DURAMAX STAINLESS ELECTRODE DM316-16

Classification: **E316-16** **AWS A5.4 / ASME SFA 5.4**

Description, Characteristics & Applications:

DURAMAX E316-16 electrodes are designed for the welding to type 316 chromium-nickel steel. This alloy contains 2% to 3% molybdenum is addition to sufficient chromium and nickel to render is austenitic. Molybdenum is added to increase the corrosion resistance of the alloy to a firm attack know as pitting, which is induced by such corrosive metals as sulfuric and sulfurous acids, sulfites, chloride and cellulose solutions. DM316-16 is often utilized for welding Type 316 and similar chemical composition alloys in wrought or cast form. The presence of molybdenum provides creep resistance at higher temperature levels.

DM316-16 is well suited for nuclear plants, power facilities, and the petrochemical industry. It welds furnace parts, turbine components, and superheater headers.

Typical Chemical Composition (%)

AWS Spec.	C	Cr	Ni	Mo	Mn	Si	P	S	Cu	
A5.4	0.08 max	17.0-20.0	11.0-14.0	2.0 - 3.0	0.5 - 2.5	1.00 max	0.04 max	0.03 max	0.75 max	
Typical	0.05	18.0	12.0	2.12	1.20	0.65	0.03	0.01	0.14	

Typical Mechanical Properties as Welded

Tensile Strength (n/mm²)	Yield Strength (n/mm²)	Elongation (%)	Hardness	Ferrite WRC (FN)	CVN Impacts (J) @ +20 °C
520 Min	300 Min	30% Min	-------	3 - 10 FN	60-80 J

Typical Welding Parameters DCEP or AC

Diameter	Type of Current	Amperage Range		Voltage Range
		Flat	Out of Position	
3/32"	DCEP or AC	70 - 80	65 - 80	20 - 23
1/8"	DCEP or AC	80 - 110	75 - 95	21 - 24
5/32"	DCEP or AC	120 - 160	100 - 120	22 - 25
3/16"	DCEP or AC	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 or AC
DCEP = DC, Electrode Positive (reverse polarity) has the most weld penetration.
AC: medium weld penetration (can have more spatter)
WELDING POSITIONS: All Positions
USE LESS AMPS ON THIN METAL; MORE AMPS ON THICK METAL