

Atom Arc 7018-SR

Atom Arc 7018-SR is an all-position low hydrogen electrode. The moisture resistance and welder appeal is similar to other Atom Arc electrodes. Atom Arc 7018-SR was developed to maintain 70 ksi (483 MPa) tensile strength after 16 hours stress relieving.

Specifications	
Classifications	ASME SFA 5.1 : E7018H4R AWS A5.1 : E7018H4R
Approvals	CWB : E4918-H4
Industry	Mobile Equipment Power Generation Civil Construction Industrial and General Fabrication

Approvals are based on factory location. Please contact ESAB for more information.

Welding Current	AC, DC+
Diffusible Hydrogen	< 4.0 ml/100g
Alloy Type	Carbon Manganese

Typical Tensile Properties			
Condition	Yield Strength	Tensile Strength	Elongation
Stress Relieved 16 hour(s) 621 °C (1150 °F)	477 MPa (69 ksi)	563 MPa (82 ksi)	30 %
Stress Relieved 8 hour(s) 621 °C (1150 °F)	433 MPa (63 ksi)	521 MPa (76 ksi)	33 %
Stress Relieved 20 hour(s) 621 °C (1150 °F)	459 MPa (67 ksi)	551 MPa (80 ksi)	31 %
Stress Relieved 24 hour(s) 621 °C (1150 °F)	455 MPa (66 ksi)	547 MPa (79 ksi)	31 %
As Welded	475 MPa (69 ksi)	557 MPa (81 ksi)	29.5 %

Typical Charpy V-Notch Properties		
Condition	Testing Temperature	Impact Value
Stress Relieved	-30 °C (-22 °F)	179 J (132 ft-lb)
Stress Relieved	-46 °C (-51 °F)	115 J (85 ft-lb)
Stress Relieved	-30 °C (-22 °F)	210 J (155 ft-lb)
Stress Relieved	-30 °C (-22 °F)	208 J (154 ft-lb)
Stress Relieved	-30 °C (-22 °F)	216 J (160 ft-lb)
As Welded	-30 °C (-22 °F)	163 J (121 ft-lb)

Typical Weld Metal Analysis %					
C	Mn	Si	S	P	Mo
0.06	1.30	0.30	0.014	0.014	0.10

Deposition Data					
Diameter	Current	Voltage	Deposition Efficiency (%)	Burn-off Time /Electrode	Deposition Rate @ 90% I max
2.4 x 356.0 mm (3/32 x 14.0 in.)	70-110 A	23.2 V	69.01 %	60 sec	0.92 kg/h (2.0 lbs/h)
3.2 x 356.0 mm (1/8 x 14.0 in.)	90-160 A	23.9 V	72.23 %	70 sec	1.36 kg/h (3.0 lbs/h)

MILD STEEL

STICK ELECTRODES (SMAW)



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Deposition Data

Diameter	Current	Voltage	Deposition Efficiency (%)	Burn-off Time /Electrode	Deposition Rate @ 90% I max
4.0 x 356.0 mm (5/32 x 14.0 in.)	130-220 A	24.3 V	72.06 %	75 sec	1.89 kg/h (4.2 lbs/h)
4.8 x 356.0 mm (3/16 x 14.0 in.)	200-300 A	24.3 V	71.04 %	74 sec	2.53 kg/h (5.6 lbs/h)