

## Oxford Alloy® 80S-D2

AWS ER80S-D2 • Mild Steel

### Key Features

- ❖ Low alloy steel wire with 2% manganese and 0.5% molybdenum as alloying elements.
- ❖ The weld deposits of this wire have moderately high strength with adequate low temperature toughness.
- ❖ A pre-heat and interpass temperature of not less than 300°F is required during welding.

### Conformances

AWS/ASME SFA 5.28  
ER80S-D2  
UNS K10945



Chemical Composition - As required per AWS 5.28						
C	Mn	Si	Mo	P	S	Cu
0.07-0.12	1.60-2.10	0.50-0.80	0.40-0.60	0.025 max	0.025 max	0.50 max
Ni	OET					
0.15 max	0.50 max					

Mechanical Properties - As required by AWS 5.28			
	Tensile Strength MPa (ksi)	Yield Strength MPa (ksi)	Elongation %
AWS Requirements	550 (80) min	470 (68) min	17 min
Typical Results - As welded	640 (93)	590 (86)	22

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

Actual test results may vary. Refer test result disclaimer on page 160.