



1. Product Name

- SPEC MIX® Stone Veneer Mortar
- SPEC MIX® Polymer Modified Stone Veneer Mortar (PMSVM)

2. Manufacturer

SPEC MIX, Inc.
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3. Product Description

BASIC USE

SPEC MIX® Stone Veneer Mortar
 SPEC MIX® Stone Veneer Mortar is a preblended dry material specifically designed to bond thin masonry veneer units to solid base surfaces, such as masonry, concrete or galvanized, expanded metal lath. The final wall system will produce a non-load bearing, aesthetically pleasing exterior veneer or an interior finish ideal for concrete or masonry walls, stud walls or metal buildings. Good workmanship, coupled with proper detailing and design, ensures durable, functional, watertight construction.

SPEC MIX Polymer Modified Stone Veneer Mortar (PMSVM)

SPEC MIX Polymer Modified Stone Veneer Mortar (PMSVM) is a technically advanced mortar used to bond thin veneer masonry units to a substrate. It is an ideal solution for architects and contractors having projects with an immediate and ongoing need for mortar delivering high bond strength and sag resistance during installation. The non-sag formulation provides excellent workability, cohesion, high bond strength, water resistance, efflorescence minimization and durability. For applications in which mortar joints are not utilized, such as dry stack applications, SPEC MIX PMSVM can be used to gain extra bond strength and pop-out protection.



From custom homes to commercial projects, SPEC MIX Polymer Modified Stone Veneer Mortar is the ultimate material when building with adhered stone veneer masonry.

SPEC MIX PMSVM meets the requirements of ASTM C270 for Type S and N mortar, including appropriate ANSI 118.4 and ACI 530 shear bond standards. It has been rigorously tested to reduce the probability of unit "pop-offs" and contractor callbacks to repair failures common with inferior mortars.

COMPOSITION & MATERIALS

SPEC MIX Stone Veneer Mortar and Polymer Modified Stone Veneer Mortar (PMSVM) are dry, preblended proprietary mixes containing cementitious materials, aggregates and special admixtures engineered to promote adhesion, reduce shrinkage and maximize product durability. When specified, a pigment can be preblended with either product to ensure color consistency in each bag.

SPEC MIX products are manufactured locally across the United States and Canada by licensed manufacturers who use specialized blending equipment and follow strict quality control procedures to meet project specifications, contractor expectations and applicable ASTM standards.

SIZES

SPEC MIX Stone Veneer Mortars are packaged in 50 lb, 80 lb or 94 lb (23, 36 or 42 kg) bags and 3,000 lb (1360 kg) bulk bags. They can be used with any SPEC MIX material delivery system for increased job site efficiency and safety.

BENEFITS

- High bond strength
- Non-sag performance and reduced cracking
- Reduced pop-offs, call-backs and repairs
- Resists water penetration and efflorescence
- Preblended with sand to minimize labor and waste
- Consistent quality control with every bag
- Excellent workability and board life
- Computer batching process and strict quality control procedures help ensure that the finished product complies with design and specification requirements
- Batch-to-batch consistency is maintained using dried sands to eliminate the bulking effect associated with varying moisture within the aggregate
- Portable SPEC MIX silos are available to permit construction in all climates
- Pallets and bulk bag containers are completely reusable and are retrieved whenever a new load of material is delivered to a site
- Helps eliminate sand shoveling, heavy lifting and inconsistencies normally associated with hand or field mixing

LIMITATIONS

- For best results, mortar type should be correlated with the specific masonry unit to be used
- Bond strength, workability and water retention should be given principal consideration when selecting mortar
- Retempering colored mortar is not recommended

4. Technical Data

APPLICABLE STANDARDS

American Concrete Institute (ACI) - ACI 530 Building Code Requirements for Masonry Structures

American National Standards Institute (ANSI) - ANSI 118.4 American National Standard Specifications for Latex-Portland Cement Mortar

ASTM International (ASTM)

- ASTM C91 Standard Specification for Masonry Cement
- ASTM C109/C109M Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or (50-mm) Cube Specimens)
- ASTM C144 Standard Specification for Aggregate for Masonry Mortar
- ASTM C150 Standard Specification for Portland Cement
- ASTM C207 Standard Specification for Hydrated Lime for Masonry Purposes
- ASTM C270 Standard Specification for Mortar for Unit Masonry
- ASTM C482 Standard Specification for Bond Strength of Ceramic tile to Portland Cement Paste
- ASTM C595 Standard Specification for Blended Hydraulic Cements
- ASTM C847 Standard Specification for Metal Lath
- ASTM C897 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters
- ASTM C926 Standard Specification for Application of Portland Cement-Based Plaster
- ASTM C979 Standard Specification for Pigments for Integrally Colored Concrete
- ASTM C1329 Standard Specification for Mortar Cement
- ASTM C1714 Standard Specification for Preblended Dry Mortar Mix for Unit Masonry

Uniform Building Code (UBC) - Standard No. 15-5 for Moisture Absorption

International Masonry All-Weather Council (IMIAC) - Recommended Practices and Guide Specification for Hot and Cold-Weather Masonry Construction

Portland Cement Association (PCA) - Concrete Masonry Handbook for Architects, Engineers, Builders

PHYSICAL/CHEMICAL PROPERTIES

See Table 1 for performance characteristics of SPEC MIX PMSVM.

