

# Pipeliners® 6P+

Mild Steel, Cellulosic • AWS E6010

## Key Features

- ▶ High operator appeal and control
- ▶ Easy slag removal
- ▶ Q2 Lot® - Certificate showing actual deposit chemistry available online
- ▶ Standard in the pipe welding industry

## Typical Applications

- ▶ Cross country and in-plant pipe welding
- ▶ Root pass on up to X80 grade pipe
- ▶ Hot, fill and cap pass on up to X60 grade pipe

## Conformances

AWS A5.1/A5.1M: 2004	E6010
ASME SFA-A5.1:	E6010
ABS:	E6010
CWB/CSA W48-06:	E4310

## Welding Positions

All

## DIAMETERS / PACKAGING

Diameter mm (in)	Length in (mm)	10 lb (4.5 kg) Easy Open Can 30 lb (13.6 kg) Master Carton	50 lb (22.7 kg) Easy Open Can
2.5 (3/32)	12 (300)	ED032609	
3.2 (1/8)	14 (350)	ED032610	ED030848
4.0 (5/32)	14 (350)	ED032611	ED030849

## MECHANICAL PROPERTIES<sup>(1)</sup> – As Required per AWS A5.1/A5.1M: 2004

	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft•lbf) @-29°C (-20°F)
Requirements - AWS E6010	330 (48) min.	430 (60) min.	22 min.	27 (20) min.
Typical Results <sup>(3)</sup> - As-Welded	405-515 (59-75)	495-620 (72-90)	22-36	27-85 (20-63)

## DEPOSIT COMPOSITION<sup>(1)</sup> – As Required per AWS A5.1/A5.1M: 2004

	%C	%Mn	%Si	%P	%S
Requirements - AWS E6010	0.20 max.	1.20 max.	1.00 max.	Not Specified	Not Specified
Typical Results <sup>(3)</sup> - As-Welded	0.11-0.20	0.51-0.77	0.15-0.32	0.006-0.016	0.005-0.011
	%Ni	%Cr	%Mo	%V	
Requirements - AWS E6010	0.30 max.	0.20 max.	0.30 max.	0.08 max.	
Typical Results <sup>(3)</sup> - As-Welded	0.01-0.04	0.01-0.04	0.01-0.02	≤ 0.01	

## TYPICAL OPERATING PROCEDURES

Polarity <sup>(4)</sup>	Current (Amps)		
	2.5 mm (3/32 in)	3.2 mm (1/8 in)	4.0 mm (5/32 in)
DC+	50-85	75-135	100-175
DC-	50-85	75-135	100-175

<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>Preferred polarity is listed first.

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

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.

Lincoln Electric is a responsive manufacturer, but the selection and use of specific products sold by Lincoln Electric is solely within the control of, and remains the sole responsibility of the customer. Many variables beyond the control of Lincoln Electric affect the results obtained in applying these types of fabrication methods and service requirements.

Subject to Change – This information is accurate to the best of our knowledge at the time of printing. Please refer to [www.lincolnelectric.com](http://www.lincolnelectric.com) for any updated information.