

Atom Arc 9015-B9

Atom Arc 9015-B9 is designed to weld the modified 9% Cr & 1% Mo steels known by the designations T91, P91 or Grade 91. These steels are designed to provide improved creep strength, fatigue, oxidation, and corrosion resistance at elevated temperatures.

Specifications

Classifications	ASME SFA 5.5 AWS A5.5 : E9015-B9 H4R
Industry	Pipeline Petrochemical Power Generation

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
Stress Relieved 1 hour(s) 732 °C (1350 °F)	655 MPa (95 ksi)	787 MPa (114 ksi)	20 %
Stress Relieved 1 hour(s) 746 °C (1375 °F)	704 MPa (102 ksi)	821 MPa (119 ksi)	19 %
Stress Relieved 1 hour(s) 760 °C (1400 °F)	593 MPa (86 ksi)	731 MPa (106 ksi)	23 %

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Cr	Mo	V	Cu	N
0.10	0.85	0.19	0.009	0.009	8.60	1.00	0.21	0.05	0.04

Typical Weld Metal Analysis %

Nb	X-bar	AR
0.04	< 15 ppm	<0.01

Deposition Data

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