



WASHINGTON ALLOY'S Quality Management System is Certified to ISO 9001:2008 Cert # 05-R0925

316L Welding Wire and Rod

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



ALLOY DESCRIPTION AND APPLICATION; 316L is similar to USA 316 but contains an average .02%

carbon producing a weld deposit with excellent resistance against intergranular corrosion caused by carbide precipitation. USA 316L is used for welding AISI types 316L, 318, and 319L that may be exposed to organic and inorganic acids. (Tri-mix gas = 90%He+7.5% Ar+2.5%CO₂)

TYPICAL GMAW WELDING PROCEDURES; DCEP Short Circuit

Wire Diameter	Wire Speed (ipm)	Amps	Volts	Electrical Stick-out	Tri-mix (cfh)
0.023	180-400	30-85	14-19	3/8-1/2"	20-25
0.030	150-350	45-125	15-20	3/8-1/2"	20-25
0.035	120-330	60-150	16-22	3/8-1/2"	20-30
0.045	100-280	90-210	17-22	3/8-1/2"	25-30
<i>Spray 0.030</i>	<i>280-600</i>	<i>160-220</i>	<i>24-28</i>	<i>3/8-1/2"</i>	<i>(1)25-35</i>
<i>0.035</i>	<i>250-470</i>	<i>170-295</i>	<i>23-29</i>	<i>1/2-3/4"</i>	<i>(1)25-35</i>
<i>0.045</i>	<i>200-385</i>	<i>195-360</i>	<i>24-30</i>	<i>1/2-3/4"</i>	<i>(1)30-35</i>
<i>1/16"</i>	<i>110-200</i>	<i>210-380</i>	<i>25-31</i>	<i>1/2-3/4"</i>	<i>(1)35-40</i>

(1) 98%Ar
2%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	1/16-1/8"
3/32"	3/32"	150-250	12	3/8"	20	1/8- 3/16"
1/8"	1/8"	200-375	12	1/2"	25	1/4-1/2"

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

TYPICAL WIRE CHEMISTRY RANGE (%) & WELD METAL PROPERTIES from AWS A5.4

Carbon	0.03 max.	Tensile Strength (psi)	70,000 min.
Manganese	1.0-2.5	Elongation	30 % min.
Silicon	0.30-0.65		
Molybdenum	2.0-3.0		
Nickel	11.0-14.0	Phosphorus	0.03 max.
Chromium	18.0-20.0	Sulfur	0.03 max.
Copper	0.75 max.		

AVAILABLE SIZES: TS 316L = Spools of 023, 030, 035, 045, 1/16, 3/32, 1/8, 3/16

TT 316L = Cut lengths of 023, 030, 035, 045, 1/16, 5/64, 3/32, 1/8, 5/32. 3/16

Other sizes available – please inquire

SPECIFICATIONS; ANSI/AWS A5.9 ER316L
ASME SFA 5.9 ER316L

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