

COATED ELECTRODES

Oxford Alloy® 112

AWS ENiCrMo-3 • Nickel Alloys



Key Features

- ❖ Weld nickel-chromium-molybdenum alloys.
- ❖ Used extensively in overlay cladding where a similar chemical composition is required on the clad side.
- ❖ Dissimilar joints between nickel-chromium-molybdenum alloys to stainless steels, carbon or low alloy steels.
- ❖ These electrodes are used in applications where the temperature ranges from cryogenic up to 1800°F (982°C).

Conformances

AWS/ASME SFA 5.11
ENiCrMo-3
UNS W86112
ABS Approved

Chemical Composition - As required per AWS 5.11

Ni	C	Mn	Fe	S	Cu	Si
55.0 min	0.10 max	1.0 max	7.0 max	0.02 max	0.50 max	0.75 max
Cr	Nb+Ta	Mo	P	OET		
20.0- 23.0	3.15- 4.15	8.0- 10.0	0.03 max	0.50 max		

Mechanical Properties - As required by AWS 5.11

	Tensile Strength MPa (ksi)	Yield Strength MPa (ksi)	Elongation %
AWS Requirements	760 (110) min	Not Specified	30 min
Typical Results - As welded	790 (115)	620 (90)	34

Typical Welding Parameters

Diameter		Process	Volt	Amps (flat)	Amps (V/OH)
in	(mm)				
3/32	(2.4)	SMAW	24-28	70-85	65-75
1/8	(3.2)	SMAW	26-30	85-110	80-90
5/32	(4.0)	SMAW	28-32	110-140	100-120
3/16	(4.8)	SMAW	28-32	120-160	110-130

Diameters & Packaging

Oxford Alloys USA			Oxford Alloys Asia Pacific		
Diameter (in)	Length (in)	Packaging (lbs)	Diameter (mm)	Length (mm)	Packaging (kgs)
3/32"	12	10 lb tube 30 lb carton	2.6	300	4 kg tube 12 kg carton
1/8"	14	10 lb tube 30 lb carton	3.2	350	5 kg tube 15 kg carton
5/32"	14	10 lb tube 30 lb carton	4.0	350	5 kg tube 15 kg carton
3/16"	14	10 lb tube 30 lb carton	5.0	350	5 kg tube 15 kg carton

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