

**TYPE S MORTARS DESIGNED FOR ADHERING STONE, BRICK VENEER & PAVERS**

VBM DS 05-17

**PRODUCT**

VENEER BONDING MORTAR (VBM)  
POLY VBM LFT  
POLY VBM 300  
POLY VBM 500

**MANUFACTURER**

ORCO BLENDED PRODUCTS  
27347 3<sup>RD</sup> ST. HIGHLAND, CA 92346  
877-838-6726 FAX 909-862-2490  
WWW.ORCO.COM



**DESCRIPTION**

VBM AND POLY VBM LFT, 300 & 500 ARE DRY PRE-BLENDED TYPE S MORTARS DESIGNED SPECIFICALLY FOR ADHERING MANUFACTURED STONE, NATURAL STONE, THIN BRICK, PRECAST CONCRETE, CERTAIN TILES OR SIMILAR MASONRY REQUIRING A MEDIUM TO THICK BED BONDING MORTAR. VBM MORTARS PRODUCE EXCEPTIONAL BOND STRENGTH IN THE HARDENED STATE AND EXTRA TACK AND NON-SAG PROPERTIES IN THE PLASTIC STATE. POLY VBM ALSO PROVIDES EXCELLENT WATER REPELLENCY AND EFFLORESCENCE REDUCING PROPERTIES. ALL VBM MORTARS ARE AVAILABLE IN NATURAL GREY AND PRE-BLENDED COLORS. AVAILABLE IN A VARIETY OF FORMULATIONS TO BEST MEET DIFFERING PROJECT AND CUSTOMER REQUIREMENTS.

**VBM:** STANDARD VBM COMBINES ECONOMY WITH HIGH PERFORMANCE.

**Poly VBM LFT:** INCLUDES ADDITIONAL TACK AND WATER RETENTION DESIGNED SPECIFICALLY FOR USE ON LARGE FORMAT TILES AND STONE. IT IS A BRIDGE BETWEEN A THINSET AND MEDIUM BED BONDING MORTAR.

**Poly VBM 300:** CONTAINS EVEN HIGHER LEVELS OF WATER REPELLANT AND BOND POLYMERS. HAS HIGHER BOND STRENGTHS & WATER REPELLANT PROPERTIES. RECOMMENDED FOR MORE DEMANDING BONDING APPLICATIONS. SUITABLE FOR COMMERCIAL, INSTITUTIONAL AND RESIDENTIAL PROJECTS.

**Poly VBM 500:** HAS THE HIGHEST LEVEL OF WATER REPELLANT AND BONDING POLYMERS. IT IS THE MORTAR RECOMMENDED FOR THE MOST DIFFICULT BONDING CONDITIONS.

**EFFLORESCENCE**

POLY VBM MORTARS HAVE HIGH WATER REPELLENCY AND SIGNIFICANTLY REDUCE THE POTENTIAL FOR EFFLORESCENCE.

**USES**

HIGH STRENGTH, THICK BED, BONDING MORTARS FOR INSTALLING MASONRY VENEERS & PAVERS. MASONRY PRODUCTS ARE MANUFACTURED STONE, NATURAL STONE, THIN BRICK, CONCRETE PRECAST, CONCRETE PAVERS, TERRA COTTA, CERTAIN TILE AND SIMILAR MASONRY UNITS.

**ADVANTAGES**

- HIGH SHEAR BOND STRENGTH
- EXTRA TACK AND NON-SAG PROPERTIES
- WATER REPELLANT-(POLY VBM)
- EFFLORESCENCE PROTECTION-(POLY VBM)
- FREEZE THAW DURABILITY-(POLY VBM)
- EXCELLENT WORKABILITY AND BOARD LIFE
- CONVENIENT – ADD ONLY WATER
- LOW SHRINKAGE



**PACKAGING**

AVAILABLE IN 94 LB. MOISTURE RESISTANT BAGS AND 3,000 LB. BULK BAGS. **SHELF LIFE:** WHEN STORED IN A COOL DRY AREA, SHELF LIFE IS APPROXIMATELY 6 MONTHS.

**COVERAGE**

AT 3/8 - 1/2 INCH THICK, 1-94 LB BAG WILL COVER APPROX 18-22 SQ. FT.

