



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

253 MA Welding Wire

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



ALLOY DESCRIPTION AND APPLICATION;

253 MA is an austenitic stainless-steel filler metal designed to produce weld deposits that exhibit outstanding oxidation resistance at extreme temperatures. Used for welding of high temperature stainless alloys to itself and to carbon steels found in applications such as petrochemical, burner nozzles, power boilers, refineries, furnace fans, dampers, muffles, heat recuperate systems and steam superheater tube hangers. Keep interpass as low as possible; Interpass temperature 300° F max and heat input of 10-30 kJ/in.; Heat Input = Voltage x Amperage x 6 % Travel Speed (inch/Minute) x 100.

⁽¹⁾ (Ar Tri-mix gas = 68% Ar+30%He+2.0%CO₂)

TYPICAL GMAW WELDING PROCEDURES; DCEP

Wire Diameter	Wire Speed (ipm)	Amps	Volts	Electrical Stick-out	Ar Tri-mix (cfh)
<i>Spray</i> 0.035	250-400	170-245	23-29	1/2-3/4"	⁽¹⁾ 25-35
0.045	200-285	175-260	25-30	1/2-3/4"	⁽¹⁾ 30-35
0.062	120-220	225-340	26-32	1/2-3/4"	⁽¹⁾ 30-35
Global 0.045	200-285	125-160	27-30	1/2-3/4"	⁽¹⁾ 30-35
	Pulsed 0.045 peak	325-375	bkg 100-165	Freq 100-120Hz	

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	10-15	3/8"	20	1/16-1/8"
3/32"	3/32"	130-250	12-18	3/8"	20	1/8- 3/16"
1/8"	1/8"	200-375	14-20	1/2"	25	1/4-1/2"

Procedures may vary with change in position, base metals, filler metals, equipment and other changes.

TYPICAL CHEMISTRY (%) & WELD METAL PROPERTIES

	S30815	Typical		S30815	Typical
Carbon	0.10	0.06	Nickel	10.0-12.0	10.3
Manganese	0.80	0.4	Chromium	20.0-22.0	21.0
Silicon	1.4-2.0	1.7	Cerium	0.03-0.08	0.05
Nitrogen	0.14-0.20	0.14	Tensile Strength (psi)		88,000 min
			Yield strength:		58,000 min

AVAILABLE SIZES: TS 253MA= Spools of 035, 045
TT 253MA = Cut lengths of 3/32
Other sizes available – please inquire

SPECIFICATIONS; Internal , UNS S30815

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