

Nickel Alloys

Alloy: WWNA141
 Class: ENi-1

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

Alloy: ENi-1 (Alloy 141)
 Weld Process: Shielded Metal Arc Weld Process (SMAW)

AWS Chemical Composition Requirements

C = 0.10 max	Cu = 0.25 max
Mn = 0.75 max	Ni = 92.0 min
Fe = 0.75 max	Al = 1.0 max
P = 0.03 max	Ti = 1.0 – 4.0
S = 0.02 max	Si = 1.25 max
Other = 0.50 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 = 0.04	Mn = 0.45	Si = 0.50
Fe = 0.35	Ti = 1.05	P = 0.01
S = 0.004	Ni = 97.6	

Application

ENi-1 (Alloy 141) is used for welding of cast and wrought forms of commercially pure nickel. This type of electrode can be used for dissimilar welding between nickel, steel or stainless steels.

Deposited All Weld Metal Properties % (AW)

Tensile Strength	65,000psi
Yield Strength	58,000psi
Elongation	25%

Deposited Charpy-V-Notch Impact Properties %

Not applicable

