MASONRY VENEER MORTAR HB

A lightweight mortar for attaching stone, brick, tile, and veneers to walls and floors

PRODUCT NAME

Tenon® Masonry Veneer Mortar HB

MANUFACTURER

TCC Materials®
2025 Centre Pointe Blvd.
Mendota Heights, MN 55120 USA
Phone: 1.651.688.9116
Web: tccmaterials.com

PRODUCT DESCRIPTION

Tenon® Masonry Veneer Mortar HB (High Bond) is a superior performance Portland cement-based thin-set mortar. It is high-yield, lightweight, non-sag, fiber-reinforced, polymer-modified, and commercial grade. The product is designed for adhered installation of masonry veneer stone, thin brick, pavers, natural stone, ceramic tile, and quarry tile. Special admixtures create both a mechanical and chemical bond to the substrate, significantly outperforming standard mortars with optimized consistency and workability. Use Masonry Veneer Mortar HB to create decorative veneer walls or use as a thin-set mortar for ceramic and stone flooring.

Features & Benefits

- Superior bonding strength and impact resistance
- Excellent workability, smooth, and creamy
- Long open time
- Non-sag, non-slump performance
- Reduces cracking and pop-offs
- Excellent resistance to water penetration and
- efflorescence
- Fiber-reinforced for increased flexural strength and crack resistance
- High yield with greater coverage than typical mortars, 40 lb. (18.1 kg) bag yields as much as a 50 lb. (22.7 kg) bag of conventional stone veneer mortar
- Preblended, polymer modified; just add water, mix, and use
- Exceeds ANSI A118.4, A118.11, A118.15, and ASTM C 270
- Exceeds IBC and IRC shear bond strength requirements for masonry veneer installations
- Holds up to 25 lbs. per square foot with proper **a**pplication

Uses

- Setting precast lightweight masonry veneer stone, thin natural stone, thin brick veneer, natural stone, ceramic, quarry, porcelain, and glass tile
- Interior or exterior
- Horizontal and vertical applications
- Above and below grade applications

For installation of:

- Natural stone veneer*
- Masonry veneer stone
- Thin brick
- Ceramic tile (absorptive, semi-vitreous, vitreous, and impervious), quarry, porcelain, and glass tile pavers

*All natural stone should be tested to be sure discoloration by bleed-through does not occur. Not intended for moisture sensitive or resin-backed stone.

For installation over:
Wall applications:

- Concrete
- Concrete masonry units (CMU)
- Cement backer units (CBU)**
- Tenon Waterproofing & Crack Isolation Membrane
- Exterior wood sheathing (exterior rated with proper lath and moisture barrier)
- Gypsum plaster or gypsum board (interior dry areas
- only)

Floor applications:

- Cement mortar
- Cement backer units (CBU)**
- APA rated exterior grade/exposure 1 plywood or OSB underlayment grade equivalent
- Cutback adhesive (properly prepared)
- Cement terrazzo (interior, properly prepared)
- Existing ceramic tile and stone (interior, properly prepared)

**Consult cement backer unit manufacturer to verify acceptability for exterior use and specific installation instructions.

Available Sizes

- 40 lb. (18.1 kg.) bag **(BOM #120462)**

TECHNICAL DATA

Typical Values	
Mix Ratio (Water to Powder)	4.4 qt. (4.16 L) per 40 lb. (18.1 kg)
Latex Modified Portland Cement Mortar ANSI 118.4	
Open time at 70°F-77°F (21°C-25°C)	12 min.
Adjustability time at 70°F-77°F (21°C-25°C)	10-15 min.
Bucket Life at 70°F (21°C)	3-4 hours
Sag on Vertical Surfaces	0 inch
Compressive Strength ASTM C109	
ASTM C109	2800 psi (19.3 MPa)

Bond Shear Strength ASTM C482	
Masonry veneer/brick	>300 psi (2.06 MPa)
Shear Bond A118.4 and A118.11	
Bisque Tile (28 days)	600 psi (4.1 MPa)
Porcelain Tile (28 days)	450 psi (3.1 MPa)
Quarry Tile to Plywood (28 days)	250 psi (1.7 MPa)

Note: *Test results obtained under controlled laboratory conditions at 72°F (22°C) and 50% relative humidity. Reasonable variations can occur due to atmospheric and jobsite conditions.*

Coverage

- 50 lb. (22.7 kg) bag: Yields approximately .44 cu. ft. (12.5 L)
- As a scratch coat will cover approximately 12-14 sq. ft.
- (1.1-1.3 m2) at ½ in. (13 mm) thickness
- As a mortar for precast masonry veneer units will cover approximately 8 sq. ft. (0.92 m2) at ½ in. (13 mm) thickness
- As a joint grout, coverage will vary with depth and width.

