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Product Data Sheet

Nickel Alloy Wire

Weld Process: GMAW, GTAW

Class: ERNi-CI

Conforms to Certification: AWS A5.15 ASME SFA 5.15

Alloy: DMNA099 / ERNi-CI

Application

ERNi-CI Nickel Alloy 99 classification is used for tig and mig welding of cast irons. Major use is the repair of gray iron castings. The welds are easy to machine.

AWS Chemical Composition Requirements

C	Mn	Fe	S	Si	Cu	Ni	P
0.1 max	0.30 max	0.20 max	0.01 max	0.10 max	0.20 max	99.2 min	0.01 max

Deposited Chemical Composition % (Typical)

C	Mn	Fe	Si	S	Cu	P	Ni
0.01	0.17	0.01	0.05	0.002	0.13	0.001	99.62

Deposited All Weld Metal Properties % (AW)

Tensile Strength	Yield Strength	Elongation	Charpy-V-Notch Impact Properties
70,000psi	36,000psi	40%	Not applicable

Recommended Welding Parameters for TIG and MIG Welding of Nickel Alloys

Process	Diameter of Wire	Voltage (V)	Amperage (A)	Gas
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

Notes

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

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