

# Select 80C-Ni1

Low Alloy / Gas Shielded / Metal Cored

PRODUCT DATA SHEET

## FEATURES

- Intended for welding horizontal and flat fillets and flat groove welds.
- Can be used with shielding gas mixtures of 75-95% Ar/balance CO<sub>2</sub>, and 95-98% Ar/balance O<sub>2</sub>.
- A good selection for welding steels such as ASTM A203-Grade E, A302, A575, and A633.
- Typical applications would be fabrication of earthmoving machinery parts and buckets, mining machinery, and fine-grained structural steels.

## CONFORMANCES

<b>AWS A5.28</b>	E80C-Ni1-H4
<b>ASME SFA 5.28</b>	E80C-Ni1-H4
<b>AWS A5.36</b>	E80T15-M20A5-Ni1-H4 E80T15-M22A5-Ni1-H4
<b>AWS D1.8</b>	1/16 in (1.6 mm), (90% Ar/10% CO <sub>2</sub> )

## DIAMETERS [in (mm)]

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

## POSITIONS



## SHIELDING GAS

75-95%Ar/Balance CO<sub>2</sub>, 95-98%Ar/Balance O<sub>2</sub>  
Flow Rate: 40 - 50 CFH

## POLARITY

Direct Current Electrode Positive (DCEP)

## TYPICAL WELD DEPOSIT CHEMISTRY [WT%]

Shielding Gas	C	Cu	Mn	Mo	Ni	P	S	Si	V
90%Ar / 10%CO <sub>2</sub>	0.03	0.11	1.40	0.15	0.94	0.009	0.010	0.53	0.01
98%Ar / 2%O <sub>2</sub>	0.03	0.05	1.45	0.14	0.95	0.009	0.010	0.50	0.01

## TYPICAL MECHANICAL PROPERTIES

Shielding Gas	Tensile Strength ksi (MPa)	Yield Strength ksi (MPa)	Elongation (%)	Weld Condition	PWHT Temp	CVN @ -50°F (-46°C) ft-lb (J)
90%Ar / 10%CO <sub>2</sub>	94 (648)	86 (593)	25	As-Welded	-	30 (41)
98%Ar / 2%O <sub>2</sub>	99 (683)	83 (572)	25	As-Welded	-	35 (47)



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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)
0.035 (0.9 mm)	75% Ar/25% CO2	Flat & Horizontal	345 (8.8)	170	25	1/2 - 5/8 (13 - 16)
		Flat & Horizontal	425 (10.8)	190	26	1/2 - 5/8 (13 - 16)
		Flat & Horizontal	475 (12.1)	210	27.5	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	570 (14.5)	225	29	5/8 - 3/4 (16 - 19)
0.045 (1.2 mm)	75% Ar/25% CO2	Flat & Horizontal	260 (6.6)	200	25	1/2 - 5/8 (13 - 16)
		Flat & Horizontal	305 (7.7)	220	26	1/2 - 5/8 (13 - 16)
		Flat & Horizontal	360 (9.1)	240	27.5	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	405 (10.3)	255	29	5/8 - 3/4 (16 - 19)
0.052 (1.3 mm)	75% Ar/25% CO2	Flat & Horizontal	235 (6.0)	215	25	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	315 (8.0)	260	26	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	330 (8.4)	275	27.5	3/4 - 1 (19 - 25)
		Flat & Horizontal	345 (8.8)	295	29	3/4 - 1 (19 - 25)
1/16 (1.6 mm)	75% Ar/25% CO2	Flat & Horizontal	200 (5.1)	250	25	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	245 (6.2)	290	26	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	275 (7.0)	310	27.5	3/4 - 1 (19 - 25)
		Flat & Horizontal	285 (7.2)	330	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 higher Ar/CO2 blends and Ar/O2 mixes, lower voltage by 1-3 volts.

## APPROVALS

Agency	Approval	Shielding Gas	Diameter(s) in (mm)
CWB CSA W48-23	E550T15-M21A4-Ni1-H4	M21 (75%Ar / 25%CO2)	0.035 (0.9) - 1/16 (1.6)
	E550T15-M20A4-Ni1-H4	M20 (85%Ar / 15%CO2)	0.035 (0.9) - 1/16 (1.6)
	E550T15-GA4-Ni1-H4	G (Gas Mixture*)	0.035 (0.9) - 1/16 (1.6)

\* G - Gas mixtures containing components not listed, or mixtures outside the composition range listed in AWS A5.32 (ISO 14175). Two gas mixtures with the same G - classification may not be interchangeable. For more details see approval website or contact Select-Arc.

## 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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