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.

Specifications	
Classifications	ASME SFA 5.5 : E7018-A1H4R AWS A5.5 : E7018-A1H4R
Approvals	ABS : E7018-A1
Industry	Civil Construction Mobile Equipment Power Generation Industrial and General Fabrication

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

Welding Current	AC, DC+
Diffusible Hydrogen	< 4.0 ml/100g
Alloy Type	Low alloyed (0.5% Mo)

Typical Tensile Properties			
Condition	**Yield Strength**	**Tensile Strength**	**Elongation**
Stress Relieved 20 hour(s) 620 °C (1148 °F)	504 MPa (73 ksi)	587 MPa (85 ksi)	29 %
Stress Relieved 1 hour(s) 620 °C (1148 °F)	520 MPa (75 ksi)	607 MPa (88 ksi)	31 %
As Welded	530 MPa (77 ksi)	600 MPa (87 ksi)	27 %
Stress Relieved 8 hour(s) 620 °C (1148 °F)	524 MPa (76 ksi)	607 MPa (88 ksi)	28 %

Typical Charpy V-Notch Properties		
Condition	**Testing Temperature**	**Impact Value**
Stress Relieved	15 °C (59 °F)	203 J (150 ft-lb)
Stress Relieved	10 °C (50 °F)	183 J (135 ft-lb)
Stress Relieved	0 °C (32 °F)	146 J (108 ft-lb)
Stress Relieved	-30 °C (-22 °F)	94 J (70 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	**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)

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Deposition Data					
Diameter	**Current**	**Voltage**	**Deposition Efficiency (%)**	**Burn-off Time /Electrode**	**Deposition Rate @ 90% I max**
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 350.0 mm (7/32 x 13.8 in.)	250-350 A		75 %		2.9 kg/h (6.4 lbs/h)
6.4 x 457.0 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)