



218(Nitronic® 60) 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
Cert # 05-R0925

ALLOY DESCRIPTION AND APPLICATION;

High strength fully Austenitic stainless alloy with additions of nitrogen Silicon and Manganese that resists galling and wear

which has high impact, good high temperature properties for temperatures around 1800 °F . The oxidation resistance of Nitronic® 60 is similar to Type 309 S.S., and far superior to Type 304S.S. Application such as Valves stems, seats, and trim; fastening systems, screening, pins, bushings, roller bearings, pump shafts and rings also food handling, medical, automotive, aerospace and nuclear. Welding of base metal UNS S21800 (A193, A194, A240, A276, A479, AMS 5848) and also stainless & mild steel in some cases however gas tungsten, plasma arc and electron beam processes are not suggested for mild steels.



TYPICAL GMAW WELDING PROCEDURES; DCEP Short Circuit (Tri-mix gas = 90%He+7.5%Ar+2.5%CO₂)

Wire Diameter	Wire Speed (ipm)	Amps	Volts	Electrical Stick-out	Tri-mix (cfh)
0.035	120-330	60-150	15-22	3/8-1/2"	20-35
0.045	100-280	90-210	16-22	3/8-1/2"	25-40
<i>Spray</i> 0.035	250-470	170-275	23-29	1/2-3/4"	⁽¹⁾ 25-35
0.045	200-385	195-330	24-31	1/2-3/4"	⁽¹⁾ 30-40

⁽¹⁾ Ar+
1-3%O₂

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"	80-150	12	3/8"	20-35	1/16-1/8"
3/32"	3/32"	150-250	12	3/8"	20-35	1/8- 3/16"
1/8"	1/8"	200-375	12	1/2"	25-40	1/4-1/2"

Procedures may vary with change in position, base metals, filler metals, equipment and other changes. Keep heat input low with interpass below 250° F while using a convex weld bead.

TYPICAL WIRE CHEMISTRY (%) & WELD METAL PROPERTIES

Carbon	0.10 max	Tensile Strength (ksi)	105-125
Manganese	7.0-9.0	Yield Strength (ksi)	55-85
Silicon	3.5-4.5	Elongation	15-35 %
Molybdenum	0.75 max		
Nickel	8.0-9.0	Phosphorus	0.03 max
Chromium	16.0-18.0	Sulfur	0.03 max
Copper	0.75 max	Nitrogen	0.08-0.18

AVAILABLE SIZES: TS 218 = Spools of 045
TT 218 = Cut lengths of 045, 1/16, 3/32,
Other sizes available – please inquire

SPECIFICATIONS; ANSI/AWS A5.9 ER218
ASME SFA 5.9 ER218

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



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Warehouse Distribution Center – Dayton, Ohio

Head Office – Puyallup, Washington

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