



## Low Alloy Steel BARE WIRE DATA SHEET

# exocor 90SB3

### DESCRIPTION

**Exocor 90SB3** is used to weld 2-1/4Cr-1Mo steels used for high-temperature/high-pressure piping and pressure vessels. This filler may also be used for joining combinations of Cr-Mo and carbon steel. Careful control of preheat and interpass temperatures (300° F minimum) are essential to avoid cracking. As this filler metal is classified after postweld heat treatment, special care must be taken when using them in the as-welded condition due to higher strength levels.

### TYPICAL CHEMICAL VALUES

C	Ni	Cr	Mo	Mn	Si	P	S	Cu	TOE
0.1	0.1	2.5	1.05	0.6	0.5	0.01	0.01	0.1	0.50

### WELDING PARAMETERS

PROCESS	SIZE	VOLTS	AMPS	SPEED OF WELDING / GAS FLOW	SHIELDING GAS / FLUX
GMAW	.035	28 - 32	165 - 200	30 - 50 CFH	98/99% Ar + 2/1% O <sub>2</sub>
	.045	30 - 34	180 - 220	30 - 50 CFH	98/99% Ar + 2/1% O <sub>2</sub>
GTAW	.093	Direct Current; Electrode –		30 - 40 CFH	100% Ar
	.125	Direct Current; Electrode –		30 - 40 CFH	100% Ar

### MECHANICAL PROPERTIES

Tensile Strength:	94,500 PSI	650 MPA
Yield Strength:	80,500 PSI	550 MPA
Elongation:	19%	

*NOTE: Mechanical properties shown above reflect the use of a postweld heat treatment of 1275° F for one hour.*

### CLASSIFICATION

Wire chemistry has been optimized for best performance and conforms to **AWS/SFA 5.28, Class ER90S-B3**.