

Atom Arc 9018-CM

The principal application of Atom Arc 9018-CM electrodes is for welding 2 1/2% Cr - 1% Mo steels commonly found in pressure vessels, heat exchangers, pipings and other related components.

Specifications

Classifications	ASME SFA 5.5 : E9018-B3H4R AWS A5.5 : E9018-B3H4R
Approvals	MIL : MIL-9018-B3
Industry	Power Generation Pipeline

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 2.25% Cr - 1% Mo)

Tensile Properties

Testing Condition	Yield Strength	Tensile Strength	Elongation
Stress Relieved 1 hour(s) 690 °C (1274 °F)	610 MPa (88 ksi)	712 MPa (103 ksi)	22 %
Stress Relieved 8 hour(s) 690 °C (1274 °F)	566 MPa (82 ksi)	669 MPa (97 ksi)	26 %
Stress Relieved 20 hour(s) 690 °C (1274 °F)	587 MPa (85 ksi)	690 MPa (100 ksi)	22 %

Charpy Testing

Testing Condition	Testing Temp	Impact Value
Stress Relieved	-20 °C (-4 °F)	117 J (87 ft-lb)
Stress Relieved	0 °C (32 °F)	131 J (97 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Cr	Mo	X-bar
0.07	0.70	0.40	0.008	0.011	2.20	1.10	<15

Deposition Data

Diameter	Amps	Volts	Efficiency (Per)	Fusion time per electrode at 90Per I max	Deposition rate at 90Per
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)
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)