DURAMAX NICKEL ALLOY ELECTRODE DMNA141

Classification: **ENi-1** **AWS A5.11 / ASME SFA 5.11**

Description, Characteristics & Applications:

DURAMAX NA141 (ENi-1) has a nominal composition (wt.-%) of 95 Ni, 2.5 Ti. Electrodes of this classification are used for welding wrought and cast forms of commercially pure nickel to themselves and to steel (i.e. joining nickel to steel and surfacing steel with nickel). Typical specifications for the nickel base metal are ASTM B 160, B 161, B 162, and B 163, all of which have UNS Number N02200 or N02201. The weld metal has good corrosion resistance, particularly in alkalis. DMNA141 is well suited for welding chemical industry fabrications used to process vinyl chloride, fatty acids, soda, and sodium metal silicates.

- Used for joining Cu-Ni to stainless steels
- Welding of cast and wrought forms of pure Nickel alloys

Typical Chemical Composition (%)

AWS Spec.	C	Mn	Fe	P	S	Si	Cu	Ni	Al	Ti
A5.11	0.10 max	0.75 max	0.75 max	0.03 max	0.02 max	1.25 max	0.25 max	92.0 MIN	13.0 - 17.0	0.5 - 3.0
Typical	0.02	0.30	0.40	0.01	0.01	0.48	0.01	96.7	0.03	1.2

AWS Spec.	TOE									
A5.11	0.50 max									
Typical	<0.50									

Typical Mechanical Properties as Welded

Tensile Strength (n/mm²)	Yield Strength (n/mm²)	Elongation (%)
500	-----	33% Min

Typical Welding Parameters DCEP

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	Not recommended	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