

Classification

AWS A5.4

E316L-16

Characteristics and typical fields of application

Avesta 316L-16 Cryo is a rutile-basic Cr-Ni-Mo alloyed stick electrode with controlled ferrite content. The electrode is designed to produce high quality weld deposits with reliable weld metal toughness down to -196°C.

The electrode is suitable for welding ASTM 316L type steels in cryogenic application where the requirement is ≥ 0.38 mm lateral expansion and ≥ 32 J impact strength at -196°C.

Base Materials

ASTM 316 - 316L-S31653; SS 2343-2353-2375; BS316S33,316S13

Typical analysis of all weld metal (Wt.-%)

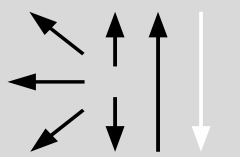
C	Si	Mn	Cr	Ni	Mo	Cu	N
0.03	0.45	1.60	18.5	12.6	2.2	0.04	0.07

 Ferrite Number \approx 3-5 FN WRC 92

Mechanical properties of the weld metal

Heat Treatment	Yield strength	Tensile strength	Elongation	Impact work		Lateral Expansion
	R_e N/mm ²	R_m N/mm ²	($L_0=4d_0$)	ISO-V K_V (J)		
	MPa	Mpa	%	+20°C	-196°C	-196°C
As Welded	430 (\geq 320)	575 (\geq 510)	35(\geq 30)	65(\geq 47)	35 (\geq 32)	>0,38 mm

Operating Data

	Polarity DC (+)	Interpass temperature : 150°C Heat Input: Max. 2.0 KJ/mm Re-drying for 2 h at 250 – 280°C
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Approval

ABS

Size, Packing and Recommended welding parameters

Size (mm)	Kg / Pack	Kg / Box	Amperage (A)
2.50 x 350	5.00	15.00	50-80
3.25 x 350	5.00	15.00	80-120
4.00 x 350	5.00	15.00	100-160