

## Liteweight Veneer Bonding Mortar

# VBM<sup>™</sup> BondMate<sup>™</sup> DRY-STACK / LFT

## MEDIUM BED BONDING MORTAR

1 | **PRODUCT:** VBM<sup>™</sup> BondMate<sup>™</sup> DryStack/LFT (Level 2 performance product)

2 | **MANUFACTURER:** Hess Performance Products, 100 Hess Drive, Malad, ID 83252

**Product Availability:** 208.860.7325 • lee@hesslite.com

**Technical Support:** 208.860.7325 • lee@hesslite.com

**Website:** hesslite.com

3 | **PRODUCT DESCRIPTION:** VBM BondMate DryStack/LFT is a polymer modified, lightweight medium bed (GREATER than 1/4") bonding mortar for use over rough or uneven substrates (such as lath or wire, cement plaster, rough-finished concrete, or concrete masonry units). DryStack/LFT is workhorse of our polymer-modified medium bed bonding mortar line, featuring extra tack, water retention, water repellency, and efflorescence protection. Suitable for interior or exterior applications. Includes antimicrobial additives.

**Specifications:** Meets ANSI 118.4 shear bond requirements. Manufactured in accordance with ASTM C1714.

**Uses:** VBM BondMate DryStack/LFT is designed specifically for adhering Large Format Tile (LFT) and stone as well as drystack installations that have limited or no grout joint. Also use to adhere cast board forms, pavers (pedestrian traffic), and panelized units of manufactured stone or brick.

**Advantages:** VBM BondMate medium bed veneer bonding mortars have these advantages:

- Lightweight for easy handling and reduced structural loading, reducing weights by <100 lbs/cu.ft.
- High shear bond strength.
- Extra tack and non-sag properties.
- Freeze-thaw durability.
- Low shrinkage.
- Water repellent

**Colors:** Available in standard gray, soft white.

**Packaging:** VBM BondMate mortars are available in 50 lb. moisture resistant bags.

**Coverage:** Coverage can vary based on job conditions and application thickness. Yield is approximately 0.58 cu.ft. per 50 lb. bag. At 1/2" thickness, coverage is approx. 14 sq.ft.

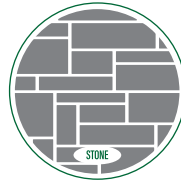
**Shelf Life:** When stored in a cool dry area, with low humidity: approximately 6–12 months.

**Efflorescence:** All VBM BondMate mortars reduce the potential for efflorescence. Polyblends offer the greatest water repellency, however, due to variables beyond our control, we cannot guarantee against efflorescence.

**Suitable Substrates:** See INSTALLATION; Substrates.

**Limitations:** Do not apply when temperatures are below 40° F prior to cure. Do not add any admixtures without prior consent. Follow ANSI, TCA, or ASTM guidelines for installation in high heat, cold or wind. Always perform quality control testing before and during application. Not recommend over particle board, plywood, Luan, or hard wood floors. Not recommended for green marble or water-sensitive stone.

4 | **TECHNICAL DATA:** VBM BondMate mortars contain Portland Cement (ASTM C150), graded lightweight aggregate, Type S Lime (ASTM C207), R-Mortar Aid and proprietary polymer additives. Manufactured in accordance with ASTM C1714. VBM BondMate mortars meet the property specifications of ASTM C270 Type-S. Compressive strength specimens must be air cured for 7 days prior to testing due to their high water retention and water repellency (per ANSI 118.1). All VBM BondMate mortars exceed IBC, CBC, and TMS-402/602 requirements of a minimum of 50psi shear bond strength requirements (ASTM C482 modified). All VBM BondMate mortars exceed the shear bond strength requirements of ANSI 118.4–Latex Modified Mortars (tile 1/4" thick; >300psi). VBM Bondmate Premium meets ANSI 118.15 shear bond requirements.



