

# PIPELINER® 70S-6

Mild & Low Alloy Steel Pipe ■ AWS ER70S-6

## Key Features

- An engineered alloy providing superior impact toughness at low temperatures
- Q2 Lot®- Certificates showing actual wire composition and actual mechanical properties available online
- Microguard® Ultra provides superior feeding and arc stability throughout all four quadrants of the pipe
- ProTech® packaging system
- Meets NACE MR0175 for sour gas applications
- Test data available for SSC (NACE TM0177) & HIC (NACE TM0284)

## Welding Positions

All

## Conformances

**AWS A5:** ER70S-6

**ABS:** 3YSA

## Typical Applications

- Root pass welding
- Hot, fill and cap pass welding of up to X70 grade pipe

## Shielding Gas

100% CO<sub>2</sub>

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

Flow Rate: 30 - 50 CFH

## DIAMETERS / PACKAGING

Diameter mm (in)	10 lb (4.5 kg) Plastic Spool (Vacuum Sealed Foil Bag)	33lb (15kg) Plastic Spool (Vacuum Sealed Foil Bag)
0.9 (0.035)	ED037798	ED037799
1.0 (0.040)	ED036531	ED036532
1.2 (0.047)	ED037505	ED036535

## MECHANICAL PROPERTIES<sup>(1)</sup> – As Required per AWS A5.18

	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 ER70S-6 As-Welded with 100% CO <sub>2</sub>	400 (58) min	485 (70) min	22 min	27 (20) min	Not Specified
<b>Typical Results</b> <sup>(3)</sup> As-Welded with 100% CO <sub>2</sub>	470 (68)	580 (84)	28	90 (66)	-
<b>Typical Results</b> <sup>(4)</sup> As-Welded with 80% Ar/20% CO <sub>2</sub>	641 (93)	710 (103)	22	123 - 144 (91-106)	87 - 110 (64-81)

## WIRE COMPOSITION – As Required per AWS A5.18

	%C	%Mn	%Si	%S	%P
<b>Requirements</b> - AWS ER70S-6	0.06-0.15	1.40-1.85	0.8-1.15	0.035 max	0.025 max
<b>Typical Results</b> <sup>(3)</sup>	0.10	1.46	0.82	0.009	0.005
	%Cr	%Ni	%Mo	%V	%Cu (Total) <sup>5</sup>
<b>Requirements</b> - AWS ER70S-6	0.15 max	0.015 max	0.15 max	0.03 max	0.50 max
<b>Typical Results</b> <sup>(3)</sup>	0.03	0.01	0	<0.003	0.17

## TYPICAL OPERATING PROCEDURES

Diameter, Polarity Shielding Gas	CTWD <sup>(6)</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>Results are as-welded in a simulated groove pipe joint in the flat position with X70 base plate, at 18kJ/in heat input.

<sup>(5)</sup>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.

<sup>(6)</sup>CTWD (Contact Tip to Work Distance). Subtract 1/4 in. (6.4 mm) to calculate Electrical Stickout.

*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

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