



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

SECTION NO. 27

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 24, 2008 using 98/2 Argon/O<sub>2</sub> 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>Cr</u>	<u>Mo</u>	<u>Cu</u>	Total <u>Other Elements</u>
.07	1.77	.66	.008	.011	.09	.07	.45	.08	<.50

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

.09	1.61	.56	.009	.013			.50		
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WELD TEST NO.: 080324-1AW

AS-WELDED

CHARPY V-NOTCH IMPACT  
Ft-Lbs @ -22°F (Joules @ -30°C)

Tensile Test:

Yield Strength, ksi (MPa)	94.5 (651)	145 (196)
Tensile Strength, ksi (MPa)	106.0 (730)	76 (102)
Elongation, 2-in. %	24	124 (167)

Radiography Test: Met all requirements

128 (173)
127 avg. 3 (171) (avg.3)

Welding Conditions:

Arc Voltage: 27	Base Plate: A515/516 Gd. 70, 3/4 in. Thick
Amperage: 380 DCEP	Set-up: 45° incl. angle, 1/2 in. Root gap
Travel Speed: 13 ipm	No. of Layers: 3 layers of 2, 1 layers of 3, 2 layer of 4
Diameter: 1/16 in.	Preheat/Interpass: 300 ± 25°F

WELD METAL DIFFUSIBLE HYDROGEN

ml/100g: 2.7, 2.3, 2.1, 2.3 (2.3 avg.)

  
 Winifred Stewart, Materials Standards Specialist