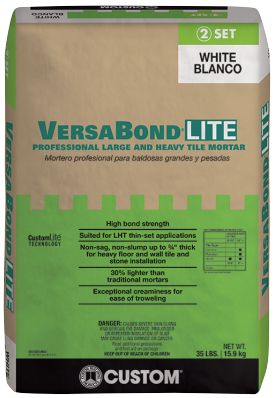
Versabond® Lite Professional Large and Heavy Tile Mortar



1. **Product Name**

   Versabond® Lite Professional Large and Heavy Tile Mortar

2. **Manufacturer**

   Custom Building Products
   Technical Services
   10400 Pioneer Boulevard, Unit 3
   Santa Fe Springs, CA 90670
   Customer Support: 800-272-8786
   Technical Services: 800-282-8786
   Fax: 800- 200-7765
   Email: contactus@cbpmail.net
   custombuildingproducts.com

3. **Product Description**

   VersaBond® Lite offers all the performance of Versabond®-LFT with maximized creaminess and the benefits of a true lightweight mortar. This high bond strength formula is 30% lighter than a traditional mortar, resulting in a product that is easier to trowel and move around the jobsite. Designed for a wide variety of interior and exterior floor and wall installations, Versabond® Lite is excellent for setting large and heavy tile or stone. VersaBond® Lite will not sag on walls and offers nonslump performance for floor installations. Capable of LHT thin-set applications up to 3/4″ (19 mm) thick on horizontal surfaces after beat-in. Formulated with CustomLite® Technology, a 35 lb. (15.9 kg) bag covers the same area as a 50 lb. (22.7 kg) bag of traditional mortar. Contributing to LEED® certification, VersaBondLite® contains up to 16.5% recycled content by weight and 2.5% recycled content by volume. Exceeds ANSI A118.4HET, and A118.11 without the need for additives.

   Key Features

   - High bond strength
   - Non-slump - LHT thinset for us up to 3/4" thick
   - Sag and slip resistant - immediately holds wall tiles in place
   - Lightweight - 35 lbs. covers the same area as 50 lbs. of traditional mortar
   - Exceptional creaminess for ease of troweling

   Suitable Substrates

   - Concrete, mortar beds, masonry, Portland cement plaster
   - Liquid-applied and 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 (sound stable, properly prepared/primed with MBP or Redgard in wet areas)
   - Fully-bonded sheet vinyl flooring (sound stable, properly prepared/primed with MBP in dry areas)
   - Plastic laminates (sound stable, properly prepared/primed with MBP in dry areas)
   - Cutback adhesive (see preparation instructions)

   Composition of Product

   Modified dry-set mortar, which is a proprietary blend of Portland cement, inorganic aggregates, copolymers and chemicals.

   Benefits of Product in the Installation

   - High bond strength
   - Suited for LHT thinset applications
   - Non-sag, non-slump for heavy floor and wall tile and stone installation up to 3/4" (19 mm) thick
   - Exceeds ANSI A118.4HET and A118.11 standards without the need for additives
   - 30% lighter than traditional mortars. A 35 lb (15.9 kg) bag covers the same area as a 50 lb (22.7 kg) bag of traditional mortar
   - Not formulated with silica sand

   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.
   - When setting moisture sensitive natural stone, cement or 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.
   - When setting dimensional stone larger than 12" x 12" (30 x 30 cm), contact Custom's® Technical Services for recommendations regarding subfloor deflection requirements.

   Packaging

   - 35 lb (15.9 kg) bag
   - Gray or white

4. **Technical Data**

   Applicable Standards

   American National Standards Institute (ANSI) ANSI A108.5, A118.4HET and A118.11 American National Standards for the Installation of Ceramic Tile. Meets ANSI A138.1 for Sustainable Tile Installation Products.

   ASTM International (ASTM)

   - ASTM C109 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)
   - ASTM C627 Standard Test Method for Evaluating Ceramic

Versabond® Lite Professional Large and Heavy Tile Mortar

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

International Organization for Standardization (ISO) 13007-2 for Thin Set Mortar.

