

# Select 920-K2

Low Alloy / Gas Shielded / Flux Cored

PRODUCT DATA SHEET

## FEATURES

- Produces weld metal with improved low temperature toughness when compared to other electrodes of the same class.
- Exhibits a spray-like arc transfer with very little spatter.
- Slag volume is moderate and removal is quite easy.
- Ideal for applications requiring 90,000 psi minimum tensile strength with good subzero CVN toughness values.
- Used to weld HY-80, HY-100, ASTM 710, A514, and other similar high strength steels.
- Utilized in the fabrication of naval vessels, offshore platforms/leg assemblies, earthmoving machinery, and specialized structural applications.

## CONFORMANCES

AWS A5.29

E91T1-K2CJH4

E91T1-K2MJH4

## DIAMETERS (in [mm])

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   | Ni  | P     | S     | Si   | V    |
|----------------------------|------|------|-----|------|-----|-------|-------|------|------|
| 100%CO <sub>2</sub>        | 0.05 | 0.03 | 1.5 | 0.00 | 1.9 | 0.010 | 0.010 | 0.21 | 0.02 |
| 75%Ar / 25%CO <sub>2</sub> | 0.04 | 0.04 | 1.6 | 0.00 | 1.9 | 0.010 | 0.010 | 0.25 | 0.02 |

## TYPICAL MECHANICAL PROPERTIES

| Shielding Gas              | Tensile Strength<br>ksi (MPa) | Yield Strength<br>ksi (MPa) | Elongation<br>(%) | Weld<br>Condition | PWHT<br>Temp | CVN @<br>-40°F (-40°C)<br>ft-lb (J) | CVN @<br>-76°F (-60°C)<br>ft-lb (J) |
|----------------------------|-------------------------------|-----------------------------|-------------------|-------------------|--------------|-------------------------------------|-------------------------------------|
| 100%CO <sub>2</sub>        | 94 (645)                      | 87 (600)                    | 22                | As-Welded         | -            | 65 (88)                             | 46 (62)                             |
| 75%Ar / 25%CO <sub>2</sub> | 101 (697)                     | 89 (614)                    | 23                | As-Welded         | -            | 78 (106)                            | 51 (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.

## RECOMMENDED WELDING PARAMETERS \*\*

| Diameter in (mm) | Shielding Gas | Position          | WFS* in/min (m/min) | Amps | Volts | CTWD* in (mm)       |
|------------------|---------------|-------------------|---------------------|------|-------|---------------------|
| 0.045 (1.2 mm)   | 100% CO2      | All-Position      | 200 (5.1)           | 145  | 24    | 1/2 - 5/8 (13 - 16) |
|                  |               | All-Position      | 235 (6.0)           | 160  | 25    | 1/2 - 5/8 (13 - 16) |
|                  |               | All-Position      | 300 (7.6)           | 185  | 27    | 1/2 - 5/8 (13 - 16) |
|                  |               | Flat & Horizontal | 375 (9.5)           | 215  | 28    | 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-Position      | 170 (4.3)           | 155  | 24    | 5/8 - 3/4 (16 - 19) |
|                  |               | All-Position      | 200 (5.1)           | 175  | 25    | 5/8 - 3/4 (16 - 19) |
|                  |               | All-Position      | 250 (6.4)           | 225  | 27    | 5/8 - 3/4 (16 - 19) |
|                  |               | Flat & Horizontal | 310 (7.9)           | 250  | 28    | 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-Position      | 125 (3.2)           | 165  | 24    | 5/8 - 3/4 (16 - 19) |
|                  |               | All-Position      | 150 (3.8)           | 195  | 25    | 5/8 - 3/4 (16 - 19) |
|                  |               | All-Position      | 185 (4.7)           | 225  | 25    | 5/8 - 3/4 (16 - 19) |
|                  |               | Flat & Horizontal | 265 (6.7)           | 280  | 28    | 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 75-80% Ar/balance CO2 decrease voltage by 1 to 1.5 volts.

## APPROVALS

| Agency         | Approval                            | Shielding Gas        | Diameter(s) in (mm)      |
|----------------|-------------------------------------|----------------------|--------------------------|
| ABS            | E91T1-GC                            | C1 (100%CO2)         | 0.045 (1.2) - 1/16 (1.6) |
| CWB CSA W48-23 | E621T1-C1A6-K2-H4 (E621T1-K2-H4)    | C1 (100%CO2)         | 0.045 (1.2) - 1/16 (1.6) |
|                | E621T1-M21A6-K2-H4 (E621T1-K2M-JH4) | M21 (75%Ar / 25%CO2) | 0.045 (1.2) - 1/16 (1.6) |

## 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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