Wearshield® BU

Build-Up

Key Features

- Build-up with moderate hardness to resist shock and metal-to-metal wear, as in rolling and sliding
- Can be used as underbase for other hardfacing deposits or as final overlay on parts to be machined or forged
- Unlimited layers with proper preheat, interpass temperatures and procedures
- Use on mild and low alloy steels

Typical Applications

For Build-Up

- Shovel and bucket lips
- Pump impellers and housings
- Pulverizer plows
- Mill hammers

For Hardfacing

- Trunnions, tractor rolls, cranes and gears

Welding Positions

Flat & Horizontal

DIAMETERS / PACKAGING

Diameter in (mm)	Length in (mm)	10 lb (4.5 kg) Carton 40 lb (18.1 kg) Master Carton
5/32 (4.0)	14 (350)	ED021991
3/16 (4.8)	14 (350)	ED021993

MECHANICAL PROPERTIES[1]

Rockwell Hardness (R_c)		
1 Layer	2 Layers	3 Layers
15-20	18-23	23-28

DEPOSIT COMPOSITION[1]

	%C	%Mn	%Si	%Cr	%S	%P
2 or more layers	0.14	1.15	0.60	1.40	0.025	0.015

TYPICAL OPERATING PROCEDURES

	Current (Amps)	
Polarity[2]	5/32 in (4.0 mm)	3/16 in (4.8 mm)
DC+	145-210	180-280
AC	155-225	200-290

NOTE: Using a short arc with a slight weave motion, deposit beads about 1/2 in - 3/4 in (13-19 mm) wide with the 5/32 in and 3/16 in (4.0-4.8 mm) electrode diameters, and about 1 in (25 mm) wide with the 1/4 in (6.4 mm) diameter. However, on edges and corners, fast-moving stringer beads or very narrow weaved beads are usually preferred. The exact width and thickness of the bead will depend on the mass of the piece being welded.

Work-hardened base or weld metal should be removed before applying Wearshield® BU, since such areas are more prone to embrittlement and possible cracking. The part should be preheated to at least 21°C (70°F). Preheating above 40°C (100°F) is usually not required. Preheating depends largely on the base metal composition. On large, complex, or restrained parts, a preheat of 150°- 260°C (300°- 500°F) may be necessary.

IMPORTANT: SPECIAL VENTILATION AND/OR EXHAUST REQUIRED

Fumes from the normal use of some welding products can contain significant quantities of components - such as chromium and manganese - which can lower the 5.0 mg/m³ maximum exposure guideline for general welding fume.
BEFORE USE, READ AND UNDERSTAND THE MATERIAL SAFETY DATA SHEET (MSDS) FOR THIS PRODUCT AND SPECIFIC INFORMATION PRINTED ON THE PRODUCT CONTAINER.

[1]Composition and properties depend upon dilution. Single layer deposit properties depend upon base metal and/or build-up material. [2]Preferred polarity is listed first.

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.

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THE WELDING EXPERTS®

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