

ATOM ARC 8018 AWS A5.5: E8018-C3

FEATURES

Atom Arc 8018 electrodes deposit 1% Ni weld metal. They are used primarily to weld high-tensile steels in the 70-80 ksi (483-552 MPa) tensile strength range, especially where notch toughness at temperatures as low as -40°F (-40°C) is required.

TYPICAL MECHANICAL PROPERTIES

As Welded	
Yield Strength	74 ksi, 510 MPa
Tensile Strength	85 ksi, 585 MPa
Elongation in 2"	30%
Stress Relieved 8 hrs. @ 1150°F (621°C)	
Yield Strength	70 ksi, 485 MPa
Tensile Strength	81 ksi, 560 MPa
Elongation in 2"	30%

CLASSIFICATIONS AND APPROVALS

- L.R.- 4Y40m(H10)
- QPL-22200/1; MIL-8018-C3
- A.B.S.- 3Y/AWS A5.5: E8018-C3
- ASME SFA 5.5
- CERTIFIED BY C.W.B.- CSA W48
- AWS A5.5: E8018-C3

CHARPY V-NOTCH PROPERTIES

Testing Temperature -20°F (-29°C)	
As Welded	124 ft-lb, 168 J
Stress Relieved 8 hrs. @ 1150°F (621°C)	
	129 ft-lb, 175 J
Testing Temperature -40°F (-40°C)	
As Welded	114 ft-lb, 154 J
Stress Relieved 8 hrs. @ 1150°F (621°C)	
	115 ft-lb, 156 J

WELDING PROCESS

- SMAW (Stick)

INDUSTRIES

- Pipeline
- Bridge Construction
- Power Generation
- Shipbuilding
- Mobile Machinery
- Petrochemical
- General Fabrication

WELD METAL ANALYSIS

C	0.046%
Mn	1.11%
Si	0.33%
P	0.011%
S	0.009%
Ni	0.97%
Mo	0.13%

ATOM ARC 8018 continued

DEPOSITION TABLE				
Diameter in (mm)	Optimal Current Amps	Current Range Amps	Deposition Rate lb/hr (kg/hr)	Efficiency %
3/32 (2.4)	90	70 - 100	1.7 (0.8)	66.3
1/8 (3.2)	120	90 - 160	2.6 (1.2)	71.6
	140	90 - 160	2.7 (1.2)	70.9
5/32 (4.0)	140	130 - 220	3.1 (1.1)	75
	170	130 - 220	3.8 (1.7)	73.5
3/16 (4.8)	200	200 - 300	4.9 (2.2)	76.4
	250	200 - 300	5.4 (2.4)	74.6
7/32 (5.6)	250	250 - 350	6.5 (2.9)	75
	300	250 - 350	7.2 (3.3)	74
1/4 (6.4)	300	300 - 400	7.7 (3.5)	78
	350	300 - 400	8.7 (3.9)	77

PART NUMBER / PRODUCT INFORMATION		
Part Number	Description	UPC
255047359	AA 8018 3/32X14X10#HS	662303017163
255047342	AA 8018 3/32X14X50#HS	662303017156
255041824	AA 8018 1/8X14X10#HS	662303017057
255041816	AA 8018 1/8X14X50#HS	662303017040
255045320	AA 8018 5/32X14X10#HS	662303017125
255045312	AA 8018 5/32X14X50#HS	662303017118
255043119	AA 8018 3/16X14X50#HS	662303017071
255047318	AA 8018 7/32X18X50#HS	662303017149
255041410	AA 8018 1/4X18X50#HS	662303017026