

# Select 810-B2

Low Alloy / Gas Shielded / Flux Cored

PRODUCT DATA SHEET

## FEATURES

- Select 810-B2 is a low alloy steel electrode for flux cored arc welding with external gas shielding.
- Designed for Cr-Mo steel plate and pipe, where 1¼% Cr and ½% Mo are required in the weld deposit.
- Carbon dioxide is the recommended shielding gas; mixtures of 75-80% argon-balance carbon dioxide may be employed.
- The smooth arc transfer, low spatter, and fast freezing slag make this an excellent choice for welding boiler and pressure vessel components in all positions.
- Requires careful control of preheat and interpass temperatures, as well as proper post weld heat treatment.
- Select 810-B2 is intended to weld steels subject to high temperature service, such as A387 Gr. 11 plate and A335 P11 pipe.
- Typical applications include the fabrication of boilers, heat exchangers, and pressure vessels.
- The AWS classification requires no minimum toughness values for this electrode; therefore, any specific toughness requirements should be discussed prior to use of the electrode.

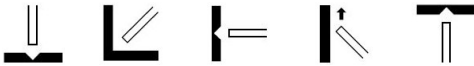
## CONFORMANCES

<b>AWS A5.29</b>	E81T1-B2C-H4 E81T1-B2M-H4
<b>AWS A5.36</b>	E81T1-M21PZ-B2-H4
<b>ASME SFA 5.29</b>	E81T1-B2C-H4 E81T1-B2M-H4

## DIAMETERS (in [mm])

0.035 (0.9), 0.045 (1.2), 0.052 (1.3), 1/16 (1.6)

## POSITIONS



## SHIELDING GAS

75-80% Ar / Balance CO<sub>2</sub>, 100% CO<sub>2</sub>  
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 <sub>2</sub>	0.05	1.11	0.48	0.52	0.010	0.010	0.56
75%Ar / 25%CO <sub>2</sub>	0.06	1.17	0.52	0.51	0.010	0.010	0.69



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.

## TYPICAL MECHANICAL PROPERTIES

Shielding Gas	Tensile Strength ksi (MPa)	Yield Strength ksi (MPa)	Elongation (%)	Weld Condition	PWHT Temp
100%CO2	90 (621)	76 (524)	25	PWHT	1275°F for 1 hr
75%Ar / 25%CO2	96 (662)	83 (572)	23	PWHT	1275°F for 1 hr

## RECOMMENDED WELDING PARAMETERS \*\*

Diameter in (mm)	Shielding Gas	Position	WFS* in/min (m/min)	Amps	Volts	CTWD* in (mm)
0.035 (0.9 mm)	100% CO2	All Positions	275 (7.0)	120	23	1/2 - 5/8 (13 - 16)
		All Positions	320 (8.1)	135	24	1/2 - 5/8 (13 - 16)
		All Positions	420 (10.7)	160	26	1/2 - 5/8 (13 - 16)
		Flat & Horizontal	465 (11.8)	180	27	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	570 (14.5)	200	29	5/8 - 3/4 (16 - 19)
0.045 (1.2 mm)	100% CO2	All Positions	200 (5.1)	145	23	1/2 - 5/8 (13 - 16)
		All Positions	235 (6.0)	160	24	1/2 - 5/8 (13 - 16)
		All Positions	300 (7.6)	185	26	1/2 - 5/8 (13 - 16)
		Flat & Horizontal	375 (9.5)	215	27	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	440 (11.2)	235	29	5/8 - 3/4 (16 - 19)
0.052 (1.3 mm)	100% CO2	All Positions	170 (4.3)	155	23	5/8 - 3/4 (16 - 19)
		All Positions	200 (5.1)	175	24	5/8 - 3/4 (16 - 19)
		All Positions	250 (6.4)	225	26	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	310 (7.9)	250	27	3/4 - 1 (19 - 25)
		Flat & Horizontal	395 (10.0)	280	29	3/4 - 1 (19 - 25)
1/16 (1.6 mm)	100% CO2	All Positions	125 (3.2)	165	23	5/8 - 3/4 (16 - 19)
		All Positions	150 (3.8)	195	24	5/8 - 3/4 (16 - 19)
		All Positions	185 (4.7)	225	26	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	265 (6.7)	280	27	3/4 - 1 (19 - 25)
		Flat & Horizontal	325 (8.3)	320	29	3/4 - 1 (19 - 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.

For Welding in 75-80% Ar / Balance CO2, decrease by 1 - 1.5 volts

## 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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