



PIPELINER[®] LH-D80/90/100

RUGGED STICK FOR RUGGED WORK

LINCOLN[®]
ELECTRIC



Rugged Stick for Rugged Work

Pipeline work can be the most demanding segment of the entire welding trade. Maintaining the integrity of the weld — and by extension, the integrity of the pipeline itself — is the ultimate priority, despite the constant battle against external elements.

Pipeliner® LH-D stick electrode is the most rugged stick for the most demanding jobs. Designed specifically for vertical down welding, Pipeliner LH-D is the welder's choice with more controllable and stiffer slag in all positions around the pipe. The result is easier welding for welders of all skill levels.

The most demanding environments call for the most demanding and versatile electrode. When it's time to tackle the pipeline, it's time for Pipeliner LH-D.



Welders Prefer Pipeliner LH-D

An electrode that's easy to use gets more mileage among more operators. Pipeliner LH-D is easy to use for welders of all experience levels with excellent puddle control and no spillage at the bottom of the pipe. The tapered tip allows for touch start to minimize starting porosity and arc strikes on the pipe.

Our stick electrodes have been the number one choice of fabricators. They are easily identified by three dots, which are a symbol of quality, consistency, and unparalleled welding expertise.

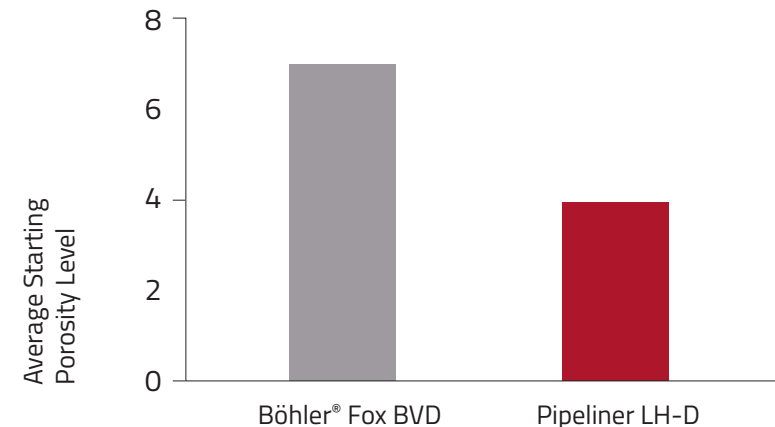
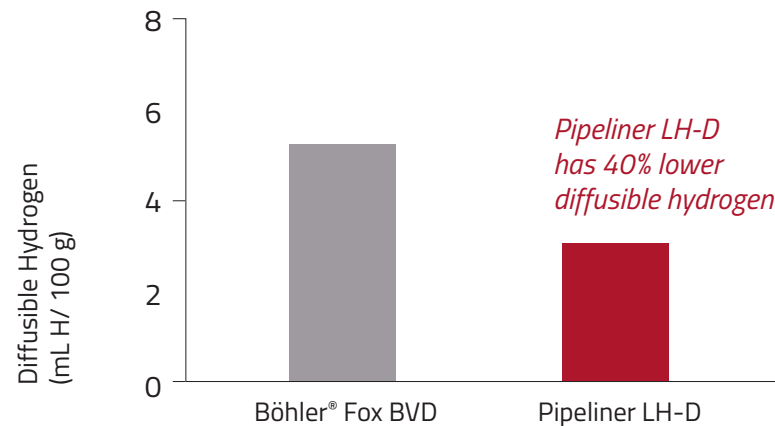
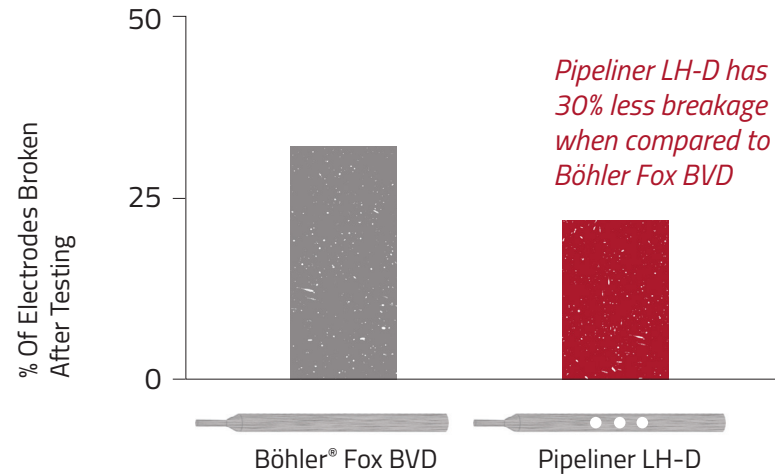


