

UltraCore[®] 75C

Mild Steel, Flat & Horizontal • AWS E70T-5C-JH4

Key Features

- ▶ High deposition in the flat and horizontal positions
- ▶ H4 diffusible hydrogen levels
- ▶ Designed for welding with 100% CO₂ shielding gas
- ▶ Premium arc performance and bead appearance

Typical Applications

- ▶ Highly restrained joints
- ▶ Heaving equipment
- ▶ Mining
- ▶ Hard to weld base metals
- ▶ Thick steel sections in structural fabrication

Conformances

AWS A5.20/A5.20M: 2005	E70T-5C-JH4
ASME SFA-A5.20:	E70T-5C-JH4
CWB/CSA W48-06:	E492T-5J H4
EN ISO 17632-B:	T494T5-0CA-H5

Welding Positions

Flat & Horizontal

Shielding Gas

100% CO₂
Flow Rate: 40-55 CFH

DIAMETERS / PACKAGING

Diameter in (mm)	50 lb (22.7 kg) Coil
1/16 (1.6)	ED032974
5/64 (2.0)	ED032975
3/32 (2.4)	ED032940

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) @ -29°C (-20°F) @ -40°C (-40°F)	
Requirements⁽⁴⁾ - AWS E70T-5C-JH4	400 (58) min.	480-655 (70-95)	22 min.	27 (20) min.	27 (20) min.
Typical Results⁽³⁾ As-Welded with 100% CO ₂	465-510 (68-74)	545-580 (79-84)	29-32	91-142 (67-105)	53-113 (39-83)

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 E70T-5C-JH4	0.12 max.	1.75 max.	0.90 max.	0.03 max.	0.03 max.	4.0 max.
Typical Results⁽³⁾ - As-Welded with 100% CO ₂	0.06-0.08	1.51-1.66	0.44-0.53	0.01	0.01	2-4

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% CO₂	19-25 (3/4-1)	5.1 (200)	29-34	230	4.0 (8.7)	3.1 (6.9)	76-86
		6.4 (250)	31-36	270	5.0 (11.0)	3.8 (8.5)	
		7.6 (300)	32-37	295	5.9 (13.1)	4.5 (10.0)	
		8.9 (350)	33-38	335	6.9 (15.2)	5.5 (12.1)	
		10.2 (400)	33-38	360	7.9 (17.4)	6.3 (13.9)	
12.7 (500)	35-40	415	9.9 (21.8)	7.9 (17.5)			
5/64 in (2.0 mm), DC+ 100% CO₂	25-32 (1-1 1/4)	5.1 (200)	29-34	295	5.7 (12.7)	4.8 (10.5)	82-86
		6.4 (250)	30-35	345	7.2 (15.9)	6.0 (13.2)	
		7.6 (300)	32-37	390	8.6 (19.0)	7.1 (15.6)	
		8.9 (350)	33-38	425	10.1 (22.3)	8.5 (18.7)	
10.2 (400)	34-39	465	11.5 (25.3)	9.9 (21.8)			
3/32 in (2.4 mm), DC+ 100% CO₂	32 (1-3/8)	3.2 (125)	23-28	335	5.5 (12.2)	4.8 (10.7)	87-90
		5.1 (200)	27-32	445	8.8 (19.3)	7.6 (16.7)	
		6.4 (250)	29-34	500	10.9 (24.1)	9.6 (21.3)	
		7.6 (300)	31-36	590	13.2 (29.2)	11.8 (26.0)	
		8.3 (325)	32-37	605	14.2 (31.4)	12.8 (28.3)	

⁽¹⁾Typical all weld metal. ⁽²⁾Measured with 0.2% offset. ⁽³⁾See test results disclaimer below. ⁽⁴⁾As-Welded with 100% 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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