

Atom Arc 10018-M1

Atom Arc 10018-M1 is a low hydrogen, iron powder all-position electrode specially formulated to meet the more stringent requirements of Military Specification MIL-E-0022200/10 for mechanical properties, low coating moisture and diffusible hydrogen content. Hydrogen coupons analyzed by the gas chromatography method showed an average of 0.03 ml/g of diffusible hydrogen. Atom Arc 10018-M1 electrode is intended for welding high tensile steels, such as HY-80, HSLA-80, A710 and T-1 steel.

Specifications

Classifications	MIL : 10018M1
Welding Current	AC, DC+
Diffusible Hydrogen	< 4.0 ml/100g
Alloy Type	Low alloyed (1.5% Mn - 2.3% Ni - 0.3% Mo)

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As Welded	617 MPa (89 ksi)	672 MPa (97 ksi)	24 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As Welded	-18 °C (0 °F)	130 J (96 ft-lb)
As Welded	-51 °C (-60 °F)	91 J (67 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Cr	Mo	V	Cu
0.040	1.52	0.35	0.01	0.01	2.27	0.04	0.29	0.011	0.037

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 356.0 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)
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)