Approximate Coverage per 40 lb. (18.1 kg) bag	
Adhered Stone Masonry Veneer Application Method	30-33 sq. ft. (2.8-3 m^2)
¼" x ⅜" x ¼" Square Notched Trowel (6 x 9.5 x 6 mm)	65-70 sq. ft. (6-6.5 m^2)
½" x ½" x ½" Square Notched Trowel (13 x 13 x 13 mm)	40-45 sq. ft. (3.7-4.2 m^2)

Applicable Standards & Testing

- ASTM C109 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars
- ASTM C150 Standard Specification for Portland Cement
- ASTM C270 Standard Specification for Mortar for Unit Masonry
- ASTM C348 Standard Specification for Flexural Strength of Hydraulic Cement Mortars
- ASTM C595 Standard Specification for Blended Hydraulic Cements
- ASTM C847 Standard Specification for Metal Lath
- ASTM C926 Standard Specification for Application of Portland Cement Based Plaster
- ASTM C1329 Standard Specification for Mortar Cement
- ASTM C1384 Standard Specification for Admixtures for Masonry Mortars
- ASTM C1747 Standard Specification for Preblended Dry Mortar Mix for Unit Masonry
- Tile Council of North America Methods Handbook
- ANSI 118.4, 118.11, and 118.15 American National Standard Specifications for Latex-Portland Cement Mortar
- UBC 15-5 Specification for Moisture Absorption
- ACI 530 Building Code Requirements for Masonry Structures
- IMIAC Hot and Cold Weather Construction Guide
- PCA Concrete Masonry Handbook

LEED® Eligibility[1]

- Regional Materials (MR-c4, MR-c5)
- Low-Emitting Materials (IEQ-c4.3)

INSTALLATION

Preparation

Refer to selected stone manufacturers installation instructions for more complete instructions. Install in accordance with all local building code provisions and applicable ASTM standards.

1. Surface must be clean, free from dirt, loose particles, wax, sealers, curing compounds, grease, paint, efflorescence, and any foreign materials that could inhibit adhesion. Stone/masonry/tile units should also be clean and dust-free.

2. Surfaces must be structurally rigid and sound enough to support the veneer finish including deflection under all live, dead, impact, and concentrated loads. Substrate deflection must not exceed L/360 for thin bed ceramic tile/brick installations or L/480 for thin bed stone installations. Consult local building codes for deflection requirements.

3. For best results, all materials should be conditioned to 40°F-75°F (4°C-24°C) 24 hours prior to installation.

Walls:

- All exterior wall applications require proper water-resistive barriers such as Tenon Waterproofing & Crack Isolation Membrane.
- Poured concrete, concrete masonry units (CMU), and cement backer units (CBU) can be bonded directly with Tenon Masonry Veneer Mortar HB.
- Masonry and concrete surfaces that are painted or sealed should be prepared by sandblasting and cleaning. If paint or sealer cannot be completely removed, securely cover with two layers of grade D, water-resistant building paper, and galvanized, expanded metal lath or other code-compliant mesh, followed by a scratch and base coating with Tenon Masonry Veneer Mortar or a similar mortar. Allow the scratch and base coat to dry a minimum of 24 hours prior to installation of the veneer units.
- Exterior wood-framed or steel framed walls with exterior sheathing require a water-resistive barrier and galvanized, expanded metal lath, or other code-

compliant mesh, followed by a scratch and base coating with Tenon Masonry Veneer Mortar or similar mortar. Allow the scratch and base coat to dry a minimum of 24 hours prior to installation of the veneer units.

- Interior wood-framed or steel framed walls with gypsum wallboard, gypsum plaster, or painted or sealed masonry require code-compliant reinforcing metal lath in accordance with ASTM C1063. A scratch and base coating with Tenon Masonry Veneer Mortar or similar mortar is then applied as a rigid base for veneer installation. Allow the scratch and base coat to dry a minimum of 24 hours prior to installation of the veneer units.
- Interior wood-framed or steel framed walls with cement backer unit (CBU) substrate or exterior grade plywood can be bonded directly to.