**Hess**  
IDAHO USA

**Performance  
Products**

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VBM Bonding Mortars:  
20+ years and over 100  
million square feet of  
proven performance.

Product Data Sheets are subject to change without notification. Test results shown are typical but field performance will vary depending on installation methods and job conditions. HessLite, BondMate, and PolyThin are trademarks of Hess Performance Products. MAC and VBM are a trademarks of R-Crete Inc.

### HESSLITE INSTALLATION SYSTEM PRODUCT CROSS REFERENCES

- \*For laying up natural stone, brick, and CMUs, we recommend using **HessLite Type-S Mortar**.
- For bonding pavers with vehicle traffic (or other heavy/difficult applications), use **VBM BondMate Premium**.
- For grouting and pointing applications, use **HessLite MAC Pointing Mortar** (grout joints greater than 3/8") or **HessLite MAC Fine Pointing Mortar** (grout joints less than 1/2").
- If a bond-ready surface is needed over a poor bonding substrate, use lath and **HessLite MAC Scratch & Brown**.

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# VBM BondMate™ DRY-STACK LFT

### 5 | INSTALLATION

**Substrates:** All substrates must be clean and free from any dirt, oil, paint, bond breakers or any substances which may hinder bond. The substrate must be structurally sound and conform to good engineering practices. Substrate deflection under all live, dead and impact loads, including concentrated loads must not exceed L/360 for thin bed installation or L/480 for thick bed stone installations, where L = span length. Installations shall be in accordance with building codes. Movement joints shall be brought through mortar and veneer to the surface. Reference ASTM, TCNA, MVMA installation guide, and local building codes. Suitable substrates (properly prepared and sound) include:

**Concrete Block** (Untreated)—Directly adhered, or lath and plaster may be attached.

**Wood or Steel Studs**—Cover with an approved sheathing, then lath and plaster.

**Lath and Cement Plaster**—Lath and cement plaster shall conform to IBC, CBC, ASTM guidelines, and veneer manufactures requirements. Allow to cure 72 hours prior to application. We recommend **HessLite MAC Scratch & Brown** or **Scratch & Brown Plus** to provide a high strength, water-resistant plaster substrate.

**Poured in Place Concrete** (Prepared) and **Tilt Up Concrete** (Prepared)—Ensure all form release agents and bond breakers are completely removed, otherwise mortar will not bond to surfaces. Removal of agents is best achieved by bead blasting, grinding or equivalent. The substrate must still be checked to assure complete removal of any bond inhibiting substances. Smooth concrete must be roughened. High pressure washing is typically *not adequate* for complete removal of bond breakers or release agents. If a bond-ready surface cannot be achieved, install lath and a scratch coat. Concrete should be well cured. 28 days recommended.

**Cement backer board** (Prepared)—A VBM PolyThin thinbed mortar must be used as the bonding mortar on cement backer board. Additional damp proofing/waterproofing may be required in some applications. Application shall be approved by the stone or brick manufacturer. All joints must be taped with fiberglass tape and joints filled with VBM PolyThin Premium, R-Lastic, or equal. *Consult cement backer board manufacturer for specific installation recommendations and limitations.*

**Mixing Instructions:** Proper mixing is critical for designed performance and workability. DO NOT OVER MIX! DO NOT MIX AT HIGH SPEED! (High-speed mixing will entrap air in the mix resulting in lower strengths and poor workability). Add bag of VBM BondMate to **5-5½ quarts** of water (22 to 24% by weight) and mix approximately **3 to 5 minutes** at LOW SPEED. **Correct water volume is critical to achieving good non-sag properties. Best non-sag is achieved at a drier consistency.** Mortars may be mixed in a mechanical paddle mixer or in smaller batches with a drill and mixing blade. DO NOT OVER MIX. Mix carefully to minimize air entrainment. **Allow to slake for 7 to 10 minutes.** (Lightweight aggregate will continue to absorb water.) Gently re-mix and adjust consistency with additional water if necessary.

