



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

USA 80S-B6 Welding Wire and Rod

U.S. ALLOY CO.
dba Washington Alloy
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ALLOY DESCRIPTION AND APPLICATION;

80S-B6 is a low alloy Cr-Mo filler commonly used in the oil and chemical industries where base metal such as 5% Cr, 1/2% Mo steels are found. Typical base metals found in this group are ASTM grades: A182-F5/F5a, A336-F5/F5a, A199-T-5, A200-T5, A213-T5, A335-P5, A369-FP5, A426-CP5, A217-C5, and A387-Gr5. Controlled preheat, interpass and postheat treatment may be needed. 80S-B6 is similar to the previously classified ER502 in AWS A5.9-93

TYPICAL GMAW WELDING PROCEDURES; DCEP Short Circuit ⁽¹⁾ 98Ar/2% O₂

Wire Diameter	Wire Speed (ipm)	Amps	Volts	Travel speed (ipm)	75/25 CO ₂ (cfh)
0.023	80-350	30-85	14-19	10-15	20-25
0.030	110-340	40-130	15-20	12-24	20-25
0.035	100-520	60-235	16-25	11-40	20-30
0.045	70-270	90-290	18-23	12-22	25-35
<i>Spray 0.035</i>	<i>320-600</i>	<i>160-300</i>	<i>23-26</i>	<i>11-22</i>	⁽¹⁾ <i>25-35</i>
<i>0.045</i>	<i>170-550</i>	<i>170-375</i>	<i>23-29</i>	<i>12-21</i>	⁽¹⁾ <i>25-35</i>
<i>1/16"</i>	<i>175-350</i>	<i>275-475</i>	<i>25-31</i>	<i>9-19</i>	⁽¹⁾ <i>25-35</i>

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"	100-160	12	3/8"	20	1/16-3/32"
1/16-3/32"	3/32"	120-250	12	3/8"	20	1/8- 3/16"
1/8"	1/8"	150-300	12	1/2"	25	1/4-1/2"

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

WIRE CHEMISTRY (%) AND WELD METAL PROPERTIES;

	AWS Spec.		AWS Spec
Carbon	0.10 max	Tensile Strength (psi)	80,000 min.
Manganese	0.40-0.70	Yield Strength (psi)	68,000 min.
Silicon	0.50 max	Elongation in 2"	17% min.
Phosphorus	0.025 max		
Sulfur	0.025 max		
Molybdenum	0.45-0.65	Nickel	0.60 max
Chromium	4.50-6.00	Copper	0.35 max

AVAILABLE SIZES: TC 502 = Spools and rods of .035, .045, 1/16,
TT 502 = Cut lengths of .035, .045, 1/16, 3/32, 1/8, 5/32
Other sizes available – please inquire

SPECIFICATIONS; ANSI/AWS A5.28 ER 80S-B6
ASME SFA 5.28 ER 80S-B6 ; A-4, F-6

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