Reliable, Controllable, Durable

High performance is imperative in pipeline operations, and every weld counts. The durable coating on Pipeliner LH-D doesn't break in shipping or in use. This same coating delivers over 80% higher productivity over traditional vertical-up pipe welding.

Properties You Can Count On

Diffusible hydrogen increases the risk of weld cracking and failure. Not only does Pipeliner LH-D produce welds consistently in the 2 mL range, but the coating also meets H4R moisture resistance requirements, ensuring the integrity of the product even in the most demanding environments. Pipeliner LH-D80 and 90 are the only electrodes in its class to meet NACE requirements for sour gas transport.



PIPELINER LH-D80

DIAMETERS/PACKAGING

Diameter mm (in)	Length mm (in)	10 lb (4.5 kg) Easy Open Can 30 lb (13.6 kg) Master Carton
3.2 (1/8)	350 (14)	ED032626
4.0 (5/32)	350 (14)	ED032627
4.5 (11/64)	350 (14)	ED032628

MECHANICAL PROPERTIES⁽¹⁾

AWS Classification	Yield Strength ⁽²⁾ MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft·lbf)	
				-29°C (-20°F)	-46°C (-50°F)
Requirements - AWS E8045-P2 H4R	460 (67) min	550 (80) min	19 min	27 (20) min	Not Specified
Typical Results ⁽³⁾ - As-Welded	485-515 (70-75)	570-600 (83-87)	26-31	75-125 (55-92)	50-95 (37-70)

DEPOSIT COMPOSITION⁽¹⁾

	%C	%Mn	%Si	%P	%S
Requirements - AWS E8045-P2 H4R	0.12 max	0.90-1.70	0.80 max	0.03 max	0.03 max
Typical Results ⁽³⁾ - As-Welded	0.04-0.06	1.10-1.25	0.35-0.50	≤0.01	≤0.01
	%Ni	%Cr	%Mo	%V	Diffusible Hydrogen (mL/100g weld deposit)
Requirements - AWS E8045-P2 H4R	1.00 max	0.20 max	0.50 max	0.05 max	4.0 max
Typical Results ⁽³⁾ - As-Welded	≤0.04	≤0.05	≤0.02	≤0.01	2 -4

TYPICAL OPERATING PROCEDURES

Polarity	3.2 mm (1/8 in)	Current (Amps) 4.0 mm (5/32 in)	4.5 mm (11/64 in)
DC+	120-170	170-250	200-300

⁽¹⁾ Typical all weld metal ⁽²⁾ Measured with 0.2% offset ⁽³⁾ See test results disclaimer on back page.
NOTE: This product contains micro-alloying elements. Additional information available on request.

