VersaBond®-LHT RS Rapid Setting Large and Heavy Tile Mortar



1. Product Name

VersaBond®-LHT RS Rapid Setting Large and Heavy Tile Mortar

2. Product Description

Versabond®-LHT RS professional grade adhesive mortar is a rapid setting, non-sag, nonslump, polymer modified mortar for use with large format porcelain, ceramic and natural stone tile. With a non-slumping formula to eliminate lippage, Versabond®-LHT RS can be applied to ¾" (19mm) thick on horizontal surfaces. Suitable for floors and walls, Versabond®-LHT RS exceeds ANSI A118.4FHT and A118.11.

Excellent open time and grout in just 2 hours!

Key Features

- For most standard floor and wall installations
- Supports large and heavy tile for flat, even installations
- For use with in-floor heating systems
- Approved for industry-recommended interior and exterior applications
- Grout and light traffic in under 2 hours and heavy traffic in 24 hours (in temperate conditions).

Suitable Substrates

- Concrete, mortar beds, masonry, Portland cement plaster
- Liquid-applied waterproofing membranes such as RedGard® Waterproofing and Crack Prevention Membrane, Custom® 9240 and RedGard® SpeedCoat
- Crack isolation sheet membranes such as Crack Buster® Pro
- Uncoupling mats such as RedGard® Uncoupling Mat
- Substrates treated with MBP Multi-Surface Bonding Primer
- Exterior Grade Plywood (interior residential and light commercial dry areas)
- Gypsum wallboard (interior dry areas)
- Existing ceramic tile (scarified)
- Fully-bonded sheet vinyl flooring (scarified)
- Plastic laminates (scarified)
- Cutback adhesive (see preparation instructions)

Benefits of Product in the Installation

- Rapid setting formulation for quick turn jobs
- Specially formulated for large format tiles
- Non-slumping formula eliminates lippage
- Cost-efficient, all-purpose mortar
- Good bond strength
- Fast curing keeps cold climate jobs moving
- Exceeds ANSI A118.4FHT and A118.11 standards without the need for additives

Limitations to the Product

- Do not bond directly to hardwood, Luan plywood, particle board, parquet, cushion or sponge-back vinyl flooring, metal, fiberglass, plastic or OSB panels.
- Not recommended for interior and exterior pools and water features. CUSTOM recommends MegaLite® Crack Prevention Mortar and ProLite® Large Tile and Stone Mortar for the installation of ceramic and porcelain tile in submerged applications. For additional information, contact Custom Technical Services.
- When setting moisture sensitive natural stone, cement or resin agglomerate tile use EBM-Lite™ Epoxy Bonding Mortar 100% Solids or CEG-Lite™ 100% Solids Commercial Epoxy Grout.
- Do not use to install resin-backed stone; use EBM-Lite™ Epoxy Bonding Mortar 100% Solids, CEG-Lite™ 100% Solids Commercial Epoxy Grout or contact Custom's® Technical Services for recommendations.
- For clear or translucent glass, CUSTOM recommends Glass Tile Premium Thin-Set Mortar. When setting glass tile larger than 6" x 6" (15 x 15 cm), contact Custom's® Technical Services for recommendations.
- Ensure that the substrate meets deflection requirements.

Packaging

- 50 lb (22.68 kg) bag
- Gray or white

3. Technical Data

Applicable Standards

American National Standards Institute (ANSI) — ANSI A108.5, A118.4 and A118.11 of the American National Standards for the Installation of Ceramic Tile ASTM International (ASTM)

- ASTM C627 Standard Test Method for Evaluating Ceramic Floor Tile Installation Systems Using the Robinson-Type Floor Tester

Resilient Floor Covering Institute - (RFCI) Recommended Work Practices for Removal of Resilient Floor Coverings
Tile Council of North America (TCNA) - TCNA Handbook for Ceramic Tile Installation, TCNA Method EJ171
Complies with ISO 13007-2

Technical Chart

Property	Test Method	Requirement	Typical Results
Open Time	A118.4	≥ 75 psi at 20 minutes	Pass
4 Week Shear Bond Strength			
Glazed Wall Tile	A118.4	> 300 psi	350-450 psi (2.41 – 3.10 MPa)
Porcelain Tile	A118.4	> 200 psi	350-450 psi (2.41 – 3.10 MPa)
Quarry Tile to Plywood	A118.11	> 150 psi	175-225 psi (1.21 – 1.55 MPa)
Sag on Walls	A118.15	< 0.02 in. (0.5 mm)	Pass

