

METALSHIELD® MC-6® BUY AMERICA



Mild Steel ■ AWS E70C-6M H4

KEY FEATURES

- Excellent performance in fast follow, high travel speed applications
- Optimal wetting action, even at low voltages
- H4 diffusible hydrogen level
- Use with RapidArc® Waveform Control Technology® for increased travel speeds
- Deoxidizing arc action minimizes pre-weld work
- Made in the U.S.A. using steel melted and manufactured in the U.S.A.
- Meets the Buy America requirements of the American Recovery and Reinvestment Act (ARRA)

WELDING POSITIONS

All

CONFORMANCES

AWS A5.18, ASME SFA-5.18: E70C-6M-H4
AWS A5.36, ASME SFA-5.36: E70T15-M20A4-CS1-H4,
 E70T15-M21A4-CS1-H4

TYPICAL APPLICATIONS

- Robotics/Hard automation
- Automotive
- Structural fabrication
- Process piping and pressure vessels
- General fabrication

SHIELDING GAS

75-95% Argon / Balance CO₂
 Flow Rate: 40-60 CFH

DIAMETERS / PACKAGING

Diameter in (mm)	33 lb (15 kg) Steel Spool	60 lb (27.2 kg) Coil	500 lb (227 kg) Accu-Trak® Drum
0.045 (1.1)	ED036360	ED036668	ED036598
0.052 (1.3)	ED036361		ED036599
1/16 (1.6)	ED036362		ED036600

MECHANICAL PROPERTIES⁽¹⁾ – As Required per AWS A5.18/A5.36

	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 A5.18: E70C-6M-H4 AWS A5.36: E70T15-M20A4-CS1-H4	400 (58) min	480 (70) min 490-660 (70-95)	22 min	27 (20) min	Not Specified
Typical Results⁽³⁾ As-Welded with 75% Argon / 25% CO ₂ ⁽⁴⁾ As-Welded with 90% Argon / 10% CO ₂	450-510 (65-75) 480-550 (70-80)	510-590 (75-85) 550-620 (80-90)	24-28 24-28	81-122 (60-90) 75-102 (55-75)	47-75 (35-55) 61-81 (45-60)

⁽¹⁾Typical all weld metal. ⁽²⁾Measured with 0.2% offset. ⁽³⁾See test results disclaimer ⁽⁴⁾Required gas mixture 75-80% Argon/Balance CO₂ for AWS testing.

DEPOSIT COMPOSITION⁽¹⁾ – As Required per AWS A5.18/A5.36

	%C	%Mn	%Si	%S	%P	%Cu
Requirements – AWS A5.18: E70C-6M-H4 AWS A5.36: E70T15-M20A4-CS1-H4	0.12 max	1.75 max	0.90 max	0.03 max 0.030 max	0.03 max 0.030 max	0.50 max 0.035 max
Typical Results⁽³⁾						
As-Welded with 75% Argon / 25% CO ₂ ⁽⁴⁾	0.03-0.05	1.25-1.60	0.40-0.60	0.01-0.02	0.01-0.02	0.01-0.05
As-Welded with 90% Argon / 10% CO ₂	0.03-0.05	1.25-1.70	0.40-0.70	0.01-0.02	0.01-0.02	0.01-0.05
	%Ni	%Cr	%Mo	%V	%Ni + %Cr + %Mo + %V	Diffusible Hydrogen (mL/100g weld deposit)
Requirements – AWS A5.18: E70C-6M-H4 AWS A5.36: E70T15-M20A4-CS1-H4	0.50 max	0.20 max	0.30 max	0.08 max	0.50 max	4.0 max 4 max
Typical Results⁽³⁾						
As-Welded with 75% Argon / 25% CO ₂ ⁽⁴⁾	0.02-0.05	0.01-0.04	0.01-0.02	0.01-0.02	0.05-0.10	2-4
As-Welded with 90% Argon / 10% CO ₂	0.02-0.05	0.01-0.04	0.01-0.02	0.01-0.02	0.05-0.10	

TYPICAL OPERATING PROCEDURES

Diameter, Polarity Shielding Gas	CTWD ⁽⁵⁾ mm (in)	Wire Feed Speed m/min (in/min)	Voltage ⁽⁶⁾ (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+ 90% Argon / 10% CO ₂	19-25 (3/4-1)	5.1 (200)	21-23	170	2.5 (5.6)	2.3 (5.2)	92
		6.4 (250)	22-25	190	2.9 (6.4)	2.7 (6.1)	95
		7.6 (300)	22-26	210	3.5 (7.8)	3.2 (7.1)	92
		8.9 (350)	22-27	245	4.1 (9.1)	3.9 (8.7)	95
		10.2 (400)	23-27	265	4.6 (10.2)	4.5 (9.9)	97
		12.7 (500)	23-28	300	5.7 (12.6)	5.6 (12.4)	98
		15.2 (600)	25-29	335	7.0 (15.4)	6.9 (15.3)	99
		17.8 (700)	26-30	370	8.1 (17.8)	7.9 (17.5)	98
0.052 in (1.3 mm), DC+ 90% Argon / 10% CO ₂	19-25 (3/4-1)	5.1 (200)	22-24	220	3.2 (7.0)	2.9 (6.4)	92
		6.4 (250)	22-26	260	4.0 (8.7)	3.8 (8.3)	95
		7.6 (300)	22-27	300	4.9 (10.7)	4.7 (10.3)	96
		8.9 (350)	23-27	335	5.6 (12.3)	5.5 (12.0)	98
		10.2 (400)	24-28	360	6.3 (13.9)	6.3 (13.8)	99
		12.7 (500)	27-30	410	7.9 (17.4)	7.8 (17.3)	99
1/16 in (1.6 mm), DC+ 90% Argon / 10% CO ₂	25-32 (1-1 1/4)	2.5 (100)	21-24	175	2.1 (4.7)	2.0 (4.4)	93
		3.8 (150)	22-25	235	3.2 (7.1)	2.9 (6.4)	90
		5.1 (200)	22-26	290	4.3 (9.5)	4.0 (8.9)	94
		6.4 (250)	22-28	345	5.4 (11.9)	5.2 (11.4)	96
		7.6 (300)	23-29	360	6.4 (14.2)	6.3 (13.9)	98
		10.2 (400)	26-31	425	8.5 (18.7)	8.4 (18.5)	99
12.7 (500)	27-32	485	10.8 (23.8)	10.7 (23.5)	99		

⁽¹⁾Typical all weld metal. ⁽²⁾Measured with 0.2% offset. ⁽³⁾See test results disclaimer ⁽⁴⁾Required gas mixture 75-80% Argon/Balance CO₂ for AWS testing. ⁽⁵⁾To estimate ESO, subtract 3/16 in (4.8 mm) from CTWD. ⁽⁶⁾For greater percentage of CO₂ shielding gas, increase voltage by 1-2 volts.

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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