Atom Arc 7018-Mo



Atom Arc 7018-Mo electrodes contain 1/2% Mo as alloy addition. They are recommended for welding low-alloy, high tensile steels of 50 ksi (345 MPa) minimum yield strength and also 1/2% Molybdenum steels and pipes. They are widely employed in the fabrication and erection of boilers, pressure piping and tubing and other pressure vessel applications.

Classifications	AWS A5.5 : E7018-A1 H4R ASME SFA 5.5
Approvals	ABS AWS A5.5: E7018-A1
Industry	Civil Construction Industrial and General Fabrication Mobile Equipment Power Generation

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

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

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
Stress Relieved 8hr 620°C (1150°F)	524 MPa (76 ksi)	607 MPa (88 ksi)	28 %
Stress Relieved 20hr 620°C (1150°F)	504 MPa (73 ksi)	587 MPa (85 ksi)	29 %
Stress Relieved 1hr 620°C (1150°F)	518 MPa (75 ksi)	607 MPa (88 ksi)	29 %
As Welded	530 MPa (77 ksi)	600 MPa (87 ksi)	27 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
Stress Relieved 20hr 620°C (1150°F)	15 °C (60 °F)	203 J (150 ft-lb)
Stress Relieved 8hr 620°C (1150°F)	0 °C (30 °F)	146 J (108 ft-lb)
Stress Relieved 8hr 620°C (1150°F)	-30 °C (-20 °F)	94 J (69 ft-lb)
Stress Relieved 13hr 620°C (1150°F)	10 °C (10 °F)	183 J (135 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Mo
0.04	0.80	0.40	0.01	0.012	0.55

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	1.4 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 %
5.6 mm (7/32 in.)	300 A	250-350 A	3.3 kg/h (7.2 lb/h)	74 %

16-en_US-FactSheet_Main-01 2022-01-05