

Nickel Alloys

Alloy: WWC276
 Class: ENiCrMo-4
 Alloy C276

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

Alloy: ENiCrMo-4 (Alloy C276)
 Weld Process: Shielded Metal Arc Weld Process (SMAW)

AWS Chemical Composition Requirements

C = 0.02 max	Cu = 0.50 max
Mn = 1.0 max	Ni = Remainder
Fe = 4.0 – 7.0	Co = 2.5 max
P = 0.04 max	Cr = 14.5 – 16.5
S = 0.03 max	Mo = 15.0 – 17.0
Si = 0.20 max	W = 3.0 – 4.5
V = 0.35 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 = 0.012	Mn = 0.40	Si = 0.14
Fe = 5.5	Mo = 16.0	W = 3.25
S = 0.004	P = 0.012	Cr = 15.5
Ni = 59.1		

Application

ENiCrMo-4 (Alloy C276) is used for welding materials of similar composition. It can also be used for dissimilar welding between nickel base alloys and stainless steel, also for cladding applications.

Deposited All Weld Metal Properties % (AW)

Tensile Strength	105,000psi
Yield Strength	79,000psi
Elongation	38.5%

Deposited Charpy-V-Notch Impact Properties %

Not applicable

