



# 347 Welding Wire and Rod

U.S. ALLOY CO.  
dba Washington Alloy  
7010-G Reames Rd.  
Charlotte, NC 28216  
[www.weldingwire.com](http://www.weldingwire.com)

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



## ALLOY DESCRIPTION AND APPLICATION;

347 is used for welding AISI types 304, 304L, 321 and 347 where maximum corrosion resistance is required and with temperatures up to 1400° F. 347 contains columbium which acts as a stabilizer against carbide precipitation. Welding on paper & pulp processing, food processing, pharmaceutical and clad steels are some of its common applications.  
(Tri-mix gas = 90%He+7.5%Ar+2.5%CO<sub>2</sub>)

### 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>

<sup>(1)</sup> 98%Ar  
2%O<sub>2</sub>

### 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.

Argon/oxygen blends for spray and pulsed spray transfer welding used to prevent carbon pickup in the weld metal.

### TYPICAL CHEMISTRY (%) & WELD METAL PROPERTIES

AWS SPEC. 347			AWS SPEC. 347		
Carbon	0.08	<b>0.04</b>	Copper	0.75	<b>0.14</b>
Manganese	1.0-2.5	<b>1.64</b>	Molybdenum	0.75	<b>0.20</b>
Silicon	0.30-0.65	<b>0.40</b>	Phosphorus	0.03	<b>0.003</b>
Sulfur	0.03	<b>0.01</b>	Elongation	N/A	<b>42%</b>
Chromium	19.0-21.5	<b>20.20</b>	Yield Strength (psi)	N/A	<b>59,000</b>
Nickel	9.0-11.0	<b>9.85</b>	Tensile Strength (psi)	N/A	<b>91,000</b>
Columbium + Tantalum			10 x C min. /1.00 max		
			<b>0.86</b>		

Iron balance and all single values are maximum percentages on AWS spec.

**AVAILABLE SIZES:** TS 347 = Spools of 030, 035, 045, 3/32

TT 347 = Cut lengths of 030, 035, 045, 1/16, 5/64, 3/32, 1/8, 5/32

Other sizes available – please inquire

**SPECIFICATIONS;** ANSI/AWS A5.9 ER347

ASME SFA 5.9 ER347

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