

Nickel Alloys

Alloy: WWNA112  
 Class: ENiCrMo-3  
 Alloy 112

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

Alloy: ENiCrMo-3 (Alloy 112)  
 Weld Process: Shielded Metal Arc Weld Process (SMAW)

AWS Chemical Composition Requirements

C = 0.10 max	Cu = 0.50 max
Mn = 1.0 max	Ni = 55.0 min
Fe = 7.0 max	Co = 0.12 max
P = 0.03 max	Cr = 20.0 – 23.0
S = 0.02 max	Cb/Ta = 3.15 – 4.15
Si = 0.75 max	Mo = 8.00 – 10.0
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 = 0.35	Si = 0.34
Fe = 1.5	S = 0.005	P = 0.009
Cr = 21.5	Mo = 9.10	Cb/Ta = 3.55
Ni = Balance		

Application

ENiCrMo-3 (Alloy 112) is an electrode that is used to weld nickel-chromium-molybdenum alloys. Its applications include dissimilar joints between nickel-chromium-molybdenum alloys to either stainless steels, carbon steels or low alloy steels.

Deposited All Weld Metal Properties % (AW)

Tensile Strength	115,000psi
Yield Strength	89,000psi
Elongation	34.5%

These electrodes are used in applications where the temperature ranges up to 1800°F.

Deposited Charpy-V-Notch Impact Properties %

Not applicable

