ULTRACORE® HD-M

Mild Steel, All Position ▪ AWS E71T-9M-H8, E71T1-M21A2-CS1-H8

BUY AMERICA

KEY FEATURES

- Increase weld deposition to more than 10 lbs./hr. out-of-position
- Fast freezing slag for a flat bead shape and increased productivity in all positions, including vertical up
- Operators can set the machine on a single setting and weld in all positions

WELDING POSITIONS

All

SHIELDING GAS

75% Argon / Balance CO_2
Flow Rate: 40 - 50 CFH

CONFORMANCES

AWS A5.20/A5.20M:	E71T-1M-H8, E71T-9M-H8
AWS A5.36:	E71T1-M21A2-CS1-H8
ASME SFA-5.20:	E71T-1M-H8, E71T-9M-H8
CWB / CSA W48-06:	E491T-1M-H8, E491T-9M-H8
ABS:	3YSA H10
Lloyd's Register	3YS H10
DNV:	III YMS (H10)
EN ISO 17632-B	T493T1-1MA-H10

TYPICAL APPLICATIONS

- Shipbuilding
- General fabrication

DIAMETERS / PACKAGING

Diameter in (mm)	15 lb (6.8 kg) Plastic Spool 60 lb (27.2 kg) Master Carton	33 lb (15 kg) Fiber Spool (Plastic Bag)	50 lb (23 kg) Fiber Spool (Plastic Bag)
0.045 (1.1)	ED033986	ED033989	ED033992
0.052 (1.3)	ED033987	ED033990	ED033993
1/16 (1.6)	ED033988	ED033991, ED036619*	ED033994

**Buy America Product*

MECHANICAL PROPERTIES[1]

	Yield Strength[2] MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft•lbf) @ -18°C (0°F)	Charpy V-Notch J (ft•lbf) @ -29°C (-20°F)
Requirements					
AWS E71T-1M-H8	400 (58) min	480-655 (70-95)	22 min	27 (20) min	Not Specified
AWS E71T-9M-H8				Not Specified	27 (20) min
Test Results[3]					
As-Welded with 75% Argon / 25% CO_2	570-588 (83-85)	615-633 (89-92)	26-28	54-74 (40-54)	31-43 (23-32)

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

DEPOSIT COMPOSITION[1]

	%C	%Mn	%Si	%S	%P	Diffusible Hydrogen (mL/100g weld deposit)
Requirements AWS E71T-1M-H8, E71T-9M-H8	0.12 max	1.75 max	0.90 max	0.03 max	0.03 max	8 max
Test Results[3] As-Welded with 75% Argon / 25% CO_2	0.04-0.05	1.44-1.50	0.49-0.53	<0.01	0.01	3-7

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)	Deposition Rate kg/hr (lb/hr)	Efficiency (%)
0.045 in (1.1 mm), DC+ 75% Argon / 25% CO_2	25 (1)	4.4 (175) 6.4 (250) 7.6 (300) 8.9 (350) 10.2 (400) 11.4 (450) 12.7 (500) 14.0 (550) 15.2 (600)	21-26 22-27 23-28 23-29 25-30 26-31 27-33 28-33 28-34	130 155 170 190 205 225 230 245 265	1.8 (4.0) 2.6 (5.7) 3.1 (6.9) 3.6 (8.0) 4.1 (9.1) 4.7 (10.3) 5.2 (11.4) 5.7 (12.6) 6.2 (13.7)	1.6 (3.5) 2.3 (5.0) 2.7 (6.0) 3.2 (7.0) 3.6 (8.0) 4.1 (9.0) 4.5 (9.9) 4.9 (10.9) 5.4 (11.9)	87 - 88
0.052 in (1.3 mm), DC+ 75% Argon / 25% CO_2	25 (1)	3.8 (150) 5.1 (200) 6.4 (250) 7.6 (300) 8.9 (350) 9.5 (375) 10.8 (425) 12.1 (475) 12.7 (500)	22-26 23-27 23-28 24-29 24-30 25-30 26-31 26-32 27-33	145 170 190 215 235 250 270 295 305	2.0 (4.5) 2.7 (6.0) 3.4 (7.5) 4.1 (9.0) 4.8 (10.5) 5.1 (11.2) 5.8 (12.7) 6.4 (14.2) 6.8 (15.0)	1.8 (3.9) 2.4 (5.2) 2.9 (6.5) 3.5 (7.8) 4.1 (9.1) 4.4 (9.8) 5.0 (11.1) 5.6 (12.4) 5.9 (13.0)	87 - 88
1/16 in (1.6 mm), DC+ 75% Argon / 25% CO_2	25 (1)	3.8 (150) 4.4 (175) 5.1 (200) 5.7 (225) 6.4 (250) 7.6 (300) 8.3 (325) 8.9 (350) 10.2 (400)	22 - 26 23 - 26 23 - 27 24 - 28 25 - 29 25 - 30 26 - 31 28 - 32 28 - 33	195 215 235 255 270 310 330 350 390	2.9 (6.3) 3.4 (7.4) 3.8 (8.4) 4.3 (9.5) 4.8 (10.5) 5.7 (12.6) 6.2 (13.7) 6.7 (14.7) 7.6 (16.8)	2.5 (5.5) 2.9 (6.4) 3.3 (7.3) 3.7 (8.2) 4.1 (9.1) 5.0 (11.0) 5.4 (11.9) 5.8 (12.8) 6.6 (14.6)	86 -87

[1]Typical all weld metal. [2]Measured with 0.2% offset. [3]See test results disclaimer [4]To estimate ESO, subtract 1/4 in. (6.0 mm) from CTWD.

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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