

Atom Arc 8018-N

Atom Arc 8018-N electrodes produce excellent weld properties and are used to fabricate components where low temperature notch toughness values are required. Atom Arc 8018-N is also recommended for welding the 2% to 4% Ni steels.

Specifications

Classifications	ASME SFA 5.5 : E8018-C2H4R AWS A5.5 : E8018-C2H4R
Welding Current	AC, DC+
Diffusible Hydrogen	< 4.0 ml/100g
Alloy Type	Low alloyed (3.5% Ni)

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As Welded	625 MPa (91 ksi)	699 MPa (101 ksi)	26 %
Stress Relieved 1 hour(s) 605 °C (1121 °F)	500 MPa (73 ksi)	599 MPa (87 ksi)	30 %
Stress Relieved 1 hour(s) 621 °C (1150 °F)	555 MPa (80 ksi)	639 MPa (93 ksi)	28 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As Welded	-10 °C (14 °F)	77 J (57 ft-lb)
As Welded	-73 °C (-99 °F)	47 J (35 ft-lb)
Stress Relieved	-75 °C (-103 °F)	104 J (77 ft-lb)
Stress Relieved	-73 °C (-99 °F)	33 J (24 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Cr	Mo	V	Cu
0.042	1.01	0.28	0.01	0.01	3.29	0.05	0.02	0.009	0.096

Typical Weld Metal Analysis %

Nb
0.003

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)
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)