

## ATOM ARC 7018

Atom Arc 7018 was introduced in the United States in 1952 and continues to set the standard by which all other covered electrodes are judged. This low hydrogen, moisture resistant electrode is known throughout the world for its superior welding performance, tough mechanical properties, crack resistance, high operator appeal and consistent quality.

- **Features**
- Classifications
- Properties
- Depositions
- Extra Info

Atom Arc 7018 is an all-position low hydrogen moisture resistant electrode. The wider operating ranges and smooth weld metal transfer minimizes post weld clean up. This premium quality electrode meets a multitude of codes and welding specifications. Atom Arc 7018 was developed to weld carbon and low-alloy steels, including a variety of hardenable steels.

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Typical Properties

**As Welded**

**Yield Strength** 68 ksi, 470 MPa

**Tensile Strength** 78 ksi, 540 MPa

**Elongation in 2"** 30 %

**Reduction in Area** 75 %

**Stress Relieved 8 hrs. @ 1150°F (621°C)**

**Yield Strength** 57 ksi, 395 MPa

**Tensile Strength** 70 ksi, 485 MPa

**Reduction in Area** 77 %

**Elongation in 2"** 33 %

**Typical Charpy V-Notch Impact Properties**

**Testing Temperature -20°F (-29°C)**

**As Welded** 168 ft.-lbs., 225 J

**Stress Relieved 8 hrs. @ 1150°F (621°C)** 193 ft.-lbs., 260 J

**Typical Undiluted Weld Metal Analysis**

**C** 0.045 %

**Mn** 1.1 %

**Si** 0.4 %

**P** 0.015 %

**S** 0.014 %

Deposition Table

Diameter	Optimal Amperage	Range Amperage	Deposition Rate	Efficiency
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Deposition Table				
Diameter	Optimal Amperage	Range Amperage	Deposition Rate	Efficiency
3/32 in, 2.4 mm	90 A	70 - 100	1.7 lbs./hr., 0.8 kg./hr.	66.3 %
1/8 in, 3.2 mm	120 A	90 - 160	2.6 lbs./hr., 1.2 kg./hr.	71.6 %
	140 A	90 - 160	2.7 lbs./hr., 1.2 kg./hr.	70.9 %
5/32 in, 4.0 mm	140 A	130 - 220	3.1 lbs./hr., 1.4 kg./hr.	75 %
	170 A	130 - 220	3.8 lbs./hr., 1.7 kg./hr.	73.5 %
3/16 in, 4.8 mm	200 A	200 - 300	4.9 lbs./hr., 2.2 kg./hr.	76.4 %
	250 A	200 - 300	5.4 lbs./hr., 2.4 kg./hr.	74.6 %
7/32 in, 5.6 mm	250 A	250 - 350	6.5 lbs./hr., 2.9 kg./hr.	75 %
	300 A	250 - 350	7.2 lbs./hr., 3.3 kg./hr.	74 %
1/4 in, 6.4 mm	300 A	300 - 400	7.7 lbs./hr., 3.5 kg./hr.	78 %
	350 A	300 - 400	8.7 lbs./hr., 3.9 kg./hr.	77 %

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### Classifications/Approvals

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- CERTIFIED BY C.W.B.- CSA W48
- ASME SFA 5.1
- L.R.- 3m,3Ym(H10)
- D.N.V.- 3Y(H10)
- A.B.S.- 2Y / AWS A5.1; E7018
- AWS A5.1; E7018H4R

- Mil-E-22200/1 Mil-7018

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Preheat is generally not required with Atom Arc 7018 to prevent underbead cracking. Preheat should be used with hardenable steels to prevent the formation of hard heat-affected zones and eliminate tendencies toward quench cracking on cooling. Preheat may also be required in welding heavy sections.