



Unibraze 90S-B3

(ER90S-B3)

Unibraze 90S-B3 is used to weld 2 ¼ Chrome- 1 Moly steels used for high temperature, high pressure piping and pressure vessels. It is also used for joining carbon steel and Cr-Mo alloys. Careful control of preheat, interpass temperatures, and postweld heat treatment is essential to prevent cracking. When using Unibraze 90S-B3 in the as-welded condition special care is required due to the higher strength levels. It can be used in all positions. Recommended shielding gas is Argon/1-5 percent O₂.

GMAW-DCEP

Typical Chemical Composition

Carbon	0.07 – 1.12
Sulphur	0.025 max.
Manganese	0.40 – 0.70.
Phosphorus	0.025 max.
Copper	0.35 max.
Chromium	2.30 – 2.70
Molybdenum	0.90 – 1.20
Silicon	0.40 – 0.70
Nickel	0.20 max.
Others	0.50 max.

Typical Mechanical Properties

(PWHT)

Tensile Strength	80,000 psi, min. (550 MPa)
Yield Strength	68,000 psi, min. (470 MPa)
Elongation in 2"	17% min

Specifications

AWS A5.28 / ASME SFA5.28 Class ER90SB3

Recommended Preheat, Interpass and Postweld Heat Treatment Temperatures

Preheat & Interpass	375 – 425°F	185 - 215°C
PWHT	1275 +/-25°F	690 +/- 15°C

Standard Sizes

MIG: .035" (.9mm), .045" (1.2mm), .062" (1.6mm)

TIG: 1/16" (1.6mm), 3/32" (2.4mm), 1/8" (3.2mm), 5/32" (4.0mm)