ULTRACORE® XP70

Mild Steel, Flat & Horizontal ▪ AWS E70T-9C-H8, E70T1-C1A2-CS1-H8

KEY FEATURES

- High deposition in the flat and horizontal positions
- Low spatter generation
- Good weld bead wetting
- Excellent slag detachability, even in deep or narrow grooves
- Wide operating range for great operator appeal across all skill levels

WELDING POSITIONS

Flat & Horizontal

CONFORMANCES

AWS A5.20/A5.20M:	E70T-1C-H8, E70T-9C-H8
ASME SFA-A5.20:	E70T-1C-H8, E70T-9C-H8
AWS A5.36/A5.36M	E70T1-C1A2-CS1-H8
AWS D1.8	

TYPICAL APPLICATIONS

- Structural fabrication
- Heavy equipment

SHIELDING GAS

100% CO_2
Flow Rate: 40-55 CFH

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)	ED036431	ED036547	
5/64 (2.0)	ED036430		ED036642
3/32 (2.4)	ED036427		ED036515

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[4] AWS A5.20: E70T-1C-H8, E70T-9C-H8 AWS A5.36: E70T-1-C1A2-CS1-H8	400 (58) min	480-655 (70-95)	22 min	27 (20) min	27 (20) min
Typical Results[3] As-Welded with 100% CO_2	495-555 (72-81)	570-625 (82-91)	25-29	35-59 (26-44)	27-59 (20-44)

DEPOSIT COMPOSITION[1]

	%C	%Mn	%Si	%S	%P	%B	Diffusible Hydrogen (mL/100g weld deposit)
Requirements[4] AWS A5.20 E70T-1C-H8, E70T-9C-H8	0.12 max	1.75 max	0.90 max	0.03 max	0.03 max	Not Specified	8.0 max
AWS A5.36 E70T-1-C1A2-CS1-H8				0.030 max	0.030 max		8 max
Typical Results[3] As-Welded with 100% CO_2	0.03 - 0.06	1.44 - 1.64	0.49 - 0.56	≤ 0.008	<0.016	<0.0042	2-4

[1] Typical all weld metal. [2] Measured with 0.2% offset. [3] See test results disclaimer. [4] As-Welded with 100% CO_2. [5] To estimate ESO, subtract 1/4 in (6.0 mm) from CTWD.

TYPICAL OPERATING PROCEDURES – *Flat & Horizontal*

Diameter, Polarity Shielding Gas	CTWD[5] 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_2	19 (3/4)	3.2 (125) 5.1 (200) 6.4 (250)	26-30 27-31 27-31	165 255 300	2.4 (5.2) 3.8 (8.3) 4.8 (10.4)	2.1 (4.6) 3.4 (7.4) 4.2 (9.3)	87 - 90
	25 (1)	7.6 (300) 9.5 (375)	28-32 28-32	300 315	5.7 (12.5) 7.1 (15.6)	5.1 (11.2) 6.4 (14.1)	
5/64 in (2.0 mm), DC+ 100% CO_2	25 (1)	3.2 (125) 4.4 (175) 5.7 (225) 6.4 (250) 7.0 (275) 7.6 (300) 8.3 (325)	27-31 27-31 27-31 28-32 28-32 28-32 29-33	260 330 390 420 450 475 500	3.8 (8.3) 5.3 (11.7) 6.8 (15.0) 7.6 (16.7) 8.3 (18.4) 9.1 (20.0) 9.8 (21.7)	3.3 (7.2) 4.7 (10.4) 6.1 (13.5) 6.8 (15.1) 7.6 (16.7) 8.3 (18.2) 9.0 (19.8)	89 - 92
3/32 in (2.4 mm), DC+ 100% CO_2	25 (1)	3.2 (125) 5.1 (200) 6.4 (250)	28-32 28-32 29-33	360 490 575	5.4 (12.0) 8.7 (19.2) 10.9 (24.0)	4.9 (10.9) 7.8 (17.1) 9.7 (21.3)	88 - 91
	32 (1 1/4)	7.0 (275) 7.6 (300) 8.3 (325)	29-33 30-34 31-35	450 575 615	12.0 (26.5) 13.1 (28.9) 14.2 (31.3)	10.6 (23.4) 11.5 (25.4) 12.5 (27.5)	

[1] Typical all weld metal. [2] Measured with 0.2% offset. [3] See test results disclaimer. [4] As-Welded with 100% CO_2. [5] 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.

Publication C3.12.41 | Issue Date 09/16

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