

Select 91-B3

Low Alloy / Gas Shielded / Flux Cored

PRODUCT DATA SHEET

FEATURES

- Formulated for the welding of certain high temperature, creep resistant materials in the flat and horizontal position.
- Rutile slag system provides good welder appeal and bead geometry
- Deposit composition is nominally 2 1/4% chromium, 1% molybdenum, making it the ideal choice for welding materials such as: ASTM A387 Gr. 22 plate or A335 P22 pipe, which are commonly used in the fabrication of pressure vessels, boilers, heat exchangers, and other applications involving high temperatures that require creep resistance.

CONFORMANCES

AWS A5.29

E90T1-B3C

E90T1-B3M

DIAMETERS (in [mm])

1/16 (1.6), 5/64 (2.0), 3/32 (2.4)

POSITIONS



SHIELDING GAS

100%CO₂, 75-80% Ar/Balance CO₂

Flow Rate: 40 - 50 CFH

POLARITY

Direct Current Electrode Positive (DCEP)

TYPICAL WELD DEPOSIT CHEMISTRY (WT%)

Shielding Gas	C	Cr	Mn	Mo	P	S	Si
100%CO ₂	0.06	2.24	0.70	1.01	0.010	0.010	0.50
75%Ar / 25%CO ₂	0.07	2.45	0.72	1.14	0.010	0.010	0.57

TYPICAL MECHANICAL PROPERTIES

Shielding Gas	Tensile Strength ksi (MPa)	Yield Strength ksi (MPa)	Elongation (%)	Weld Condition	PWHT Temp
100%CO ₂	106 (728)	95 (655)	18	PWHT	1275°F for 1 hr
75%Ar / 25%CO ₂	108 (748)	97 (667)	18	PWHT	1275°F for 1 hr



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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RECOMMENDED WELDING PARAMETERS **

Diameter in (mm)	Shielding Gas	Position	WFS* in/min (m/min)	Amps	Volts	CTWD* in (mm)
1/16 (1.6 mm)	75% Ar/25% CO2	Flat & Horizontal	235 (6.0)	245	24	3/4 (19)
		Flat & Horizontal	280 (7.1)	275	27	3/4 - 1 (19 - 25)
		Flat & Horizontal	325 (8.3)	320	29	3/4 - 1 (19 - 25)
5/64 (2.0 mm)	75% Ar/25% CO2	Flat & Horizontal	145 (3.7)	280	25	1 (25)
		Flat & Horizontal	190 (4.8)	320	27	1 - 1 1/4 (25 - 32)
		Flat & Horizontal	230 (5.8)	365	29	1 - 1 1/4 (25 - 32)
3/32 (2.4 mm)	75% Ar/25% CO2	Flat & Horizontal	120 (3.0)	275	25	1 - 1 1/4 (25 - 32)
		Flat & Horizontal	150 (3.8)	335	27	1 1/4 - 1 1/2 (32 - 38)
		Flat & Horizontal	165 (4.2)	400	29	1 1/4 - 1 1/2 (32 - 38)

* 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.

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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