



80S-B2 (ER80S-B2)

80S-B2 is used to weld 1¼ Chrome – ½ Moly steels for elevated temperatures and corrosive service. Careful control of preheat, interpass temperatures, and post-weld heat treatment is necessary to prevent cracking. 80S-B2 is classified after post-weld heat treatment. Special care must be taken when using it in the as-welded condition due to higher strength levels. Recommended shielding gas is CO₂ or an Argon/CO₂ mixture.

Typical Chemical Composition

Carbon	0.07 – 0.12
Manganese	0.40 – 0.60
Chromium	1.20 – 1.50
Molybdenum	0.40 – 0.65
Silicon	0.40 – 0.70
Copper	0.35
Nickel	0.20
Phosphorus	0.25
Sulfur	0.025
Others	0.50

Typical Mechanical Properties (As welded)

Tensile Strength	80,000 psi, min. (550 MPa)
Yield Strength	68,000 psi, min. (470 MPa)
Elongation in 2"	19% min

Operating Ranges (Amps)

MIG
.035" 100 -150
.045" 150 -200

Specifications

AWS A5.28 / ASME SFA5.28 Class ER80S-B2

Standard Sizes

MIG	.035", .045", .062"
TIG:	3/32" (2.4mm), 1/8" (3.2mm), 5/32" (4.0mm)

Notice: The results reported are based upon testing of the product under controlled laboratory conditions in accordance with American Welding Society Standards. Actual use of the product may produce different results due to varying conditions. An example of such conditions would be electrode size, plate chemistry, environment, weldment design, fabrication methods, welding procedure and service requirements. Thus the results are not guarantees for use in the field. The manufacturer disclaims any warranty of merchantability or fitness for any particular purpose with respect to its products.

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