ESAB® **ESAB Welding & Cutting Products**

CERTIFICATE OF CONFORMANCE
TO SPECIFICATION REQUIREMENTS
FOR WELDING ELECTRODES AND FLUXES

SECTION NO.: 9

SUPPLIED TO:

QUANTITY:
DIAMETER:
HEAT:
FLUX LOT:

This is to certify that Spoolarc 29S electrode, Classification EM13K, and ESAB OK Flux 429 submerged arc welding flux, AWS/ASME Classification F7A2-EM13K-H8, as supplied on the above order, are of the same classification, manufacturing process and material requirements as the flux-electrode combination tested on March 15, 2010.

All tests required by Specification AWS/ASME SFA5.17 (F-No. 6) and ANSI/AWS A5.01 Schedule G were performed. The materials tested met all the requirements for Classification F7A2-EM13K-H8. The chemical composition of the electrode and mechanical properties of the deposited weld metal were as follows:

CHEMICAL COMPOSITION OF ELECTRODE:

C	Mn	Si	S	P	Cu	Total Other Elements
.08	1.18	.61	.008	.007	.02	<.50

CHEMICAL COMPOSITION OF DEPOSITED WELD METAL (A No. 1):

.07	1.49	.63	.009	.029

WELD TEST NO: 100315-2AW AS-WELDED

Tensile Test:

Yield Strength, ksi (MPa)	67.0 (455)
Tensile Strength, ksi (MPa)	83.0 (544)
Elongation, 2-in. %	28.5

Radiography Test: Met all requirements

CHARPY V-NOTCH IMPACT

Ft-lbs @ -22°F	(Joules @ -30°C)
48	(65)
45	(61)
28	(38)
36	(48)
50	(67)
43	(58) (avg. 3)

Welding Conditions:

Arc Voltage:	28.5
Amperage:	535 DCEP
Travel Speed:	16 ipm
Diameter:	5/32 in.

Base Plate: A515/516, 1 in. thick
Set-up: 30° incl. angle, 1/2 in. root gap
No. of Layers: 7 layers of 2 passes, 1 of 3
Preheat: 60 - 325°F
Interpass: 300 ± 25°F

WELD METAL DIFFUSIBLE HYDROGEN
ml/100g (Flux baked @ 800° F for 2 hours)
3.8, 4.1, 3.0, 3.9 (3.7 avg.)

Winifred Stewart, Materials Standards Specialist

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