



**ESAB Welding &
Cutting Products**

**CERTIFICATE OF CONFORMANCE
TO SPECIFICATION REQUIREMENTS
FOR WELDING ELECTRODES**

SECTION NO. 26

SUPPLIED TO:

YOUR ORDER NO.:
QUANTITY:
DIAMETER:
HEAT:

This is to certify that Spoolarc 83 electrode, AWS/ASME Classification ER80S-D2-H4, as supplied on the above order, are of the same classification, manufacturing process and material requirements as the electrode combination tested on March 25, 2010 using CO₂ shielding gas.

All tests required by Specification AWS /ASME SFA5.28 (F-No. 6) and ANSI/AWS A5.01 Schedule G were performed. The materials tested met all the requirements for Classification ER80S-D2-H4. The chemical composition of the electrode and mechanical properties of the deposited weld metal were as follows:

CHEMICAL COMPOSITION OF ELECTRODE:

<u>C</u>	<u>Mn</u>	<u>Si</u>	<u>S</u>	<u>P</u>	<u>Ni</u>	<u>Mo</u>	<u>Cu</u>	Total Other Elements
.08	1.77	.66	.011	.009	.08	.47	.09	<.50

CHEMICAL COMPOSITION OF DEPOSITED WELD METAL (A-No. 2):

.09	1.35	.47	.007	.010	.07	.47	.10
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WELD TEST NO.: 100325-2AW

AS-WELDED

CHARPY V-NOTCH IMPACT
Ft-Lbs @ -20°F (Joules @ -29°C)

Tensile Test:

Yield Strength, ksi (MPa)	84.0 (579)	39 (53)
Tensile Strength, ksi (MPa)	100.0 (689)	53 (71)
Elongation, 2-in. %	24	37 (50)

47 (63)
40 (54)
42 (avg.3) (57) (avg.3)

Radiography Test: Met all requirements

Welding Conditions:

Arc Voltage:	28.5	Base Plate:	A515/516 Gd. 70, 3/4 in. Thick
Amperage:	348 DCEP	Set-up:	45° incl. angle, 1/2 in. Root gap
Travel Speed:	12 ipm	No. of Layers:	4 layers of 2, 1 layer of 3, 1 layer of 4
Diameter:	1/16 in.	Preheat/Interpass:	RT/300 ± 25°F

WELD METAL DIFFUSIBLE HYDROGEN

ml/100g: 1.8, 1.9, 1.8, 2.6 (2.0 avg.)

The electrode diameter required to be tested for this classification is either .045 or 1/16 in. The .030, .035 and .052 sizes will also meet this requirement. This certification complies with the requirements of EN 10204 Type 2.2.

Winifred Stewart, Materials Standards Specialist

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