

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•lbf) 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 CO₂
 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⁽¹⁾ – As Required per AWS A5.29/A5.29M: 2005

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

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

	%C	%Mn	%Si	%P	%S
Requirements - AWS E111T1-K3M-JH8	0.15 max.	0.75-2.25	0.80 max.	0.030 max.	0.030 max.
Typical Results ⁽³⁾ As-Welded with 75% Ar/25% CO ₂	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)
Requirements - AWS E111T1-K3M-JH8	1.25-2.60	0.15 max.	0.25-0.65	0.05 max.	8.0 max.
Typical Results ⁽³⁾ As-Welded with 75% Ar/25% CO ₂	1.80-2.22	0.03-0.06	0.50-0.61	0.02	2-5

TYPICAL OPERATING PROCEDURES

Diameter, Polarity, Shielding Gas	CTWD ⁽⁴⁾ 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 ₂	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 ₂	25 (1)	4.4-9.5 (175-375)	23-30	130-275	2.5-5.0 (5.5-11.0)

⁽¹⁾Typical all weld metal. ⁽²⁾Measured with 0.2% offset. ⁽³⁾See test results disclaimer on pg. 12. ⁽⁴⁾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

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 for any updated information.