

SUPERARC® G4Si1

Mild Steel, Copper Coated ▪ AWS ER70S-6

KEY FEATURES

- Higher strength than typical ER70S-6 products to enable conformance to both AWS and EN ISO standards
- Excellent toe-wetting provides optimal bead appearance
- Copper coating provides superior arc-starting characteristics for long contact tip life
- Supports short-circuiting, globular, axial spray and pulsed spray transfer
- Microguard® Ultra provides superior feeding and arc stability

WELDING POSITIONS

All

SHIELDING GAS

100% CO₂
85-90% Argon / Balance CO₂
Flow Rate: 30-50 CFH

CONFORMANCES

AWS A5.18: ER70S-6
ASME SFA-A5.18: ER70S-6
EN ISO 14341-A: G 50 5 M20 G4Si1
G 46 3 C1 G4Si1

TYPICAL APPLICATIONS

- Automotive Repair
- Automotive Components
- Robotic or Hard Automation

DIAMETERS / PACKAGING

Diameter in (mm)	500 lb (227 kg) Accu-Pak® Box	1000 lb (454 kg) Accu-Pak® Box
0.045 (1.1)	ED037131	ED037156

MECHANICAL PROPERTIES⁽¹⁾

Charpy V-Notch J (ft-lbf)	Yield Strength ⁽²⁾ MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft-lbf)		
				@ -29°C (-20°F)	@ -30°C (-22°F)	@ -50°C (-58°F)
Requirements – AWS A5.18 ER70S-6, As-Welded with 100% CO ₂	400 (58) min	485 (70) min	22 min	27 (20) min	-	-
Typical Results⁽³⁾ – AWS A5.18 As-Welded w/100% CO ₂	470 (68)	590 (85)	25	56 (41)	-	-
Requirements – EN ISO 14341-A G 46 3 C1 G4Si1, As-Welded with 100% CO ₂ G 50 5 M20 G4Si1, As-Welded with 85%Argon/Balance CO ₂	460 (67) min 500 (73) min	530-680 (77-99) 560-720 (81-104)	20 min. 18 min.	- -	47 (35) min. -	- 47 (35) min
Typical Results⁽³⁾ – EN ISO 14341-A As-Welded with 100% CO ₂ As-Welded with 85% Argon/Balance CO ₂	490 (71) 520 (75)	600 (87) 620 (90)	24 23	- -	90 (66) -	- 81 (60)

WIRE COMPOSITION

	%C	%Mn	%Si	%S	%P
Requirements - AWS A5.18, ER70S-6	0.06-0.15	1.40-1.85	0.80-1.15	0.035 max.	0.025 max.
Requirements - EN ISO 14341-A, G4Si1	0.06-0.14	1.60-1.90	0.80-1.20	0.025 max.	0.025 max.
Typical Results⁽³⁾	0.09	1.67	0.87	0.006-0.010	0.004-0.010
	%CR	%Ni	%Mo	%V	%Cu (Total) ⁽⁴⁾
Requirements - AWS A5.18, ER70S-6	0.15 max.	0.15 max.	0.15 max.	0.03 max.	0.50 max.
Requirements - EN ISO 14341-A, G4Si1	0.15 max.	0.15 max.	0.15 max.	0.03 max.	0.35 max.
Typical Results⁽³⁾	0.02	0.02	<0.01	<0.01	0.20

TYPICAL OPERATING PROCEDURES

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)
0.045 in (1.1 mm), DC+					
Short Circuit Transfer ⁽⁶⁾ 100% CO ₂	12-19 (1/2-3/4)	3.2 (125)	19	145	1.5 (3.4)
		3.8 (150)	20	165	1.8 (4.0)
		5.1 (200)	21	200	2.5 (5.4)
Spray Transfer 85% Argon/15% CO ₂	12-19 (1/2-3/4)	8.9 (350)	27	285	4.2 (9.2)
		12.1 (475)	30	335	5.7 (12.5)
		12.7 (500)	30	340	6.0 (13.2)

⁽¹⁾ Typical all weld metal. ⁽²⁾ Measured with 0.2% offset. ⁽³⁾ See test results disclaimer. ⁽⁴⁾ Copper due to any coating on the electrode plus the copper content of the filler metal itself, shall not exceed the stated 0.50% max. ⁽⁵⁾ CTWD (Contact Tip to Work Distance). Subtract 1/4 in (6.4 mm) to calculate Electrical Stickout. ⁽⁶⁾ Procedures in these areas are procedures for short circuiting mode using 100% CO₂. When using 75% Argon, 25% CO₂ for short circuit transfer, reduce voltage by 1 to 2 volts

Safety Data Sheets (SDS) and Certificates of Conformance are available on our website at www.lincolnelectric.com

FUMES AND GASES can be hazardous to your health.

- Fumes from the normal use of this product contain significant quantities of potentially hazardous compounds. See consumable product label/insert.
- Keep your head out of the fumes.
- Use enough ventilation and local exhaust to keep fumes and gases from your breathing zone and the general area.
- An approved respirator should be used unless exposure assessments are below applicable exposure limits.

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

The Lincoln Electric Company is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or advice about their use of our products. Our employees respond to inquiries to the best of their ability based on information provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or advice. Moreover, the provision of such information or advice does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or advice, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose is specifically disclaimed.

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