Interior Floors:

- Concrete floors must be fully cured (28 days) with a fine broom finish.
- Wood floors (interior applications in dry areas only) should be APA rated exterior exposure 1 plywood, or OSB underlayment grade equivalent, structurally sound, securely fastened, with no flexing. Follow guidelines of Tile Council of North America Handbook for allowable deflection.
- Not to be applied over asphalt sheeting, vinyl-covered wall board, metal, glass, Luan plywood, strip hardwood, particle board, gypsum mortar beds, or gypsum underlayments.
- For difficult to bond to substrates, such as existing ceramic tile, or terrazzo, surfaces must be clean. A slurry coat is recommended prior to application of mortar and tile.
- Detailed installation procedures can be found in the TCNA Handbook and ANSI A108.5.
- Install expansion joints in accordance with local building codes. Refer to EJ171 of the TCNA Handbook.

Submerged Applications:

It is recommended the complete installation be cured a minimum of 14 days to allow to thoroughly dry for before exposure to water.

Note: It is the responsibility of the installer/applicator to ensure the suitability of the product for its intended use.

Job Mockups

The manufacturer requires that when its Tenon® products are used in any application or as part of any system that includes other manufacturers' products, the contractor and/or design professional shall test all the system components collectively for compatibility, performance and long-term intended use in accordance with pertinent and accepted industry standards prior to any construction. Written documentation of the tests performed shall be satisfactory to the design professional and contractor. Test results must include the means and methods of application, products used, project-specific conditions being addressed, and standardized tests performed for each proposed system or variation.

Mixing

1. Use cool, clean, potable water in the range of 50ºF-80ºF (10ºC-27ºC) for mixing. Always use clean tools and mixing containers. Mix with water only. Do not add bonding additives.
2. Add just enough dry mix to the liquid, begin with 4.4 qt. (4.16 L) water per 40 lb. (18.1 kg) bag. Add additional water sparingly up to 5.0 qt. (4.7 L) total, while mixing 3-5 minutes. Too much water will cause reduced strength.
3. Mix with low speed (300-600 RPM) ½" (13 mm) drill. Mortar should be smooth, firm, uniform, lump-free, consistency, workable to be trowelable and stiff enough to retain ridges and peaks when troweled on a horizontal or vertical surface. Avoid high-speed mechanical mixing which can entrap air into the mixture, reducing mortar strength.
4. 4. Let mortar slake/rest for 5-10 minutes, Remix again for 2 minutes, and use. Do not add additional powder or liquid after slaking, as this may cause shrinkage and poor bonding. Stir occasionally to keep fluffy. Maintain water and mix time consistency among batches.
5. Bucket life is approximately 3-4 hours at normal temperatures of 70°F (21°C). Warmer temperatures will reduce the bucket life. Do not mix more product than can be placed in 3 hours. Mortar shall be used and placed in final position within 3-4 hours after initial mixing or discarded at that time.

Application

Apply only to surfaces that are frost free and between 50°F-90°F (10°C-32°C) within 24 hours of application and 72 hours thereafter. Do not apply in direct sunlight on hot, windy days, or when rain is expected within 24 hours.

- With porous substrates, or when conditions are dry, windy, or high temperatures, dampen the cured Masonry Veneer Mortar scratch coat, concrete, or masonry surface to SSD (surface saturated dry).
- If the precast masonry veneer units are very porous and absorptive, it may be helpful to dampen the back of each clean unit prior to application of mortar. Do not soak units.
- Follow stone veneer manufacturer instructions for layout, installation, and techniques. Veneer units can be laid from the bottom of the wall up or top down. Starting at the bottom helps support the weight of the units above,

