

SelectAlloy 316LSi-C

Description:

SelectAlloy 316LSi-C is a gas-shielded, metal cored, stainless steel electrode. It has a nominal composition of 19%Cr, 12.5%Ni, 2.5%Mo, 0.8 Si and a maximum carbon content of 0.03%. The higher silicon level improves bead wetting. The presence of molybdenum improves resistance to pitting and provides increase creep resistance at elevated temperatures. The low carbon minimizes carbide precipitation and makes it more resistant to intergranular corrosion. It is designed for use with argon/1-2% oxygen or argon/1-2% CO₂ shielding gases.

Classification:

- EC316LSi per AWS A5.22 (also per AWS A5.9:2006)

Characteristics:

SelectAlloy 316LSi-C operates with a smooth, spray arc transfer. It produces little or no slag and virtually no spatter, minimizing cleanup. It offers higher deposition rates and more controlled penetration than the equivalent solid electrode. As a result it operates at higher travel speeds and handles poor fit up.

Applications:

SelectAlloy 316LSi-C is ideally suited for making small butt, lap and fillet welds on thin material at elevated travel speeds. The additional silicon in this product will improve bead wetting and produce a cosmetically appealing weld. It finds wide application in the pulp and paper industry, chemical and textile processing equipment, furnace parts and in parts exposed to marine environments. It is used to weld type 316 stainless and other similar alloys, such as ASTM A743 and A744, types CF-8M and CF-3M.

Typical Mechanical Properties (98% Ar-2% O₂):

Ultimate Tensile Strength (psi)	84,000
Yield Strength (psi)	64,200
Percent Elongation	36

Typical Weld Deposit Chemistry (98% Ar-2% O₂):

<u>C</u>	<u>Mn</u>	<u>Cr</u>	<u>Si</u>	<u>Ni</u>	<u>Mo</u>	<u>N</u>
0.02	1.20	18.60	0.80	12.40	2.40	0.05
Ferrite Number (WRC, 1992) - 6						

Typical Welding Parameters (98Ar-2%O₂)*:

Diameter	WFS (ipm)	Amperage	Voltage	ESO (in.)	Dep. Rate (lbs/hr)
.035"	350	155	22	1/2-5/8	5.9
.035"	500	205	23	1/2-5/8	8.6
.035"	600	230	25	1/2-5/8	10.2
.035"	700	245	26	1/2-5/8	11.8
.045"	250	180	21	1/2-5/8	7.1
.045"	400	240	23	1/2-5/8	11.3
.045"	500	280	25	1/2-5/8	14.1
.045"	650	300	28	1/2-5/8	18.4
1/16"	150	190	24	3/4-1	7.7
1/16"	250	280	25	3/4-1	12.8
1/16"	350	385	26	3/4-1	17.9
1/16"	450	490	32	3/4-1	23.1

* Optimum conditions are in **boldface type**.

Notice: The results reported are based upon testing of the product under controlled laboratory conditions in accordance with American Welding Society Standards. Actual use of the product may produce different results due to varying conditions. Thus the results are not guarantees for use in the field. The manufacturer disclaims any warranty of merchantability or fitness for any particular purpose with respect to its products.

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