DURAMAX STAINLESS ELECTRODE DM317L-16

Classification: **E317L-16** **AWS A5.4 / ASME SFA 5.4**

Description, Characteristics & Applications:

DURAMAX E317L-16 has a nominal composition (wt.-%) of 19.5 Cr, 12.75 Ni, 3.5 Mo, and a maximum carbon content of 0.04. This carbon restriction reduces the possibility of intergranular carbide precipitation and thereby increases the resistance to intergranular corrosion without the use of stabilizers such as niobium or titanium. The low-carbon alloy however, is not as strong at elevated temperatures as the niobium-stabilized alloys or the standard type 317 weld metal with higher carbon content.

DM317L-16 is usually used for welding alloys of similar composition and are utilized in severely corrosive environments (such as those containing halogens) where crevice and pitting corrosion are of concern, such as food processing plants, paper industries, chemical processing facilities, and marine applications.

Typical Chemical Composition (%)

AWS Spec.	C	Cr	Ni	Mo	Mn	Si	P	S	Cu	
A5.4	0.04 max	18.0-21.0	12.0-14.0	3.0 - 4.0	0.5 - 2.5	1.00 max	0.04 max	0.03 max	0.75 max	
Typical	0.03	18.9	12.95	3.35	1.55	0.52	0.018	0.02	0.14	

Typical Mechanical Properties as Welded

Tensile Strength (n/mm²)	Yield Strength (n/mm²)	Elongation (%)	Hardness	Ferrite WRC (FN)	CVN Impacts (J) @ °C
550 Min	----	30% Min	-------	8 FN	-----

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