ULTRACORE® HD MARINE

Mild Steel, All Positions ▪ AWS E71T-1C-H8, E71T-9C-H8

KEY FEATURES

- Excellent operator appeal with minimal spatter and low fume generation rates
- High deposition rates up to 12 lbs/hr out-of-position
- Fast freezing slag for a flat bead shape and increased productivity
- Weld in all positions with one setting
- ProTech® foil bag packaging

WELDING POSITIONS

All

CONFORMANCES

AWS A5.20/A5.20M:	E71T-1C-H8, E71T-9C-H8
AWS A5.36/A5.36M:	E71T1-C1A2-CS1-H8
ABS:	2YSA H10, 2Y400SA H10
DNV:	II YMS(H10)
Llyod's Register:	2YS H10

TYPICAL APPLICATIONS

- Shipbuilding
- General Fabrication

SHIELDING GAS

100% CO_2
Flow rate: 40-50 CFH

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
0.052 (1.3) 1/16 (1.6)	ED035743 ED035778	ED036323 ED036324

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 A5.20: E71T-1C-H8,E71T-9C-H8	400 (58) min	480-655 (70-95)	22 min	27 (20) min	27 (20) min
AWS A5.36: E71T1-C1A2-CS1-H8				-	
Typical Results[3] As-Welded with 100% CO_2	580-615 (84-89)	630-655 (92-95)	27	87-96 (64-71)	49-58 (36-43)

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

DEPOSIT COMPOSITION[1]

	%C	%Mn	%Si	%S
Requirements AWS A5.20: E71T-1C-H8,E71T-9C-H8	0.12 max	1.75 max	0.90 max	0.03 max
AWS A5.36: E71T1-C1A2-CS1-H8				0.030 max
Typical Results[3] As-Welded with 100% CO_2	0.04-0.05	1.59-1.70	0.36-0.40	0.01

	%P	%Ni	Diffusible Hydrogen (ml/100g weld deposit)
Requirements AWS A5.20: E71T-1C-H8,E71T-9C-H8	0.03 max	0.50 max	8.0 max
AWS A5.36: E71T1-C1A2-CS1-H8	0.030 max		8 max
Typical Results[3] As-Welded with 100% CO_2	0.016	0.02	3.1-4.1

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 (%)
0.052 in (1.3mm), DC+, 100% CO_2	19-25 (3/4-1)	3.8 (150) 5.1 (200) 6.4 (250) 7.6 (300) 8.9 (350) 9.5 (375) 10.2 (400) 12.1 (475) 12.7 (500)	22-25 23-26 23-27 24-29 26-30 27-30 29-31 29-33 30-34	140 175 210 230 255 275 280 295 320	2.0 (4.5) 2.6 (5.8) 3.4 (7.4) 4.0 (8.8) 4.6 (10.2) 5.0 (11.1) 5.4 (11.9) 6.5 (14.3) 7.0 (15.4)	1.7 (3.7) 2.2 (4.9) 2.8 (6.2) 3.4 (7.4) 3.9 (8.7) 4.3 (9.4) 4.5 (9.9) 5.5 (12.2) 5.8 (12.8)	81-85
1/16 in (1.6mm), DC+, 100% C02	19-25 (3/4-1)	3.8 (150) 4.4 (175) 5.1 (200) 5.7 (225) 6.4 (250) 7.6 (300) 8.3 (325) 8.9 (350) 9.5 (400)	23-26 23-27 23-27 23-28 24-29 25-30 27-31 27-31 28-32	185 220 240 260 275 315 325 335 360	2.9 (6.3) 3.3 (7.3) 3.8 (8.3) 4.2 (9.2) 4.7 (10.4) 5.6 (12.4) 6.1 (13.5) 6.7 (14.7) 7.7 (16.9)	2.4 (5.3) 2.8 (6.1) 3.2 (7.1) 3.7 (8.2) 4.3 (9.4) 4.8 (10.6) 5.3 (11.7) 5.8 (12.7) 6.6 (14.5)	83-87

[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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THE LINCOLN ELECTRIC COMPANY
22801 St. Clair Avenue ▪ Cleveland, OH ▪ 44117-1199 ▪ U.S.A.
Phone: +1.216.481.8100 ▪ www.lincolnelectric.com