Atom Arc 7018-1



Atom Arc 7018-1 is an all-position, low hydrogen electrode that provides exceptional impact toughness at low service temperatures. Atom Arc 7018-1 provides smooth metal transfer, minimal spatter, and easy slag removal. Atom Arc 7018-1 is used to join a wide variety of carbon and low alloy steels. It is also an excellent choice for welding higher strength steels if undermatching welds are specified.

Classifications	AWS A5.1 : E7018-1 H4R ASME SFA 5.1
Approvals	ABS 3 3Y(H10)/A5.1: E7018-1 CWB CSA W48 E4918-1-H4 DNV 3Y(H10) LR 3m 3Ym(H10)
Industry	Automotive Civil Construction Industrial and General Fabrication Mobile Equipment Railcars

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

Welding Current	AC or DC+
Coating Type	Low-hydrogen iron powder

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Reduction in Area	Elongation
Stress Relieved 8hr 621°C (1150°F)	415 MPa (60 ksi)	510 MPa (74 ksi)	72 %	33 %
As Welded	475 MPa (69 ksi)	565 MPa (81 ksi)	72 %	30 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
Stress Relieved 8hr 621°C (1150°F)	-46 °C (-50 °F)	224 J (165 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	S	P
0.04	1.30	0.30	0.015	0.014

Deposition Data

Diameter	Optimal Amps	Current	Deposition Rate	Deposition Efficiency %
6.4 mm (1/4 in.)	300 A	300-400 A	3.5 kg/h (7.7 lb/h)	78 %
6.4 mm (1/4 in.)	350 A	300-400 A	3.9 kg/h (8.7 lb/h)	77 %
3.2 mm (1/8 in.)	120 A	90-160 A	1.2 kg/h (2.6 lb/h)	71.6 %
3.2 mm (1/8 in.)	140 A	90-160 A	1.2 kg/h (2.7 lb/h)	70.9 %
4.8 mm (3/16 in.)	200 A	200-300 A	2.2 kg/h (4.9 lb/h)	76.4 %
4.8 mm (3/16 in.)	250 A	200-300 A	2.4 kg/h (5.4 lb/h)	74.6 %
2.4 mm (3/32 in.)	90 A	70-100 A	0.8 kg/h (1.7 lb/h)	66.3 %
4.0 mm (5/32 in.)	140 A	130-220 A	1.4 kg/h (3.1 lb/h)	75 %
4.0 mm (5/32 in.)	170 A	130-220 A	1.7 kg/h (3.8 lb/h)	73.5 %
5.6 mm (7/32 in.)	250 A	250-350 A	2.9 kg/h (6.5 lb/h)	75 %

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Deposition Data				
Diameter	**Optimal Amps**	**Current**	**Deposition Rate**	**Deposition Efficiency %**
5.6 mm (7/32 in.)	300 A	250-350 A	3.3 kg/h (7.2 lb/h)	74 %

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