

COATED ELECTRODES

Oxford Alloy® 190

AWS ENiCu-7 • Nickel Alloys



Key Features

- ❖ Used for welding nickel-copper alloys to themselves and to steel.
- ❖ Also can be used for overlay welding as well as for welding of clad steels where nickel-copper surfacing is required.
- ❖ Dissimilar applications include joining 200 series nickel alloys to copper-nickel alloys.

Conformances

AWS/ASME SFA 5.11
ENiCu-7
UNS W84190

Chemical Composition - As required per AWS 5.11

Ni	C	Mn	Fe	S	Si	Cu
62.0-69.0	0.15 max	4.0 max	2.5 max	0.015 max	1.5 max	Bal
Al	Ti	P	OET			
0.75 max	1.0 max	0.02 max	0.50 max			

Mechanical Properties - As required by AWS 5.11

	Tensile Strength MPa (ksi)	Yield Strength MPa (ksi)	Elongation %
AWS Requirements	480 (70) min	Not Specified	30 min
Typical Results - As welded	520 (74)	360 (52)	39

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.