



ERTi-1,2,3,4 Welding Wire and Rod

U.S. ALLOY CO.
dba Washington Alloy
7010-G Reames Rd.
Charlotte, NC 28216
www.weldingwire.com

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



ALLOY DESCRIPTION AND APPLICATION; Commercially Pure “CP”

Washington Alloy ERTi-1, -2, -3, -4 is all consider commercially pure. **Grade ERTi-1** is the lowest strength and used where ductility is paramount, such as explosive cladding, loose linings, expanded metal, and deep drawing applications. It is also used in electrolytic applications like coated anode substrates for production of chlorine and sodium chlorate. **Grade ERTi-2** is the "workhorse" of the industrial corrosion market and most common unalloyed grade. Grade 2 is generally the most readily available in all product forms and has the lowest cost. It is used for process equipment like pressure vessels, columns, tanks, heat exchangers, shafts, blowers and fans, condenser tubing, valves, fittings, and pipe. **Grade ERTi-3** is a higher strength unalloyed (or Commercially Pure--CP) grade. Grade 3 is used for process equipment, tubing and pipe. Grade 3 is not as readily available as CP-2, but should be considered in applications where its higher strength reduces metal thickness required, and where the quantity of metal justifies a mill purchase. **Grade ERTi-4** is the highest strength unalloyed (or Commercially Pure--CP) grade. Grade 4 is rarely used in corrosion service, but has been used (under AMS Specifications) in aircraft components where its higher strength can reduce the weight of components like bulkheads and firewalls.

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

	ERTi-1	ERTi-2	ERTi-3	ERTi-4
Carbon	0.03 max	0.03 max	0.03 max	0.03 max
Oxygen	0.03-0.10	0.08-0.16	0.13-0.20	0.18-0.32
Nitrogen	0.012 max	0.015 max	0.02 max	0.025 max
Hydrogen	0.005 max	0.008 max	0.008 max	0.008 max
Iron	0.08 max	0.12 max	0.16 max	0.25 max
Tensile Strength (psi)	35,000	50,000	65,000	80,000
Yield Strength (psi)	20,000	40,000	55,000	70,000
SPECIFICATIONS; AWS A5.16	ERTi-1	ERTi-2	ERTi-3	ERTi-4

AVAILABLE SIZES: TU ERTI = Spools of 030, 035, 045, 1/16

Cut lengths of 030, 035, 045, 1/16, 3/32, 1/8, 5/32, 3/16, 1/4

Other sizes available – please inquire

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