



WASHINGTON ALLOY'S Quality
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Cert # 05-R0925

91T1-K2 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:

91T1-K2 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 high strength applications which will produce a chemical composition of 1.5 % nickel and 0.5 % molybdenum yielding strengths ranging from 80-110 ksi. Steels commonly welded with this grade would include HY-80, HY-100, ASTM A710, ASTM A514 and similar grades .

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

Wire Diameter	Wire Speed (ipm)	Amps	Volts	Electrical Stickout
0.045"	285	260	28	1/2-1"
0.052"	375	310	28	1/2-1"
1/16"	325	380	29	1/2-1"

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

TYPICAL UNDILUTED WELD METAL (%) AND WELD METAL PROPERTIES;

	AWS Spec.	U.S. ALLOY 91T1-K2		AWS Spec	Typical
Carbon	0.15 max.	0.09			
Manganese	0.50-1.75	1.33	Tensile Strength (psi)	90-110,000	103,200
Nickel	1.00-2.00	1.43	Yield Strength (psi)	78,000 min.	91,500
Chromium	0.15 max.	0.07	Elongation in 2"	17% min.	23.9%
Silicon	0.80 max.	0.60	Charpy V-notch (0°F)	20 ft-lbs min	37 ft-lbs
Molybdenum	0.35 max.	0.21			
Phosphorus	0.03 max.	0.011			
Sulfur	0.03 max.	0.012			
Vanadium	0.05 max.	0.02			

AVAILABLE SIZES: TCF 91T1-K2= Spools of .045, .052, 1/16
Other sizes may be available – please inquire

SPECIFICATIONS; ANSI/AWS A5.29 E91T1-K2C
ASME SFA A5.29 E91T1-K2C

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