



# Unibraze 90S-B9 (ER90S-B9)

## Classification:

AWS A5.28 / ASME SFA5.28 Class ER90S-B89

## Description:

Unibraze ER90S-B9 is designed to weld high temperature steels for hot hydrogen service. This wire is suitable for 9%Cr steels such as P91, T91 and F91. Applications include steam generation and petrochemical equipment. Preheat and interpass is required.

## Typical Chemical Composition:

C	Mn	Si	Cr	Ni	Mo	Cu	V	P/S	Al	Other
0.09	1.20 max	0.25	9.5	0.80 max	0.95	0.20 max	0.20	0.010 max	0.04 max	0.50

## Typical Mechanical Properties:

Tensile Strength	Yield Strength	Elongation in 2"	Charpy Impact*
110,100 psi	97,000 psi	18%	40 ft. lb.

\*reflect a PWHT of 1400°F for 2 hours.

## Recommended Welding Parameters:\*\*

### GMAW (DC Reverse Polarity) Electrode Positive Spray transfer:

Wire Dia.	Amps	Volts	Gas
.035	180-230	25-28	98Ar/2O <sub>2</sub>
.045	250-350	25-30	75Ar/25CO <sub>2</sub>
1/16	280-400	26-36	75Ar/25CO <sub>2</sub>

### GTAW (DCSP) 2 % Thoriated Tungsten Electrode negative

Wire Dia.	Amps	Volts	Gas
1/16"	50-120	7-13	Argon
3/32"	120-200	10-16	Argon
1/8"	150-220	12-18	Argon

\*\* All parameters are suggested as basic guidelines and will vary depending on joint design number of passes, and other factors.

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.