

Atom Arc 7018-M

Atom Arc 7018-M 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. Atom Arc 7018-M is intended for welding carbon steels, as well as high tensile steels, such as Grade HT of MIL-S-16113 and MIL-S-22698. It is also used for attachment welds to HY-80 and HY-100.

Specifications	
Classifications	ASME SFA 5.1 : E7018M AWS A5.1 : E7018M Military-MIL-E-0022200/10 : MIL-7018-M
Approvals	ABS : 4Y(H5)
Industry	Nuclear Offshore Oil Pressure Vessels Military Applications Ship/Barge Building

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

Welding Current	AC, DC+
Diffusible Hydrogen	< 4.0 ml/100g
Alloy Type	Carbon Manganese

Typical Tensile Properties			
Condition	Yield Strength	Tensile Strength	Elongation
As Welded	479 MPa (69 ksi)	558 MPa (81 ksi)	28.5 %
Stress Relieved 1 hour(s) 621 °C (1150 °F)	392 MPa (57 ksi)	492 MPa (71 ksi)	29 %

Typical Charpy V-Notch Properties		
Condition	Testing Temperature	Impact Value
As Welded	-30 °C (-22 °F)	136 J (101 ft-lb)
Stress Relieved	-29 °C (-20 °F)	225 J (167 ft-lb)

Typical Weld Metal Analysis %					
C	Mn	Si	S	P	Mo
0.04	0.96	0.31	0.013	0.013	0.10

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)
5.6 x 457.0 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)