

# Pipeliners® G90M

Low Alloy, All Position • AWS E111T1-K3M-JH8

## Key Features

- ▶ Hot, fill and cap pass welding of up to X80 grade pipe
- ▶ Capable of producing weld deposits with impact toughness exceeding 27 J (20 ft•lb) at -29°C (-20°F)
- ▶ Q2 Lot® - Certificate showing actual deposit chemistry available online
- ▶ High stacking efficiency
- ▶ ProTech® hermetically sealed packaging

## Typical Applications

- ▶ Hot, fill and cap pass welding of up to X80 grade pipe

## Conformances

AWS A5.29/A5.29M: 2005 E111T1-K3M-JH8  
 ASME SFA-A5.29 E111T1-K3M-JH8  
 ABS: E111T1-K3MJ-H8

## Welding Positions

All, except vertical down

## Shielding Gas

75 - 80% Argon / Balance CO<sub>2</sub>  
 Flow Rate: 40 - 50 CFH

## DIAMETERS / PACKAGING

Diameter mm (in)	10 lb (4.5 kg) Plastic Spool (Vacuum Sealed Foil Bag)	33 lb (15 kg) Plastic Spool (Vacuum Sealed Foil Bag)
1.2 (0.047)	ED032664	ED031931
1.3 (0.052)		

## MECHANICAL PROPERTIES<sup>(1)</sup> – As Required per AWS A5.29/A5.29M: 2005

	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft•lb) @ -29°C (-20°F)
<b>Requirements</b> - AWS E111T1-K3M-JH8	675 (98) min.	760-860 (110-130)	15 min.	27 (20) min.
<b>Typical Results</b> <sup>(3)</sup> As-Welded with 75% Ar/25% CO <sub>2</sub>	760-825 (110-120)	795-860 (115-125)	19-22	56-85 (41-63)

## DEPOSIT COMPOSITION<sup>(1)</sup> – As Required per AWS A5.29/A5.29M: 2005

	%C	%Mn	%Si	%P	%S
<b>Requirements</b> - AWS E111T1-K3M-JH8	0.15 max.	0.75-2.25	0.80 max.	0.030 max.	0.030 max.
<b>Typical Results</b> <sup>(3)</sup> As-Welded with 75% Ar/25% CO <sub>2</sub>	0.05-0.07	1.45-1.70	0.21-0.28	0.01-0.02	0.01-0.02
	%Ni	%Cr	%Mo	%V	Diffusible Hydrogen (mL/100g weld deposit)
<b>Requirements</b> - AWS E111T1-K3M-JH8	1.25-2.60	0.15 max.	0.25-0.65	0.05 max.	8.0 max.
<b>Typical Results</b> <sup>(3)</sup> As-Welded with 75% Ar/25% CO <sub>2</sub>	1.80-2.22	0.03-0.06	0.50-0.61	0.02	2-5

## TYPICAL OPERATING PROCEDURES

Diameter, Polarity, Shielding Gas	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)
1.2 mm (0.045 in), DC+, 75-80% Ar/ balance CO <sub>2</sub>	25 (1)	4.4-10.2 (175-400)	23-30	130-275	1.8-4.1 (3.9-9.0)
1.3 mm (0.052), DC+, 75-80% Ar/ balance CO <sub>2</sub>	25 (1)	4.4-9.5 (175-375)	23-30	130-275	2.5-5.0 (5.5-11.0)

<sup>(1)</sup>Typical all weld metal. <sup>(2)</sup>Measured with 0.2% offset. <sup>(3)</sup>See test results disclaimer on pg. 12. <sup>(4)</sup>For electrical stickout (ESO) subtract 6.4 mm (1/4 in) from contact tip to work distance (CTWD).  
 NOTE: This product contains micro-alloying elements. Additional information available upon request.

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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