

Nickel Alloys

Alloy: WWNA182  
 Class: ENiCrFe-3

Conforms to Certification: AWS A5.11  
 ASME SFA A5.11

Alloy: ENiCrFe-3 (Alloy 182)  
 Weld Process: Shielded Metal Arc Weld Process (SMAW)

AWS Chemical Composition Requirements

C = 0.10 max	Cu = 0.50 max
Mn = 5.0 – 9.5	Ni = 59.0 min
Fe = 10.0 max	Co = 0.12 max
P = 0.03 max	Ti = 1.0 max
S = 0.015 max	Cr = 13.0 – 17.0
Si = 1.0 max	Cb/Ta = 1.0 – 2.5
Other = 0.50 max	

Recommended Weld Parameters

Diameter of Wire	Voltage (V)	Amperage (A)	
		Flat	Vertical and Overhead
3/32 inches (2.4mm)	24 – 28	70 – 85	65 – 75
1/8 inches (3.2mm)	26 – 30	85 – 110	80 – 90
5/32 inches (4.0)	28 – 32	110 – 140	100 – 120
3/16 inches (4.8)	28 – 32	120 – 160	110 – 130

Deposited Chemical Composition % (Typical)

C = 0.03	Mn = 6.5	Si = 0.42
Cr = 15.25	Cb/Ta = 1.75	Fe = 7.4
S = 0.007	P = 0.011	Ni = 68.9

Application

Type ENiCrFe-3 (Alloy 182) electrodes are used for welding of nickel-chromium-iron alloys to themselves and for dissimilar welding between nickel-chromium-iron alloys and steels or stainless steels.

Deposited All Weld Metal Properties % (AW)

Tensile Strength	85,000psi
Yield Strength	54,000psi
Elongation	35%

The applications include surfacing as well as clad-side welding.

Deposited Charpy-V-Notch Impact Properties %

Not applicable

