VersaBond® HP High Performance Large and Heavy Tile Mortar



1. Product Name

VersaBond® HP High Performance Large and Heavy Tile Mortar

2. Manufacturer

Custom Building Products
10400 Pioneer Boulevard, Unit 3
Santa Fe Springs, CA 90670
Customer Support: 800-272-8786
Technical Services: 800-282-8786
Fax: 800- 200-7765
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3. Product Description

VersaBond® HP is a commercial-grade, high-performance, polymer-modified mortar designed for large and heavy tile applications. It offers superior bond strength for up to ¾" thick installations. Its non-slump, non-sag formula secures tiles on contact, providing a reliable solution for both horizontal and vertical applications, including floors, walls, pools, and water features. The smooth, creamy texture ensures easy handling and exceptional workability. VersaBond® HP combines high bond strength, ease of use, and durable performance, making it a true universal mortar for any large and heavy tile project.

- Non-slump
- Sag and slip resistant – immediately holds wall tiles in place
- Extended open time formula
- Smooth and creamy for ease of handling
- Exceeds ANSI A118.15HET and A118.11 and ISO 13007 C2TES1P1 rated

Key Features

- Non-slump
- Sag and slip resistant - immediately holds wall tiles in place
- Extended open time formula
- Smooth and creamy for ease of handling
- Exceeds ANSI A118.15HET and A118.11 and ISO 13007 C2TES1P1 rated

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
- Custom 9240
- 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)

Composition of Product

VersaBond HP® is a dry, proprietary Portland cement-based mixture that includes vinyl copolymers, inorganic aggregates and chemicals.

Benefits of Product in the Installation

- High bond strength
- Suited for thin-set and large and heavy thicknesses up to 3/4" (19 mm)
- Recommended for interior and exterior pools and water features which require ANSI A118.15 bonding mortars.

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.
- Moisture sensitive natural stone, resin agglomerate tile and resin back-layered tile and stone will likely require EBM-Lite™ Epoxy Bonding Mortar-100% Solids. *
- When setting dimensional stone larger than 12" x 12" (30 x 30 cm), subfloor deflection requirements must be considered. *
- Cement based tiles and cement terrazzo tiles will likely require CUSTOM® Rapid-Setting A118.15 Mortars. *
- Back-layered gauged Porcelain tile and tile panels meeting ANSI A137.3 must be evaluated to confirm use of cement mortar. *
- For clear or translucent glass, CUSTOM recommends color-controlled Glass Tile Premium Thin-Set Mortar. Some back-layered coatings on glass tiles may require EBM-Lite™ Epoxy Bonding Mortar-100% Solids. Setting glass tiles larger than 6" x 6" (15 x 15 cm) may require additional surface preparation or design. *

* Contact Custom's® Technical Services for recommendations prior to installation.

Packaging

- 50 lb (22.7 kg) bag
- Gray or white

4. Technical Data

Applicable Standards

American National Standards Institute (ANSI) ANSI A108.5, A118.4TE, A118.15TE 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

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Specimens)

- 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

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)	A118.15 Section 5.3	E = 30 Minutes	Pass
4 Week Shear Bond Strength			
Glazed Wall Tile	A118.15 Section 7.1.2	> 450 psi	> 450 psi(31.6 kg/cm²)
Porcelain Tile	A118.15 Section 7.2.5	> 400 psi	> 400 (28.1 kg/cm²)
Quarry Tile to Plywood	A118.11 Section 4.1.2	> 150 psi	> 150 (10.55 kg/cm²)
Sag on Walls	A118.15 Section 6.0	< 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 1 point towards IEQ Credit 4.1, Low-Emitting Materials
  - Adhesives & Sealants

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



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 underlayment 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 the current ANSI 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

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

Expansion 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. Contact Custom® Building Products for the proper treatment of control or saw cut joints. Refer to TCNA EJ171, F125 and F125A.

Mixing Ratios

Mix 5-6 qts (4.73L – 5.67L) with clean water for large and heavy tile or 6-7 qts (5.67L – 6.62L) for thinsets. per 50 lb (22.7 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 ANSI A108.5. Use a properly sized notch

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trowel to ensure proper coverage under tiles. Using the flat side of the trowel, apply a skim coat of mortar to the surface. With the notch side of the trowel held at a 45° angle, apply additional mortar to the surface, combing in one direction. Press the tile firmly into place in a perpendicular motion across ridges, moving back and forth. The perpendicular motion flattens ridges and closes valleys, allowing maximum coverage. With some tile, back-buttering is advisable. Adjust the tile promptly and beat it in with a beating block and rubber mallet. Periodically pull up a tile and check the back to ensure proper adhesive coverage. If the material has skinned over (not sticky to the touch), recomb with the notch trowel; if too dry, remove and replace the dry material with fresh material. Thin Set Mortar should not be used to fill low spots in the flooring. Mortar thickness should be less than 3/4" when beat in.

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.

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.

5. Size & Availability

Location	Item Code	Size	Color	Package
USA	VBHPG50	50 lb (22.7 kg)	Gray	Bag
USA	VBHPW50	50 lb (22.7 kg)	White	Bag
Canada	CVBHPG50	50 lb (22.7 kg)	Gray	Bag
Canada	CVBHPW50	50 lb (22.7 kg)	White	Bag

6. Product Warranty

NOTICE: Obtain the applicable **LIMITED WARRANTY** at www.custombuildingproducts.com/warranties 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. © 2024 Quikrete International, Inc.

7. Product Maintenance

Properly installed product requires no special maintenance.

8. Technical Services Information

For technical assistance, contact Custom® Building Products.

9. Filing System

Additional product information is available from the manufacturer upon request.

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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 sq. ft. (5.6 M²)	67 sq. ft. (6.2 M²)
1/2" x 1/2" x 1/2" (13 x 13 x 13 mm) Square-Notch	IMPORTANT NOTE BELOW 42 sq. ft. (3.9 M²)	IMPORTANT NOTE BELOW 47 sq. ft. (4.4 M²)
3/4" × 9/16" × 3/8" (19 × 14 × 9.5 mm) U- Notch @45 angle	34 sq. ft. (3.2 M²)	38 sq. ft. (3.5 M²)
3/4" × 9/16" × 3/8" (19 × 14 × 9.5 mm) U- Notch @30 angle	42 sq. ft. (3.9 M²)	47 sq. ft. (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° 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)