Technical Chart

Property	Test Method	Requirement	Typical Results
Pot Life			4 Hours
Open Time (E)	A118.4	E = 30 Minutes	Pass
4 Week Shear Bond Strength			
Glazed Wall Tile	A118.4	> 300 psi	450 - 550 psi (31.64 - 38.67 kg/cm²)
Porcelain Tile	A118.4	> 200 psi	350 – 400 psi (24.61 – 28.12 kg/cm²)
Quarry Tile to Plywood	A118.11	> 150 psi	150 - 200 psi (10.55 - 14.06 kg/cm²)
Sag on Walls	A118.4	< 0.02 mm	Pass

Environmental Consideration

Custom® Building Products is committed to environmental responsibility in both products produced and in manufacturing practices. Use of this product can contribute towards LEED® 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

Complies with CA Section 01350 and CDPH V1.2-2017.

See Additional LEED Information, including EPD/Environmental Product Declarations at https://www.custombuildingproducts.com/leed-information#LEED-Information/ .

5. **Instructions**

General Surface Prep

Always wear proper protective equipment when handling the product, including IMPERVIOUS GLOVES, such as nitrile, safety glasses, and a NIOSH N95 respirator (mask).

Refer to Technical Bulletin 108 - General Requirements For Installing Finishes Using Products Manufactured by Custom Building Products

Surfaces must be structurally sound. Remove all grease, oil, dirt, curing compounds, sealers, adhesives or any other contaminant that would prevent a good bond. Glossy or painted surfaces must be sanded, or abraded, and stripped of all contaminants. Concrete must be cured 28 days and accept water penetration. Concrete must be free of efflorescence and not subject to hydrostatic pressure. Concrete slabs should have a coarse finish to enhance the bond. Plywood flooring including those under resilient flooring must be structurally sound and meet all ANSI and deflection requirements. For questions about proper subfloor installation, call Technical Services. Smooth concrete surfaces, existing glazed tile, terrazzo, or polished stone should be scarified. Sheet vinyl must be well bonded and stripped of old finish. Roughen the surface by sanding or abrading, then rinse and allow to dry. Expansion joints should never be bridged with setting material. Do not sand flooring materials containing asbestos.

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 coarse finish to enhance the bond. Smooth concrete slabs must be mechanically abraded to achieve proper bond.

Bonding to Gypsum Surfaces

Lightweight or gypsum-based underlayments must obtain a minimum 2000 psi (13.8 MPa) compressive strength. 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 industry standards. Surfaces shall be free of all grease, oil, dirt, dust, curing compounds, waxes, sealers, efflorescence, or any other foreign matter. All lightweight cement or gypsum surfaces should be primed. with a 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 ft2/gal (7.5 M2/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

Adhesive layers must be removed, as they reduce mortar bond strength to cement surfaces. Use extreme caution; 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 soften the adhesive and may cause it to penetrate into the concrete. Adhesive residue must be wet scraped to the finished surface of the concrete, leaving only the transparent staining from the glue. To determine desirable results, do a test bond area before starting. Refer to the RFCI Pamphlet, "Recommended Work Practices for Removal of Resilient Floor Coverings", for further information.

Movement Joint Placement

Movement joints are required for perimeters and other changes of

Versabond® Lite Professional Large and Heavy Tile Mortar

plane in all installations. Expansion joints, perimeter joints and cold 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, such as Custom's® 100% Silicone. Contact Custom's® Technical Services for the proper treatment of control or saw cut joints. Refer to TCNA EJ171, F125 and F125A.

See CUSTOM's Top Five Tips for Installing Movement Joints at https://youtu.be/a6FL3LOhpt0.

Mixing Ratios

Mix 6.25 - 6.75 qts (5.9 - 6.4 L) clean water per 35 lb (15.9 kg) bag of mortar.

Mixing Procedures

Mix 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 5-10 minutes; stir again and use. Stir occasionally, but do not add more water. When properly mixed, troweled ridges will stand without slump.

