

Select 70C-T

Carbon Steel / Gas Shielded / Metal Cored

PRODUCT DATA SHEET

FEATURES

- This electrode is a microalloyed version of Select 70C-6, offering superior CVN toughness values at temperatures as low as -40° F.
- Intended for single and multiple pass welding of most carbon steels, such as ASTM A36, A285, A515-Gr 70, and A516-Gr 70 and 1% Ni steels.
- This electrode exhibits a true spray transfer, with virtually no spatter.
- Minimal slag islands on the weld surface, and these decrease with increased argon in the shielding gas.
- Smaller diameter electrodes can be used in all position welding with either pulse arc or short circuit arc welding process.
- These materials would be used in the fabrication of railcars, mining machinery, shipbuilding, earthmoving equipment, pipeline material, and fabrications utilized in cold climates.

CONFORMANCES

| | |
|----------------------|--------------------------------------|
| AWS A5.18 | E70C-6M |
| ASME SFA 5.18 | E70C-6M |
| AWS A5.36 | E70T15-M20A4-CS1 E70T15-M21A4-CS1 |

DIAMETERS (in [mm])

0.035 (0.9), 0.045 (1.2)

POSITIONS



SHIELDING GAS

75-92% Ar / Balance CO₂

Flow Rate: 40 - 50 CFM

POLARITY

Direct Current Electrode Positive (DCEP)

TYPICAL WELD DEPOSIT CHEMISTRY (WT%)

| Shielding Gas | C | Cr | Cu | Mn | Mo | Ni | P | S | Si | V |
|----------------------------|------|------|------|------|-------|------|-------|-------|------|-------|
| 75%Ar / 25%CO ₂ | 0.05 | 0.04 | 0.05 | 1.69 | 0.002 | 0.39 | 0.011 | 0.010 | 0.67 | 0.005 |
| 92%Ar / 8%CO ₂ | 0.05 | 0.04 | 0.04 | 1.70 | 0.004 | 0.39 | 0.013 | 0.008 | 0.75 | 0.004 |

TYPICAL MECHANICAL PROPERTIES

| Shielding Gas | Tensile Strength ksi (MPa) | Yield Strength ksi (MPa) | Elongation (%) | Weld Condition | PWHT Temp | CVN @ -40°F (-40°C) ft-lb (J) |
|----------------------------|-------------------------------|-----------------------------|-------------------|-------------------|--------------|-------------------------------------|
| 75%Ar / 25%CO ₂ | 85 (586) | 78 (538) | 30 | As-Welded | - | 33 (45) |
| 92%Ar / 8%CO ₂ | 90 (621) | 73 (503) | 28 | As-Welded | - | 25 (34) |



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) |
|------------------|----------------|-------------------|---------------------|------|-------|---------------------|
| 0.035 (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) |

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

Welding parameters are for 75% Ar/25% CO₂, at higher levels of argon the voltage should be gradually decreased: ½-1 volt for 85% Ar/15% CO₂, 1-1 ½ volts for 90% Ar/10% CO₂ and 1-2 volts for 92% Ar/8% CO₂.

APPROVALS

| Agency | Approval | Shielding Gas | Diameter(s) in (mm) |
|----------------|-------------------------------------|----------------------|--------------------------|
| ABS | 3YSA | M21 (75%Ar / 25%CO2) | 0.035 (0.9) - 1/16 (1.6) |
| CWB CSA W48-23 | E491T15-M21A4-CS1-H4 (E491C-6MJ-H4) | M21 (75%Ar / 25%CO2) | 0.035 (0.9) - 1/16 (1.6) |
| DNV | III YMS (H5) | M21 (75%Ar / 25%CO2) | 0.035 (0.9) - 1/16 (1.6) |
| LLOYDS | 3YS (H5) | M21 (75%Ar / 25%CO2) | 0.035 (0.9) - 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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