PIPELINER LH-D90

DIAMETERS/PACKAGING

Diameter mm (in)	Length mm (in)	10 lb (4.5 kg) Easy Open Can 30 lb (13.6 kg) Master Carton
3.2 (1/8)	350 (14)	ED032629
4.0 (5/32)	350 (14)	ED032630
4.5 (11/64)	350 (14)	ED032631

MECHANICAL PROPERTIES⁽¹⁾

AWS Classification	Yield Strength ⁽²⁾ MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft-lbf)	
				-29°C (-20°F)	-46°C (-50°F)
Requirements - AWS P9045-P2 H4R	530 (77) min	620 (90) min	17 min.	27 (20) min	Not Specified
Typical Results ⁽³⁾ - As-Welded	550-600 (80-87)	625-670 (91-97)	26-31	75-125 (55-92)	50-95 (37-70)

DEPOSIT COMPOSITION⁽¹⁾

	%C	%Mn	%Si	%P	%S
Requirements - AWS P9045-P2 H4R	0.12 max	0.95-1.70	0.80 max	0.03 max	0.03 max
Typical Results ⁽³⁾ - As-Welded	0.04-0.06	1.15-1.35	0.35-0.55	≤0.01	≤0.01
	%Ni	%Cr	%Mo	%V	Diffusible Hydrogen (mL/100g weld deposit)
Requirements - AWS P9045-P2 H4R	1.00 max	0.20 max	0.50 max	0.05 max	4.0 max
Typical Results ⁽³⁾ - As-Welded	0.25-0.30 ⁽⁴⁾ / 0.80-1.00 ⁽⁵⁾	≤0.05	0.15-0.25	≤0.01	2 -4

TYPICAL OPERATING PROCEDURES

Polarity	Current (Amps)		
	3.2 mm (1/8 in)	4.0 mm (5/32 in)	4.5 mm (11/64 in)
DC+	120-170	170-250	200-300

⁽¹⁾ Typical all weld metal ⁽²⁾ Measured with 0.2% offset ⁽³⁾ See test results disclaimer on back page. ⁽⁴⁾ Range for 3.2 mm (1/8 in) size only. ⁽⁵⁾ Range for 4.0 mm (5/32 in) and 4.5 mm (11/64 in) sizes.

NOTE: This product contains micro-alloying elements. Additional information available on request.

PIPELINER LH-D100

DIAMETERS/PACKAGING

Diameter mm (in)	Length mm (in)	10 lb (4.5 kg) Easy Open Can 30 lb (13.6 kg) Master Carton
3.2 (1/8)	350 (14)	ED032632
4.0 (5/32)	350 (14)	ED032633
4.5 (11/64)	350 (14)	ED032634

MECHANICAL PROPERTIES⁽¹⁾

AWS Classification	Yield Strength ⁽²⁾ MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft-lbf)	
				-29°C (-20°F)	-46°C (-50°F)
Requirements - AWS P10045-P2 H4R	600 (87) min	690 (100) min	16 min	27 (20) min	Not Specified
Typical Results ⁽³⁾ - As-Welded	620-690 (90-100)	705-750 (102-109)	21-28	75-110 (55-81)	56-85 (41-63)

DEPOSIT COMPOSITION⁽¹⁾

	%C	%Mn	%Si	%P	%S
Requirements - AWS P10045-P2 H4R	0.12 max	0.90-1.70	0.80 max	0.03 max	0.03 max
Typical Results ⁽³⁾ - As-Welded	0.04-0.06	1.10-1.25	0.35-0.50	≤0.01	≤0.01
	%Ni	%Cr	%Mo	%V	Diffusible Hydrogen (mL/100g weld deposit)
Requirements - AWS P10045-P2 H4R	1.00 max	0.20 max	0.50 max	0.05 max	4.0 max
Typical Results ⁽³⁾ - As-Welded	≤0.04	≤0.05	≤0.02	≤0.01	2 -4

TYPICAL OPERATING PROCEDURES

Polarity	Current (Amps)		
	3.2 mm (1/8 in)	4.0 mm (5/32 in)	4.5 mm (11/64 in)
DC+	120-170	170-250	200-300

⁽¹⁾ Typical all weld metal ⁽²⁾ Measured with 0.2% offset ⁽³⁾ See test results disclaimer on back page.
NOTE: This product contains micro-alloying elements. Additional information available on request.

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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 business of 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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