

# Pipeliners® 16P

AWS E7016 H4 • Mild Steel, Low Hydrogen

## Typical Applications

- ▶ Root pass welding of up to X100 grade pipe

## Conformances

AWS A5.1/A5.1M: 2004 E7016 H4  
ASME SFA-A5.1: E7016 H4

## Welding Positions

All

## Key Features

- ▶ Hot, fill and cap pass welding up to X60
- ▶ Low hydrogen, vertical up capability on X60 grade pipe
- ▶ Q2 Lot® - Certificates showing actual deposit chemistry and mechanical properties available online
- ▶ DC- (DCEN) is the recommended polarity for root pass welding on pipe

## DIAMETERS / PACKAGING

Diameter mm (in)	Length in (mm)	10 lb (4.5 kg) Easy Open Can 30 lb (13.6 kg) Master Carton	12 lb (5.4 kg) Easy Open Can 36 lb (16.3 kg) Master Carton
2.5 (3/32)	14 (350)	ED033835	ED033837
3.2 (1/8)	14 (350)	ED033836	
4.0 (5/32)	18 (450)		

## MECHANICAL PROPERTIES<sup>(1)</sup>

	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft•lbf)	
				@ -29°C (-20°F)	@ -40°C (-40°F)
<b>Requirements</b> - AWS E7016 H4	400 (58) min.	490 (70) min.	22 min.	27 (20) min.	Not Specified
<b>Typical Results</b> <sup>(3)</sup> - As-Welded	435-545 (63-79)	550-640 (80-93)	23-34	84-161 (62-119)	65-129 (48-95)

## DEPOSIT COMPOSITION<sup>(1)</sup>

	%C	%Mn	%Si	%P	%S	%Ni
<b>Requirements</b> - AWS E7016 H4	0.15 max.	1.60 max.	0.75 max.	0.035 max.	0.035 max.	0.30 max.
<b>Typical Results</b> <sup>(3)</sup> - As-Welded	0.04-0.08	1.10-1.60	0.39-0.67	0.005-0.020	0.004-0.012	< 0.07
	%Cr	%Mo	%V	%Mn + Ni + Cr + Mo + V	Diffusible Hydrogen (mL/100g weld metal)	
<b>Requirements</b> - AWS E7016 H4	0.20 max.	0.30 max.	0.08 max.	1.75 max.	4.0 max.	
<b>Typical Results</b> <sup>(3)</sup> - As-Welded	0.01-0.07	0.01-0.03	0.01-0.02	1.14-1.71	1-4	

## 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± <sup>(5)</sup>	55-105	75-135	120-170
AC	60115	80-150	120-185

<sup>(1)</sup>Typical all weld metal. <sup>(2)</sup>Measured with 0.2% offset. <sup>(3)</sup>See test results disclaimer on pg. 18. <sup>(4)</sup>Preferred polarity is listed first. <sup>(5)</sup>DC- for root pass on pipe; DC± for general welding.

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**LINCOLN**®  
**ELECTRIC**  
THE WELDING EXPERTS®

**Pipeliners® 16P**

(AWS E7016 H4)

*Material Safety Data Sheets (MSDS) are available upon request.*

#### 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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