



WA. ALLOY CO.

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

420 Welding Wire and Rod

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



American Welding Society
Sustaining Company Member



ALLOY DESCRIPTION AND APPLICATION;

USA 420 is a Martensitic stainless steel with properties similar to 410 except slightly higher chromium and carbon contents. Alloy 420 is used for many surfacing applications requiring higher hardness and increased wear resistances over the weld metal of 410.
(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>	⁽¹⁾ 25-35
<i>0.035</i>	<i>250-470</i>	<i>170-295</i>	<i>23-29</i>	<i>1/2-3/4"</i>	⁽¹⁾ 25-35
<i>0.045</i>	<i>200-385</i>	<i>195-360</i>	<i>24-30</i>	<i>1/2-3/4"</i>	⁽¹⁾ 30-35
<i>1/16"</i>	<i>110-200</i>	<i>210-380</i>	<i>25-31</i>	<i>1/2-3/4"</i>	⁽¹⁾ 35-40

⁽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.

Pre-heat & postheat recommended

TYPICAL WIRE CHEMISTRY (%) & WELD METAL PROPERTIES*

Carbon	0.28	Tensile Strength (psi)	98,000
Manganese	0.42	Yield Strength (psi)	92,000
Silicon	0.37	Elongation	18 %
Molybdenum	0.15		
Sulfur	0.03		
Chromium	13.13		

* Pre-heat & post heat required

AVAILABLE SIZES: TS 420= Spools of 020, 030, 035, 045, 1/16, 1/8
TT 420 = Cut lengths of 020, 030, 035, 045, 1/16, 3/32, 1/8
Other sizes available – please inquire

SPECIFICATIONS; ANSI/AWS A5.9 ER420
ASME SFA 5.9 ER420

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