

Atom Arc 10018-MM



Atom Arc 10018-MM electrodes are used to weld low-alloy, high-tensile steels where welds of 100 ksi (690 MPa) minimum tensile strength is required. This electrode is recommended for use in the weld repair and fabrication of Mn-Mo steel castings and armor plate.

Specifications

Classifications	ASME SFA 5.5 : E10018-D2 H4R AWS A5.5 : E10018-D2 H4R
Welding Current	AC, DC+
Diffusible Hydrogen	< 4.0 ml/100g
Alloy Type	Low alloyed (1.9% Mn - 0.3% Ni - 0.3% Mo)

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
Stress Relieved 1 hour(s) 620 °C (1148 °F)	644 MPa (93 ksi)	716 MPa (104 ksi)	24 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
Stress Relieved 1 hour(s) 620 °C (1148 °F)	-50 °C (-58 °F)	33 J (24 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Cr	Mo	V	Cu
0.081	1.93	0.33	0.01	0.01	0.32	0.17	0.34	0.011	0.083

Typical Weld Metal Analysis %

Nb
0.004

Deposition Data

Diameter	Current	Voltage	Deposition Efficiency (%)	Burn-off Time /Electrode	Deposition Rate @ 90% I max
2.4 x 356 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 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)
4.0 x 356 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 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)
5.6 x 457 mm (7/32 x 18.0 in.)	250-350 A	24.9 V	75.80 %	100 sec	3.28 kg/h (7.2 lbs/h)
6.4 x 457 mm (1/4 x 18.0 in.)	300-400 A	25.5 V	77.06 %	103 sec	4.22 kg/h (9.3 lbs/h)