Pipeliner® 111M

AWS E111T1-GM

Pipeliner® 111M is a gas-shielded, flux-cored wire designed for hot, fill and cap pass welding of X80 to X100 grade pipe. Optimized for automated and semi-automatic pipe welding applications, Pipeliner® 111M has a consistent arc and fast freezing slag to maintain a flat bead shape all around the pipe. The electrode is capable of producing Charpy V-Notch impact properties exceeding 27 J (20 ft•lbf) @ -40°C (-40°F). For an electrode that meets the demands of automated and semi-automatic pipe welding on up to X100 grade pipe – choose Pipeliner® 111M.

KEY FEATURES

- **Consistent Arc** – Designed for optimal performance in automated pipe welding applications where a consistent arc length is critical.
- **Flat Bead Shape** – Fast freezing slag provides consistent puddle support all the way around the pipe.
- **Impact Toughness** – Capable of producing weld deposits with impact toughness exceeding 27 J (20 ft•lbf) at -40°C (-40°F).
- **Q2 Lot® Control and Tested** – Certificate showing actual deposit chemistry and mechanical properties per lot available online.
- **ProTech® Packaging** – Hermetically sealed packaging for moisture resistance.

APPLICATIONS

- Hot, fill and cap pass welding on X80 to X100 grade pipe
- Fully automated pipe welding
- Semi-automatic pipe welding

CONFORMANCES

AWS A5.29/A5.29M: 2010	E111T1-GM
ASME SFA-5.29	E111T1-GM
ISO 18276: 2006	ISO 18276-B - T764T1-1MA-G-H5

SHIELDING GAS

75-85% Argon/Balance CO_2
Flow Rate: 40-60 CFH

WELDING POSITIONS

All

DIAMETERS / PACKAGING

Diameter mm (in)	10 lb (4.5 kg) Plastic Spool (Vacuum Sealed Foil Bag)	25 lb (11.3 kg) Plastic Spool (Vacuum Sealed Foil Bag)
1.2 (0.047)	ED033745	ED033746

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LINCOLN ELECTRIC
THE WELDING EXPERTS®

MECHANICAL PROPERTIES[1] – *As Required per AWS A5.29/A5.29M: 2010*

	Yield Strength[2] MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft•lbf) @-40°C (-40°F)
Requirements AWS E111T1-GM	680 (98) min.	760-900 (110-130)	15 min.	Not Specified
Typical Performance[3] As-Welded with 75% Argon / 25% CO_2	680-810 (98-118)	760-900 (110-130)	19-23	48-63 (36-47)

DEPOSIT COMPOSITION[1] – *As Required per AWS A5.29/A5.29M: 2010*

	%C	%Mn	%Si	%P
Requirements AWS E111T1-GM	Not Specified	0.50[4]	1.00 max.	0.030 max.
Typical Performance[3] As-Welded with 75% Argon / 25% CO_2	0.06-0.07	1.40-1.80	0.27-0.34	≤0.010
	%S	**%Ni**	**%Mo**	**Diffusible Hydrogen (mL/100g weld deposit)**
Requirements AWS E111T1-GM	0.030 max.	0.50[4]	0.20[4]	Not Specified
Typical Performance[3] As-Welded with 75% Argon / 25% CO_2	≤0.010	1.90-2.60	0.07-0.08	4-5

TYPICAL OPERATING PROCEDURES

Diameter, Polarity Shielding Gas	CTWD[5] mm (in)	Wire Feed Speed m/min (in/min)	Voltage (volts)	Approx. Current (amps)	Melt-Off Rate kg/hr (lb/hr)
1.2 mm (0.047 in), DC+ 75-85% Argon / Balance CO_2	19 (3/4)	4.4-10.2 (175-400)	23-30	130-275	1.8-4.1 (3.9-9.0)

[1] Typical all weld metal. [2] Measured with 0.2% offset. [3] See test results disclaimer below. [4] In order to meet the requirements of the G group, the undiluted weld metal shall have not less than the minimum specified for one or more of the elements listed. [5] Strength and elongation properties were obtained from a 0.500 in. tensile specimen artificially aged at 104°C (220°F) for 48 hours as permitted by AWS A5.29: 2010.

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.

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