)	16 (40.6)

Mechanical Properties - Tensile

Shielding Medium	Ref. No.	Testing Conditions	Ult. Tensile Strength psi (MPa)	Yield Strength psi (MPa)	Elong. % in 2"
SWX 110 (F7A4-EM13K)	PC1570	Aged 48 Hrs 200F	87,000 (602)	75,000 (516)	28
SWX 120 (F7A6-EM13K)	PC1571	Aged 48 Hrs 200F	87,000 (603)	77,000 (532)	29
SWX 150 (F7A6-EM13K)	PC1572	Aged 48 Hrs 200F	86,000 (596)	74,000 (512)	27
SWX 120 (F7P8-EM13K)	PC5306	SR 1 Hr @ 1150F	83,000 (571)	68,000 (467)	28
SWX 110 (F7P4-EM13K)	PC5366	SR 1 Hr @ 1150F	82,000 (565)	66,000 (453)	28
SWX 150 (F7P8-EM13K)	PD0254	SR 1 Hr @ 1150F	79,000 (545)	62,000 (429)	30
HN-590 (F7P4-EM13K)	PD0864	SR 1 Hr @ 1150F	88,000 (610)	74,000 (512)	26
HN-590 (F7A4-EM13K)	PD0865	As Welded	94,000 (646)	82,000 (565)	26

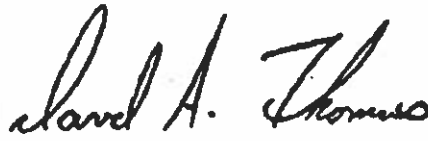
Mechanical Properties - Impact

Shielding Medium	Ref. No.	Testing Conditions	Temp. F (C)	Individuals ft.lb.(J)	Avg. ft.lb.(J)	Type
SWX 110 (F7A4-EM13K)	PC1570	As Welded	-60 (-51)	19,24,23 (26,33,31)	22 (30)	Charpy-V-Notch
SWX 120 (F7A6-EM13K)	PC1571	As Welded	-80 (-62)	40,41,40 (54,56,54)	40 (55)	Charpy-V-Notch
SWX 150 (F7A6-EM13K)	PC1572	As Welded	-80 (-62)	21,31,33 (28,42,45)	28 (38)	Charpy-V-Notch
SWX 120 (F7P8-EM13K)	PC5306	SR 1 Hr @ 1150F	-60 (-51)	57,63,57 (77,85,77)	59 (80)	Charpy-V-Notch
SWX 110 (F7P4-EM13K)	PC5366	SR 1 Hr @ 1150F	-40 (-40)	42,40,44 (57,54,60)	42 (57)	Charpy-V-Notch
SWX 150 (F7P8-EM13K)	PD0254	SR 1 Hr @ 1150F	-80 (-62)	55,52,55 (75,70,75)	54 (73)	Charpy-V-Notch
HN-590 (F7P4-EM13K)	PD0864	SR 1 Hr @ 1150F	-60 (-51)	26,24,22 (35,33,30)	24 (33)	Charpy-V-Notch
HN-590 (F7P4-EM13K)	PD0864	SR 1 Hr @ 1150F	-80 (-62)	17,17,15 (23,23,20)	16 (22)	Charpy-V-Notch
HN-590 (F7A4-EM13K)	PD0865	As Welded	-60 (-51)	19,19,22 (26,26,30)	20 (27)	Charpy-V-Notch

Ref.No.	Radiographic Inspection	Fillet Weld Test			
PC1570	Conforms	Horizontal :	Overhead :	Vertical :	
PC1571	Conforms	Horizontal :	Overhead :	Vertical :	
PC1572	Conforms	Horizontal :	Overhead :	Vertical :	
PC5306	Conforms	Horizontal :	Overhead :	Vertical :	
PC5366	Conforms	Horizontal :	Overhead :	Vertical :	
PD0254	Conforms	Horizontal :	Overhead :	Vertical :	
PD0864	Conforms	Horizontal :	Overhead :	Vertical :	
PD0865	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
SWX 110 (F7A4-EM13K) / PC1570	0.06	1.56	0.017	0.011	0.68	0.13																	
SWX 120 (F7A6-EM13K) / PC1571	0.05	1.56	0.014	0.008	0.48	0.13																	
SWX 150 (F7A6-EM13K) / PC1572	0.07	1.13	0.013	0.005	0.52	0.13																	
SWX 120 (F7P8-EM13K) / PC5306	0.07	1.63	0.017	0.014	0.53	0.14																	
SWX 110 (F7P4-EM13K) / PC5366	0.07	1.45	0.017	0.014	0.71	0.15																	
SWX 150 (F7P8-EM13K) / PD0254	0.06	1.22	0.018	0.008	0.68	0.13																	
HN-590 (F7P4-EM13K) / PD0864	0.08	1.99	0.028	0.014	0.66	0.16																	
HN-590 (F7A4-EM13K) / PD0865	0.07	1.88	0.026	0.015	0.64	0.14																	



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.