

Low Alloy / Gas Shielded / Flux Cored

PRODUCT DATA SHEET

### **FEATURES**

- Designed for welding 2 1/4 Cr 1 Mo steels in all positions, where lower carbon levels are required in the deposit for increased ductility.
- · Features smooth arc transfer with low spatter
- Intended to weld thin walled A335-P22 pipe in the as welded condition or for applications where low hardness is necessary.
- No minimum toughness values are required, therefore, any specific toughness requirements should be discussed prior to use of the electrode.
- Applications include boilers, heat exchangers, and pressure vessels.

# CONFORMANCES

**AWS A5.29** 

E91T1-B3LC E91T1-B3LM

# **DIAMETERS** (in (mm))

0.045 (), 0.052 (), 1/16 (1.6)

#### **POSITIONS**



### SHIELDING GAS

75-80% Ar / Balance CO2, 100% CO2 Flow Rate: 40 - 50 CFM

# **POLARITY**

Direct Current Electrode Positive (DCEP)

## **TYPICAL WELD DEPOSIT CHEMISTRY (WT%)**

| Shielding Gas  | С    | С    | Cr   | Mn   | Мо   | Р     | S     | Si   |
|----------------|------|------|------|------|------|-------|-------|------|
| 100%CO2        | 0.04 |      | 2.18 | 0.65 | 1.05 | 0.017 | 0.018 | 0.42 |
| 75%Ar / 25%CO2 |      | 0.05 | 2.30 | 0.75 | 1.02 | 0.012 | 0.012 | 0.47 |

#### TYPICAL MECHANICAL PROPERTIES

| Shielding Gas  | Tensile<br>Strength<br>ksi (MPa) | Yield<br>Strength<br>ksi (MPa) | Elongation (%) | Weld<br>Condition | PWHT<br>Temp   |
|----------------|----------------------------------|--------------------------------|----------------|-------------------|----------------|
| 100%CO2        | 98 (676)                         | 85 (586)                       | 20.8           | PWHT              | 12751 hour for |
| 75%Ar / 25%CO2 | 105 (723)                        | 92 (632)                       | 20.0           | PWHT              | 12751 hour for |



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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.

#### RECOMMENDED WELDING PARAMETERS

| Diameter in (mm) | Shielding Gas  | Position          | WFS*<br>in/min (m/min) | Amps | Volts | CTWD*<br>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)   |

<sup>\*</sup> WFS = Wire Feed Speed, CTWD = Contact Tip To Work Distance

For Welding in 100% CO2, increase by 1 - 1.5 volts

# 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

## 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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<sup>\*</sup>Some packaging options may not be available depending on diameter and product. Special package options may be available upon request.