

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.

Classifications	AWS A5.5 : E9018-B3H4R
Approvals	A.B.S.- AWS A5.5 : E9018-B3 MILITARY-MIL-E-0022200/8 : MIL-9018-B3
Industry	Power Generation Pipeline

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

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
Stress Relieved 1 hour(s) 690 °C (1275 °F)	587 MPa (85 ksi)	704 MPa (102 ksi)	23 %
Stress Relieved 8 hour(s) 690 °C (1275 °F)	566 MPa (82 ksi)	669 MPa (97 ksi)	26 %
Stress Relieved 20 hour(s) 690 °C (1275 °F)	587 MPa (85 ksi)	690 MPa (100 ksi)	22 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
Stress Relieved 8 hour(s) 685 °C (1275 °F)	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 ppm

Deposition Data

Diameter	Current	Efficiency (%)	Optimal Amps	Deposition Rate
2.4 mm (3/32 in.)	70-100 A	66.3 %	90 A	0.8 kg/h (1.7 lbs/h)
3.2 mm (1/8 in.)	90-160 A	71.6 %	120 A	1.2 kg/h (2.6 lbs/h)
3.2 mm (1/8 in.)	90-160 A	70.9 %	140 A	1.2 kg/h (2.7 lbs/h)
4.0 mm (5/32 in.)	130-220 A	75 %	140 A	1.1 kg/h (3.1 lbs/h)
4.0 mm (5/32 in.)	130-220 A	73.5 %	170 A	1.7 kg/h (3.8 lbs/h)
4.8 mm (3/16 in.)	200-300 A	76.4 %	200 A	2.2 kg/h (4.9 lbs/h)



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Deposition Data

Diameter	Current	Efficiency (%)	Optimal Amps	Deposition Rate
4.8 mm (3/16 in.)	200-300 A	74.6 %	250 A	2.4 kg/h (5.4 lbs/h)