

# 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<sub>2</sub> shielding gas
- H8 diffusible hydrogen levels.
- ProTech® foil bag packaging

## WELDING POSITIONS

All

## 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

## SHIELDING GAS

100% CO<sub>2</sub>  
 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<sup>(1)</sup>

	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch J (ft·lbf) @-18°C (0°F)
<b>Requirements</b>				
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
<b>Typical Results<sup>(3)</sup></b>				
As-Welded with 100% CO <sub>2</sub>	405-440 (59-64)	490-530 (71-77)	25-31	34-96 (25-71)

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

**DEPOSIT COMPOSITION<sup>(1)</sup>**

	%C	%Mn	%Si	%S
<b>Requirements</b>				
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
<b>Typical Results<sup>(3)</sup></b> As-Welded with 100% CO <sub>2</sub>	0.08	0.11-0.13	0.40-0.50	0.005
	%P	%Ni	Diffusible Hydrogen (ml/100g weld deposit)	
<b>Requirements</b>				
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	
<b>Typical Results<sup>(3)</sup></b> As-Welded with 100% CO <sub>2</sub>	0.010	0.38-0.50	3-5	

**TYPICAL OPERATING PROCEDURES**

Diameter, Polarity Shielding Gas	CTWD <sup>(4)</sup> 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 <sub>2</sub>	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 <sub>2</sub>	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)	

<sup>(1)</sup>Typical all weld metal. <sup>(2)</sup>Measured with 0.2% offset. <sup>(3)</sup>See test results disclaimer <sup>(4)</sup>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](http://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.

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