

Oxford Alloy® 59

AWS ERNiCrMo-13 • Nickel Alloys



Key Features

- ❖ Nickel-chromium-molybdenum alloy with an extra low carbon and silicon content.
- ❖ Excellent corrosion resistance and high mechanical strength.
- ❖ Some typical base metals that this alloy is used on are ASTM and ASME B and SB 574, 575, 619, 622 and 626.

Conformances

AWS/ASME SFA 5.14
ERNiCrMo-13
UNS N06059

Chemical Composition - As required per AWS 5.14

C	Mn	Fe	P	S	Si	Ni
0.01 max	0.5 max	1.5 max	0.015 max	0.01 max	0.10 max	Bal
Co	Al	Cr	Mo	OET	Cu	
0.3 max	0.1-0.4	22.0-24.0	15.0-16.5	0.50 max	0.5 max	

Mechanical Properties - As required by AWS 5.14

	Tensile Strength MPa (ksi)	Yield Strength MPa (ksi)	Elongation %
AWS Requirements	760 (110) typical	Not Specified	Not Specified
Typical Results - As welded	700 (102)	400 (58)	30

Typical Welding Parameters					
Diameter		Process	Volt	Amps	Shielding Gas
in	(mm)				
.035	0.9	GMAW	26-29	150-190	Spray Transfer 100% Argon
.045	1.2	GMAW	28-32	180-220	
1/16	1.6	GMAW	29-33	200-250	
1/16	1.6	GTAW	14-18	90-130	100% Argon
3/32	2.4	GTAW	15-20	120-175	100% Argon
1/8	3.2	GTAW	15-20	150-220	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.