

Nickel Alloy Wire

Alloy: WWHASC276  
 Class: ERNiCrMo-4

Conforms to Certification: AWS A5.14  
 ASME SFA A5.14

Alloy: ERNiCrMo-4 (Alloy C276)  
 Weld Process: GMAW, GTAW Welding Processes

AWS Chemical Composition Requirements

C = 0.02 max	Cu = 0.50 max
Mn = 1.0 max	Ni = Remainder
Fe = 4.0 to 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 = 0.08 max	W = 3.0 – 4.5
Other = 0.50 max	V = 0.35 max

Deposited All Weld Metal Properties % (AW)

Tensile Strength	105,000psi
Yield Strength	81,000psi
Elongation	40%

Deposited Chemical Composition % (Typical)

C = 0.01	Cr = 15.55	Ni = Balance
Mn = 0.55	Mo = 16.1	Si = 0.04
Fe = 5.5	W = 3.65	

Deposited Charpy-V-Notch Impact Properties %

Not applicable

Application

ERNiCrMo-4 is used for welding nickel-chromium-molybdenum base materials to itself, steel and other nickel base alloys and for cladding steel.

Recommended Welding Parameters for TIG and MIG Welding of Nickel Alloys

<u>Process</u>	<u>Diameter of Wire</u>	<u>Voltage (V)</u>	<u>Amperage (A)</u>	<u>Gas</u>
Tig	.035 inches x 36	12 -15	60 -90	100% Argon
	.045 inches x 36	13 -16	80 - 110	100% Argon
	1/16 inches x 36	14 - 18	90 - 130	100% Argon
	3/32 inches x 36	15 – 20	120 -175	100% Argon
	1/8 inches x 36	15 – 20	150 - 220	100% Argon
MIG	.035 inches	26 – 29	150 – 190	75% Argon + 25% Helium
	.045 inches	28 – 32	180 – 220	75% Argon + 25% Helium
	1/16 inches	29 – 33	200 - 250	75% Argon + 25% Helium

Note: Other shielding Gases may be used for Mig and Tig welding. Shielding gases are chosen taking Quality, cost, and Operability into consideration.

