WA. ALLOY CO.

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

# 80S-B2
# Welding Wire and Rod

American Welding Society
Sustaining Company Member

GAWDA
GASES AND WELDING DISTRIBUTORS ASSOCIATION

**ALLOY DESCRIPTION AND APPLICATION;**
80S-B2 is used in welding 1/2 Cr -1/2 Mo, 1Cr - 1/2 Mo, and 1-1/4 Cr -1/2 Mo steels and dissimilar combinations of Cr-Mo steels and carbon steels where elevated temperatures and corrosive services. Preheat and inter-pass recommended and may also need followed by post heat treating.

**TYPICAL GMAW WELDING PROCEDURES;** DCEP Short Circuit *(1) 98Ar/2% O2* (Argon & CO2 )

| | Wire Diameter | Wire Speed (ipm) | Amps | Volts | Travel speed (ipm) | 75/25 (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 |
| *Spray* | *0.035* | *320-600* | *160-300* | *23-26* | *11-22* | *(1) 25-35* |
| | *0.045* | *170-550* | *170-375* | *23-29* | *12-21* | *(1) 25-35* |
| | *1/16"* | *175-350* | *275-475* | *25-31* | *9-19* | *(1) 25-35* |

**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.

**AWS CHEMISTRY (%) & WELD METAL REQUIREMENTS;**

| | | | |
|---|---|---|---|
| Carbon | 0.07-0.12 | Copper | 0.35 max |
| Manganese | 0.40-0.70 | Other Total | 0.50 max |
| Silicon | 0.40-0.70 | | |
| Phosphorus | 0.025 max | Preheat & Interpass 275°-325° F | |
| Sulfur | 0.025 max | PWHT: 1125°-1175°F | |
| Chromium | 1.20-1.50 | Tensile Strength (psi) | 80,000 minimum |
| Nickel | 0.20 max | Yield Strength (psi) | 68,000 minimum |
| Molybdenum | 0.40-0.65 | Elongation in 2" % | 19 % minimum |

**AVAILABLE SIZES**: TC = Spools and rods of .030, .035, .045, 1/16,
TT = Cut lengths of .035, .045, 1/16, 3/32, 1/8, 5/32

**SPECIFICATIONS;** **ANSI/AWS** A5.18 ER 80S-B2
**ASME SFA** 5.18 ER 80S-B2

2012 *DC*

Washington Alloy Company believes that all information and data given is correct. Use this information to assist in making your own evaluations or decisions and this information should not be mistaken as an expressed or implied warranty. U.S. ALLOY CO. assumes no liability for results or damages incurred from the use of any information contained herein, in whole or in part.