

SelectAlloy 312

Stainless Steel / Gas Shielded / Flux Cored

PRODUCT DATA SHEET

FEATURES

- Two-phase weld deposit with substantial amounts of ferrite in an austenitic matrix.
- Produces a finely rippled, equal legged, and well washed bead geometry in both 100% CO₂ or 75-80% Ar/balance CO₂ shielding gas
- Smooth arc transfer and self-releasing slag that peels freely to ensure that clean up time is minimized.
- Applications for this alloy type include welding dissimilar metal compositions of which one component is high in Ni. Even considering the dilution from the austenite forming elements (i.e. nickel), the microstructure remains two-phase and highly resistant to weld metal cracks and fissures.

CONFORMANCES

AWS A5.22

E312T0-1

E312T0-4

ASME SFA 5.22

E312T0-1

E312T0-4

DIAMETERS (in [mm])

0.045 (1.2), 1/16 (1.6)

POSITIONS



SHIELDING GAS

75-80% Ar + Balance CO₂, 100% CO₂

Flow Rate: 40 - 50 CFH

POLARITY

Direct Current Electrode Positive (DCEP)

TYPICAL WELD DEPOSIT CHEMISTRY (WT%)

Shielding Gas	C	Cr	Cu	Mn	Mo	N	Ni	P	S	Si	WRC-1992 Ferrite
100%CO ₂	0.09	30.10	0.17	1.01	0.09	0.05	9.21	0.02	0.01	0.71	53
75%Ar / 25%CO ₂	0.09	30.20	0.12	1.09	0.06	0.05	9.24	0.02	<0.01	0.76	60

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%CO ₂	118 (814)	96 (662)	24	As-Welded	-
75%Ar / 25%CO ₂	122 (841)	98 (676)	25	As-Welded	-



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.

RECOMMENDED WELDING PARAMETERS **

Diameter in (mm)	Shielding Gas	Position	WFS* in/min (m/min)	Amps	Volts	CTWD* in (mm)
0.045 (1.2 mm)	75% Ar/25% CO2	Flat & Horizontal	210 (5.3)	145	24	1/2 (13)
		Flat & Horizontal	390 (9.9)	185	28	5/8 (16)
		Flat & Horizontal	550 (14.0)	235	32	3/4 (19)
1/16 (1.6 mm)	75% Ar/25% CO2	Flat & Horizontal	155 (3.9)	180	24	5/8 (16)
		Flat & Horizontal	235 (6.0)	220	27	3/4 (19)
		Flat & Horizontal	300 (7.6)	265	31	1 (25)

* 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.

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.



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