

# CORMET™ 2

Low Alloy, All Position ▪ AWS E91T1-B3C/M-H4

## KEY FEATURES

- High metal recovery
- Smooth arc performance in all positions

## WELDING POSITIONS

All

## SHIELDING GAS

80% Argon / 20% CO<sub>2</sub>  
100% CO<sub>2</sub>  
Flow Rate: 40-50 CFH

## CONFORMANCES

|                          |                            |
|--------------------------|----------------------------|
| <b>AWS A5.29M</b>        | E91T1-B3C/M-H4             |
| <b>BS EN ISO 17634-B</b> | T62T1-1C/M-2C1M            |
| <b>ASME IX</b>           | QW432 F-No 6, QW442 A-No 4 |

## TYPICAL APPLICATIONS

- Designed for prolonged elevated temperature service up to 600°C (1112°F)
- Refineries where corrosion resistance to sulphur bearing crude oil is at 250-450°C (482-842°F)
- Designed for all-position welding of 2.25% chromium, 1% molybdenum low alloy steels
- Petro-Chemical
  - Steam Chests
- Power Plants
  - Valve Bodies
- Piping
  - Boiler Superheaters
- Turbine Casting

## DIAMETERS / PACKAGING

| Diameter<br>mm (in) | 15 kg (33 lb)<br>Spool |
|---------------------|------------------------|
| 1.2 (0.045)         | ED033365, CORM2-12*    |

\*The Metrode part number will be replacing the current EDO numbers after the inventory has been depleted.

## MECHANICAL PROPERTIES<sup>(1)</sup>

|                                                                      | Yield Strength <sup>(2)</sup><br>MPa (ksi) | Tensile Strength<br>MPa (ksi) | Elongation<br>% | Charpy V-Notch<br>J (ft·lbf)<br>@ 20°C (68°F) | Hardness HV10 <sup>(4)</sup><br>@ PWHT |
|----------------------------------------------------------------------|--------------------------------------------|-------------------------------|-----------------|-----------------------------------------------|----------------------------------------|
| <b>Requirements</b><br>AWS E91T1-B3C/M-H4                            | 540 min                                    | 620 min                       | 17 min          | –                                             | –                                      |
| <b>Typical Results<sup>(3)</sup></b><br>As-Welded<br>Stress-Relieved | 625                                        | 725                           | 22              | >70                                           | 235                                    |

## DEPOSIT COMPOSITION<sup>(1)</sup>

|                                           | %C          | %Mn         | %Si         | %S        |
|-------------------------------------------|-------------|-------------|-------------|-----------|
| <b>Requirements</b><br>AWS E91T1-B3C/M-H4 | 0.05 - 0.12 | 1.25 max    | 0.80 max    | 0.030 max |
| <b>Typical Results<sup>(3)</sup></b>      | 0.06        | 1.0         | 0.30        | 0.01      |
|                                           | %P          | %Cr         | %Mo         | %Cu       |
| <b>Requirements</b><br>AWS E91T1-B3C/M-H4 | 0.030 max   | 2.00 - 2.50 | 0.90 - 1.20 | 0.30 max  |
| <b>Typical Results<sup>(3)</sup></b>      | 0.01        | 2.3         | 1.0         | 0.05      |

## TYPICAL OPERATING PROCEDURES

| Diameter<br>in (mm) | Amp-Volt Range         | Typical     | Stickout<br>in (mm)  |
|---------------------|------------------------|-------------|----------------------|
| 1.2 (0.045) DC+     | 160 - 260A<br>24 - 30V | 190A<br>25V | 15 - 25<br>(5/8 - 1) |

<sup>(1)</sup>Typical all weld metal. <sup>(2)</sup>Measured with 0.2% offset. <sup>(3)</sup>See test results disclaimer <sup>(4)</sup>Industry specific data, not required by AWS.

NOTE: Additional test data available upon request.

*Material Safety Data Sheets (MSDS) and Certificates of Conformance are available on our website at [www.lincolnelectric.com](http://www.lincolnelectric.com)*

#### TEST RESULTS

Test results for mechanical properties, deposit or electrode composition and diffusible hydrogen levels were obtained from a weld produced and tested according to prescribed standards, and should not be assumed to be the expected results in a particular application or weldment. Actual results will vary depending on many factors, including, but not limited to, weld procedure, plate chemistry and temperature, weldment design and fabrication methods. Users are cautioned to confirm by qualification testing, or other appropriate means, the suitability of any welding consumable and procedure before use in the intended application.

#### CUSTOMER ASSISTANCE POLICY

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