



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

312 Stainless Steel Flux Cored

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



ALLOY DESCRIPTION AND APPLICATION;

E312T-1 is a flux-cored AISI 312 type stainless steel alloy wire with exceptionally good operating characteristics. E312T-1 produces dense, tough deposits having the highest tensile strength of any of the austenitic stainless steels. E312T-1 weld deposits match the characteristics and mechanical properties of AISI 312 base metal. Weld deposits are approximately 23 Rockwell C as applied. Machining should be done with slow feed rates as the weld deposits will work-harden up to 38 RC. E312T-1 deposits are resistant to heat corrosion and wear. The unique metallurgical structure of USA E312T-1 is that of ferrite suspended in an austenite matrix. This makes the deposits extremely resistant to cracking.

TYPICAL APPLICATIONS:

E312T-1 is used to weld base metals of similar analysis as well as dissimilar steels. E312T-1 performs well on abrasion-resisting steels, manganese steels, hardening steels, spring steels, armor plate, high-yield steels and for joining high temperature steels to carbon and low alloy steels. E312T-1 is also an excellent choice as an underlay (buffer layer) for hard facing deposits.

TYPICAL FCAW WELDING PROCEDURES; DCEP

Wire Diameter	Wire Speed (ipm)	Amps	Volts	Electrical Stick-out	CO ₂ (cfh)
0.035	275-520	105-170	24-28	1/2-1"	35-45
0.045	240-600	135-245	25-30	1/2-1"	40-50
1/16"	155-320	170-315	25-31	1/2-1"	40-50

Deposition rate lbs/hr: .035" = 3-6 lbs, .045" = 4-10 lbs, 1/16" = 5-11 lbs

Procedures may vary with change in position, base metals, filler metals, equipment and other changes.
(Based on 100% CO₂ for 75% Argon & 25% CO₂ lower volts by 2 volts)

CHEMISTRY (%) for Undiluted WELD METAL & PROPERTIES (AWS Requirements)

Carbon	0.15	Molybdenum	0.75	Chromium	28.0-32.0
Manganese	1.0-2.5	Phosphorus	0.03	Copper	0.75
Silicon	0.30-0.65	Sulfur	0.03	Nickel	8.0-10.5
Elongation	22% min.	Tensile Strength (psi)	95,000 min.		

Iron balance and all single values are maximum percentages unless noted

AVAILABLE SIZES: TSF 312T-1 = .045, 1/16

Other sizes available – please inquire

SPECIFICATIONS; ANSI/AWS A5.22 E312T0-1/-4 or E312T1-1/-4

ASME SFA 5.22 E312T0-1/-4 or E312T1-1/-4

ASME F - 6

T0 = flat and horizontal; T1 = all position: -1 is for 100% CO₂; -4 = 75-80 Ar / CO₂

EAST COAST
7010-G Reames Rd
Charlotte, NC 28216
Tel (888) 522-8296
Fax (704) 598-6673

GULF COAST
4755 Alpine Drive #100A
Stafford, TX 77477
Tel (877) 711-9274
Fax (281) 313-6332

WEST COAST
8535 Utica Ave
Rancho Cucamonga, CA 91730
Tel (800) 830-9033
Fax (909) 291-4586



Washington Alloy Company believes that all information and data given is correct. Use this information to assist in making your own evaluations or decisions and this information should not be mistaken as an expressed or implied warranty. U.S. ALLOY CO. assumes no liability for results or damages incurred from the use of any information contained herein, in whole or in part.

Warehouse Distribution Center – Dayton, Ohio

Head Office – Puyallup, Washington