

UltraCore® 71A75 Dual

Mild Steel, All Position • AWS E71T-1C-H8, E71T-9C-H8, E71T-1M-H8, E71T-9M-H8

Key Features

- ▶ Fast freezing slag for out-of-position welding
- ▶ Designed for welding with either 100% CO₂ or 75% Argon/25% CO₂ shielding gases
- ▶ Premium arc performance and bead appearance

Conformances

AWS A5.20/A5.20M: 2005 E71T-1C-H8, E71T-1M-H8, E71T-9C-H8, E71T-9M-H8
 ASME SFA-A5.20: E71T-1C-H8, E71T-1M-H8, E71T-9C-H8, E71T-9M-H8
 CWB/CSA W48-06: E491T-9 H8, E491T-9M H8
 EN ISO 17632-B: T493T1-1MA-H10, T493T1-1CA-H10

Typical Applications

- ▶ General fabrication

Welding Positions

All

Shielding Gas

100% CO₂
 75% Argon / 25% CO₂
 Flow Rate: 40 - 50 CFH

DIAMETERS / PACKAGING

Diameter in (mm)	15 lb (6.8 kg) Plastic Spool 60 lb (27.2 kg) Master Carton	33 lb (15 kg) Spool*	50 lb (22.7 kg) Fiber Spool	500 lb (227 kg) Accu-Trak® Drum
0.045 (1.1)	ED031882	ED031669	ED031844	ED032044
0.052 (1.3)		ED031670	ED031845	ED032046
1/16 (1.6)		ED031671	ED031846	

*Spool may be plastic or fiber.

MECHANICAL PROPERTIES⁽¹⁾ – As Required per AWS A5.20/A5.20M: 2005

	Yield Strength ⁽²⁾ MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft•lbf)	
				@ -18°C (0°F)	@ -29°C (-20°F)
Requirements⁽⁴⁾ AWS E71T-1C-H8, E71T-1M-H8 AWS E71T-9C-H8, E71T-9M-H8	400 (58) min.	480-655 (70-95)	22 min.	27 (20) min. Not Specified	Not Specified 27 (20) min.
Typical Results⁽³⁾ As-Welded with 100% CO ₂ As-Welded with 75% Ar/25% CO ₂	510-550 (73-79) 570-610 (82-88)	570-600 (82-87) 620-660 (89-95)	26-28 24-26	38-95 (28-70) 62-111 (46-82)	27-65 (20-48) 39-85 (29-63)

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DEPOSIT COMPOSITION⁽¹⁾ – As Required per AWS A5.20/A5.20M: 2005

	%C	%Mn	%Si	%S	%P	Diffusible Hydrogen (mL/100g weld deposit)
Requirements⁽⁴⁾						
AWS E71T-1C-H8, E71T-1M-H8	0.12	1.75	0.90	0.03	0.03	8.0
AWS E71T-9C-H8, E71T-9M-H8	max.	max.	max.	max.	max.	max.
Typical Results⁽³⁾						
As-Welded with 100% CO ₂	0.03-0.04	1.28-1.41	0.42-0.49	0.01	0.01-0.02	3-8
As-Welded with 75% Ar/25% CO ₂	0.03-0.04	1.45-1.60	0.54-0.62	0.01	0.01-0.02	4-8

TYPICAL OPERATING PROCEDURES

Diameter, Polarity Shielding Gas ⁽⁵⁾	CTWD ⁽⁶⁾ 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+ 75% Ar/25% CO ₂	25 (1)	All Position						86-88
		4.4 (175)	20-25	135	1.8 (4.0)	1.6 (3.5)		
		6.4 (250)	21-26	150	2.6 (5.7)	2.3 (5.0)		
		7.6 (300)	22-27	165	3.1 (6.8)	2.7 (6.0)		
		8.9 (350)	23-28	190	3.6 (8.0)	3.2 (7.0)		
		10.2 (400)	24-29	205	4.1 (9.1)	3.6 (8.0)		
		Flat & Horizontal						
		11.4 (450)	25-30	225	4.7 (10.3)	4.1 (9.0)		
		12.7 (500)	26-31	245	5.2 (11.4)	4.5 (10.0)		
		14.0 (550)	27-32	265	5.7 (12.5)	5.0 (10.9)		
15.2 (600)	27-33	285	6.2 (13.7)	5.4 (11.9)				
0.052 in (1.3 mm), DC+ 75% Ar/25% CO ₂	25 (1)	All Position						86-88
		3.8 (150)	20-25	155	2.0 (4.5)	1.8 (3.9)		
		5.1 (200)	21-26	165	2.7 (6.0)	2.4 (5.2)		
		6.4 (250)	22-27	190	3.4 (7.5)	2.9 (6.5)		
		7.6 (300)	23-28	215	4.1 (9.0)	3.5 (7.8)		
		8.9 (350)	24-29	235	4.7 (10.5)	4.1 (9.1)		
		Flat & Horizontal						
		9.5 (375)	25-30	255	5.1 (11.2)	4.4 (9.8)		
		10.8 (425)	27-31	275	5.8 (12.7)	5.0 (11.1)		
		12.1 (475)	28-33	295	6.4 (14.2)	5.6 (12.4)		
12.7 (500)	29-35	325	6.8 (15.0)	5.9 (13.0)				
1/16 in (1.6 mm), DC+ 75% Ar/25% CO ₂	25 (1)	All Position						86-88
		3.2 (125)	20-25	195	2.4 (5.3)	2.1 (4.6)		
		4.4 (175)	21-26	215	3.3 (7.4)	2.9 (6.4)		
		5.1 (200)	22-27	235	3.8 (8.4)	3.3 (7.3)		
		5.7 (225)	23-28	265	4.3 (9.5)	3.7 (8.2)		
		6.4 (250)	24-29	285	4.8 (10.5)	4.2 (9.2)		
		Flat & Horizontal						
		7.6 (300)	25-31	315	5.7 (12.6)	5.0 (11.0)		
		8.3 (325)	25-32	335	6.2 (13.7)	5.4 (11.9)		
		8.9 (350)	26-33	365	6.7 (14.7)	5.8 (12.8)		
10.2 (400)	28-35	405	7.6 (16.8)	6.6 (14.6)				

⁽¹⁾Typical all weld metal. ⁽²⁾Measured with 0.2% offset. ⁽³⁾See test results disclaimer below. ⁽⁴⁾As-Welded with 100% CO₂ & As-Welded 75% Argon / 25% CO₂. ⁽⁵⁾When welding under CO₂, increase voltage by 1 Volt. ⁽⁶⁾To estimate ESO, subtract 1/4 in (6.0 mm) from CTWD. NOTE: This product contains micro-alloying elements. Additional information available upon request.

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.

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