

SelectAlloy 316L-CS_LNG

Stainless Steel / Flux Shielded / Submerged Arc

PRODUCT DATA SHEET

FEATURES

- Specially formulated to produce good weld metal toughness via strict weld metal chemical composition control.
- Resulting deposited ferrite is consistently between 3-7 FN when measured either by predictive methods or using magnetic induction methods.
- Low C, < 0.04 wt%, minimizes carbide precipitation (sensitization) which makes the weld metal more resistant to intergranular corrosion.
- The addition of Mo improves resistance to pitting and crevice corrosion compared to type 308 stainless steel.
- Applications for this alloy type include fabrication or repair of cryogenic components of similar composition that require weld metal toughness maintained at temperatures of -320°F.
- The recommended flux is ArcFlux BF-38, an aluminate-fluoride-basic flux without Cr or other alloy compensation.

CONFORMANCES

AWS A5.39

F75A32-EC316L/316 (ARCFLUX BF-38)

AWS A5.22

EC316L

DIAMETERS (in [mm])

3/32 (2.4)

POSITIONS



FLUX

ArcFlux BF-38, ArcFlux WP-380

POLARITY

DCEP

TYPICAL WELD DEPOSIT CHEMISTRY (WT%)

Flux	C	Cr	Cu	Mn	Mo	Ni	P	S	Si
ARCFLUX BF-38	0.02	18.5	0.20	1.2	2.0	12.0	0.02	<0.01	0.6
ARCFLUX WP-380	0.02	18.6	0.20	1.2	2.0	12.6	0.02	<0.01	0.6
Argon	0.02	19.1	0.14	1.2	2.4	13.3	0.02	<0.01	0.5
Ferrite	Result								
WRC 1992	4.4								

Weld deposit chemistry with argon is representative of the metal-cored wire chemistry.



Revision: 1/17/2025

Notice: Be sure to follow all your employers safety practices, policies and procedures when using this product. Refer to CSA W117.2 and ANSI Z49.1 Safety in Welding, Cutting and Allied Processes for further information and the manufactures SDS sheet. 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. An example of such conditions would be electrode size, plate chemistry, environment, weldment design, fabrication methods, welding procedure and service requirements. 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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TYPICAL MECHANICAL PROPERTIES

Flux	Tensile Strength ksi (MPa)	Yield Strength ksi (MPa)	Elongation (%)	Weld Condition	PWHT Temp	CVN @ -320°F (-196°C) ft-lb (J)	Lateral Expansion
ARCFLUX BF-38	80 (550)	55 (377)	38	As-Welded	-	27 (37)	19 (mils)
ARCFLUX WP-380	83 (574)	55 (381)	34	As-Welded	-	32 (43)	16 (mils)

RECOMMENDED WELDING PARAMETERS **

Diameter in (mm)	Flux	Position	WFS* in/min (m/min)	Amps	Volts	CTWD* in (mm)
3/32 (2.4 mm)	ARCFLUX BF-38	Flat & Horizontal	60 (1.5)	250	28.0	1 - 1 1/4 (25 - 32)
		Flat & Horizontal	100 (2.5)	300	28.5	1 - 1 1/4 (25 - 32)
		Flat & Horizontal	150 (3.8)	350	29.0	1 - 1 1/4 (25 - 32)

* WFS = Wire Feed Speed, CTWD = Contact Tip To Work Distance

**The parameters listed are recommended starting points of operation and the ranges for amperage, wfs, and voltage could be extended based on fitness for application. For products with "all-position" capability, as determined and listed in classification, the position recommendation can be determined based on operator skill and material thickness and isn't limited to the listing.

APPROVALS

Agency	Approval	Flux	Diameter(s) in (mm)
ABS	F75A32-EC316L/316	ARCFLUX BF-38	3/32 (2.4)

PACKAGING (lbs [kgs])

33 (15) Spools, 60 (27.2) Coils, 500 (226.8) Round Drum, 800 (362.9) Hex Drum, 900 (408.2) Hex Drum

*Some packaging options may not be available depending on diameter and product. Special package options may be available upon request.

STORAGE AND HANDLING

All products should be stored in original packaging, in dry conditions and handled with care. For more information refer to our website.



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