

# MIG & TIG

## Oxford Alloy® 80S-Ni2

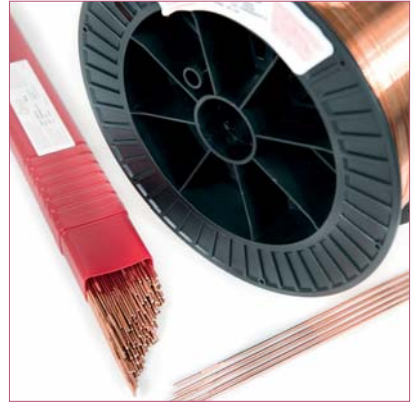
AWS ER80S-Ni2 • Mild Steel

### Key Features

- Used for welding 2-1/2 percent nickel steels and other materials requiring a tensile strength of 80 ksi (550 MPa) and good toughness at temperatures as low as -80°F (-62°C).

### Conformances

AWS/ASME SFA 5.28  
ER80S-Ni2  
UNS K21240



Chemical Composition - As required per AWS 5.28						
C	Mn	Si	P	S	Ni	Cu
0.12 max	1.25 max	0.40-0.80	0.025 max	0.025 max	2.00-2.75	0.35 max
OET						
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	24 min
Typical Results - As welded	620 (90)	530 (77)	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

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