

# ATOM ARC 8018-CM

## Tech Data Sheet

### Industry

Power Generation  
Process  
Pipeline

### Welding Process

SMAW (Stick)

### Classifications/Approvals

AWS A5.5; E8018-B2H4R  
MILITARY-MIL-E-22200/8;  
MIL-8018-B2  
A.B.S.- AWS A5.5; E8018-B2  
ASME SFA 5.5



### Filler Metal Type

Low Alloy

### AWS Classifications

AWS A5.5; E8018-B2H4R

Atom Arc 8018-CM electrodes contain 1.25% Cr and 0.50% Mo as alloy addition. They are used for the welding of such steels as 0.5% Cr - 0.5% Mo, 1% Cr - 0.5% Mo, and 1.25% Cr - 0.5% Mo, which are used principally in power piping and boiler work for the fabrication of plates, pipes, tubes, castings, and forgings.

Available Parts				
Part No.	Size	Length	Weight	Package
255051476	3/32	12 in.	40	Hermetically Sealed Can
255057358	3/32	12 in.	40	Hermetically Sealed Can
255051484	3/32	14 in.	10	Hermetically Sealed Can
255053324	3/32	14 in.	10	Hermetically Sealed Can
255051492	3/32	14 in.	50	Hermetically Sealed Can
255053316	3/32	14 in.	50	Hermetically Sealed Can
255051435	1/8	14 in.	10	Hermetically Sealed Can
255051823	1/8	14 in.	10	Hermetically Sealed Can
255051443	1/8	14 in.	50	Hermetically Sealed Can
255051815	1/8	14 in.	50	Hermetically Sealed Can
255051500	5/32	14 in.	10	Hermetically Sealed Can
255055329	5/32	14 in.	10	Hermetically Sealed Can
255051518	5/32	14 in.	50	Hermetically Sealed Can
255055311	5/32	14 in.	50	Hermetically Sealed Can
255051450	3/16	14 in.	10	Hermetically Sealed Can
255053126	3/16	14 in.	10	Hermetically Sealed Can
255051468	3/16	14 in.	50	Hermetically Sealed Can
255053118	3/16	14 in.	50	Hermetically Sealed Can
255051526	7/32	18 in.	50	Hermetically Sealed Can
255057317	7/32	18 in.	50	Hermetically Sealed Can
255051419	1/4	18 in.	50	Hermetically Sealed Can
255051427	1/4	18 in.	50	Hermetically Sealed Can

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### Typical Mechanical Properties

Stress Relieved 8 hrs @ 1150°F (620°C)	
Yield Strength	88 ksi (607 MPa)
Tensile Strength	102 ksi (704 MPa)
Elongation % in 2"	24 %
Stress Relieved 1 hr @ 1275°F (690°C)	
Yield Strength	84 ksi (580 MPa)
Tensile Strength	97 ksi (669 MPa)
Elongation % in 2"	25 %
Stress Relieved 8 hrs @ 1275°F (690°C)	
Yield Strength	82 ksi (566 MPa)
Tensile Strength	96 ksi (662 MPa)
Elongation % in 2"	26 %
Stress Relieved 1 hr @ 1300°F (705°C)	
Yield Strength	90 ksi (621 MPa)
Tensile Strength	93 ksi (642 MPa)
Elongation % in 2"	25 %

### Typical Charpy V-Notch Impact Properties

Testing Temperature @ 30°F (0°C)	
Stress Relieved 8 hrs @ 1125°F (607°C)	80 ft.-lbs (108 J)
Testing Temperature @ 30°F (0°C)	
Stress Relieved 8 hrs @ 1150°F (620°C)	83 ft.-lbs (113 J)
Testing Temperature @ 30°F (0°C)	
Stress Relieved 8 hrs @ 1250°F (677°C)	98 ft.-lbs (133 J)

### Typical Undiluted Weld Metal Analysis

C	0.06 %
Mn	0.8 %
Si	0.5 %
P	0.011 %
S	0.008 %
Cr	1.3 %
Mo	0.57 %
X-Factor	< 15