

ULTRACORE® 70M

Mild Steel, Flat & Horizontal ▪ AWS E70T-9M-H8, E70T1-M21A2-CS1-H8

KEY FEATURES

- High deposition in the flat and horizontal positions
- Designed for welding with 75-80% Argon / Balance CO₂ shielding gas
- Low fume generation rates
- Excellent operator appeal and slag detachability
- ProTech® foil bag packaging
- Flat bead profile for excellent bead stacking

WELDING POSITIONS

Flat & Horizontal

CONFORMANCES

AWS A5.20/A5.20M:

E70T-1M-H8, E70T-9M-H8

AWS A5.36/A5.36M:

E70T1-M21A2-CS1-H8

TYPICAL APPLICATIONS

- Structural fabrication
- Heavy equipment
- Shipbuilding

SHIELDING GAS

75-80% Argon / Balance CO₂
Flow Rate: 45-55 CFH

DIAMETERS / PACKAGING

Diameter in (mm)	50 lb (22.7kg) Coil	500 lb (227 kg) Accu-Trak® Drum	500 lb (227 kg) Speed-Feed® Drum
1/16 (1.6)	ED035847	ED036638	ED036637 ED036636
5/64 (2.0)	ED035848		
3/32 (2.4)	ED035849		

MECHANICAL PROPERTIES⁽¹⁾

	Yield Strength ⁽²⁾ MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft•lbf) @ -29°C (-20°F)
Requirements⁽⁴⁾				
AWS A5.20 E70T-1M-H8, E70T-9M-H8	400 (58) min	480-655 (70-95)	22 min	27 (20) min
AWS A5.36 E70T1-M21A2-CS1-H8				
Typical Results⁽³⁾				
As-Welded with 75% Ar/ 25% CO ₂	575-580 (83-84)	635-660 (92-95)	25-27	39-121 (29-89)

⁽¹⁾Typical all weld metal. ⁽²⁾Measured with 0.2% offset. ⁽³⁾See test results disclaimer. ⁽⁴⁾As-Welded with 75%-80% Ar/ Balance% CO₂

DEPOSIT COMPOSITION⁽¹⁾

	%C	%Mn	%Si	%S	%P
Requirements⁽⁴⁾ AWS A5.20 E70T-1M-H8, E70T-9M-H8	0.12 max	1.75 max	0.90 max	0.03 max	0.03 max
AWS A5.36 E70T1-M21A2-CS1-H8				0.030 max	0.030 max
Typical Results⁽³⁾ As-Welded with 75% Ar/ 25% CO ₂	0.06-0.07	1.53-1.56	0.58-0.60	0.009	0.013
	%Ni	%Mo	%Cr	%V	Diffusible Hydrogen (mL/100g weld deposit)
Requirements⁽⁴⁾ AWS A5.20 E70T-1M-H8, E70T-9M-H8	0.50 max	0.30 max	0.20 max	0.08 max	8.0 max
AWS A5.36 E70T1-M21A2-CS1-H8					8 max
Typical Results⁽³⁾ As-Welded with 75% Ar/ 25% CO ₂	0.03	0.01	0.07	0.03	4-7

TYPICAL OPERATING PROCEDURES – Flat & Horizontal

Diameter, Polarity Shielding Gas	CTWD ⁽⁵⁾ mm (in)	Wire Feed Speed m/min (ipm)	Voltage (volts)	Approx. Current (amps)	Melt-Off Rate kg/hr (lb/hr)	Deposition Rate kg/hr (lb/hr)
1/16 in (1.6 mm), DC+ 75-80% Argon / Balance CO ₂	25 (1)	3.2 (125)	22-26	160	2.2 (4.8)	2.0 (4.4)
		6.4 (250)	24-28	260	4.5 (9.9)	4.0 (8.8)
		9.5 (375)	27-31	345	6.8 (14.9)	6.0 (13.2)
5/64 in (2.0 mm), DC+ 75-80% Argon / Balance CO ₂	25 (1)	3.2 (125)	22-26	255	3.7 (8.1)	3.2 (7.1)
		5.7 (225)	24-28	380	6.6 (14.6)	5.6 (12.4)
	31 (1 1/4)	8.3 (325)	26-31	415	8.9 (19.5)	7.5 (16.4)
	3/32 in (2.4 mm), DC+ 75-80% Argon / Balance CO ₂	25 (1)	3.2 (125)	26-30	340	5.1 (11.3)
31 (1 1/4)			5.1 (200)	27-32	450	8.3 (18.3)
		6.4 (250)	30-36	615	12.5 (27.5)	10.7 (23.6)

⁽¹⁾Typical all weld metal. ⁽²⁾Measured with 0.2% offset. ⁽³⁾See test results disclaimer ⁽⁴⁾As-Welded with 75%-80% Ar/ Balance% CO₂. ⁽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.

CUSTOMER ASSISTANCE POLICY

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