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Environmental Consideration

Custom® Building Products is committed to environmental responsibility in both products produced and in manufacturing practices. Complete the LEED Product Data Request Form at custombuildingproducts.com for detailed information based on project location. Use of this product can contribute towards LEED® v3 certification:

- Up to 2 points towards MR Credit 5, Regional Materials
- Up to 2 points towards MR Credit 4, Recycled Content
- Up to 1 point towards IEQ Credit 4.1, Low-Emitting Materials – Adhesives & Sealants

Bonding To Concrete Surfaces

Concrete or plaster must be fully cured and must accept water penetration. Test by sprinkling water on various areas of the substrate. If water penetrates, then a good bond can be achieved; if water beads, surface contaminants are present, and loss of adhesion may occur. Contaminants should be mechanically removed before installation. Concrete must be free of efflorescence and not subject to hydrostatic pressure. Concrete slabs should have a broomed or brushed finish to enhance the bond. Smooth concrete slabs must be mechanically abraded to ensure a good bond.

Bonding to Gypsum Surfaces

Lightweight or gypsum-based underlayments must first be treated with RedGard® Waterproofing and Crack Prevention Membrane and must obtain a minimum 2000 psi (13.8 MPa) compressive strength at the recommended cure time. The underlayment must be sufficiently dry and properly cured to the manufacturer's specifications for permanent, non-moisture permeable coverings. Surfaces to be tiled must be structurally sound and subject to deflection not to exceed current standards. All lightweight concrete and gypsum-based underlayment surfaces to receive RedGard® must be primed with properly applied sealer or a primer coat of RedGard®, consisting of 1 part RedGard® diluted with 4 parts clean, cool water. Mix in a clean bucket at low speed to obtain a lump-free solution. The primer can be brushed, rolled or sprayed to achieve an even coat. Apply the primer coat to the floor at a rate of 300 ft/gal (7.5 M/L). Drying time depends on site conditions, but is normally less than 1 hour. Extremely porous surfaces may require 2 coats. At this point, RedGard® can be applied to the primed lightweight or gypsum-based surface. Refer to the individual product data sheet or packaging directions for application instructions. Expansion joints must be installed in accordance with local building codes and ANSI/TCNA guidelines. Refer to TCNA EJ171.

Bonding to Plywood and OSB Surfaces

Plywood floors, including those under resilient flooring, must be structurally sound and must meet all ANSI A108.01 Part 3.4 requirements. Maximum allowable deflection: L/360 tile L/720 stone. See TCNA F150-13 tile installations, TCNA F141-13 and F250-13 for stone. For questions about proper subfloor installation requirements, call Custom® Technical Services.

Bonding to Cutback Adhesive

Thick accumulations, powdery, brittle or weak adhesive layers must be removed, as they reduce mortar bond strength to cement surfaces. Use extreme caution as adhesives may contain asbestos fibers. Do not sand or grind adhesive residue, as harmful dust may result. Never use adhesive removers or solvents, as they weaken or soften the adhesive and may cause it to penetrate into the concrete. The remaining residue should be no thicker than a coat of paint and should be almost transparent. Always install an adequate number of properly located test areas.

Movement Joint Placement

Movement joints are required for perimeters and other changes of plane in all installations. Construction, expansion and isolation joints as described in ANSI A108.01, should never be bridged with setting material. They must be brought through the tile work and filled with an appropriate elastomeric sealant. Contact Custom® Building Products for the proper treatment of control or saw cut joints. Refer to TCNA EJ171.

Mixing Ratios

Mix 5.5 - 6.0 qts (5.20 L - 5.7 L) clean water per 50 lb (22.68 kg) bag of mortar.

Mixing Procedures

Mix material by hand or use a low 150-200 RPM speed 1/2" (13 mm) drill to achieve a smooth, paste-like consistency. Let the mixture slake or stand up to 5 minutes, but no longer. Stir again and use. Stir occasionally, but do not add more water. When properly mixed, troweled ridges will stand without slump.

Curing of Product

Curing time is affected by ambient and surface temperatures and humidity. Use the following as a guideline. Ready for grout and light traffic in under 2 hours in temperate conditions; vehicular traffic in 1-3 days. Before exposure to heavy or vehicular traffic, assure assembly is rated “Heavy or Extra Heavy” per TCNA Service Requirements. As necessary, use plywood or other load distributing protection when moving heavy equipment across tiled assembly.

Cleaning of Equipment

Clean with water before the material hardens.

