

Lincoln® ER80S-Ni1

Mild Steel • AWS ER80S-Ni1

KEY FEATURES

- ▶ Capable of producing weld deposits with 550 MPa (80 ksi) tensile strength
- ▶ High toughness at low temperatures with a nominal 1% Ni or less

TYPICAL APPLICATIONS

- ▶ ASTM A588 weathering steel requiring good atmospheric corrosion resistance
- ▶ NACE applications

CONFORMANCES

AWS A5.28/A5.28M: 2005 ER80S-Ni1

WELDING POSITIONS

All

DIAMETERS / PACKAGING

| Diameter in (mm) | 10 lb (4.5 kg) Tube | 30 lb (13.6 kg) Master Carton |
|---------------------|---------------------|-------------------------------|
| 1/16 (1.6) | ED034346 | |
| 3/32 (2.4) | ED034347 | |
| 1/8 (3.2) | ED034348 | |

WIRE COMPOSITION – As Required per AWS A5.28/A5.28M: 2005

| | %C | %Mn | %Si | %Ni | %Cr |
|--------------------------------------|------------|---------------|---------------|------------|----------------------------------|
| Requirements - AWS ER80S-Ni1 | 0.12 max. | 1.25 max. | 0.40-0.80 | 0.80-1.10 | 0.15 max. |
| Typical Results⁽³⁾ | 0.07-0.08 | 0.94-1.04 | 0.54-0.58 | 0.88-0.98 | ≤ 0.04 |
| | %Mo | %S | %P | %V | %Cu (Total)⁽⁴⁾ |
| Requirements - AWS ER80S-Ni1 | 0.35 max. | 0.025 max. | 0.025 max. | 0.05 max. | 0.35 max. |
| Typical Results⁽³⁾ | ≤ 0.02 | 0.007 - 0.010 | 0.005 - 0.010 | < 0.01 | 0.16 - 0.21 |

⁽¹⁾Typical all weld metal. ⁽²⁾Measured with 0.2% offset. ⁽³⁾See test results disclaimer on pg. 16. ⁽⁴⁾Copper due to any coating on the electrode plus the copper content of the filler metal itself, shall not exceed the stated 0.50% max. ⁽⁵⁾CTWD (Contact Tip to Work Distance). Subtract 1/4 in (6.4 mm) to calculate Electrical Stickout. ⁽⁶⁾Procedures in the shaded areas are procedures for short circuiting mode using 75% Argon, 25% CO₂. NOTE: For 100% CO₂ procedures, add 1 to 2 volts for short circuit transfer and 2 to 3 volts for globular transfer.

TEST RESULTS

Test results for mechanical properties, deposit or electrode composition and diffusible hydrogen levels were obtained from a weld produced and tested according to prescribed standards, and should not be assumed to be the expected results in a particular application or weldment. Actual results will vary depending on many factors, including, but not limited to, weld procedure, plate chemistry and temperature, weldment design and fabrication methods. Users are cautioned to confirm by qualification testing, or other appropriate means, the suitability of any welding consumable and procedure before use in the intended application.

CUSTOMER ASSISTANCE POLICY

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