SelectAlloy 309LCb-AP

Stainless Steel / Gas Shielded / Flux Cored

PRODUCT DATA SHEET

FEATURES

- The addition of niobium (Nb) reduces the possibility of intergranular chromium carbide precipitation and thus susceptibility to intergranular corrosion.
- Designed for welding in all positions where well washed beads can be achieved with minimal weaving in both 100% CO2 or 75-80% Ar/balance CO2 shielding gas
- Smooth arc transfer produces minimal spatter.
- This alloy is used to overlay carbon and low-alloy steels and produce a niobium stabilized first layer.

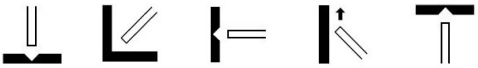
CONFORMANCES

AWS A5.22	E309LNbT1-1
	E309LNbT1-4
ASME SFA 5.22	E309LNbT1-1
	E309LNbT1-4

DIAMETERS (in [mm])

0.035 (0.9), 0.045 (1.2), 1/16 (1.6)

POSITIONS



SHIELDING GAS

75-80% Ar + Balance CO2, 100% CO2
Flow Rate: 40 - 50 CFM

POLARITY

Direct Current Electrode Positive (DCEP)

TYPICAL WELD DEPOSIT CHEMISTRY (WT%)

Shielding Gas	C	Cr	Cu	Mn	Mo	Nb + Ta	Ni	P	S	Si	WRC-1992 Ferrite
100%CO2	0.03	23.30	0.18	1.10	0.11	0.82	12.50	0.022	0.011	0.81	18
75%Ar / 25%CO2	0.03	23.50	0.19	1.12	0.11	0.84	12.60	0.022	0.012	0.87	18

Bismuth is not intentionally added and levels are not known to be greater than 0.002 (WT%)

TYPICAL MECHANICAL PROPERTIES

Shielding Gas	Tensile Strength ksi (MPa)	Yield Strength ksi (MPa)	Elongation (%)	Weld Condition	PWHT Temp
100%CO2	88 (607)	60 (414)	34	As-Welded	-
75%Ar / 25%CO2	94 (648)	65 (448)	33	As-Welded	-

Revision: 4/5/2022

600 Enterprise Drive, P.O. Box 259, Fort Loramie, Ohio 45845-0259 • 877-869-4009 • www.Select-SAI.com

RECOMMENDED WELDING PARAMETERS

Diameter in (mm)	Shielding Gas	Position	WFS* in/min (m/min)	Amps	Volts	CTWD* in (mm)
0.035 (0.9 mm)	75% Ar/25% CO2	All Positions	325 (8.3)	110	23	1/2 (13)
		All Positions	400 (10.2)	120	24.5	1/2 (13)
		All Positions	470 (11.9)	130	26	1/2 (13)
		Flat & Horizontal	565 (14.4)	145	27.5	1/2 - 5/8 (13 - 16)
		Flat & Horizontal	660 (16.8)	160	29	1/2 - 5/8 (13 - 16)
0.045 (1.2 mm)	75% Ar/25% CO2	All Positions	215 (5.5)	130	23	1/2 - 5/8 (13 - 16)
		All Positions	260 (6.6)	145	24.5	1/2 - 5/8 (13 - 16)
		All Positions	310 (7.9)	160	26	1/2 - 5/8 (13 - 16)
		Flat & Horizontal	420 (10.7)	180	27.5	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	450 (11.4)	200	29	5/8 - 3/4 (16 - 19)
1/16 (1.6 mm)	75% Ar/25% CO2	All Positions	135 (3.4)	160	23	5/8 - 3/4 (16 - 19)
		All Positions	190 (4.8)	195	24.5	5/8 - 3/4 (16 - 19)
		All Positions	225 (5.7)	210	26	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	255 (6.5)	225	27.5	3/4 - 1 (19 - 25)
		Flat & Horizontal	290 (7.4)	245	29	3/4 - 1 (19 - 25)

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

Parameters were established in 75% Ar/25% CO2. Raise by 1-1.5 volts when using 100% CO2.

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.

Revision: 4/5/2022

600 Enterprise Drive, P.O. Box 259, Fort Loramie, Ohio 45845-0259 • 877-869-4009 • www.Select-SAI.com