

# PIPELINER® 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® - Certificates showing actual wire composition and actual mechanical properties available online
- ProTech® packaging system
- Meets NACE MR0175 for sour gas applications
- Test data available for SSC (NACE TM0177) & HIC (NACE TM0284)

## Welding Positions

All

## Shielding Gas

75-95% Argon / Balance CO<sub>2</sub>

## Conformances

<b>AWS A5:</b>	ER80S-G
<b>ABS:</b>	5YQ500SA H10
<b>CWB/CSA:</b>	ER80S-G
<b>DNV:</b>	V Y50MS H5
<b>Lloyd's Register:</b>	5Y50S H5
<b>ISO:</b>	G 50 6 M21 3Ni1, G 57A 6 M21 SZ

## Typical Applications

- Excellent wire placement for narrow groove welding
- Offshore

## 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<sup>(1)</sup> – As Required per AWS A5.28

	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft•lbf)	
				@ -29°C (-20°F)	@ -50°C (-58°F)
<b>Requirements</b> - AWS ER80S-G As-Welded with 100% CO <sub>2</sub>	Not Specified	550 (80) min	Not Specified	Not Specified	Not Specified
<b>Typical Results</b> <sup>(3)</sup> As-Welded 100% CO <sub>2</sub> As-Welded 80% Ar/20% CO <sub>2</sub>	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

	%C	%Mn	%Si	%Ni <sup>(4)</sup>	%Ti	%S
<b>Requirements</b> - AWS ER80S-G <sup>(4)</sup> 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
<b>Typical Results</b> <sup>(3)</sup>	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
<b>Requirements</b> - 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
<b>Typical Results</b> <sup>(3)</sup>	≤0.015	≤0.20	≤0.05	≤0.01	≤0.01	≤0.01

## TYPICAL OPERATING PROCEDURES

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

<sup>(1)</sup>Typical all weld metal. <sup>(2)</sup>Measured with 0.2% offset. <sup>(3)</sup>See test results disclaimer. <sup>(4)</sup>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. <sup>(5)</sup>For Electrical Stickout (ESO) subtract 6.4 mm (0.25 in.) from CTWD.

*Safety Data Sheets (SDS) and Certificates of Conformance are available on our website at [www.lincolnelectric.com](http://www.lincolnelectric.com)*

FUMES AND GASES can be hazardous to your health.

- Fumes from the normal use of this product contain significant quantities of potentially hazardous compounds. See consumable product label/insert.
- Keep your head out of the fumes.
- Use enough ventilation and local exhaust to keep fumes and gases from your breathing zone and the general area.
- An approved respirator should be used unless exposure assessments are below applicable exposure limits.

#### 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

The Lincoln Electric Company is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or advice about their use of our products. Our employees respond to inquiries to the best of their ability based on information provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or advice. Moreover, the provision of such information or advice does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or advice, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose is specifically disclaimed.

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