

Metalshield™ MC-715



Mild Steel Metal-Cored Wire (AWS E70C-6M H8)

Metalshield MC-715 is designed for virtually slag free deposits in single or multiple pass welding applications. Its design achieves robust low temperature impacts and can be used in semiautomatic and automatic applications. Excellent for welding over scale or surface contaminants.

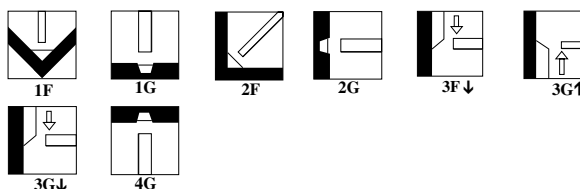
Advantage Lincoln

- Smooth, spray-type arc transfer and low spatter level.
- High deposition efficiency.
- Good resistance to porosity on mill scale.
- Excellent "fast follow" characteristics.
- Robust low temperature impact properties.
- Manufactured under a quality system certified to ISO 9001 requirements.

Typical Applications

- Mining equipment
- Heavy equipment
- Offshore
- General structural fabrication

Welding Positions



Shielding Gas

75-95% Argon / Balance CO₂
Flow Rate: 30-45 CFH

Higher argon percentage will lower the amount of generated welding fume. A 15-25% CO₂ range may be used for improved arc characteristics when welding in the short circuiting mode.

Conformance

AWS A5.18-01: E70C-6M H8
ASME SFA-5.18: E70C-6M H8
BV: SA3-3YMHH
ABS: 4Y403H
DNV: IV Y40H5
GL: 4Y40H5S
LR: 4Y40H5

DIAMETERS/PACKAGING

Diameter in. (mm)	33 Lb. (15kg) Plastic Spool Foil Bag
.045 (1.1)	ED030944
1/16 (1.6)	ED030945

Diffusible Hydrogen - As required per AWS A5.18-01

Requirements (AWS E70C-6M H8) ≤ 8.0
Test Results: 80% Ar/20% CO₂ 2.0 - 5.0

MECHANICAL PROPERTIES - As Required per AWS A5.18-01

	Yield Strength psi (MPa)	Tensile Strength psi (MPa)	Elongation (%)	Charpy V-Notch, ft•lbf (Joules)		
				@ -20°F (-29°C)	@ -40°F (-40°C)	@ -51°F (-46°C)
Requirements AWS E70C-6M H8	58,000 (400) min.	70,000 (483) min.	22 min.	20 (27) min.	Not Specified	Not Specified
Test Results 80% Ar/20% CO ₂	65,000-71,000 (460-490)	76,000-81,000 (527-556)	25-31	Exceeds Requirements	76-115 (103-156)	69-88 (94-119)

DEPOSIT COMPOSITION - As Welded per AWS A5.18-01

	%C	%Mn	%S	%P	%Si	%Ni	%Cr	%Mo	%V	%Ni+%Cr+%Mo+%V
Requirements AWS E70C-6M H8	0.12 max.	1.75 max.	0.03 max.	0.03 max.	0.90 max.	0.50 max.	0.20 max.	0.30 max.	0.08 max.	0.50 max.
Test Results 80% Ar/20% CO ₂	0.02-0.06	1.36-1.73	0.02-0.03	0.01-0.02	0.32-0.50	0.01-0.04	0.03-0.05	0.01-0.02	0.01	0.07-0.11

TYPICAL OPERATING PROCEDURES

Diameter Polarity CTWD ⁽¹⁾ Wire Weight Shielding Gas	Wire Feed Speed in/min (m/min)	Voltage (volts) ⁽²⁾	Approx. Current (amps)	Melt-Off Rate lbs/hr (kg/hr)	Deposition Rate lbs/hr (kg/hr)	Efficiency (%)
.045" (1.1 mm) DC+ 3/4-1" (19-25 mm) .420 lbs./1000" (7.5 g/m) 75-95% Ar/ Balance CO ₂	110 (2.8)	15	90	2.7 (1.2)	2.4 (1.1)	89
	135 (3.4)	16	120	3.4 (1.5)	3.0 (1.4)	88
	185 (4.7)	17	150	4.6 (2.1)	4.2 (1.9)	91
	250 (6.4)	28-30	180	6.5 (3.0)	6.0 (2.7)	92
	450 (11.5)	31-34	275	11.6 (5.3)	10.6 (4.8)	91
	650 (16.5)	35-38	340	16.5 (7.5)	15.0 (6.8)	91
1/16" (1.6 mm) DC+ 1" to 1-1/4" (25-32 mm) .765 lbs/1000" (13.7 g/m) 75-95% Ar/ Balance CO ₂	70 (2.0)	15	145	3.6 (1.7)	3.3 (1.5)	92
	80 (2.1)	16	160	4.1 (1.9)	3.7 (1.7)	90
	90 (2.3)	18	170	4.6 (2.1)	4.2 (1.9)	91
	150 (3.8)	25-26	235	7.0 (3.2)	6.4 (2.9)	91
	250 (6.4)	29-32	325	12.1 (5.5)	11.0 (5.0)	91
	350 (8.9)	34-37	400	16.9 (7.7)	15.4 (7.0)	91
	450 (11.4)	36-38	460	22.0 (10.0)	20.1 (9.1)	91

(1) To estimate ESO, subtract 1/4" (6.0mm) from CTWD.

(2) For greater percentage of CO₂ shielding gas, increase voltage by 1-2 volts.

NOTE: Shaded areas are recommended procedures for short circuiting mode with 75-85% Ar/Balance CO₂.

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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