ULTRACORE® CLARITY™ C71 LE

Mild Steel, All Positions ▪ AWS E71T-1C-H8, E71T1-C1A0-CS1-H8

KEY FEATURES

- The lowest Manganese Generation Rate (MnGR) of any similarly classified electrode
- Over 80% reduction in MnGR when compared to a standard E71T-1C flux-cored electrode
- Assists efforts to reduce exposure to Mn
- Designed for welding with 100% CO_2 shielding gas
- H8 diffusible hydrogen levels.
- ProTech® foil bag packaging

CONFORMANCES

AWS A5.20/A5.20M:	E71T-1C-H8
AWS A5.36/A5.36M:	E71T1-C1A0-CS1-H8
CWB/CSA W48-06:	E491T-1-H8*

**1/16 diameter only, others pending*

TYPICAL APPLICATIONS

- General Fabrication

WELDING POSITIONS

All

SHIELDING GAS

100% CO_2
Flow rate: 40-50 CFH

DIAMETERS / PACKAGING

Diameter in (mm)	33 lb (14.9kg) Fiber Spool
0.045 (1.1)	ED036255
1/16 (1.6)	ED036254

MECHANICAL PROPERTIES[1]

	Yield Strength[2] MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch J (ft▪lbf) @-18°C (0°F)
Requirements AWS A5.20: E71T-1C-H8	400 (58) min	480-655 (70-95)	22 min	27 (20) min
AWS A5.36: E71T1-C1A0-CS1-H8	400 (58) min	480-655 (70-95)	22 min	27 (20) min
Typical Results[3] As-Welded with 100% CO_2	405-440 (59-64)	490-530 (71-77)	25-31	34-96 (25-71)

[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	0.12 max	1.75 max	0.90 max	0.03 max
AWS A5.36: E71T1-C1A0-CS1-H8				0.030 max
Typical Results[3] As-Welded with 100% CO_2	0.08	0.11-0.13	0.40-0.50	0.005

	%P	%Ni	Diffusible Hydrogen (ml/100g weld deposit)
Requirements AWS A5.20: E71T-1C-H8	0.03 max	0.50 max	8.0 max
AWS A5.36: E71T1-C1A0-CS1-H8	0.030 max		8 max
Typical Results[3] As-Welded with 100% CO_2	0.010	0.38-0.50	3-5

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+ 100% CO_2	19 - 25 (3/4 - 1)	5.1 (200)	21-25	130	2.0 (4.5)	1.7 (3.7)	82-88
		6.4 (250)	22-26	140	2.5 (5.6)	2.1 (4.7)	
		7.6 (300)	23-28	165	3.0 (6.7)	2.6 (5.8)	
		8.9 (350)	25-30	190	3.5 (7.8)	3.1 (6.8)	
		10.2 (400)	26-31	205	4.1 (9.0)	3.5 (7.8)	
		11.4 (450)	27-32	215	4.6 (10.1)	4.0 (8.8)	
		12.7 (500)	28-33	225	5.1 (11.2)	4.4 (9.7)	
1/16 in (1.6 mm), DC+ 100% CO_2	19 - 25 (3/4 - 1)	3.2 (125)	24-27	180	2.4 (5.3)	2.0 (4.3)	82-88
		3.8 (150)	25-28	205	2.9 (6.4)	2.6 (5.7)	
		5.1 (200)	25-29	235	3.8 (8.4)	3.3 (7.3)	
		6.4 (250)	26-30	260	4.7 (10.4)	4.1 (9.1)	
		7.6 (300)	27-31	310	5.7 (12.5)	5.1 (11.0)	
		10.2 (400)	31-34	390	7.7 (16.9)	6.8 (14.9)	
		12.7 (500)	33-36	450	11.5 (25.4)	8.6 (18.9)	

[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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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.

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