

INNERSHIELD® NR®-233

Mild Steel, All Position ■ AWS E71T-8-H8, E71T8-A2-CS3-H8



KEY FEATURES

- High deposition rates for out-of-position welding
- Welder-friendly, easy to use and great bead appearance
- Minimal gas marking
- Meets AWS D1.8 seismic lot waiver requirements

WELDING POSITIONS

All

NOTES

- Innershield® K126 Gun Assembly requires one of the following gun tube assemblies for better wire feeding - KP2454-1 (62°, 7.5 in), KP2455-1 (45°, 6 in), KP2456-1 (30°, 12 in)

CONFORMANCES

AWS A5.20/A5.20M:	E71T-8-H8
AWS A5.36:	E71T8-A2-CS3-H8
ASME SFA-A5.20:	E71T-8-H8
ABS:	E71T-8-H16
EN ISO 17632-B:	T 49 3 T8-1 N A-UH10
FEMA 353	
AWS D1.8	
JIS Z 3313:	T 49 3 T7-1 N A-H10

TYPICAL APPLICATIONS

- Structural fabrication, including those subject to seismic requirements
- General plate fabrication
- Ship and barge fabrication
- Vertical up and overhead fillets and groove welds

DIAMETERS / PACKAGING

Diameter in (mm)	12.5 lb (5.7 kg) Plastic Spool 50 lb (22.7 kg) Master Carton	25 lb (11.3 kg) Plastic Spool	25 lb (11.3 kg) Plastic Spool (Vacuum Sealed Foil Bag)
1/16 (1.6)	ED030933	ED030934	ED031576, ED036576*
0.072 (1.8)		ED031030	
5/64 (2.0)		ED033039	ED033024, ED036577*

*Buy America Product

MECHANICAL PROPERTIES⁽¹⁾

	Yield Strength ⁽²⁾ MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Hardness Rockwell B	Charpy V-Notch J (ft·lbf) @ -29°C (-20°F)
Requirements - AWS E71T-8-H8	400 (58) min	480-655 (70-95)	22 min	—	27 (20) min
Typical Results⁽³⁾ - As-Welded	435-455 (63-66)	575-595 (83-86)	26-29	87-89	34-54 (25-40)

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

DEPOSIT COMPOSITION⁽¹⁾

	%C	%Mn	%Si	%S	%P	%Al
Requirements - AWS E71T-8-H8	0.30 max	1.75 max	0.60 max	0.03 max	0.03 max	1.8 max
Typical Results⁽³⁾	0.15-0.20	0.61-0.65	0.17-0.21	≤0.03	≤0.01	0.5-0.6

TYPICAL OPERATING PROCEDURES

Diameter, Polarity	CTWD ⁽⁴⁾ mm (in)	Wire Feed Speed m/min (in/min)	Voltage (volts)	Approx. Current (amps)	Melt-Off Rate kg/hr (lb/hr)	Deposition Rate kg/hr (lb/hr)	Efficiency (%)
1/16 in (1.6 mm), DC-	25 (1)	3.8 (150)	17-19	220	2.4 (5.3)	1.9 (4.2)	80
		5.1 (200)	19-21	245	3.2 (7.1)	2.5 (5.4)	76
		6.4 (250)	21-23	270	4.0 (8.9)	3.0 (6.6)	74
		7.6 (300)	23-25	295	4.7 (10.4)	3.5 (7.7)	75
		8.9 (350)	25-27	315	5.6 (12.3)	4.3 (9.4)	77
0.072 in (1.8 mm), DC-	19-25 (3/4-1) ⁽⁴⁾	2.5 (100)	17-18	184	2.0 (4.5)	1.6 (3.6)	80
		3.8 (150)	18-19	250	3.1 (6.7)	2.5 (5.4)	80
		5.1 (200)	20-21	295	4.0 (8.9)	3.2 (7.1)	81
		6.4 (250)	22-23	330	5.1 (11.2)	4.0 (8.9)	79
		7.6 (300)	23-24	355	6.1 (13.4)	4.8 (10.6)	79
5/64 in (2.0 mm), DC-	19-25 (3/4-1) ⁽⁴⁾	2.3 (90)	18-19	210	2.2 (4.9)	1.8 (4.1)	82
		3.2 (125)	19-20	260	3.2 (7.0)	2.6 (5.6)	81
		3.8 (150)	20-21	300	3.8 (8.4)	3.0 (6.7)	80
		5.1 (200)	21-22	340	5.1 (11.2)	4.1 (9.0)	81
		6.1 (240)	22-23	380	6.1 (13.3)	4.9 (10.8)	81

⁽¹⁾Typical all weld metal. ⁽²⁾Measured with 0.2% offset. ⁽³⁾See test results disclaimer ⁽⁴⁾CTWD for 0.072 in. (1.8 mm) and 5/64 in. (2.0 mm) for 200 ipm or greater is 1 in (25 mm)
NOTE: For horizontal welding, subtract 1 volt. NOTE: FEMA and AWS D1.8 structural steel seismic supplement test data can be found on this product at www.lincolnelectric.com/d1.8.

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

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