



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

SF-1B COPPER COATED Steel Seamless Flux Cored

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



ALLOY DESCRIPTION AND APPLICATION;

SF-1B is a copper coated flux cored seamless wire for single or multi-pass welds on mild steel and higher strengths steels. Noted for its copper and seamless sheath giving it many outstanding benefits such as; Superior moisture, excellent surface rust protection, electrical arc transfer, absorption resistance, delivers flawless low diffusible hydrogen levels throughout the entire spool, much lower friction wear on liners and tips, extremely stable and pin point arc generation, excellent bead shape and appearance and ease of slag removal. It has very good deposit efficiency when used for flat and fillet welds of medium and heavy thickness plates while. It has been designed to be used with 75-80% Argon + balance CO₂ mixed shield gas or 100% CO₂.

TYPICAL GMAW WELDING PROCEDURES; DCEP 80Ar/20Co₂

Wire Diameter	Wire Speed (ipm)	Amps	Volts	Electric stick out	80Ar/20Co ₂ (cfh)
0.045	200- 450 -600	150- 250 -335	22- 27 -33	1/2-1"	35-45
0.052	150- 400 -600	140- 275 -390	19- 26 -35	1/2-1"	40-50
1/16"	150- 330 -490	150- 330 -475	23- 28 -38	1/2-1"	40-50

Procedures may vary with change in position, base metals, filler metals, equipment and other changes. Based on Flat & Horizontal – add 2 volts with 100% CO₂

SF-1A CHEMISTRY (%) for Undiluted WELD METAL & PROPERTIES

(AWS Requirements) Typical*			(AWS Requirements) Typical*		
Carbon	0.12 max	0.06	Tensile Strength (psi)	70-95,000	94,983
Manganese	1.75 max	1.52	Yield Strength (psi)	58,000 min.	85,890
Silicon	0.90 max	0.46	Elongation in 2"	22 % min.	29.1
Phosphorus	0.030 max.	0.018	Charpy V-notch at -20°F	20 ft·lbs min.	69.9
Sulfur	0.030 max.	0.006			
Copper	0.35 max.	0.034	Chromium	0.20 max.	0.03
Nickel	0.50 max.	0.36	Vanadium	0.08 max.	0.02
Molybdenum	0.30 max.	0.01			

Iron balance and all single values are maximum percentages unless noted;
*Based on 80% Ar 20% CO₂

AVAILABLE SIZES: TCC NSSW SF-1B = Spools of .035, .045, 1/16"

SPECIFICATIONS; AWS A5.20 E71T-1C/1M-9C/9M
ASME SFA 5.20 E71T-1C/1M -9C/9M
AWS A5.36 E71T1-C1[M21]A0[A2]-CS1-H4
ASME SFA 5.36 E71T1-C1[M21]A0[A2]-CS1-H4

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