

Atom Arc 12018



Atom Arc 12018 is recommended for use in fabrication of low-alloy, high tensile steels where welds of 120 ksi (830 MPa) minimum tensile strength are required. Atom Arc 12018 is typically used to weld forging, casting plate and pressure vessels.

Classifications	AWS A5.5 : E12018M H4R ASME SFA 5.5
Industry	Automotive Industrial and General Fabrication Mobile Equipment Railcars

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

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As Welded	-51 °C (-60 °F)	35 J (26 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Cr	Mo	V	Cu
0.047	1.88	0.35	0.01	0.01	1.94	0.63	0.23	0.010	0.092

Typical Weld Metal Analysis %

Nb
0.005

Deposition Data

Diameter	Optimal Amps	Current	Deposition Rate	Deposition Efficiency %
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	1.1 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 %