



Quality Management System  
in accordance with  
**ISO 9001:2000**  
Cert # 05-R0925

# 8018-C3 Low-Alloy Steel Electrode

U.S. ALLOY CO.  
dba Washington Alloy  
7010-G Reames Rd.  
Charlotte, NC 28216  
[www.weldingwire.com](http://www.weldingwire.com)



## ALLOY DESCRIPTION AND APPLICATION;

USA 8018-C3 is an outstanding all position low hydrogen electrode designed for welding high strength steels and applications needing 1% nickel. This electrode offers a high deposition, low spatter, easy slag removal, excellent arc characteristics and wetting action. USA 8018-C3 is commonly used on ASTM A514 & 517, Cor-ten, Mayari R, LT75, N-A-Z High Tensile, V-55, Yoloy HS, and many other military and commercial applications.

## TYPICAL WELDING PROCEDURES; DCEP or AC **OPTIMUM IN BOLD**

	3/32"	1/8"	5/32"	3/16"	1/4"
Diameter	3/32"	1/8"	5/32"	3/16"	1/4"
Length	14"	14"	14"	14"	18"
Amps Flat	70- <b>90</b> -100	90- <b>140</b> -160	130- <b>170</b> -220	190- <b>235</b> -290	265- <b>325</b> -400
Vertical up & Overhead	60- <b>85</b> -90	80- <b>110</b> -120	110- <b>145</b> -170		

Arc Length = Very short arc, Flat use 15° angle from 90°, Vertical up & Overhead use weaving techniques within puddle

Procedures may vary with change in position, base metals, filler metals, equipment and other changes.

## TYPICAL WELD METAL CHEMISTRY (%) AND WELD METAL PROPERTIES;

	AWS Spec.	USA 8013-C3		AWS Spec	Typical
Carbon	0.12 max	0.07	Tensile Strength (psi)	80,000 min.	87,000
Manganese	0.40-1.25	0.91	Yield Strength (psi)	68-80,000	77,000
Silicon	0.80 max	0.45	Elongation in 2"	24 % min.	31%
Phosphorus	0.030 max.	0.013	Charpy V-notch at -40°F	20 ft-lbs min.	44 ft-lbs
Sulfur	0.030 max.	0.014			
Nickel	0.80-1.10	1.03			
Chromium	0.15 max				
Molybdenum	0.35 max	0.22			
Vanadium	0.05 max				

**AVAILABLE SIZES:** TE 8018C3 = 10 # containers of 3/32, 1/8, 5/32, 3/16, 1/4

**SPECIFICATIONS;** ANSI/AWS A5.5 E8018-C3  
ASME SFA A5.5 E8018-C3

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10-2006 DC

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