**LIMITATIONS**

DO NOT APPLY WHEN TEMPERATURES ARE BELOW OR EXPECTED TO FALL BELOW 40°F PRIOR TO CURE. APPLICABLE BUILDING CODES MUST BE FOLLOWED. SUBSTRATE MUST BE SOUND, ANY CRACKS OR EXCESSIVE MOVEMENT MAY TELEGRAPH THRU MORTAR OR CAUSE BOND FAILURE. AVOID APPLICATIONS IN HIGH HEAT, WIND OR COLD (FOLLOW ANSI & ASTM GUIDELINES). MASONRY PRODUCTS AND SUBSTRATE CONDITIONS CAN VARY DRAMATICALLY. PROPER DESIGN AND APPLICATION PROCEDURES MUST BE FOLLOWED. 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.

**TECHNICAL DATA**

COMPOSITION: VBM MORTAR CONTAINS PORTLAND II/V CEMENT (ASTM C-150), WASHED MASONRY SAND (ASTM C-144), TYPE S LIME (ASTM C-207), R-MORTAR AID AND PROPRIETARY POLYMER ADDITIVES.

ALL VBM 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 MORTARS EXCEED IBC AND CBC REQUIREMENTS OF A MINIMUM OF 50 PSI SHEAR BOND STRENGTH REQUIREMENTS (ASTM C482 MODIFIED).

VBM EXCEEDS THE SHEAR BOND STRENGTH REQUIREMENTS OF ANSI 118.1 (TILE 1/4" THICK) (>200PSI). ALL POLY VBM MORTARS EXCEED THE SHEAR BOND STRENGTH REQUIREMENTS OF ANSI 118.4 - LATEX MODIFIED MORTARS (TILE 1/4" THICK)(>300PSI).

**INSTALLATION**

**SUBSTRATES:** 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 INTERNATIONAL BUILDING CODE, ANSI, CBC AND LOCAL BUILDING CODES. MOVEMENT JOINTS SHALL BE BROUGHT THRU 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.

- CONCRETE (PREPARED)
- CONCRETE MASONRY
- CEMENT PLASTER
- CEMENT MORTAR BEDS
- GYPSUM BOARD (DRY INTERIOR WALLS ONLY)
- EXISTING CERAMIC TILE & MARBLE (PREPARED)
- EXTERIOR GRADE PLYWOOD (INTERIOR W/ R-FLEXAD ONLY)
- LATH AND PORTLAND CEMENT PLASTER
- CONCRETE BLOCK (UNTREATED)
- MASONRY BRICK (UNTREATED)
- PORTLAND CEMENT BACKER BOARD (PREPARED)

CONSULT CEMENT BACKER BOARD MANUFACTURER FOR SPECIFIC INSTALLATION RECOMMENDATIONS AND LIMITATIONS. A SUITABLE SUBSTRATE FOR BONDING DOES NOT MEAN IT IS RECOMMENDED FOR ALL VENEER OR JOB CONDITIONS.

**CONCRETE BLOCK (UNTREATED):** MAY BE DIRECTLY ADHERED TO OR LATH AND PLASTER MAY BE ATTACHED.

**WOOD OR STEEL STUDS:** SHALL RECEIVE AN APPROVED SHEATHING, LATH AND PLASTER.

**LATH AND CEMENT PLASTER:** LATH AND CEMENT PLASTER SHALL CONFORM TO IBC, CBC, ASTM GUIDELINES AND VENEER MANUFACTURERS REQUIREMENTS. ALLOW TO CURE 24 HOURS PRIOR TO APPLICATION. WE RECOMMEND OBP MAC SCRATCH AND BROWN PREMIUM TO PROVIDE A HIGH STRENGTH PLASTER SUBSTRATE.

**POURED IN PLACE CONCRETE (PREPARED) AND TILT UP CONCRETE (PREPARED):** INSURE 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, 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.

**CEMENT BACKER BOARD (PREPARED):** A SCRATCH COAT OF VBM BONDER MUST BE USED ON THE CEMENT BACKER BOARD & THE SETTING MORTAR MUST BE POLY VBM OR VBM BONDER. APPLICATION SHALL BE APPROVED BY THE STONE OR BRICK MANUFACTURER. ALL JOINTS MUST BE TAPED WITH FIBERGLASS (OR EQUAL) TAPE AND JOINTS FILLED WITH 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 RECOMMENDED FOR ALL VENEER OR JOB CONDITIONS.

