DURAMAX®
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Product
Data Sheet

NICKEL ALLOY WIRE DMNA617

Alloy: ERNiCrCoMo-1 (Alloy 617) Class: ERNiCrCoMo-1 AWS A5.14 / ASME SFA 5.14

Application

ERNiCrCoMo-1 is used for welding nickel-chromium-cobalt-molybdenum base material using both the gas tungsten arc and gas metal arc process. Also other cast heat-resisting alloy and dissimilar metals for high temperature service up to 2100° F.

AWS Chemical Composition Requirements

C	Mn	Fe	P	S	Si	Cu	Ni	Co	Al	Ti	Cr	Other	Mo
0.05 - 0.15	1.0 max	3.0 max	0.03 max	0.015 max	1.0 max	0.50 max	Remainder	10.0 - 15.0	0.8 - 1.5	0.60 max	20.0 - 24.0	0.50 max	8.0 - 10.0

Deposited Chemical Composition % (Typical)

C	Mn	Fe	Co	P	S	Al	Ni	Cr	Mo
0.06	0.20	0.75	12.45	0.005	0.001	1.25	Balance	21.8	9.05

Deposited All Weld Metal Properties % (AW)

Tensile Strength (psi)	Yield Strength (psi)	Elongation (%)	Hardness	Ferrite WRC (FN)	CVN Impacts (J)	
					@	°C
112,000	88,500	28	-------	-------	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.
If additional information is needed Contact Weldwire Company, Inc. 800-523-1266

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