

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% CO₂
100% CO₂
Flow Rate: 40-50 CFH

CONFORMANCES

AWS A5.29	E91T1-B3C/M-H4
BS EN ISO 17634-B	T62T1-1C/M-2C1M
ASME IX	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
 - Power Plants
 - Piping
 - Turbine Casting
 - Steam Chests
 - Valve Bodies
 - Boiler Superheaters

DIAMETERS / PACKAGING

Diameter mm (in)	15 kg (33 lb) Spool
1.2 (0.045)	CORM2-12N

MECHANICAL PROPERTIES⁽¹⁾

	Yield Strength ⁽²⁾ ksi (MPa)	Tensile Strength ksi (MPa)	Elongation %	Charpy V-Notch J (ft-lbf) @ 20°C (68°F)	Hardness HV10 ⁽⁴⁾ @ PWHT
Requirements AWS E91T1-B3C/M-H4	78 (540) min	90-110 (620-760) min	17 min	–	–
Typical Results⁽³⁾ Stress-Relieved 1 Hour @1275°F (691°C)	91 (625)	105 (725)	22	45	235

DEPOSIT COMPOSITION⁽¹⁾

	%C	%Mn	%Si	%S
Requirements AWS E91T1-B3C/M-H4	0.05 - 0.12	1.25 max	0.80 max	0.030 max
Typical Results⁽³⁾	0.06	1.0	0.30	0.01
	%P	%Cr	%Mo	%Cu
Requirements AWS E91T1-B3C/M-H4	0.030 max	2.00 - 2.50	0.90 - 1.20	0.30 max
Typical Results⁽³⁾ after 1 hour stress relief at 1275°F (691°C)	0.01	2.3	1.0	0.05

TYPICAL OPERATING PROCEDURES⁽⁵⁾

Diameter, Polarity in (mm)	Voltage (Volts)	Amperage (Amps)	Typical	CTWD in (mm)
1.2 (0.045) DC+	24-30	160-260	190A / 25V	15 - 25 (5/8 - 1)

⁽¹⁾Typical all weld metal. ⁽²⁾Measured with 0.2% offset. ⁽³⁾See test results disclaimer ⁽⁴⁾Industry specific data, not required by AWS. ⁽⁵⁾Settings are for 80%Ar/20%CO₂ shielding gas. Increase voltage 1-2V for 100% CO₂.
NOTE: Additional test data available upon request.

Safety Data Sheets (SDS) and Certificates of Conformance are available on our website at www.lincolnelectric.com

FUMES AND GASES can be hazardous to your health.

- Fumes from the normal use of this product contain significant quantities of potentially hazardous compounds. See consumable product label/insert.
- Keep your head out of the fumes.
- Use enough ventilation and local exhaust to keep fumes and gases from your breathing zone and the general area.
- An approved respirator should be used unless exposure assessments are below applicable exposure limits.

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

The Lincoln Electric Company is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or advice about their use of our products. Our employees respond to inquiries to the best of their ability based on information provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or advice. Moreover, the provision of such information or advice does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or advice, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose is specifically disclaimed.

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