

SuperArc® AK-10™

Low Alloy, Copper Coated • AWS ER100S-G

Key Features

- ▶ Capable of producing welds with 690 MPa (100 ksi) tensile strength
- ▶ Suitable for use where consumables with less than 1% Ni are required
- ▶ Batch Managed Inventory
- ▶ Superior feeding and arc stability

Welding Positions

All

Shielding Gas

- ▶ 100% CO₂
- ▶ 75-95% Argon / Balance CO₂
- ▶ 95-98% Argon / Balance O₂
- ▶ Flow rate: 30-50CFH

Conformances

AWS A5.28/A5.28M: ER100S-G
ASME SFA-5.28: ER100S-G

Typical Applications

- ▶ NACE applications
- ▶ Oil tools
- ▶ Riser systems
- ▶ High-strength pipe

Typical Base Metals

HY-80 or HY-100 per MIL-S-16216, A514 Grade B or P, AISI 4130 or 8620, API X-70 or X-80

DIAMETERS / PACKAGING

Diameters in (mm)	33 lb. (15kg) Steel Spool	500 lb. (227kg) Accu-Trak® Drum
0.035 (0.9)	ED034894	ED034896
0.045 (1.1)	ED034895	ED034897

MECHANICAL PROPERTIES

	Yield Strength ⁽¹⁾ MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch J (ft-lbf) -40°C (40°F)	Charpy V-Notch J (ft-lbf) -51°C (60°F)
Requirements AWS A5.28: ER100S-G As-Welded with 90% Ar/10% CO ₂	Not Specified	690 (100) min.	Not Specified	Not Specified	Not Specified
Typical Results As-Welded with 90% Ar/10% CO ₂	709 (103)	802 (116)	21	86 (64)	85 (63)
Stress Relieved 1 hr. @ 621°C (1150°F) with 90% Ar/10% CO ₂	627 (91)	723 (105)	25	113 (83)	100 (73)

(1) Measured with a 0.2% offset.

WIRE COMPOSITION

	%C	%Mn	%Si	%Ni
Requirements - AWS A5.28: ER100S-G	–	–	–	(A)
Typical Results	0.10	1.55	0.57	0.88
	%Mo	%Cr	%S	%P
Requirements - AWS A5.28: ER100S-G	(A)	(A)	–	–
Typical Results	0.47	0.28	< 0.005	0.01
	%V	%Al	%Cu	
Requirements - AWS A5.28: ER100S-G	–	–	–	
Typical Results	< 0.003	0.003	0.12	

(A) Must have the minimum of one or more of the following: 0.50% Ni, 0.30% Cr, or 0.20% Mo.

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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