



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

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



American Welding Society
Sustaining Company Member



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



2-2009 DC

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