

# Pipelin<sup>®</sup> 80S-G

AWS ER80S-G • Mild & Low Alloy Steel Pipe

## Conformances

AWS A5.28/A5.28M: 2005	ER80S-G
ASME SFA-A5.28:	ER80S-G
EN ISO 16834-B:	G 59A 3 M 4M31

## Welding Positions

All

## Shielding Gas

100% CO<sub>2</sub>  
75-95% Argon / Balance CO<sub>2</sub>  
Flow Rate: 30 - 50 CFH

## Key Features

- ▶ Root pass capability up to X100 and hot, fill and cap pass up to X80 grade pipe
- ▶ Impact toughness tested to -29°C (-20°F)
- ▶ Q2 Lot<sup>®</sup> - Certificate showing actual deposit chemistry available online
- ▶ MicroGuard<sup>®</sup> Ultra provides superior feeding and arc stability
- ▶ ProTech<sup>®</sup> packaging system

## Typical Applications

- ▶ Root pass welding of up to API Grade X100 grade pipe
- ▶ Hot, fill and cap pass welding of up to X80 grade pipe

## DIAMETERS / PACKAGING

Diameter in (mm)	10 lb (4.5 kg) Plastic Spool (Vacuum Sealed Foil Bag)	30 lb (13.6 kg) Plastic Spool (Vacuum Sealed Foil Bag)
0.045 (1.1)	ED031493	ED031494

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

	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft•lbf) @ -29°C (-20°F)
<b>Requirements - AWS ER80S-G</b> As-Welded with 100% CO <sub>2</sub>	Not Specified	550 (80) min.	Not Specified	Not Specified
<b>Typical Results<sup>(3)</sup></b> As-Welded with 100% CO <sub>2</sub> As-Welded with 80% Ar/20% CO <sub>2</sub>	585-620 (85-90) 620-690 (90-100)	620-690 (90-100) 690-760 (100-110)	22-24 20-24	27-54 (20-40) 110-150 (80-110)

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

	%C	%Mn	%Si	%S	%P	%Cu
<b>Requirements - AWS ER80S-G</b>	Not Specified					
<b>Typical Results<sup>(3)</sup></b>	0.05-0.15	1.40-1.60	0.40-0.70	≤0.02	≤0.02	≤0.02

## TYPICAL OPERATING PROCEDURES

Diameter, Polarity	CTWD <sup>(4)</sup> mm (in)	Wire Feed Speed m/min (in/min)	Voltage (volts)	Approx. Current (amps)	Melt-Off Rate kg/hr (lb/hr)
1.1 mm (0.045 in), DC+	12-19 (1/2-3/4)	3.2-12.7 (125-500)	19-30	145-340	1.5-6.0 (3.4-13.2)

<sup>(1)</sup>Typical all weld metal. <sup>(2)</sup>Measured with 0.2% offset. <sup>(3)</sup>See test results disclaimer below. <sup>(4)</sup>CTWD (Contact Tip to Work Distance). Subtract 1/4 in (6.4 mm) to calculate Electrical Stickout.

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