working from the top prevents mortar from spilling on the units below. Corner units should always be installed first.
- Evenly coat or "butter" the back of each veneer unit with a minimum of ⅜-¾ in. (9.5-19 mm) mortar thickness and press firmly into place with a twisting motion until the excess materials extrudes from the sides of the unit and enough to achieve 95-100% coverage after placement.
- For larger units, apply a thick ring of mortar around the back of each, leaving a small void in the center to create a vacuum when pressing the stone in place.
- After pressing the unit into place, the distance from unit to substrate should be approximately ¾ in. (19 mm).
- Joints between units should be ½ in. (13 mm) or less.
- Once veneer units are in place, remove excess extruded
- Masonry Veneer Mortar HB from between units to allow for application joint grout. Do not allow mortar to fill grout lines more than ¼ in. (6.3 mm); an even space between units is desired for grouting and will help the grout color to remain consistent.
- Veneer units may be adjusted up to 10-15 minutes after placing (at normal temperatures of 70°F (21°C).
- Work in areas of 5-10 sq. ft. (0.4-0.9 m2) to avoid allowing mortar to dry or skim over before each unit is placed.
- Check mortar for complete coverage periodically by lifting a veneer unit and inspecting the unit and substrate. Mortar coverage for exterior and interior wet applications should be 95%-100%, and interior dry areas 80% minimum.
- Shims can be used to temporarily support the units and maintain even spacing. They should be removed once units are set and mortar is thumbprint hard.
- Control joints can be installed to mitigate the effects of support movement typically caused by seismic conditions, change in weather, shrinkage and deflection per specifications of project engineer, architect, designer, and local building codes.
- Keep mortar from the unit face during the installation, if on the stone or brick face, do not allow mortar to dry on the unit surface. In most cases, allow the mortar to become "crumbly," then remove with a brush, whisk broom, steel wool, or trowel.
- Do not allow mortar to fill grout lines. An even space between units is desired for grouting and will help the grout color to remain consistent.
- Once all units are in place and firmly set for a minimum of 12 hours, if grout is desired, fill each joint with Tenon Masonry Veneer Joint Grout using a grout bag, trowel, and a tuck-pointing tool or gun.

Curing

Allow 24-36 hours minimum cure time. PSI will increase over the following 28 days. If conditions are very hot, dry, or windy, curing with a gentle mist of water will help prevent premature drying and improve mortar strength. A drape of plastic over the wall will help retain moisture; if the surface begins to appear dry, remove the plastic, mist/moisten the surface and replace the plastic.

Clean Up

Use clean potable water to clean all tools immediately after use. Dried material must be mechanically removed. Use a wastewater hardener (e.g. Conglez™ or similar product) for cementitious waste disposal.

LIMITATIONS & PRECAUTIONS

Limitations

- Install in accordance with local building codes and applicable ASTM standards.
- Mix with clean water only. Do not add bonding additives, overmix, or over-water. Do not retemper after initial mixing.
- Do not cover expansion joints with mortar.
- Do not adjust veneer units after mortar takes its initial set or the bond will be permanently broken.
- A water-resistant barrier with reinforcement wire lath should be applied to surfaces other than clean concrete or masonry.
- Substrates must be structurally sound to support the stone/masonry/tile veneer units.
- Do not use directly over particle board, luan, or hardwood floors.
- Do not use to install green marble or other water-sensitive stone.
- Prevent work from occurring on the opposite side of walls to which the stone veneer is being applied within 48 hours during and after the installation.
- Do not apply to frozen surfaces and protect installation from freezing for 72 hours.
- Do not apply when rain is forecasted within 24 hours.
- Follow precast masonry/stone manufacturer instructions for layout and installation techniques.

Safety

READ THE SAFETY DATA SHEET (SDS) BEFORE USING THIS PRODUCT. SDS information is available on our website: tccmaterials.com

Cautions

Read complete cautionary information printed on product container prior to use.
This Product Data Sheet has been prepared in good faith on the basis of information available at the time of publication. It is intended to provide users with information about and guidelines for the proper use and application of the covered Tenon brand product(s) under normal environmental and working conditions. Because each project is different, TCC

Materials cannot be responsible for the consequences of variations in such conditions, or for unforeseen conditions.

STORAGE & HANDLING

Shelf Life

Shelf life 12 months from the date of manufacture.

Storage Conditions

Store the original, unopened container, away from moisture, under cool, dry conditions and out of direct sunlight.

ADMINISTRATIVE INFORMATION

Product Availability & Technical Services

Business hours are 7:30 AM to 4:00 PM CST. To locate Tenon products in your area or contact Technical Services:
Phone: 1.651.688.9116
Email: info@tccmaterials.com

To acquire technical and safety literature, please visit our website at:
Web: tccmaterials.com

Warranty

Seller warrants that its product will conform to and perform in accordance with the product specifications. The foregoing warranty is in lieu of all other warranties, expressed or implied, including, but not limited to those concerning merchantability and fitness for a particular purpose. Because of the difficulty in ascertaining and measuring damages hereunder, it is agreed that Seller's liability to the Buyer shall not exceed the total amount billed and billable to the Buyer for the product hereunder.

Filing System

Division 4

[1] Tenon® products can contribute to LEED® credits within the Material Resource, (Recycled Content & Regional Materials) and Indoor Environmental Quality (Low Emitting Materials).

TCC MATERIALS

© 2026 TCC Materials®
2025 Centre Pointe Blvd
Mendota Heights, MN 55120

Data sheets are subject to change without notice. For the latest version, please check the product page at www.tccmaterials.com