

# LINCOLNWELD® 822™ FLUX

## Submerged Arc Flux for Welding 2-1/4 Cr-1 Mo & 1-1/4 Cr-1/2 Mo Steels

Robust welding solution for creep-resistant steels with high toughness at low temperatures.

### ONE FLUX, TWO SOLUTIONS

#### 2-1/4 Cr-1 Mo (Grade 22)

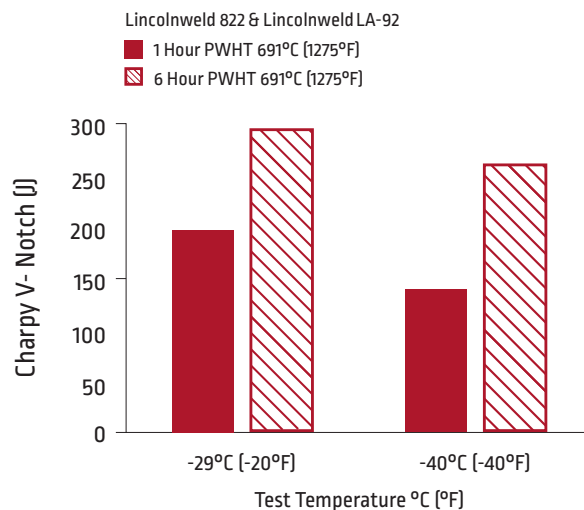
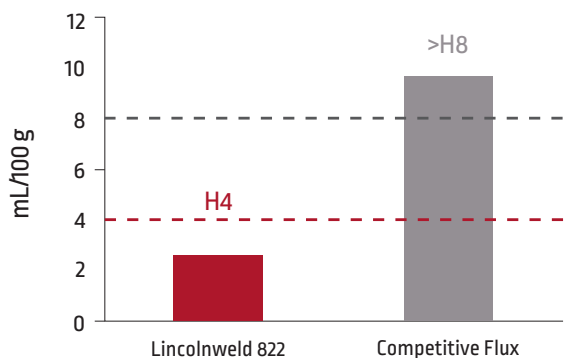
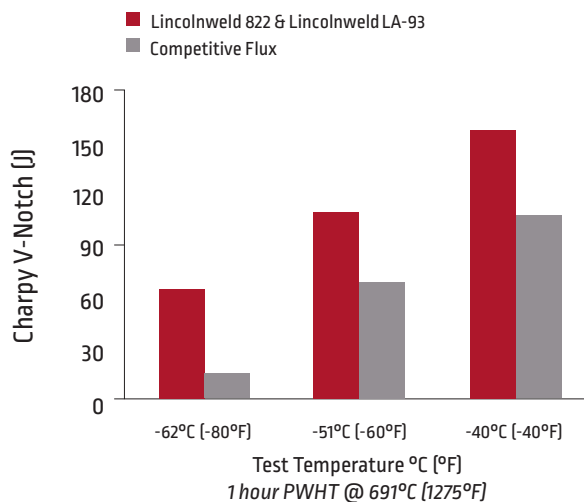
- Lincolnweld® LA-93 (LNS-151)  
(AWS A5.23/5.23 EB3R)

#### 1-1/4 Cr-1/2 Mo (Grade 11)

- Lincolnweld LA-92 (LNS-150)  
(AWS A5.23/5.23 EB2R)

#### Reliable & Robust Properties

- Tough Welds - Impact properties stay high at low temperatures
- Low Bruscato factor ( $X < 10$ ) for resistance to temper embrittlement
- H4 diffusible hydrogen levels with moisture resistant packaging
- Maintains strength and toughness after short and extended PWHT
- Actual [3.1] certificates for each lot of wire and flux
  - Chemical composition of wire
  - Chemical composition, particle size and moisture content of flux



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## PACKAGING

50 lb [22.7 kg] Plastic Bag

ED036223

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

	% SiO <sub>2</sub>	% MnO	% MgO	% CaF <sub>2</sub>	% Na <sub>2</sub> O	% Al <sub>2</sub> O <sub>3</sub>	% CaO	% Metal Alloys
Lincolnweld® 822	15	2	32	21	3	18	5	3 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation [%]	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft-lbf)	@ °C (°F)	
LA-92	As-welded	640 (92)	710 (102)	24	95 (70)	-29 [-20]	F9A2-EB2R-B2R-H4
LA-92	Stress-relieved <sup>(3)</sup>	480 (70)	580 (85)	29	200 (148)	-40 [-40]	F8P4-EB2R-B2R-H4
LA-93	As-welded	760 (110)	880 (128)	20	35 (26)	-18 [0]	F11A0-EB3R-B3R-H4
LA-93	Stress-relieved <sup>(3)</sup>	550 (80)	660 (96)	23	156 (115)	-40 [-40]	F9P4-EB3R-B3R-H4
LA-71	As-welded	480 (70)	580 (85)	27	151 (111)	-62 [-80]	F7A8-EM14K-H4
LA-71	Stress-relieved <sup>(4)</sup>	430 (63)	560 (81)	31	127 (93)	-62 [-80]	F7P8-EM14K-H4

<sup>(1)</sup>See test results disclaimer. <sup>(2)</sup>Measured with 0.2% offset. <sup>(3)</sup>Stress-relieved for 1 hour at 691°C (1275°F). <sup>(4)</sup>Stress-relieved for 1 hour at 620°C (1150°F).

Safety data sheets (SDS) and certificates of conformance available from our website [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

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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Subject to Change – This information is accurate to the best of our knowledge at the time of printing. Please refer to [www.lincolnelectric.com](http://www.lincolnelectric.com) for any updated information.