

Select 81-Ni2

Low Alloy / Gas Shielded / Flux Cored

PRODUCT DATA SHEET

FEATURES

- Produces beads with good geometry, a smooth rippled surface, and easily removable, thin slag
- Excellent low temperature Charpy impact results due to the 2.5% nickel addition.
- Used to weld steels such as ASTM A203, A572, A575, A734, and steels containing 2% nickel.
- Ideal for applications such as offshore platform construction, earthmoving and minery machinery, and shipbuilding.

CONFORMANCES

AWS A5.29

E80T1-Ni2C-H8
E80T1-Ni2C-JH8
E80T1-Ni2M-H8
E80T1-Ni2M-JH8

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 | Mn | Ni | P | S | Si |
|----------------------------|------|------|------|-------|-------|------|
| 100%CO ₂ | 0.06 | 1.13 | 2.58 | 0.005 | 0.010 | 0.23 |
| 75%Ar / 25%CO ₂ | 0.06 | 1.13 | 2.45 | 0.005 | 0.011 | 0.33 |

TYPICAL MECHANICAL PROPERTIES

| Shielding Gas | Tensile Strength ksi (MPa) | Yield Strength ksi (MPa) | Elongation (%) | Weld Condition | PWHT Temp | CVN @ -76°F (-60°C) ft-lb (J) |
|----------------------------|-------------------------------|-----------------------------|-------------------|-------------------|--------------|-------------------------------------|
| 100%CO ₂ | 91 (628) | 76 (528) | 27 | As-Welded | - | 59 (80) |
| 75%Ar / 25%CO ₂ | 97 (669) | 84 (579) | 26 | As-Welded | - | 49 (66) |



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) |
|------------------|---------------|-------------------|---------------------|------|-------|-------------------------|
| 1/16 (1.6 mm) | 100% 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) | 100% 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) | 100% CO2 | Flat & Horizontal | 120 (3.0) | 275 | 25 | 1 1/4 (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.

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

APPROVALS

| Agency | Approval | Shielding Gas | Diameter(s) in (mm) |
|----------------|--------------------------------------|----------------------|---------------------|
| CWB CSA W48-23 | E550T1-C1A6-Ni2-H8 (E550T1-Ni2C-H8) | C1 (100%CO2) | 3/32 (2.4) |
| | E550T1-M21A6-Ni2-H8 (E550T1-Ni2M-H8) | M21 (75%Ar / 25%CO2) | 3/32 (2.4) |

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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