DURAMAX NICKEL ALLOY ELECTRODE DMHAST-X

Classification: **ENiCrMo-2 AWS A5.11 / ASME SFA 5.11**

Description, Characteristics & Applications:

DURAMAX HAST-X (ENiCrMo-2) is a solid-solution-strengthened super alloy that combines very good high-temperature strength with very good resistance to oxidizing environments up to about 2000°F (1095°C), and good carburization resistance. This electrode is used for the welding of Hastelloy X and similar nickel-chromium-molybdenum alloys. It is also used for surfacing of steel. This alloy is one of the most widely used materials for fabricated or forged parts in gas turbine engines, and is also used in chemical and petrochemical plant, power plant and industrial heating applications.

DMHAST-X may be cold-formed or hot-formed by various techniques, and is readily weldable by most standard methods.

Typical Chemical Composition (%)

AWS Spec.	C	Mn	Fe	P	S	Si	Cu	Ni	Co	Cr
A5.11	0.05 - 0.15	1.0 max	17.0 - 20.0	0.04 max	0.03 max	1.0 max	0.50 max	REM	0.50 - 2.5	20.5-23.0
Typical	0.067	0.16	18.40	0.003	0.001	0.19	0.05	REM	1.2	22.14

AWS Spec.	Mo	W	TOE							
A5.11	8.0 - 10.0	0.2 - 1.0	0.50 max							
Typical	8.79	0.45	<0.50							

Typical Mechanical Properties as Welded

Tensile Strength (n/mm²)	Yield Strength (n/mm²)	Elongation (%)
757	391	26% 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