



# Medium Set Pro M400

TILE & STONE INSTALLATION PRODUCTS

## DESCRIPTION

Sienna Medium Set Pro M400 is a polymer-modified mortar manufactured with a mixture of portland cement, graded aggregates and other proprietary additives to produce a high quality mortar for higher bond strength, non-sag, greater open time and coverage than standard medium bed mortars. Sienna Medium Set Pro M400 is available in either white or grey color and complies with the requirements of ANSI A118.4 and A118.11.

## BASIC USES

Sienna Medium Set Pro M400 is specially formulated with non-sag properties for the installation of most tiles and stones without the need of leveling the receiving substrate. Sienna Medium Set Pro M400 can be used for interior and exterior applications and on floors or walls in residential and commercial projects. On floors it can be used as a setting bed up to 3/4" thick.

## STORAGE

1. Store containers in a cool, dry location
2. Store at a temperature between 40°F (4°C) and 90°F (32°C)
3. Do not store in direct contact with the ground and/or concrete
4. Store out of direct sunlight
5. Protect containers from weather and other damage

## RECOMMENDED SUBSTRATES

Suitable substrates, when properly prepared, include: Masonry block, fully cured concrete (28+ days), gypsum board (only on dry interior walls), cement backer units (per manufacturers' specifications), fully cured portland cement mortar beds (28+ days), brick, properly prepared existing tile and exterior grade plywood.

## SURFACE PREPARATION

All surfaces to receive application must be stable, structurally sound, dry, clean and free of debris, dirt, dust, efflorescence, grease, oils, curing agents and cleaning solutions that would hinder proper bond. Ensure that all surfaces are free of any coatings, sealers, adhesive residues or gypsum-based underlaments. Smooth or painted cementitious surfaces can be prepared by mechanical means such as sandblasting or scraping. Dampen surface prior to application, but do not allow water to puddle. For more complete installation procedures see the TCNA (Tile Council of North America) Handbook & ANSI A108.5.

## CEMENTITIOUS SUBSTRATES

Cementitious substrates can be cleaned by mechanical means such as sanding, scraping or chipping. Smooth or painted cementitious surfaces can be prepared by mechanical means such as sandblasting, scraping or chipping. Dampen the surface prior to the application but do not allow water to puddle. Substrate deflection should not exceed 1/360. See "Surface Preparation" section above.

## NON-CEMENTITIOUS SUBSTRATES

Use a cleavage membrane on surfaces with bonding problems, such as wood substrates or painted surfaces. For walls, apply a 3/8" to 3/4" thick layer of reinforced mortar bed, and for floors apply a minimum of 1 1/4" reinforced mortar bed. Let it set for at least 20 hours and then apply the mortar.

## TILE SUBSTRATES

Existing tile must be sound, well bonded, clean and free of any deleterious substance that may prevent adhesion. Smooth surfaces may require roughening to promote bonding.

## PLYWOOD SUBSTRATES

Use only over exterior grade plywood. 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" (4.8 mm) gap for expansion should be left about the plywood sheets and surrounding materials. These gaps should be left empty after the installation.

## CONTROL JOINTS

Never apply mortar over any expansion or control joint. For more information see TCNA (Tile Council of North America) Handbook and EJ-171.

## MIXING

Mix by hand or use a mixer of less than 300 rpm to avoid too much entrapped air. Add gradually one 50 lb sack of Sienna Medium Set Pro M400 to approximately 1 1/2 gallons (5.7 L) of potable water while mixing. Water should be cool in temperature. Do Not use hot or warm water. Potable (water) means it is clean, clear liquid. Mix the material thoroughly to a smooth consistency and let it slake (stop mixing) for 10 to 15 minutes then break the set (remix). Do Not add additional water or powder after slake period. During the application, occasionally stir the mixture to help maintain workability.

## APPLICATION

The size of the working area should be such to be covered with tiles within 15 to 20 minutes. Using the flat side of the notch trowel apply a tight thin layer of mortar over the substrate. Then add more mortar and comb the material in one direction using the appropriate notch size to achieve 100% contact to the back of the tiles. Set the tiles over the mortar, applying firm pressure to flatten the ridges and assure good contact. Periodically check already placed tiles to verify that there is sufficient mortar transfer with the back of the tile. Back-butter the tiles if required. Align tiles immediately after their placement and clean any excess material with a damp towel. Tiles that have been setting for more than 20 minutes cannot be readjusted.

## MATERIAL CALCULATOR

Visit the Sienna web site at [www.SiennaProducts.com](http://www.SiennaProducts.com) and click on the "Material Calculator" tab for recommended products and to calculate the amount of materials needed for each project. Always follow all manufacturers' recommendations and warranty information prior to any tile or stone installation.

## CURING

Cure the freshly applied material for at least 24 hrs. Curing time may vary due to porosity of substrate, ambient temperatures and humidity.

