



ESAB Welding & Cutting Products

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

SECTION NO. 20

SUPPLIED TO:

YOUR ORDER NO.:
QUANTITY:
DIAMETER:
HEAT:

This is to certify that Spoolarc 29S electrode, AWS/ASME Classification ER70S-3 H4, as supplied on the above order, are of the same classification, manufacturing process and material requirements as the electrode combination tested on April 8, 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-3 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> | Total <u>Other Elements</u> |
|----------|-----------|-----------|----------|----------|-----------|-----------|-----------|-----------|--------------------------------|
| .07 | 1.14 | .56 | .005 | .006 | .06 | .06 | .06 | .01 | <.50 |

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

| | | | | | | | | |
|-----|-----|-----|------|------|-----|-----|-----|------|
| .08 | .90 | .40 | .006 | .008 | .11 | .08 | .05 | <.01 |
|-----|-----|-----|------|------|-----|-----|-----|------|

WELD TEST NO.: 100408-1AW

AS-WELDED

CHARPY V-NOTCH IMPACT

Ft-Lbs @ 0°F (Joules @ -18°C)

Tensile Test:

| | |
|-----------------------------|------------|
| Yield Strength, ksi (MPa) | 63.5 (438) |
| Tensile Strength, ksi (MPa) | 78.5 (541) |
| Elongation, 2-in. % | 29.5 |

| |
|--------------------------|
| 90 (121) |
| 56 (76) |
| 88 (119) |
| 77 (104) |
| <u>90</u> (<u>121</u>) |

Radiography Test: Met all requirements

85 (avg.3) (115) (avg. 3)

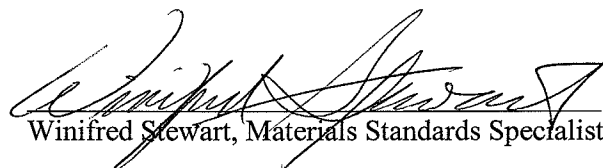
Welding Conditions:

Arc Voltage: 28
Amperage: 348 DCEP
Travel Speed: 13 ipm
Diameter: 1/16 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, 3 layers of 3
Preheat/Interpass: RT/300 ± 25°F

WELD METAL DIFFUSIBLE HYDROGEN

ml/100g: 2.3, 1.9, 1.5, 2.1 (2.0 avg.)


Winifred Stewart, Materials Standards Specialist

COMPANY
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