

# MIG & TIG

## Oxford Alloy® 80S-B2

AWS ER80S-B2 • Chrome Moly

### Key Features

- ◆ Designed for welding on 1-1/4 Cr / 1/2 Mo steels, which are used for high temperature service.
- ◆ Preheating and interpass temperatures of not less than 300°F must be used during welding.

### Conformances

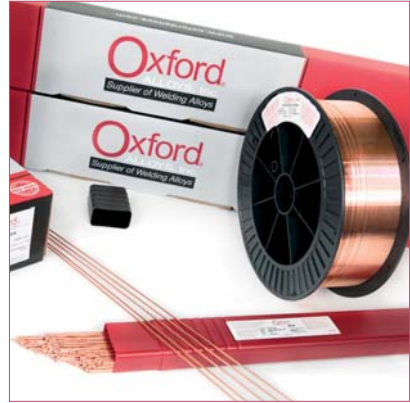
AWS/ASME SFA 5.28  
ER80S-B2  
UNS K20900

#### Chemical Composition - As required per AWS 5.28

C	Mn	Si	Cr	Mo	P	S
0.07-0.12	0.40-0.70	0.40-0.70	1.20-1.50	0.40-0.65	0.025 max	0.025 max
Cu	Ni	OET				
0.35 max	0.20 max	0.50 max				

#### Mechanical Properties - As required by AWS 5.28

	Tensile Strength MPa (ksi)	Yield Strength MPa (ksi)	Elongation %
AWS Requirements	515 (75) min	470 (68) min	19 min
Typical Results <sup>(9)</sup> - As welded	590 (86)	500 (73)	26



#### Typical Welding Parameters

Diameter		Process	Volt	Amps	Shielding Gas
in	(mm)				
.035	0.9	GMAW	28-32	165-200	Spray Transfer 98% Argon + 2% Oxygen or 75% Argon + 25% CO <sub>2</sub>
.045	1.2	GMAW	30-34	180-220	
1/16	1.6	GMAW	30-34	230-260	
.035	0.9	GMAW	22-25	100-140	Short Circuiting Transfer 100% CO <sub>2</sub> or 75% Argon + 25% CO <sub>2</sub>
.045	1.2	GMAW	23-26	120-150	
1/16	1.6	GMAW	23-26	160-200	
1/16	1.6	GTAW	12-15	100-125	100% Argon
3/32	2.4	GTAW	15-20	125-175	100% Argon
1/8	3.2	GTAW	15-20	175-250	100% Argon

#### Diameters & Packaging

Oxford Alloys USA			Oxford Alloys Asia Pacific		
Diameter (in)	Form	Packaging (lbs)	Diameter (mm)	Form	Packaging (kgs)
.035	GMAW	33 lb spool   1980 lb pallet	0.9	GMAW	15 kg spool   900 kg pallet
.045	GMAW	33 lb spool   1980 lb pallet	1.2	GMAW	15 kg spool   900 kg pallet
1/16	GMAW	33 lb spool   1980 lb pallet	1.6	GMAW	15 kg spool   900 kg pallet
1/16	GTAW	10 lb tube   40 lb carton	1.6	GTAW	5 kg tube   20 kg carton
3/32	GTAW	10 lb tube   40 lb carton	2.4	GTAW	5 kg tube   20 kg carton
1/8	GTAW	10 lb tube   40 lb carton	3.2	GTAW	5 kg tube   20 kg carton

<sup>(9)</sup> Typical Results are based on Preheat, Interpass, and PWHT temperatures per AWS 5.28. Actual test results may vary. Refer test result disclaimer on page 160.