# Inweld 90S-B9

Alloy ER90S-B9
AWS A5.28

## Description and Applications:

Inweld 90S-B9 is 9% chrome, 1% moly wire with micro alloying elements of vanadium and columbium. This wire is specially designed to provide strength, toughness, in addition to oxidation resistance and corrosion resistance at elevated temperatures. The welds have higher creep resistance at high temperatures compared with regular 9% chrome + 1% moly welds.

## Chemical Composition of ER90S-B9

| Fe | C | Mn | Si | Cr | Ni | Mo | S | P | N | V | Cb |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Balance | 0.09 | 0.95 | 0.23 | 9.10 | 0.55 | 1.00 | 0.004 | 0.006 | 0.04 | 0.20 | 0.06 |

Tensile Strength: 96,000 psi (660 MPA)
Yield Strength: 81,500 psi (560 MPA)

## Recommended Welding Parameters:

| | Wire Diameter | Voltage | Amperage* |
|---|---|---|---|
| GMAW DC; Electrode +Ve | 0.035 | 29-33 | 160-180 |
| 97% Argon 3% $CO_2$ | 0.045 | 29-33 | 180-220 |
| Gas Flow; 30 to 50 CFH | 1/16 | 29-33 | 210-250 |

.

GTAW (DCSP – Electrode -)
ACHF using 100% Ar
2% Thoriated, 2% Ceriated or
2% Lanthanum Tungsten Electrode
Gas Flow; 40 to 50 CFH

*Use low range for iron or nickel-based alloy's, middle range for bronze alloys and high range for copper.