

UltraCore® 75C

AWS E70T-5C-JH4



UltraCore® 75C gas-shielded flux-cored wire is capable of producing low diffusible hydrogen levels and high deposition rates. It is recommended for both single or multiple pass welding in either semi-automatic or automatic applications. The basic slag system allows for high resistance to cracking and the capability to exceed impact property requirements at -40°C (-40°F) – choose UltraCore® 75C.

KEY FEATURES

- ▶ **H4 Diffusible Hydrogen Levels** – For increased resistance to hydrogen induced cracking on a variety of base metals.
- ▶ **Basic Slag System** – Provides excellent coverage and is easy to remove, while promoting low diffusible hydrogen levels and high resistance to cracking.
- ▶ **High Deposition Rates** – Excellent stackability for welding thick steel sections.
- ▶ **Low Temperature Impact Properties** – Capable of exceeding AWS E70T-5C-JH4 impact requirements of 27 J (20 ft•lbf) at -40°C (-40°F).
- ▶ **ProTech® Foil Bag Packaging System** – Uniquely packaged in a foil bag to protect from harmful moisture ensuring optimal welding performance.

APPLICATIONS

- ▶ Highly restrained joints.
- ▶ Hard to weld base materials.
- ▶ Thick steel sections in structural fabrication.
- ▶ Structural Fabrication
- ▶ Heavy Equipment
- ▶ Mining

WELDING POSITIONS

Flat and Horizontal

CONFORMANCE

AWS A5.20/A5.20M: 2005

E70T-5C-JH4

SHIELDING GASES

100% CO₂

Flow Rate: 40-50 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

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MECHANICAL PROPERTIES ⁽¹⁾ - As Required per 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 AWS 70T-5C-JH4 As-Welded with 100% CO ₂	400 (58) min.	490 - 655 (70 - 95)	22 min.	27 (20)	27 (20)
Typical Performance⁽³⁾ As-Welded with 100% CO ₂	450 - 490 (65 - 71)	540 - 585 (78 - 85)	29 - 34	95 - 157 (70 - 116)	52 - 108 (38 - 80)

DEPOSIT COMPOSITION ⁽¹⁾ - As Required per 5.20/A5.20M: 2005

	%C	%Mn	%Si	%P	%S	Diffusible Hydrogen (mL/100g weld deposit)
Requirements AWS 70T-5C-JH4 As-Welded with 100% CO ₂	0.12 max.	1.75 max.	0.90 max.	0.03 max.	0.03 max.	4.0
Typical Performance⁽³⁾ As-Welded with 100% CO ₂	0.06 - 0.09	1.45 - 1.67	0.43 - 0.55	0.005 - 0.006	0.007 - 0.012	2 - 4

⁽¹⁾ Typical all weld metal, DC+. ⁽²⁾ Measured with 0.2% offset. ⁽³⁾ See test results disclaimer below.

TYPICAL OPERATING PROCEDURES

Diameter, Polarity CTWD ⁽¹⁾ Shielding Gas	Wire Feed Speed m/min (in/min)	Voltage (volts)	Approx. Current (amps)	Flat and Horizontal		Efficiency (%)
				Melt-Off Rate kg/hr (lb/hr)	Deposition Rate kg/hr (lb/hr)	
1/16 in. (1.6 mm), DC+ 19 - 25 mm (3/4 - 1 in.) 100% CO ₂	5.1 (200)	30 - 33	230	3.6 - 4.5 (8 - 10)	2.7 - 3.6 (6 - 8)	76 - 86
	6.4 (250)	32 - 35	270	4.5 - 5.4 (10 - 12)	3.6 - 4.5 (8 - 10)	
	7.6 (300)	33 - 36	295	5.4 - 6.3 (12 - 14)	4.1 - 5.0 (9 - 11)	
	8.9 (350)	34 - 37	335	6.3 - 7.2 (14 - 16)	5.0 - 5.9 (11 - 13)	
	10.2 (400)	34 - 37	360	7.2 - 8.1 (16 - 18)	5.9 - 6.8 (13 - 15)	
	11.4 (450)	35 - 38	385	8.6 - 9.5 (19 - 21)	6.8 - 7.7 (15 - 17)	
5/64 in. (2.0 mm), DC+ 25 - 32 mm (1 - 1 1/4 in.) 100% CO ₂	5.1 (200)	30 - 33	295	5.4 - 6.3 (12 - 14)	4.5 - 5.4 (10 - 12)	82 - 86
	6.4 (250)	31 - 34	345	6.8 - 7.7 (15 - 17)	5.4 - 6.4 (12 - 14)	
	7.6 (300)	33 - 36	390	8.2 - 9.1 (18 - 20)	6.8 - 7.7 (15 - 17)	
	8.9 (350)	34 - 37	425	9.5 - 10.4 (21 - 23)	8.2 - 9.1 (18 - 20)	
	10.2 (400)	35 - 38	465	10.9 - 11.8 (24 - 26)	9.5 - 10.4 (21 - 23)	
3/32 in. (2.4 mm), DC+ 35 mm (1 3/8 in.) 100% CO ₂	3.2 (125)	24 - 27	330	5.0 - 5.9 (11 - 13)	4.5 - 5.4 (10 - 12)	87 - 90
	5.1 (200)	28 - 31	445	8.2 - 9.1 (18 - 20)	7.3 - 8.2 (16 - 18)	
	6.4 (250)	30 - 33	500	10.4 - 11.3 (23 - 25)	9.1 - 10.0 (20 - 22)	
	7.6 (300)	32 - 35	590	12.7 - 13.6 (28 - 30)	11.3 - 12.2 (25 - 27)	
	8.3 (325)	33 - 36	605	13.6 - 14.5 (30 - 32)	12.2 - 13.2 (27 - 29)	

⁽¹⁾ 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.

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Subject to Change - This information is accurate to the best of our knowledge at the time of printing. Please refer to www.lincolnelectric.com for any updated information.

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