

# 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.

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

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

<b>Welding Current</b>	AC or DC+
<b>Coating Type</b>	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 %