

Nickel Alloys

Alloy: Nickel 55  
 Class: ENiFe-CI

Conforms to Certification: AWS A5.15  
 ASME SFA A5.15

Alloy: ENiFe-CI (55)  
 Weld Process: Shielded Metal Arc Weld Process (SMAW)

AWS Chemical Composition Requirements

C = 2.0 max	Fe = Remainder
Mn = 2.5 max	Ni = 45.0 – 60.0
Si = 4.0 max	Cu = 2.5 max
S = 0.03 max	Al = 1.0 max
Other = 1.0 max	

Recommended Weld ParametersAmperage (A)

<u>Diameter of Wire</u>	<u>Voltage (V)</u>	<u>Flat</u>	<u>Vertical and Overhead</u>
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 = 0.90	Mn = 0.75	Si = 2.10
Fe = 40.2	Cu = 1.90	Ni = 54.5
S = 0.006	P = 0.012	

Application

Nickel 55 electrode is designed for welding of cast iron to themselves, as well as joining them to mild steels and repair of castings. Preheat and interpass of 350°F minimum is recommended during welding.

Deposited All Weld Metal Properties % (AW)

Tensile Strength	84,000psi
Yield Strength	59,500psi
Elongation	9%

Deposited Charpy-V-Notch Impact Properties %

Not applicable

