

# ULTRACORE® 70C

Mild Steel, Flat &amp; Horizontal · AWS E70T-1C-H8, E70T-9C-H8



## KEY FEATURES

- High deposition in the flat and horizontal positions
- Low fume generation rates
- Designed for welding with 100% CO<sub>2</sub> shielding gas
- Premium arc performance and bead appearance
- ProTech® foil bag packaging

## WELDING POSITIONS

Flat &amp; Horizontal

## SHIELDING GAS

100% CO<sub>2</sub>  
Flow Rate: 40-55 CFH

## CONFORMANCES

<b>AWS A5.20:</b>	E70T-1C-H8, E70T-9C-H8
<b>ABS:</b>	2YSA H10
<b>CWB/CSA W48:</b>	E490T1-C1A3-CS1-H8 [E492T-9-H8]
<b>AWS D1.8:</b>	1/16", 5/64", 3/32"
<b>ISO 17632-B:</b>	T49 3 T1-0 C1 A H10

## TYPICAL APPLICATIONS

- Structural fabrication
- Heavy equipment
- Shipbuilding

## DIAMETERS / PACKAGING

Diameter in (mm)	50 lb [22.7 kg] Coil	500 lb [227 kg] Accu-Trak® Drum	500 lb [227 kg] Speed-Feed® Drum
1/16 [1.6]	ED032978*	ED033064*	
5/64 [2.0]	ED032977*		ED033065*
3/32 [2.4]	ED032941*		ED033066*

\*Buy America Product

## 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]	@ -29°C [-20°F]
<b>Requirements<sup>(4)</sup></b> AWS A5.20 E70T-1C-H8, E70T-9C-H8	400 [58] min	480-655 [70-95]	22 min	27 [20] min	27 [20] min
<b>Typical Results<sup>(3)</sup></b> As-Welded with 100% CO <sub>2</sub>	485-520 [70-75]	555-590 [81-86]	28-30	47-72 [35-53]	28-47 [21-35]

<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>As-Welded with 100% CO<sub>2</sub>.

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

	%C	%Mn	%Si	%S	%P	Diffusible Hydrogen (mL/100g weld deposit)
<b>Requirements<sup>(4)</sup></b> AWS A5.20 E70T-1C-H8, E70T-9C-H8	0.12 max	1.75 max	0.90 max	0.03 max	0.03 max	8.0 max
<b>Typical Results<sup>(3)</sup></b> As-Welded with 100% CO <sub>2</sub>	0.04-0.05	1.46-1.59	0.54-0.59	≤ 0.01	≤ 0.01	5-8

**TYPICAL OPERATING PROCEDURES – Flat & Horizontal**

Diameter, Polarity Shielding Gas	CTWD <sup>(5)</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 (%)
1/16 in (1.6 mm), DC+ 100% CO <sub>2</sub>	25 (1)	3.2 (125)	23-27	170	2.4 (5.3)	2.1 (4.7)	84 - 89
		5.1 (200)	24-28	225	3.8 (8.4)	3.2 (7.1)	
		6.4 (250)	25-30	260	4.8 (10.5)	4.1 (9.0)	
		7.6 (300)	27-31	280	5.7 (12.6)	4.9 (10.8)	
5/64 in (2.0 mm), DC+ 100% CO <sub>2</sub>	25 (1)	3.2 (125)	23-27	230	3.8 (8.4)	3.2 (7.1)	84 - 88
		4.4 (175)	24-29	305	5.4 (11.8)	4.6 (10.1)	
		5.7 (225)	25-30	365	6.8 (15.0)	5.9 (13.0)	
		6.4 (250)	26-32	385	7.7 (16.9)	6.5 (14.3)	
		7.6 (300)	27-33	420	9.0 (19.8)	7.8 (17.2)	
3/32 in (2.4 mm), DC+ 100% CO <sub>2</sub>	25 (1)	3.2 (125)	26-33	350	5.4 (11.9)	4.7 (10.3)	87 - 89
		5.1 (200)	27-34	500	8.6 (19.0)	7.6 (16.7)	
	31 (1 1/4)	6.4 (250)	29-35	570	10.6 (23.3)	9.4 (20.8)	
		7.6 (300)	31-37	630	13.1 (28.8)	11.4 (25.1)	
		8.3 (325)	32-38	720	14.3 (31.5)	12.4 (27.2)	

<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>As-Welded with 100% CO<sub>2</sub>. <sup>(5)</sup>To estimate ESO, subtract 1/4 in (6.0 mm) from CTWD.

Safety Data Sheets (SDS) and Certificates of Conformance are available on our website at [www.lincolnelectric.com](http://www.lincolnelectric.com)

FUMES AND GASES can be hazardous to your health.

- Fumes from the normal use of this product contain significant quantities of potentially hazardous compounds. See consumable product label/insert.
- Keep your head out of the fumes.
- Use enough ventilation and local exhaust to keep fumes and gases from your breathing zone and the general area.
- An approved respirator should be used unless exposure assessments are below applicable exposure limits.

**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**

The Lincoln Electric Company is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or advice about their use of our products. Our employees respond to inquiries to the best of their ability based on information provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or advice. Moreover, the provision of such information or advice does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or advice, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose is specifically disclaimed.

Lincoln Electric is a responsive manufacturer, but the selection and use of specific products sold by Lincoln Electric is solely within the control of, and remains the sole responsibility of the customer. Many variables beyond the control of Lincoln Electric affect the results obtained in applying these types of fabrication methods and service requirements.

Subject to Change – This information is accurate to the best of our knowledge at the time of printing. Please refer to [www.lincolnelectric.com](http://www.lincolnelectric.com) for any updated information.

