

COATED ELECTRODES

Oxford Alloy® 117

AWS ENiCrCoMo-1 • Nickel Alloys

Key Features

- ❖ Used for welding of nickel-chromium-cobalt-molybdenum alloys.
- ❖ Also for overlay cladding where similar composition is required.
- ❖ The deposited weld metal provides optimum strength and oxidation resistance between 1500°F to 2100°F, especially when welding on base metals of nickel-iron-chromium alloys.

Conformances

AWS/ASME SFA 5.11

ENiCrCoMo-1

UNS W86117

Chemical Composition - As required per AWS 5.11

Ni	Cr	Co	Mo	C	Fe	Mn
Bal	21.0-26.0	9.0-15.0	8.0-10.0	0.05-0.15	5.0 max	0.3-2.5
Nb+Ta	S	Si	Cu	P	OET	
1.0 max	0.015 max	0.75 max	0.50 max	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	620 (90) min	Not Specified	25 min
Typical Results - As welded	760 (110)	600 (87)	26



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.