

DURAMAX NICKEL ALLOY ELECTRODE DMNICKEL099

Classification: ENi-CI

AWS A 5.15 / ASME SFA 5.15

Description, Characteristics & Applications:

DURAMAX NICKEL099 - ENi-CI is used for welding cast irons to other cast irons as well as for joining cast irons to mild steels and stainless steels.

DMNICKEL099 is also readily used for the repair of castings. The welds are generally more machinable than a DMNICKEL055 ENiFe-CI deposit. A preheat and inter-pass temperature of not less than 350°F is required during welding to prevent cracking.

Typical Chemical Composition (%)

C	Cr	Ni	Mo	Mn	Si	P	S	Cu
0.08-0.20	25.0-28.0	20.0-22.5	0.75 max	1.0-2.5	0.75 max	0.03 max	0.03 max	0.75 max

Deposited Chemical Composition (%) (Typical)

C	Cr	Ni	Mo	Mn	Si	P	S	Cu
0.12	26.0	21.0	0.11	2.00	0.44	0.02	0.01	0.10

Typical Mechanical Properties as Welded

Tensile Strength (MPa)	Yield Strength (MPa)	Elongation (%)	Hardness (BHN)	Ferrite WRC (FN)	CVN Impacts (J)	
					@	°C
437	355	4.63%	144-150	-----		-----

Typical Welding Parameters DCEP or AC

Diameter	Type of Current	Amperage Range		Voltage Range
		Flat	Out of Position	
3/32"	DCEP	70 - 80	65 - 80	20 - 23
1/8"	DCEP	80 - 110	75 - 95	21 - 24
5/32"	DCEP	120 - 160	100 - 120	22 - 25
3/16"	DCEP	170 - 190	Not recommended	23 - 25

NOTE: Maintaining a proper welding procedure, including pre-heat and interpass temperatures, may be critical depending on the type and thickness of material being welded.

POLARITY: DCEP

DCEP: DC, Electrode Positive (reverse polarity) has the most weld penetration

USE LESS AMPS ON THIN METAL; MORE AMPS ON THICK METALS