## GROUTING

Grouting should be done 24-48 hours after tile installation.

## PACKAGING

This product is packaged in 50 lb (22.7 kg) bags.

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## TECHNICAL DATA

Open Time at 73°F (23°C)	15 Minutes
Adjustability at 73°F (23°C)	12 – 15 Minutes
Bucket Life at 73°F (23°C)	4 Hours
Compressive Strength ASTM C-109	>5000 psi
Shear Bond ANSI A118.1	
Non-Vitreous Tile	
7 Days	>500 psi
28 Days	>600 psi
Vitreous (Paver) Tile	
7 Days	>250 psi
28 Days	>400 psi
Non-Vitreous Tile (Over Plywood)	
7 Days	>200 psi
28 Days	>300 psi

## COVERAGE

Square Notch Trowel Coverage	
1/4" x 1/4" x 1/4" (6 x 6 x 6 mm)	100 ft <sup>2</sup> (9.3 m <sup>2</sup> )
1/4" x 3/8" x 1/4" (6 x 9.5 x 6 mm)	75 ft <sup>2</sup> (7.0 m <sup>2</sup> )
1/2" x 1/2" x 1/2" (13 x 13 x 13 mm)	58 ft <sup>2</sup> (5.4 m <sup>2</sup> )

## LIMITATIONS

DO NOT apply Siena Medium Set Pro M400 directly over luan plywood, improperly cured or wet plywood, particle board, stripwood, gypsum mortar beds, asphalt sheeting, vinyl covered wall board, Masonite, cement asbestos board, metal, glass, plastic or any dimensionally unstable substrate.

DO NOT use tiles or stones with weights above 5 lb/ft<sup>2</sup>.

DO NOT apply at temperatures below 40°F (4°C) or above 90°F (32°C). Avoid freezing until the material is dry.

DO NOT use with green or red marbles, they may react with the mortar, warp and detach.

When used to install tile in an area that will be continually wet (e.g. swimming pools, gang showers, etc.) it is recommended that the complete installation shall be cured a minimum of 14 days and allowed to thoroughly dry before exposure to water.

## CLEANING

Cleaning may be accomplished with water immediately after use.

## SAFETY

Avoid contact with eyes or prolonged contact with skin. Wash thoroughly after handling. In case of eye contact, flush immediately with running water for at least 15 minutes. Consult a physician immediately. Do not take internally. Be sure to provide adequate ventilation in enclosed areas. Use of an approved respirator is recommended.

## WARNING

Omega Products International, Inc., as a blender of processed material in the State of California, is required by Proposition 65 to warn that one or more of the components contained in this product, could contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. The State of California (Proposition 65) requires this warning in the absence of definitive testing to prove that the defined risks do not exist. We believe this product complies with all other applicable state and federal laws and regulations governing manufacturing, distribution and intended use. User is solely responsible for the legal disposal of this container and/or its contents.

## KEEP OUT OF REACH OF CHILDREN

## DISCLAIMER

Omega Products International, Inc. [Manufacturer] MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE PRODUCT SOLD HEREIN. The recommendations, suggestions, statements and technical data are based on the best knowledge available to Manufacturer and are given for informational purposes ONLY and without any responsibility for their use. It is expressly understood and agreed, as a condition of the use of this product, that the buyer's sole and exclusive remedy for any claimed defective product against Manufacturer shall be the replacement of products actually proven to be defective. Handling and use of the products are beyond the control of Manufacturer; therefore, no warranty is made, expressed or implied, as to the results obtained from the use of the product or against any claims for infringement of patents resulting from use of the product. Under no circumstance shall Manufacturer be liable for incidental or consequential damages arising out of the use or the improper application of the product. Before applying the product, the user shall determine the suitability of the product for his/her independent use, assuming all risks and liability whatsoever in connection therewith. This writing constitutes a complete and exclusive statement of the understanding between Manufacturer and Buyer.

## CLAIMS

Any Claimant shall notify Manufacturer immediately in writing of any alleged defect in the material. Claimant will provide Manufacturer with a reasonable and exclusive opportunity to investigate and test for the alleged defect. For any claim that is not valid Claimant agrees to pay Omega's reasonable charges, including travel and labor associated with investigation of such claim.

## TECHNICAL ASSISTANCE

Technical assistance and information is available by calling Omega Products International, Inc. at (800) 600-6634 or FAX (951) 520-2594 or by e-mail at "info@omega-products.com".

## WARRANTY

The following is made in lieu of all expressed and implied rights, warranties and conditions, statutory or otherwise. The Manufacturer's only obligation shall be to replace such quantity of products proven to be defective within one year following the date of manufacture, provided that the alleged defective product is returned prepaid to the Manufacturer's plant and is accompanied with proof of purchase and batch number.

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