

Nickel Alloy Wire

Alloy: WWNA55

Conforms to Certification: AWS A5.15

Class: ERNiFe-CI

ASME SFA A5.15

Alloy: ERNiFe-CI (Alloy NA55)

Weld Process: GMAW, GTAW Welding Processes

AWS Chemical Composition Requirements

C = 0.1 max      Si = 0.20 max  
 Mn = 0.5 – 1.5      P = 0.02 max  
 Fe = Remainder      Ni = 55.0 min  
 S = 0.02 max      Other = 1.0 max  
 Cu = 0.20 max

Deposited All Weld Metal Properties % (AW)

Tensile Strength      89,500psi  
 Yield Strength      62,000psi  
 Elongation      35%

Deposited Chemical Composition % (Typical)

C = 0.05      S = 0.003      Ni = 55.51  
 Mn = 0.25      Cu = 0.10      Fe = Balance  
 Si = 0.106      P = 0.007

Deposited Charpy-V-Notch Impact Properties %

Not applicable

Application

ERNiFe-CI, Nickel Alloy 55 is used welding gray, ductile and Ni-resist cast irons to wrought alloys. It is also noted for high sulfur, phosphorus or lubricant-contaminated castings.

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.