**Application:** IMPORTANT: Mortar **must be firmly pressed on to the surface of the veneer and substrate to assure good contact and bond. Do not simply slide**

**mortar onto the surface.** Veneer must have 100% coverage with mortar squeezing out on all sides. Mortar shall be a minimum of 1/4" thick. Always perform quality control testing before and during application. Periodically remove masonry unit shortly after installation to assure an equal amount of mortar is bonding to the veneer and the substrate. Two methods of application may be used depending on the veneer and substrate.

**Method A: Wet-to-Wet:** Dampen the substrate and apply a leveling coat of BondMate to the substrate (100% coverage), firmly pressing / keying the mortar into the substrate. Spread only as much mortar as can be covered in 10 to 15 minutes (to avoid skin-over). Next, skim and back butter (100% coverage) the veneer/paver and firmly press into the wet leveling coat with enough pressure to force mortar out around the entire perimeter. Use the correct size notched trowel to make sure veneers can be fully embedded. Mortar bed shall be a minimum of 1/4" thick.

**Method B:** Key in skim coat to back of veneer, then back butter (100% coverage) and press onto the substrate with enough pressure to force mortar out around the entire perimeter. Use the correct size notched trowel to make sure veneers are fully embedded (100% coverage). Mortar bed shall be a minimum of 1/4" thick. Note that Method A (wet-to-wet) typically provides the best bond and is recommended for more difficult bonding applications.

- Periodically check work during the course of the day to insure good bond and coverage also check the previous day's work to verify good application techniques and mortar bond.

- Some natural stone absorbs heat at a high rate, it is important to minimize the temperature at the back of the stone surface—high temperature can hinder the bond to the surface; shade stone as needed.

**NOTE:** IT IS THE RESPONSIBILITY OF THE USER TO ENSURE THE MORTAR IS SUITABLE FOR THE INTENDED APPLICATION, THE SUBSTRATE IS PROPERLY PREPARED, AND APPLICATION IS PERFORMED CORRECTLY. TEST/QUALITY CONTROL ON PRE-CONSTRUCTION MOCK-UP.

**Admixture:** Replacing all or part of the mix water with **R-FlexAd** will increase flexural bond and impact resistance. Recommended for difficult substrates or for areas subject to vehicle traffic.

**Joint Grouting/Pointing:** Use of **HessLite MAC Fine Pointing Mortar** is recommended. Allow bonding mortars to fully set (minimum 24 hrs) prior to grouting to assure bond is not disturbed. This mortar also contains efflorescence reducing additives.

**System:** VBM BondMate veneer bonding mortars are part of the lightweight **HessLite Installation System.** Visit [HessLite.com](http://HessLite.com) for complete lightweight product line.

**6 | AVAILABILITY AND COST:** VBM PolyThin products are available from select distributors. For distributor information, contact Lee at **208.860.7325** or [lee@hesslite.com](mailto:lee@hesslite.com)

**7 | WARRANTY:** The technical information and usage statements are based on our best knowledge. The contents of this specification sheet are presented for informational purposes only and do not constitute responsibility for their use. The manufacturer will replace only that material which is proven defective due to quality of the components or the manufacturing process.



**CAUTION:** Prolonged exposure to dust may cause delayed lung disease. Eliminate exposure to dust. Use NIOSH approved mask for silica dust. Freshly mixed materials may cause skin irritation. Avoid direct contact where possible and wash exposed skin areas promptly. If any cementitious materials get into the eyes, rinse immediately and repeatedly with water and get prompt medical attention. See SDS sheet.

**Note:** Testing for crystalline silica (airborne particles of respirable size) finds no measurable Crystalline Silica (SiO<sub>2</sub>) to be present in HessLite VBM Bonding Mortars.

**Warning:** Products containing crystalline silica (airborne particles of respirable size) are known to the State of California to cause cancer. See [www.p65Warnings.ca.gov](http://www.p65Warnings.ca.gov).