Health Precautions

This product contains Portland cement and free silica. Avoid eye contact or prolonged contact with skin. Wash thoroughly after handling. If eye contact occurs, flush with water for 15 minutes and consult a physician. Do not breathe dust; wear a NIOSH approved respirator

Conformance to Building Codes

Installation must comply with the requirements of all applicable local, state and federal code jurisdictions.

4. Size & Availability

Location	Item Code	Size	Color	Package
USA	VBLFTMRSG50	50 lb (22.68 kg)	Gray	Bag
USA	VBLFTMRSW50	50 lb (22.68 kg)	White	Bag
Canada	CVBLFTMRSG50	50 lb (22.68 kg)	Gray	Bag
Canada	CVBLFTMRSW50	50 lb (22.68 kg)	White	Bag

5. Product Warranty

This product is eligible for Custom® Building Products 10 Year Installation Systems Warranty. Custom® Building Products warrants to the original consumer purchaser that its product shall be free from defects in material and workmanship under normal and proper usage for a period of one year following the date of original purchase. Custom's® sole liability under this warranty shall be

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limited to the replacement of the product. Some states, countries or territories do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty will not extend to any product which has been modified in any way or which has not been used in accordance with Custom's® printed instructions. Custom® makes no other warranties either expressed or implied. This warranty gives you specific legal rights, and you may have other rights that vary from state to state or from one country/territory to another. For details and complete warranty information, visit custombuildingproducts.com.

6. **Product Maintenance**
   Properly installed product requires no special maintenance.

7. **Technical Services Information**
   For technical assistance, contact Custom® Building Products.

8. **Filing System**
   Additional product information is available from the manufacturer upon request.

Coverage Chart

SQUARE FOOT COVERAGE PER 50 LB BAG (SQUARE METER PER 22.68 KG) Chart for estimating purposes. Coverage may vary based on installation practices and jobsite conditions. For more trowel sizes, please use the material calculator at CustomBuildingProducts.com or contact CUSTOM Technical Services at (800)282-8786.

Trowel Size	Min Coverage	Max Coverage
1/4" x 1/4" x 1/4" (6 x 6 x 6 mm) Square-Notch	90 sq. ft. (8.4 M²)	100 sq. ft. (9.3 M²)
1/4" x 3/8" x 1/4" (6 x 9.5 x 6 mm) Square-Notch	60 ft² (5.6 M²)	67 ft² (6.2 M²)
1/2" x 1/2" x 1/2" (13 x 13 x 13 mm) Square-Notch	**IMPORTANT NOTE BELOW** 42 ft² (3.9 M²)	**IMPORTANT NOTE BELOW** 47 ft² (4.4 M²)
3/4" × 9/16" × 3/8" (19 × 14 × 9.5 mm) U- Notch @45^0 angle 3/4" × 9/16" × 3/8" (19 × 14 × 9.5 mm) U- Notch @30^0 angle	34 ft² (3.2 M²) 42 ft² (3.9 M²)	38 ft² (3.5 M²) 47 ft² (4.4 M²)

***IMPORTANT NOTE:** Custom Building Products does not recommend the use of a 1/2" x 1/2" x 1/2" (13 x 13 x 13 mm) Square-Notched trowel as the ½" spacing between each square notch has been shown to make it more difficult to bed tiles and achieve proper mortar coverage. CUSTOM recommends the use of a trowel design that promotes mortar ridge collapse such as either a deeper, slanted, U-notch, V-notch, or ridged large format trowel when applying thicker amounts of mortar to accommodate tile warpage and back pattern recesses. Applying mortar using a 3/4" × 9/16" × 3/8" (19mm × 14mm × 9.5 mm) U- Notch at a 30^0 angle provides better coverage between the tile and the substrate and the same coverage area as a ½" notched trowel. Regardless of the trowel used, mortar coverage between the substrate and tile underside is required to be ≥80% for dry areas and ≥95% for wet areas and exteriors with all tile edges properly supported with mortar and in a minimum of 3/32" (2.38 mm) and a maximum of ¾" (19mm) continuous thickness. Note: Larger tiles, tiles with deep underside patterns and ungauged natural stone tiles may require larger notch sizes and may need to be flat back-troweled (formerly back buttered) or notched-back troweled to achieve proper coverage and mortar support. To meet warranty requirements, CUSTOM recommends testing to confirm adequate bonding mortar coverage. When back troweling, consider the tile's underside pattern and depth to estimate thickness and usage to add to your estimate. For achieving proper mortar coverage see the following video: Trowel & Error. (Also available in Spanish and Russian.) For information regarding back troweling, refer to The National Tile Contractors Association / Reference Manual & Flat Back & Notched Back - Troweling (TileTVS3 22 08)

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