

Lincolnweld® LAC-690

AWS: ECG



Lincolnweld®



Lincolnweld® LAC-690 cored electrode is capable of producing yield strengths exceeding 690 MPa (100 ksi) and low H4 diffusible hydrogen levels with Lincolnweld® 888 flux. For an electrode designed to produce high strength, high toughness, and H4 diffusible hydrogen weld deposits required in many applications including offshore fabrication – choose Lincolnweld® LAC-690.

KEY FEATURES

- ▶ **H4 Diffusible Hydrogen Level** – Combine with Lincolnweld® 888 flux for low H4 diffusible hydrogen weld deposits.
- ▶ **Low Temperature Impact Properties** – Charpy V-notch test results capable of exceeding 27 J (20 ft•lbf) @ -73°C (-100°F) with Lincolnweld® 888 flux.
- ▶ **Excellent Tandem, AC and DC Operation** – Experience outstanding deposition rates, especially when used with the Lincoln Electric Power Wave® AC/DC 1000® SD welding power source.
- ▶ **Self-Peeling Slag** – Clean and easy slag removal minimizes risk of inclusions, even in narrow gap applications.

APPLICATIONS

- ▶ Offshore Jack-up Rigs
- ▶ High Strength, Low Alloy Applications
- ▶ As-Welded or Post-Weld Heat-Treated (Stress-Relieved) Applications

CONFORMANCE (WITH LINCOLNWELD® 888)

| | |
|------------------------|-----------------|
| AWS A5.23/A5.23M: 2007 | F11A10-ECG-G-H4 |
| | F11P6-ECG-G-H4 |
| ABS* | 5YQM690 H5 |
| DNV Grade* | V YM69 H5 |
| Lloyd's Register* | 5YM69 H5 |
| GL* | 6Y69M H5 |

*Lincolnweld® LAC-690 and Lincolnweld® 888 meets agency requirements to be operated on both AC and DC polarities.

RECOMMENDED FLUX

Lincolnweld® 888

DIAMETERS/PACKAGING

| Diameters in. (mm) | 50 lb (23 kg) Coil |
|-----------------------|-----------------------|
| 3/32 (2.4) | ED032958 |
| 1/8 (3.2) | ED032959 |
| 5/32 (4.0) | ED033302 |

DEPOSIT COMPOSITION⁽¹⁾

| Flux | %C | %Mn | %Si | %S | %P | %Cr | %Ni | %Mo | %Cu | Diffusible Hydrogen mL/100g |
|------------------|------|------|------|-------|-------|------|------|------|------|--------------------------------|
| Lincolnweld® 888 | 0.08 | 1.51 | 0.36 | 0.007 | 0.011 | 0.36 | 2.59 | 0.44 | 0.04 | 3.6 |

AWS TEST RESULTS⁽¹⁾

| Flux | Weld Condition | Yield Strength ⁽²⁾ MPa (ksi) | Tensile Strength MPa (ksi) | Elongation % | Charpy V-Notch J (ft•lbf) | @ °C (°F) |
|------------------|--------------------------------|--|-------------------------------|-----------------|------------------------------|------------|
| Lincolnweld® 888 | As-welded | 800 (116) | 860 (124) | 22 | 91 (67) | -73 (-100) |
| | Stress-relieved ⁽³⁾ | 707 (103) | 776 (113) | 21 | 51 (37) | -51 (-60) |

⁽¹⁾ See test results disclaimer below. ⁽²⁾ Measured with 0.2% offset. ⁽³⁾ Stress-relieved for 1 hour at 621°C (1150°F).

Material Safety Data Sheets (MSDS) and Certificates of Conformance are available on our website at 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

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.

Lincoln Electric is a responsive manufacturer, but the selection and use of specific products sold by Lincoln Electric is solely within the control of, and remains the sole responsibility of the customer. Many variables beyond the control of Lincoln Electric affect the results obtained in applying these types of fabrication methods and service requirements.

Subject to Change – This information is accurate to the best of our knowledge at the time of printing. Please refer to www.lincolnelectric.com for any updated information.