

INNERSHIELD NR-611

Low Alloy, Flat & Horizontal

KEY FEATURES

- Designed for higher strength structural steels
- Match strength requirements for grade 70 and 80 steels
- High deposition rates and fast travel speeds
- Capable of producing weld deposits with impact properties exceeding 27 J (20 ft-lb) at -29C (-20F)

WELDING POSITIONS

Flat & Horizontal

CONFORMANCES

AWS A5: E100T7-G H8

TYPICAL APPLICATIONS

- Structural fabrication
- High strength steels
- Fillet and lap welds
- Beveled and square edge butt welds, such as column-to-column structural connections and base plates
- Deep groove welds

DIAMETERS / PACKAGING

Diameter in (mm)	25 lb (11.3 kg) Plastic Spool (Vacuum Sealed Foil Bag)
3/32 (2.4)	ED038076

MECHANICAL PROPERTIES⁽¹⁾

	Yield Strength ⁽²⁾ MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft-lbf) @ -30°C (-20°F)	Hardness Rockwell B
Requirements WS E100T7-G	88 (610) min.	100-120 (690-830)	16 Min	Not Specified	Not Specified
Typical Results⁽³⁾ As-Welded	95 (650)	112-113 (770-780)	24	34-59 (46-80)	101

WIRE COMPOSITION⁽¹⁾ – As Required per AWS A5.9

	%C	%Mn	%Si	%S	%P	%Ni	%Cr
Requirements - AAWS E100T7-G	Not Specified	0.50 min ⁽⁴⁾	1.00 max	0.030 max	0.030 max	0.50 min ⁽⁴⁾	0.30 min ⁽⁴⁾
Typical Results⁽⁴⁾ As-Welded	0.10-.11	1.76-1.96	0.18-0.19	0.003	0.010	1.33-1.54	0.03
	%Mo	%V	%Al	%Cu	%B	% Other total	Diffusible Hydrogen
Requirements - AWS E100T7-G	0.20 min ⁽⁴⁾	0.10 min ⁽⁴⁾	1.8 max	Not Specified	Not Specified	0.50 max	8 max
Typical Results⁽⁴⁾ As-Welded	0.00	0.003	0.96-1.01	0.04	0.0012-0.0017	<0.50	5

TYPICAL OPERATING PROCEDURES

Diameter, Polarity	CTWD mm (in)	Wire Feed Speed m/min (in/min)	Approx. Voltage (Volts)	Approx. Current (Amps)	Melt-Off Rate kg/hr (lb/hr)	Deposition Rate kg/hr (lb/hr)	Efficiency (%)
3/32 in (2.4 mm) DC-	35 (1 3/8)	2.0 (80)	21	230	3.0 (6.6)	2.2 (4.8)	72
		3.2 (125)	24	300	4.7 (10.3)	3.5 (7.7)	75
		3.8 (150)	25	335	6.0 (13.3)	4.6 (10.2)	77
		5.3 (210)	27	435	7.6 (16.7)	5.9 (13.1)	78

(1)Typical all weld metal. (2)Measured with 0.2% offset. (3)See test results disclaimer. (4)In order to meet the alloy requirements of the "G" group, the undiluted weld metal shall have not less than the minimum of at least one of the elements listed.

Safety Data Sheets (SDS) 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

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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.