

# Select 810-Ni2

Low Alloy / Gas Shielded / Flux Cored

PRODUCT DATA SHEET

## FEATURES

- Exhibits a spray-like arc transfer and low spatter.
- Intended for single and multiple pass welding, on carbon and low alloy steels requiring good charpy v-notch toughness at temperatures as low as -40F.
- Designed as a dual gas electrode, 100%CO<sub>2</sub> and 75-80% argon – balance CO<sub>2</sub>.
- Typical steels welded with this electrode include ASTM A572, A302, A588, and A734.
- Select 810-Ni2 is ideal for applications such as offshore platform construction, shipbuilding, earthmoving and mining machinery.

## CONFORMANCES

AWS A5.29

E81T1-Ni2C

E81T1-Ni2M

ASME SFA 5.29

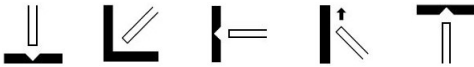
E81T1-Ni2C

E81T1-Ni2M

## DIAMETERS (in [mm])

0.045 (1.2), 0.052 (1.3), 1/16 (1.6), 5/64 (2.0)

## POSITIONS



## SHIELDING GAS

75-80% Ar/Balance CO<sub>2</sub>, 100% CO<sub>2</sub>

Flow Rate: 40 - 50 CFM

## POLARITY

Direct Current Electrode Positive (DCEP)

## TYPICAL WELD DEPOSIT CHEMISTRY (WT%)

| Shielding Gas              | C    | Mn   | Ni   | P     | S     | Si   |
|----------------------------|------|------|------|-------|-------|------|
| 100%CO <sub>2</sub>        | 0.04 | 0.83 | 2.40 | 0.010 | 0.010 | 0.29 |
| 75%Ar / 25%CO <sub>2</sub> | 0.05 | 0.90 | 2.40 | 0.010 | 0.010 | 0.30 |

## TYPICAL MECHANICAL PROPERTIES

| Shielding Gas              | Tensile Strength<br>ksi (MPa) | Yield Strength<br>ksi (MPa) | Elongation<br>(%) | Weld Condition | PWHT<br>Temp | CVN @<br>-40°F (-40°C)<br>ft-lb (J) |
|----------------------------|-------------------------------|-----------------------------|-------------------|----------------|--------------|-------------------------------------|
| 100%CO <sub>2</sub>        | 89 (614)                      | 77 (531)                    | 25                | As-Welded      | -            | 30 (41)                             |
| 75%Ar / 25%CO <sub>2</sub> | 91 (628)                      | 82 (566)                    | 24                | As-Welded      | -            | 40 (54)                             |



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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)       |
|------------------|----------------|-------------------|---------------------|------|-------|---------------------|
| 0.045 (1.2 mm)   | 75% Ar/25% CO2 | All Positions     | 200 (5.1)           | 145  | 22    | 1/2 - 5/8 (13 - 16) |
|                  |                | All Positions     | 235 (6.0)           | 160  | 23    | 1/2 - 5/8 (13 - 16) |
|                  |                | All Positions     | 300 (7.6)           | 185  | 25    | 1/2 - 5/8 (13 - 16) |
|                  |                | Flat & Horizontal | 375 (9.5)           | 215  | 26    | 5/8 - 3/4 (16 - 19) |
|                  |                | Flat & Horizontal | 440 (11.2)          | 235  | 28    | 5/8 - 3/4 (16 - 19) |
| 0.052 (1.3 mm)   | 75% Ar/25% CO2 | All Positions     | 170 (4.3)           | 155  | 22    | 5/8 - 3/4 (16 - 19) |
|                  |                | All Positions     | 200 (5.1)           | 175  | 23    | 5/8 - 3/4 (16 - 19) |
|                  |                | All Positions     | 250 (6.4)           | 225  | 25    | 5/8 - 3/4 (16 - 19) |
|                  |                | Flat & Horizontal | 310 (7.9)           | 250  | 26    | 3/4 - 1 (19 - 25)   |
|                  |                | Flat & Horizontal | 395 (10.0)          | 280  | 28    | 3/4 - 1 (19 - 25)   |
| 1/16 (1.6 mm)    | 75% Ar/25% CO2 | All Positions     | 125 (3.2)           | 165  | 22    | 5/8 - 3/4 (16 - 19) |
|                  |                | All Positions     | 150 (3.8)           | 195  | 23    | 5/8 - 3/4 (16 - 19) |
|                  |                | All Positions     | 185 (4.7)           | 225  | 25    | 5/8 - 3/4 (16 - 19) |
|                  |                | Flat & Horizontal | 265 (6.7)           | 280  | 26    | 3/4 - 1 (19 - 25)   |
|                  |                | Flat & Horizontal | 325 (8.3)           | 320  | 28    | 3/4 - 1 (19 - 25)   |
| 5/64 (2.0 mm)    | 75% Ar/25% CO2 | All Positions     | 100 (2.5)           | 195  | 22    | 3/4 (19)            |
|                  |                | All Positions     | 110 (2.8)           | 210  | 23    | 3/4 (19)            |
|                  |                | All Positions     | 130 (3.3)           | 240  | 25    | 3/4 (19)            |
|                  |                | Flat & Horizontal | 200 (5.1)           | 310  | 26    | 1 - 1 1/4 (25 - 32) |
|                  |                | Flat & Horizontal | 225 (5.7)           | 350  | 28    | 1 - 1 1/4 (25 - 32) |

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

## APPROVALS

| Agency   | Approval      | Shielding Gas        | Diameter(s) in (mm)      |
|----------|---------------|----------------------|--------------------------|
| ABS      | 3YSA          | M21 (75%Ar / 25%CO2) | 0.035 (0.9) - 1/16 (1.6) |
|          |               | C1 (100%CO2)         | 0.035 (0.9) - 1/16 (1.6) |
| MILITARY | MIL-81T1-Ni2C | C1 (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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