

MIG & TIG

Oxford Alloy® 625

AWS ERNiCrMo-3 • Nickel Alloys

Key Features

- ❖ Contains low iron (Fe less than 1%) and is used for welding of nickel-chromium-molybdenum alloys.
- ❖ Also for cladding and welding dissimilar base metals such as Ni-Cr-Mo alloys to stainless and carbon steels.
- ❖ The Ni-Cr-Mo alloy system provides excellent resistance to oxidizing and reducing environments. The high molybdenum content provides good stress, pitting and crevice corrosion resistance.

Conformances

AWS/ASME SFA 5.14

ERNiCrMo-3

UNS N06625

ABS Approved

Chemical Composition - As required per AWS 5.14

Ni	C	Mn	Fe	S	Si	P
58.0 min	0.10 max	0.50 max	5.0 max	0.015 max	0.50 max	0.02 max
Cr	Al	Nb+Ta	Mo	Ti	Cu	OET
20.0-23.0	0.40 max	3.15-4.15	8.0-10.0	0.40 max	0.50 max	0.50 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	790 (115)	590 (85)	35



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.