

Pipelin[®]er 80Ni1

Mild & Low Alloy Steel Pipe • AWS ER80S-G

Key Features

- ▶ Root pass capability up to API Grade X100 and hot, fill and cap pass up to X80 grade pipe
- ▶ Q2 Lot[®] - Certificate showing actual deposit chemistry available online
- ▶ ProTech[®] packaging system

Typical Applications

- ▶ Excellent wire placement for narrow groove welding
- ▶ Offshore

Conformances

AWS A5.28/A5.28M: 2005 ER80S-G
 ASME SFA-5.28: ER80S-G
 EN ISO 14341-A: G 50A 3 M 3Ni1

Welding Positions

All

Shielding Gas

75-95% Argon / Balance CO₂
 100% CO₂

DIAMETERS / PACKAGING

Diameter mm (in)	10 lb (4.5 kg) Plastic Spool (Vacuum Sealed Foil Bag)	33 lb (15 kg) Plastic Spool (Vacuum Sealed Foil Bag)
1.0 (0.040)	ED033121	ED033119
1.2 (0.047)	ED033122	ED033120

MECHANICAL PROPERTIES⁽¹⁾ – As Required per AWS A5.28/A5.28M: 2005

	Yield Strength ⁽²⁾ MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft•lbf)	
				@ -29°C (-20°F)	@ -50°C (-58°F)
Requirements - AWS ER80S-G As-Welded with 100% CO ₂	Not Specified	550 (80) min.	Not Specified	Not Specified	Not Specified
Typical Results ⁽³⁾ As-Welded 100% CO ₂ As-Welded 80% Ar/20% CO ₂	585-620 (85-90) 620-690 (90-100)	620-690 (90-100) 690-760 (100-110)	28-29 27-28	72-92 (53-68) 99-119 (73-88)	34-61 (25-45) 69-95 (51-70)

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

	%C	%Mn	%Si	%Ni ⁽⁴⁾	%Ti	%S
Requirements - AWS ER80S-G ⁽⁴⁾ EN ISO 14341-A-G 3Ni1	Not Specified 0.06-0.14	Not Specified 1.00-1.60	Not Specified 0.50-0.90	≥0.50 0.80-1.50	Not Specified ≤0.15	Not Specified ≤0.020
Typical Results ⁽³⁾	0.07-0.08	1.50-1.60	0.65-0.75	0.85-0.95	≤0.10	≤0.015
	%P	%Cu	%Cr	%Mo	%V	%Al
Requirements - AWS ER80S-G EN ISO 14341-A-G 3Ni1	Not Specified ≤0.020	Not Specified ≤0.35	Not Specified ≤0.15	Not Specified ≤0.15	Not Specified ≤0.03	Not Specified ≤0.02
Typical Results ⁽³⁾	≤0.015	≤0.20	≤0.05	≤0.01	≤0.01	≤0.01

TYPICAL OPERATING PROCEDURES

Diameter, Polarity Shielding Gas	CTWD ⁽⁵⁾ mm (in)	Wire Feed Speed m/min (in/min)	Voltage (volts)	Approx. Current (amps)	Melt-Off Rate kg/hr (lb/hr)
1.0 mm (0.040 in) , DC+ 75-95% Ar/Balance CO ₂	12-19 (1/2-3/4)	2.5-14.0 (100-550)	19-31	105-320	1.0-5.2 (2.1-11.5)
1.2 mm (0.047 in) , DC+ 75-95% Ar/Balance CO ₂	12-19 (1/2-3/4)	3.2-12.7 (125-500)	19-31	145-360	1.7-6.5 (3.7-14.3)

⁽¹⁾Typical all weld metal. ⁽²⁾Measured with 0.2% offset. ⁽³⁾See test results disclaimer on pg. 12. ⁽⁴⁾To meet the ER80S-G classification, weld deposit must have minimum of 1 or more of the following: 0.50% Ni, 0.30% Cr or 0.20% Mo. ⁽⁵⁾For Electrical Stickout (ESO) subtract 6.4 mm (0.25 in.) from CTWD. ⁽⁶⁾For 100% CO₂ shielding gas add 1 - 2 volts to recommended procedures.

Material Safety Data Sheets (MSDS) and Certificates of Conformance are available on our website at www.lincolnelectric.com

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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