Application of Product

Installation must conform to ANS A108.5 Using the Flat side of a properly-sized notch trowel, apply with pressure, a thin coat of bonding mortar onto substrate surface and back of tile/stone as needed. With the notch side of the trowel held at a 45˚ angle, apply mortar to the surface, combing in one direction to the shortest side of the tile/stone body. Press tile firmly into place in a perpendicular motion across trowel ridges, moving in a back-and-forth motion. The perpendicular motion flattens ridges and closes valleys with mortar, allowing maximum coverage. With some tile/stone, back-buttering and/or back troweling is advisable. Using the Flat side of a properly-sized notch trowel, apply with pressure, a thin coat of bonding mortar onto the back of tile/stone as needed. Apply more bonding mortar as needed to the back of the tile/stone using the notch side of the trowel (helpful for ungauged stone), comb mortar in same direction as substrate/surface mortar lines. Adjust tile/stone promptly and beat in/embed, with a beating block and rubber mallet as needed. Periodically pull up a tile/stone and check to ensure proper mortar/adhesive coverage. If the material has skinned over (not sticky to the touch), recomb with notch trowel; if too dry, remove and replace the dry mortar/adhesive with fresh material. Thin Set Mortar should not be used as a surface preparation material to fill low spots in walls/floors prior to installing tile, instead use an appropriate cement based patching material, CustomTech-flooring-prep/patching. Mortar thickness should be less than maximum thickness of ¾ "after the tile/stone has been beat in/embedded. Ambient temperature should be maintained above 50˚ F (10˚ C) or below 100˚ F (38˚C) for 72 hours to achieve proper bond.

See the "Trowel and Error" video for proper mortar application @ https://youtu.be/Way5bMh-eYg.

Curing of Product

Curing time is affected by ambient and surface temperatures and humidity. Use the following as a guideline. Allow 24 hours before grouting and light traffic. Allow 7-10 days before heavy or vehicular traffic. 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. Submerged applications; wait 14 days after the final grouting period before filing water features with water at 70°F (21°C).

Cleaning of Equipment

Clean with water before the material dries.

Storage

Store in a cool, dry area.

Health Precautions

DANGER: CAUSES SEVERE SKIN BURNS AND SERIOUS EYE DAMAGE. PROLONGED OR REPEATED INHALATION OF DUST MAY CAUSE LUNG DAMAGE OR CANCER. DO NOT BREATHE DUST OR SWALLOW. You cannot rely on pain to alert you to cement burns. Portland cement can cause dermatitis or sensitization. A NIOSH N95 respirator (mask) is recommended, especially in poorly ventilated areas, when use is frequent, or when permissible exposure limits may be exceeded. Immediately wash contaminated body and clothing thoroughly. If in eyes: rinse cautiously with water for several minutes; remove contact lenses if easy to do; continue rinsing. If inhaled: remove person to fresh air and keep comfortable for breathing. If swallowed: rinse mouth; do NOT induce vomiting. If you experience a burn, rash or skin irritation: immediately see a doctor. Immediately seek medical attention if any symptoms are significant or persist. In Emergency: 1-800-535-5053. **Contains silica sand and portland cement.** Before handling read Safety Data Sheet at www.custombuildingproducts.com. **KEEP OUT OF REACH OF CHILDREN.** WARNING: This product can expose you to chemicals including crystalline silica, which is known to the State of California to cause cancer, and hexavalent chromium compounds, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Conformance to Building Codes

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

6. Size & Availability

Location	Item Code	Size	Color	Package
USA	VBLTMG35	35 lb (15.9 kg)	Gray	Bag
USA	VBLTMW35	35 lb (15.9 kg)	White	Bag
Canada	CVBLTMG35	35 lb (15.9 kg)	Gray	Bag
Canada	CVBLTMW35	35 lb (15.9 kg)	White	Bag

7. Product Warranty

NOTICE: Obtain the applicable **LIMITED WARRANTY** at www.custombuildingproducts.com/product-warranty or send a written request to Custom Building Products, Inc., Five Concourse Parkway, Atlanta, GA 30328, USA. Manufactured by or under the authority of Custom Building Products, Inc.

8. Product Maintenance

Properly installed product requires no special maintenance.

9. Technical Services Information

For technical assistance, contact Custom technical services at 800-282-8786 or visit custombuildingproducts.com.

Versabond® Lite Professional Large and Heavy Tile Mortar

10. Filing System

Additional product information is available from the manufacturer upon request.

Coverage Chart

SQUARE FOOT COVERAGE PER 35 LB BAG (SQUARE METER PER 15.9 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	63 sq. ft. (5.9 M²)	70 sq. ft. (6.5 M²)
1/2" x 1/2" x 1/2" (13 x 13 x 13 mm) Square-Notch	**IMPORTANT NOTE BELOW** 45 sq. ft. (4.2 M²)	**IMPORTANT NOTE BELOW** 50 sq. ft. (4.6 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	36 sq. ft. (3.3 M²) 45 sq. ft. (4.2 M²)	40 sq. ft. (3.7 M²) 50 sq. ft. (4.6 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)