



Ni-59

Welding Wire and Rod

U.S. ALLOY CO.
 dba Washington Alloy
 7010-G Reames Rd.
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ALLOY DESCRIPTION AND APPLICATION;

Washington Alloy 59 is extra low carbon high nickel filler metal with Chromium and Molybdenum used for MIG, TIG or plasma arc welding of nickel, chromium molybdenum alloys (B564, B574, B575, B619, B6225 and B 626 under UNS N06059) to itself and other nickel base alloys. Washington Alloy 59 is used in chemical process plant, solid waste incinerators, pulp and paper industries, flue gas desulfurization plant, severe offshore and petrochemical environments, oil/gas industries also may be found for cladding steel as well as joining to nickel alloys to steels. Welding C-2000, 686, 654SMO, 622 and C-22 may be tested with this filler in some cases.

TYPICAL GMAW WELDING PROCEDURES; DCEP Spray Arc

Wire Diameter	Wire Speed (ipm)	Amps	Volts	Electrical Stick-out	Argon (cfh)
0.030	550-750	175-250	26-32	3/8-1/2"	30-40
0.035	425-575	175-300	26-32	3/8-1/2"	30-40
0.045	250-350	200-310	27-32	3/8-1/2"	35-50
0.062	125-200	250-330	28-33	1/2"-5/8"	35-50

TYPICAL GMAW WELDING PROCEDURES; DCEP Short Circuit

Wire Diameter	Wire Speed (ipm)	Amps	Volts	Electrical Stick-out	(cfh) 75Ar/25He
0.035	150-200	90-110	19-21	3/8-1/2"	35-45
0.045	175-225	100-140	22-24	3/8-1/2"	40-50

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	1/2"	20	1/16-1/8"
3/32"	3/32"	100-200	12	3/4"	25	1/8- 3/16"
1/8"	1/8"	120-275	12	5/8"	30	1/4-1/2"

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

TYPICAL CHEMISTRY (%) & WELD METAL PROPERTIES

Nickel	58.80	Carbon	0.003	Copper	0.25
Manganese	0.26	Phosphorus	0.003	Silicon	0.02
Sulfur	0.003	Iron	0.45	Titanium	2.0- 3.5
Chromium	23.3	Molybdenum	15.75	Aluminum	0.22
Tensile Strength (ksi)	110-115	Yield Strength (ksi)	73-82	Elongation	45%

COMMOM SIZES: TN 59 = Spools of .030, 035, 045, 1/16
 Cut lengths of .035, 045, 1/16, 5/64, 3/32, 1/8,

SPECIFICATIONS; ANSI/AWS A5.14 ERNiCrMo-13
 ASME SFA 5.14 ERNiCrMo-13 F No, 43

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