

Innershield® NS-3M

AWS E70T-4 • Mild Steel, Flat & Horizontal

Welding Positions

Flat & Horizontal

Conformances

AWS A5.20/A5.20M:	2005E70T-4
ASME SFA-A5.20:	E70T-4
CWB/CSA W48-06:	E492T-4 H16
DB:	EN 758 T38 Z W N 3
EN ISO 17632-A:	T38 Z V N 3

Key Features

- ▶ Very high deposition rates
- ▶ Increased resistance to hydrogen cracking and porosity
- ▶ Soft, low penetrating arc for minimal base material admixture

Typical Applications

- ▶ Open groove welds
- ▶ Machinery bases and heavy equipment repair
- ▶ Installing wear plates
- ▶ 6.4 - 12.7 mm (1/4 - 1/2 in) single pass fillet and lap welds

DIAMETERS / PACKAGING

Diameter in (mm)	14 lb (6.4 kg) Coil 56 lb (25.4 kg) Master Carton	50 lb (22.7 kg) Coil	600 lb (272 kg) Speed-Feed® Drum
5/64 (2.0)	ED012739	ED012740	ED012735 ED012731
3/32 (2.4)		ED012736	
0.120 (3.0)		ED012732	

MECHANICAL PROPERTIES⁽¹⁾ – As Required per AWS A5.20/A5.20M: 2005

	Yield Strength ⁽²⁾ MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Hardness Rockwell B
Requirements - AWS E70T-4	400 (58) min.	480-655 (70-95)	22 min.	–
Typical Results ⁽³⁾ - As-Welded	415-450 (60-65)	580-620 (84-90)	25-28	87-91

DEPOSIT COMPOSITION⁽¹⁾ – As Required per AWS A5.20/A5.20M: 2005

	%C	%Mn	%Si	%S	%P	%Al
Requirements - AWS E70T-4	0.30 max.	1.75 max.	0.60 max.	0.03 max.	0.03 max.	1.8 max.
Typical Results ⁽³⁾	0.21-0.25	0.37-0.53	0.25-0.29	≤0.01	≤0.01	1.3-1.6

TYPICAL OPERATING PROCEDURES

Diameter, Polarity	CTWD 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 (%)
5/64 in (2.0 mm), DC+	54 (2 1/4)	5.1 (200)	29-31	280	5.5 (12.2)	4.6 (10.1)	83
		6.1 (240)	30-32	315	6.7 (14.8)	5.5 (12.1)	82
		6.6 (260)	30-32	330	7.3 (16.0)	6.0 (13.2)	83
		7.6 (300)	31-33	350	8.4 (18.6)	6.9 (15.2)	82
3/32 in (2.4 mm), DC+	76 (3)	2.8 (110)	28-30	250	4.6 (10.1)	3.7 (8.2)	81
		3.8 (150)	29-31	300	6.4 (14.0)	5.3 (11.7)	84
		4.7 (185)	30-32	350	7.9 (17.4)	6.6 (14.6)	84
		5.8 (230)	31-33	400	9.8 (21.6)	8.3 (18.3)	85
0.120 in (3.0 mm), DC+ Electrical Stickout: 2 - 3/4 in (70 mm)	76 (3)	7.0 (275)	32-34	450	11.8 (26.0)	10.0 (22.0)	85
		3.5 (140)	28-30	380	9.0 (19.8)	7.0 (15.5)	78
		4.4 (175)	29-31	450	11.2 (24.6)	9.1 (20.0)	81
		5.1 (200)	30-32	500	12.7 (28.0)	10.5 (23.2)	83
0.120 in (3.0 mm), DC+ Electrical Stickout: 3 - 3/4 in (95 mm)	102 (4)	7.6 (225)	31-33	550	14.2 (31.4)	11.9 (26.2)	83
		5.3 (210)	35-37	450	13.2 (29.0)	11.3 (25.0)	86
		6.4 (250)	36-38	500	15.6 (34.5)	13.2 (29.0)	84
		7.6 (300)	37-39	550	18.8 (41.5)	15.4 (34.0)	82
		9.0 (355)	38-40	600	22.2 (49.0)	18.0 (39.5)	81

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

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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