

COATED ELECTRODES

Oxford Alloy® 182

AWS ENiCrFe-3 • Nickel Alloys



Key Features

❖ Used for welding of nickel-chromium-iron alloys to themselves and for dissimilar welding between nickel-chromium-iron alloys to mild steels or stainless steels.

❖ High manganese of this weld deposit reduces the possibility of micro fissures but reduces creep strength which limits its usage up to 900° F (482°C).

Conformances

AWS/ASME SFA 5.11

ENiCrFe-3

UNS W86182

Chemical Composition - As required per AWS 5.11

Ni	C	Mn	Fe	S	Si	Cu
59.0 min	0.10 max	5.0-9.5	10.0 max	0.015 max	1.0 max	0.50 max
Cr	Ti	Nb+Ta	P	OET		
13.0-17.0	1.0 max	1.0-2.5	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	550 (80) min	Not Specified	30 min
Typical Results - As welded	590 (86)	360 (52)	38

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.