Atom Arc 8018-CM



Atom Arc 8018-CM electrodes contain 1 1/4% Cr and 1/2% Mo as alloy addition. They are used for the welding of such steels as 1/2% Cr - 1/2% Mo, 1% Cr - 1/2% Mo, and 1 1/4% Cr - 1/2% Mo, which are used principally in power piping and boiler work for the fabrication of plates, pipes, tubes, castings, and forgings.

Specifications	
Classifications	ASME SFA 5.5 : E8018-B2H4R AWS A5.5 : E8018-B2H4R
Approvals	ABS : E8018-B2(H4R) MIL : MIL-8018-B2
Industry	Power Generation Pipeline Pressure Vessels

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

Typical Tensile Properties			
Condition	**Yield Strength**	**Tensile Strength**	**Elongation**
Stress Relieved 8 hour(s) 620 °C (1148 °F)	607 MPa (88 ksi)	704 MPa (102 ksi)	24 %
Stress Relieved 1 hour(s) 705 °C (1301 °F)	621 MPa (90 ksi)	642 MPa (93 ksi)	25 %
Stress Relieved 1 hour(s) 690 °C (1274 °F)	553 MPa (80 ksi)	640 MPa (93 ksi)	26 %
As Welded	607 MPa (88 ksi)	704 MPa (102 ksi)	24 %
Stress Relieved 8 hour(s) 690 °C (1274 °F)	566 MPa (82 ksi)	662 MPa (96 ksi)	26 %

Typical Charpy V-Notch Properties		
Condition	**Testing Temperature**	**Impact Value**
Stress Relieved 8 hour(s) 620 °C (1148 °F)	0 °C (32 °F)	113 J (84 ft-lb)
Stress Relieved 8 hour(s) 607 °C (1125 °F)	0 °C (32 °F)	108 J (80 ft-lb)
Stress Relieved 8 hour(s) 677 °C (1251 °F)	0 °C (32 °F)	133 J (98 ft-lb)
Stress Relieved 1 hour(s) 690 °C (1274 °F)	-20 °C (-4 °F)	138 J (102 ft-lb)

Typical Weld Metal Analysis %							
C	**Mn**	**Si**	**S**	**P**	**Cr**	**Mo**	**X-bar**
0.06	0.80	0.50	0.008	0.011	1.30	0.57	<15

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)

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Diameter	**Current**	**Voltage**	**Deposition Efficiency (%)**	**Burn-off Time /Electrode**	**Deposition Rate @ 90% I max**
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)