**MIXING:** ADD MORTAR TO CLEAN, POTABLE WATER AND MIX APPROXIMATELY 3-5 MINUTES. (APPROX. 2 GALLONS PER 94 LBS. OR 19%-20% BY WEIGHT). MORTARS MAY BE MIXED IN A MECHANICAL PADDLE MIXER OR MIXED IN SMALLER BATCHES WITH A DRILL AND MIXING BLADE. DRILL MIXING SHOULD BE DONE CAREFULLY WITH A PROPER BLADE AND AT LOW SPEED TO MINIMIZE AIR ENTRAINMENT. HIGH AIR CONTENT WILL REDUCE PERFORMANCE. USE THE SAME AMOUNT OF WATER TO MORTAR TO ACHIEVE CONSISTENCY IN WORKABILITY AND COLOR. MORTAR SHALL BE WET ENOUGH TO OOZE AROUND VENEER BUT DRY ENOUGH TO HOLD VENEER IN PLACE.

**APPLICATION**

WHEN APPLYING THE MORTAR TO THE SUBSTRATE OR THE VENEER BACK ALWAYS PRESS THE MORTAR FIRMLY AGAINST THE SURFACE TO ASSURE GOOD CONTACT. VENEER MUST HAVE 100% COVERAGE WITH MORTAR QUEEZING OUT ON ALL SIDES. MORTAR SHALL BE A MINIMUM OF  $\frac{3}{8}$ " THICK. ALWAYS PERFORM QUALITY CONTROL TESTING BEFORE AND

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DURING APPLICATION.

**NOTE:** IT IS THE RESPONSIBILITY OF THE USER TO INSURE THE MORTAR IS SUITABLE FOR THE INTENDED APPLICATION, THE SUBSTRATE IS PROPERLY PREPARED AND APPLICATION IS PERFORMED CORRECTLY.

**LEVELING COAT/SCRATCH COAT:** DAMPEN WALLS JUST PRIOR TO APPLICATION OF MORTARS. APPLY MORTAR WITH FLAT TROWEL, WORKING THE MATERIAL INTO THE PREPARED WALL SURFACE CREATING A SOLID COAT OF MATERIAL NOT LESS THEN  $\frac{3}{16}$ " THICK. (COVERAGE MUST BE COMPLETE AND CONTINUOUS). APPLY MORTARED VENEER TO THE SCRATCH COAT WHILE STILL TACKY. DO NOT ALLOW SCRATCH COAT TO SKIN OVER PRIOR TO INSTALLING SETTING MORTAR/VENEER (WET TO WET).

**BONDING MORTAR:** BACK BUTTER EACH VENEER (100% COVERAGE,  $\frac{3}{8}$ - $\frac{1}{2}$ " THICK ) **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.** WORK EACH PIECE INTO PLACE TO INSURE FULL BEDDING AND CONTACT WITH THE SUBSTRATE. SETTING MORTAR SHALL BE WET ENOUGH TO BE WORKED INTO SCRATCH COAT YET FIRM ENOUGH TO HOLD VENEER IN PLACE. SETTING MORTAR SHALL OOZE AROUND THE STONE ENOUGH TO TOUCH THE VENEER SIDE.

**JOINT GROUTING:** MAC MORTARS OR VP JOINT GROUT (VENEER AND PAVINGSTONES) IS RECOMMENDED, HOWEVER, VBM MORTARS MAY BE USED. ALLOW BONDING MORTARS TO FULLY SET (MINIMUM 24 HRS) PRIOR TO GROUTING TO ASSURE BOND IS NOT DISTURBED.

**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 GETS INTO THE EYES, RINSE IMMEDIATELY AND REPEATEDLY WITH WATER AND GET PROMPT MEDICAL ATTENTION. SEE SDS.

**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 3000:** A HIGH STRENGTH CEMENT PLASTER  
**VBM BONDER:** POLYMER MODIFIED, WATER REPELLANT THINSET  
**MAC MORTARS:** TYPE S MORTARS FOR GROUTING (COURSE SAND)  
**MAC VP JOINT GROUT:** POLYMER MODIFIED JOINT GROUT (FINE SAND)  
**R-LASTIC:** ELASTOMERIC WATERPROOF AND ANTI-FRACTURE COATING

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. \*MAC AND VBM MORTARS ARE A TRADEMARK OF R-CRETE INC.