

### Thin Bed Bonding Mortars for Adhering Stone, Thin Brick, Pavers and Tile

DS.VBMts. 091522

#### PRODUCTS

- VBM - Thinset
- VBM - Poly Thinset
- VBM - Bonder

#### MANUFACTURER

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#### DESCRIPTION

VBM thin bed mortars are polymer modified, thin set mortars designed for bonding semi-vitreous and vitreous ceramic tile, precast concrete, thin brick, natural stone, manufactured stone, porcelain, certain glass tiles and similar veneers or pavers. VBM thin bed mortars combine high bond strength, excellent non-sag and water resistance / efflorescence control. Their non-sag properties increase production and their efflorescence / water resistance are not available in most mortars. Available in standard gray, neutral, white and special order colors.

**VBM-Bonder:** VBM-Bonder is a premium polymer modified, thin-set bonding mortar. VBM-Bonder produces very high bond strengths and water repellent properties. Meets ANSI 118.15 shear bond (Tile).

**VBM-Poly Thinset:** VBM-Poly Thinset provides high bond strengths and water resistance. Meets ANSI 118.4 shear bond (Tile).

**VBM-Thinset:** Economical thin bed mortar producing high bond strength at an economical price. Meets ANSI 118.4 shear bond (Tile).

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

**Efflorescence:** All VBM mortars reduce the potential for efflorescence. Poly blends offer the greatest water repellency, however due to variables beyond our control, we cannot guarantee efflorescence will not occur.

#### USES

Thin bed bonding mortars for the installation of ceramic tile, quarry tile, thin brick, precast concrete, natural stone, manufactured stone, porcelain, certain glass tiles and similar veneers and pavers. Interior or exterior. Residential or commercial projects.

#### ADVANTAGES

- High bond strengths
- Water repellent (poly blends)
- Good non-sag properties
- Reduces efflorescence
- Use on walls or floors
- Interior-exterior

#### PACKAGING

VBM thin bed mortars are available in 50 lb. moisture resistant bags. **SHELF LIFE:** When stored in a cool dry area, with low humidity, shelf life is approx. six months to one year.

#### COVERAGE

Per 50 lb. bag mixed with approximately 5 qts. clean water.

1/4" x 1/4" x 1/4" (6x6x6mm)	80-95 Sqft
1/4" x 3/8" x 1/4" (6x9.5x6mm)	60-70 Sqft
1/2" x 1/2" x 1/2" (13x13x13mm)	35-40 Sqft

#### LIMITATIONS

- Not recommended for green marble or water sensitive natural stone.
- Apply in thin application (<1/2").
- Avoid applications in high heat, cold or wind (follow ANSI.TCA or ASTM).
- Do not apply when temperatures are below or expected to fall below 40°F prior to cure.
- Substrate must be sound-any cracks or excessive movement may telegraph through mortar or cause bond failure.
- Always perform quality control testing before and during application.
- Follow local building code requirements.
- Not recommended over particle board, masonite, luan or hardwood floors.

#### TECHNICAL DATA

VBM thin bed mortars meet the shear bond requirements of ANSI - 118.4 Modified Portland Cement Mortar (Tile). VBM-Bonder meets the shear bond requirements of ANSI 118.15. They are a blend of Portland Cement (ASTM C-150) silica sand and proprietary polymers.

Open time @ 70°F (23°C)	20 min
Adjustability @ 70°F (23°C)	10 min
Pot life @ 70°F (23°C)	2 hrs
Compressive strength (ASTM C-109)	>2500psi

#### Shear Bond ANSI 118.4 Requirements

Glazed Wall Tile	
7 Days	>300psi
Water Immersion	>200psi
Porcelain Tile	
7 Days	>200psi
28 Days	>200psi

For added flexural properties, replace part or all of the mixing water with R-FlexAd or R-AcrylicAd. ie- extra heavy vehicle traffic and extra difficult substrates.

#### INSTALLATION

**Surface Preparation:** The substrate must be structurally sound and conform to good engineering practices. Substrate deflection under 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. Installation shall be in accordance with the IBC, TCA, ANSI, CBC and local building codes. Movement joints shall be brought through mortar and veneer to the surface.

All surfaces must be sound, clean, and free from any dirt, oil, paint, bond breakers, efflorescence or any contaminants which may hinder bond.

**Suitable substrates:** (properly prepared and sound.)

- Prepared concrete
- Concrete masonry (untreated)
- Cement plaster
- Cement mortar beds
- Gypsum board (Dry interior walls only)
- Existing ceramic tile & marble (prepared)
- Exterior grade plywood (Interior-with R-FlexAd only)
- Portland cement backer board (Prepared)

**Lath and cement plaster:** Lath and cement plaster shall conform to IBC, CBC, ASTM guidelines and veneer manufactures requirements. We recommend **Mac Scratch and Brown** to provide a high strength plaster substrate. Allow to cure 72 hours prior to application.

**Poured in place concrete (prepared) and tilt up concrete (prepared):** Ensure all release agents and bond breakers are completely removed. Mortar will not bond to surfaces with any bond breakers still on the substrate. This is best achieved by removal of the surface layer by bead blasting, sanding, grinding or equivalent. Smooth concrete must be roughened. High-pressure washing is typically not adequate for complete removal of bond breakers or release agents. Concrete should be well cured. 28 days recommended.

