



**ESAB Welding &
Cutting Products**

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

SECTION NO. 25

SUPPLIED TO:

YOUR ORDER NO.:
QUANTITY:
DIAMETER:
HEAT:

This is to certify that Spoolarc 87HP electrode, AWS/ASME Classification ER70S-7 H4, as supplied on the above order, are of the same classification, manufacturing process and material requirements as the electrode combination tested on March 13, 2010, using CO₂ shielding gas.

All tests required by Specification AWS /ASME SFA5.18 (F-No. 6) and ANSI/AWS A5.01 Schedule G were performed. The materials tested met all the requirements for Classification ER70S-7 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>Cu</u> | <u>Ni</u> | <u>Cr</u> | <u>Mo</u> | <u>Other Elements</u> |
|----------|-----------|-----------|----------|----------|-----------|-----------|-----------|-----------|-----------------------|
| .08 | 1.59 | .62 | .007 | .008 | .04 | .02 | .02 | .01 | <.50 |

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

| | | | | | | | | |
|-----|-------|-----|------|------|-----|-----|-----|------|
| .09 | 1.2 0 | .43 | .006 | .008 | .09 | .05 | .03 | <.01 |
|-----|-------|-----|------|------|-----|-----|-----|------|

Radiography Test: Met all requirements AS-WELDED

WELD TEST NO.: 100313-2AW

Tensile Test:

Yield Strength, ksi (MPa) 67.0 (461)

Tensile Strength, ksi (MPa) 81.0 (558)

Elongation, 2-in. % 30.0

Weld Metal Diffusible Hydrogen

ml/100g 3.4, 4.0, 2.1, 3.9 (3.3 avg. of 4)

CHARPY V-NOTCH IMPACT

Ft-Lbs @ -22°F (Joules @ -30°C)

100 (135)

104 (140)

80 (108)

78 (105)

102 (138)

94 (avg.3) (127) (avg.3)

Welding Conditions:

Arc Voltage: 29.2

Amperage: 278 DCEP

Travel Speed: 12 ipm

Diameter: .045 in.

Base Plate: A515/516 Gd. 70, 3/4 in. Thick

Set-up: 45° incl. angle, 1/2 in. Root gap

No. of Layers: 3 layers of 2 passes, 3 layers of 3

Preheat/Interpass: RT/300 ± 25°F

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.


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