



# ERTi-5 (6Al-4V) Welding Wire and Rod

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

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



## ALLOY DESCRIPTION AND APPLICATION;

Washington Alloy ERTi-5 commonly called “6-4” is a TIG, MIG, and submerged arc filler metal use for welding alloyed Titanium with 6% & Aluminum 4 % .This grade is common in the Titanium fillers due to its relatively low cost and good availability. With its high tensile strengths and good weld ability it can be heat treated to exhibits a higher fatigue, toughness found in petrochemical, aircrafts components, turbine parts and blades. Its corrosion resistance is generally compared to Grade 2 but yield a higher strength

## TYPICAL GTAW WELDING PROCEDURES; DCEN with EWTh-2 truncated conical tip

Filler Wire Size	Tungsten	Amps	Volts	Gas Cup Size	Argon (cfh)	Base thickness
1/16”	1/16”	100-185	9-12	1/2”	20	1/16-1/8”
3/32”	3/32”	150-250	11-15	5/8”	25	1/8- 3/16”
1/8”	1/8”	200-375	11-15	3-4”	30	1/4-1/2”

## TYPICAL GMAW WELDING PROCEDURES; DCEP Short Circuit

Wire Diameter	Wire Speed (ipm)	Amps	Volts	Ar & Ar+He (cfh)
0.030	450-650	100-195	16-20	35-65
0.035	480-420	165-285	18-27	35-65
0.045	500-880	250-360	31-35	35-65

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

## WIRE CHEMISTRY (%) & WELD METAL Requirements

Carbon	0.05 max	Tensile Strength (psi)	130,000
Oxygen	0.12-0.20	Yield Strength (psi)	120,000
Nitrogen	0.03 max	Elongation	10 %
Hydrogen	0.015 max		
Iron	0.22 max		
Aluminum	5.5-6.75		
Vanadium	3.4-4.5		

**AVAILABLE SIZES:** TU ERTI5= Spools of 030, 035, 045  
TU ERTI-5 = Cut lengths of 030, 035, 045, 1/16, 3/32, 1/8, 5/32  
Other sizes available – please inquire

**SPECIFICATIONS;** ANSI/AWS A5.16 ERTi-5  
ERTi-5ELI is now ERTi-23 ELI = extra low interstitial elements

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