**Cement backer board (prepared):** All joints must be taped with fiberglass tape (or equal) and VBM-Bonder, R-Lastic or equal. Consult cement backer board manufacturer for specific installation recommendations and limitations. A suitable substrate for bonding does not mean it is acceptable for all veneers or job conditions.

**Ceramic tile substrates:** Existing tile must be sound, well bonded, clean and free of any deleterious substance that may prevent adhesion. Smooth surface require roughening to promote bonding. Replace the mix water with R-FlexAd latex additive or R-AcrylicAd acrylic additive.

**Plywood substrates:** Interior applications only. Use only over exterior grade plywood (EGP) 5/8" minimum. Wooden flooring should not have a deflection exceeding 1/360 of span in either dead or live loads. Securing should be done with screw-type nails and glue. A 3/16" gap for expansion should be left around the plywood sheets and surrounding materials. These gaps should be left empty after the installation. Replace the mix water with R-FlexAd latex additive.

**Control Joints:** Never apply mortar over any expansion or control joints. For more information see TCNA (Tile Council of North America) Handbook and EJ171.

**Mixing:** Add 50 lb. bag of mortar to approximately 5 quarts of clean potable water. Mix by hand or a low speed mixer. **Do not over mix** - high air lowers strength. Mix material thoroughly and allow to set for 10 minutes and then re-mix. Do not add additional water. For greater flexural bond strengths, replace all or part of the mix water with R-FlexAd latex additive. For slurry bond coat application mix with approximately 2 gallons of water per 50 lb. bag. Best non-sag is achieved at a drier consistency.

#### Application

Apply mortar to the substrate with the flat side of a notched trowel. Firmly press mortar, keying into the substrate. Apply additional mortar using the notched side of the trowel. Spread only as much mortar as can be covered in 10-15 minutes. Use the correct size notched trowel to make sure veneers are fully embedded (100% coverage). Place tile or veneers into the wet mortar

and beat into place. Do not apply to skimmed over mortar. Back butter large veneers and pavers for 100% coverage. **Important: Mortar must be firmly pressed into the surface of the veneer and substrate to assure good contact and bond. Do not simply slide mortar onto the surface.** Assure full coverage and bond by periodically removing and inspecting the back of tile. Periodically remove masonry unit shortly after installation to assure mortar is bonding to the veneer and the substrate. Tile or veneer that have been set for more than 10-15 minutes cannot be readjusted.

**Cleaning:** Clean tools and tile with water prior to mortar curing.

**Joint Grout/Pointing Mortars – MAC Mortars** (course sand) or **VP Joint Grout** (fine aggregate) is recommended. Allow bonding mortars to fully set (minimum 24 hrs) prior to grouting to assure bond is not disturbed. These mortars also contain efflorescence reducing additives.

#### AVAILABILITY \ TECHNICAL SERVICES

Contact ORCO Blended Products for dealers in your area and technical services at 877-838-6726.

#### 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. **Warning:** This product can expose you to Silica, crystalline (airborne particles or respirable size) which is known to the State of California to cause cancer. For more information go to [www.p65Warnings.ca.gov](http://www.p65Warnings.ca.gov).

#### 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.

#### RELATED PRODUCTS

**MAC Scratch & Brown** - A high strength cement plaster.

**VBM Medium Bed Mortars**- Polymer modified, water repellent bonding mortars..

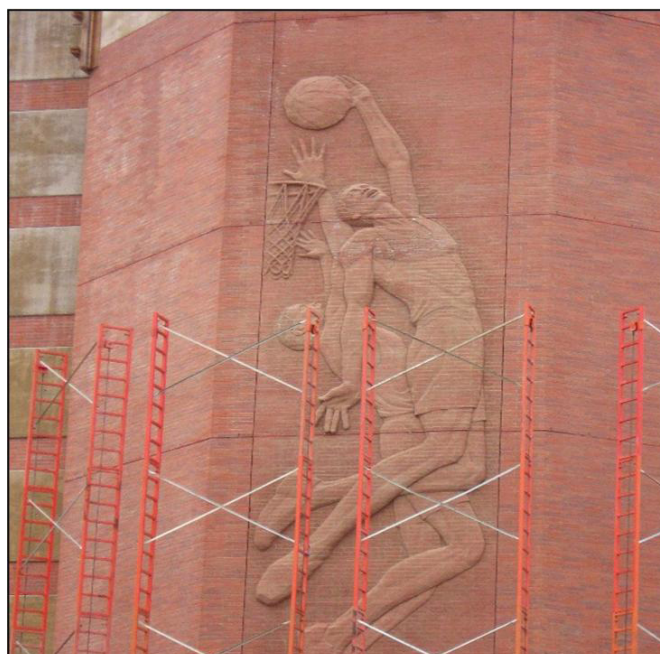
**MAC Mortars** - Type S mortars for grouting. (Course sand)

**MAC VP Joint Grout**- Polymer modified joint grout. (Fine Aggregate)

**R-Lastic**- Elastomeric waterproof and Anti-Fracture Coating.

**R-FlexAd**- Latex bonding mortar additive.

**R-AcrylicAd**- Acrylic mortar and grout additive



USC Galen Center, VBM Bonder and Mac Plus

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