



WA. ALLOY CO.

WASHINGTON ALLOY'S Quality
Management System is
Certified to **ISO 9001:2008**
Cert # 05-R0925

81T1-Ni2 Flux Cored Welding Wire

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



American Welding Society
Sustaining Company Member



ALLOY DESCRIPTION AND APPLICATION:

81T1-Ni2 is a flux cored wire designed for single or multi pass using CO₂ or Argon /CO₂ shielding gas welding having a smooth spray-type transfer commonly used on low alloy steels. This all position wire normally used in applications which will produce a chemical composition of 2-2.5 % nickel yielding strengths ranging from 80-100 ksi. Steels commonly welded with this grade would include weathering steels (where color match is not required), shipbuilding, off shore platform rigging and similar grades such as ASTM A734.

TYPICAL FCAW WELDING PROCEDURES; DCEP with 100% CO₂ (35-45cfh)

Wire Diameter	Wire Speed (ipm)	Amps	Volts	Electrical Stickout
0.045"	150- 410 -575	100- 245 -300	24- 28 -30	1/2-3/4"
0.052"	95- 395 -515	100- 310 -350	22- 28 -31	1/2-1"
1/16"	100- 345 -430	150- 355 -410	23- 29 -32	1/2-1"

Procedures may vary with change in position, base metals, filler metals, equipment and other changes. (**OPTIMUM IN BOLD Based on FLAT**) for mixed gas lower the voltage by 2-5 %

TYPICAL WELD METAL (%) AND WELD METAL PROPERTIES;

	AWS Spec.	U.S. ALLOY 81T1-Ni2		AWS Spec	Typical
Carbon	0.12 max.	0.05			
Manganese	1.50 max.	1.05	Tensile Strength (psi)	80-100,000	84,200
Nickel	1.75-2.75	2.23	Yield Strength (psi)	68,000 min.	73,000
Silicon	0.80 max.	0.28	Elongation in 2"	19% min.	24.9%
Sulfur	0.03 max.	0.010	Charpy V-notch (-40°F)	20 ft-lbs min	52 ft-lbs
Phosphorus	0.03 max.	0.011			

AVAILABLE SIZES: TCF 81T1-Ni2= Spools of .045, 1/16

Other sizes may be available – please inquire

SPECIFICATIONS; ANSI/AWS A5.29 E81T1-Ni2C, E81T1-Ni2M
ASME SFA A5.29 E81T1-Ni2C, E81T1-Ni2M



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

2012 DC RI

Warehouse Distribution Center – Dayton, Ohio

Head Office – Puyallup, Washington

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.