



Quality Management System  
In accordance with  
**ISO 9001**  
Cert # 05-R0925

# 307-15, 307-16 Welding 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;

Armorweld 307 is designed to produce moderate strength-crack resistant weld deposits in armor plate and between dissimilar steels such as 14% manganese steel to carbon steel forgings or castings. THE PERFECT ELECTRODE TO USE ON “DIFFICULT TO WELD STEELS.” Excellent for joining wear resistant steel plates of high tensile strength, for welding stainless steel to carbon steel and for building up rails. Commonly used in mining and dredging equipment as well as within steel manufacturing facilities. Armorweld 307 deposits offer excellent toughness and corrosion resistance. Weld deposits remain crack-resistant without any preheat or postheat treatment. Heat resistance up to 1460°F. Impact properties remain strong down to -150°F. Weld deposits are non-magnetic and they are machinable in the “as-welded” condition, however Armorweld 307 deposits do work-harden (up to RC52) when put into service. Beautiful welds with AC current!

## TYPICAL WELDING PROCEDURES; DCEP & AC

Diameter	Amps	Vertical/Overhead	Volts
3/32"	65-90	60-80	24-28
1/8"	80-115	75-95	26-30
5/32"	110-150	100-125	27-32

Procedures may vary with change in position, base metals, filler metals, equipment and other changes. When welding vertical reduce amperage 10-20% ; -15 rods are designed for DCEP however AC often found useful as well

## TYPICAL CHEMISTRY (%) & WELD METAL PROPERTIES

	AWS	E307-15		AWS	E307-15
Carbon	0.04-0.14	0.075	Molybdenum	0.50-1.50	1.06
Manganese	3.30-4.75	3.53	Phosphorus	0.04	0.029
Silicon	0.90	0.63	Sulfur	0.03	0.008
Chromium	18.00-21.50	18.71			
Nickel	9.00-10.70	9.64	Copper	0.75	0.29
Elongation		40%	Charpy V-notch Impact Average at 70°F		95 ft·lbs
Yield Strength (psi)		68,000	Charpy V-notch Impact Average at -150°F		35 ft·lbs
		Tensile Strength (psi)			94,000

Iron balance and all single values are maximum percentages

**AVAILABLE SIZES:** TF 307-15 or -16 = ending in 01 for 3/32, 02 for 1/8, 03 for 5/32, 04 for 5/32  
TF 307-15 or -16 = ending in 01 for 3/32, 02 for 1/8, 03 for 5/32, 04 for 5/32

**SPECIFICATIONS;** ANSI/AWS A5.4 E307-15  
ASME SFA 5.4 E307-15 F No, 5 ; A No, 8



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