TABLE 1 SPEC MIX POLYMER MODIFIED STONE VENEER MORTAR

ANSI 118.4:	
Room temperature open time, 70 - 77 degrees F (21 - 25 degrees C)	> 65 minutes
High temperature open time, 100 - 110 degrees F (38 - 43 degrees C)	> 25 minutes
Room temperature adjustability, 70 - 77 degrees F (21 - 25 degrees C)	> 35 minutes
High temperature adjustability, 100 - 110 degrees F (38 - 43 degrees C)	> 15 minutes
Sag on vertical surfaces	0"
Initial set at 100 degrees F (38 degrees C)	1.5 hours
Final set at 100 degrees F (38 degrees C)	2.5 hours
Shear bond strength @ 28 days	428 psi
ACI 530:	
Shear bond strength @ 28 days	330 psi

ENVIRONMENTAL CONSIDERATIONS

All SPEC MIX products are produced locally within 500 miles of the job site. Empty bags and wooden pallets are returned to the plant for reuse, reducing landfill impact. Use of SPEC MIX products can contribute points toward LEED® project certification.

5. Installation

PREPARATORY WORK

Deliver products in manufacturer's original, unopened, undamaged containers with identification labels intact. SPEC MIX products are custom packaged to meet specification requirements. Handle and store product according to SPEC MIX recommendations. Keep dry, covered and protected from weather and other environmental hazards that could cause damage. When stored and protected as recommended, SPEC MIX products have a 9-month shelf life.

Verify that site conditions are acceptable for installation. Do not proceed with installation until unacceptable conditions are corrected.

Mortar type should correlate to the particular masonry unit to be used, as certain mortars are compatible with certain masonry units. The specifier should evaluate the interaction of the mortar type and masonry unit specified. Masonry units with a high initial rate of absorption will have greater compatibility with mortar of high water retention. The material properties that influence the structural performance of masonry are compressive strength, bond strength and elasticity. Since the compressive strength of masonry mortar is of less importance than bond strength, workability and water retentivity, the latter properties should

be given priority in mortar selection.

Mortar selection should be based on design requirements and with due consideration given to the code and specification provisions affected by the mortar selected.

Mock-Ups

A sample of the proposed product will be provided by the manufacturer for onsite preparation of a sample panel for architectural approval and testing, if required. Preparation of this panel with all materials and systems that will be employed in the final project is imperative. Retain the mock-up or field sample through the completion of the project.

METHODS

For consistent results, use a mechanical mixer for homogeneity, workability and good board life. Proper mixing procedures will improve the workability and water retention of the mortar. Over-mixing will entrain air, which can adversely affect properties. Use clean potable water for mixing all SPEC MIX products.

80 lb (36 kg) Bag Mixing Instructions

- Use 1.5 - 2.0 gal (5.7 - 7.6 L) of potable water per 80 lb (36 kg) bag
- Place 75% of the total required water into a mechanical mixer
- Add proper amount of SPEC MIX product into the mixer and allow 1 - 2 minutes of mix time
- Add the remaining amount of water for the desired consistency
- Let mortar slake or set for 5 minutes, then remix for a minimum of 2 minutes

Silo Mixing Instructions

When using the silo system, bulk bags of mortar will be delivered to the project site. The portable silo is loaded with a job site forklift. Dispense product into the mixer as needed.



- Place 75% of the needed water into the mixer. A double batch requires approximately four, full 5 gal (18.9 L) pails
- Open the silo handle to dispense the SPEC MIX product
- Mix the material for 1 - 2 minutes
- Add the remaining amount of water for the desired consistency
- Let mortar slake or set for 5 minutes, then remix for a minimum of 2 minutes
- When the project is complete, contact the SPEC MIX distributor to retrieve the silo and the reusable bags

General Mixing Instructions

- Gauge the consistency of the mortar visually. A good workable stone veneer mortar should have the consistency to be trowelable, but should be stiff enough to retain ridges and peaks when troweled on a horizontal or vertical surface area
- Adjust the workability of the mortar as needed by adding more water or more powder prior to final mixing
- Ensure mix times, mix procedures and water/cement ratio are consistent from batch to batch
- Do not retemper colored Stone Veneer Mortar by adding additional water, as it will affect the final mortar color

Application Over Wood & Lath

- When installing over galvanized metal lath, tightly attach the lath to the substrate using nails every 6" (152 mm). To eliminate waves in the lath when attaching it to plaster board or painted surfaces, screw lath into studs every 8" (203 mm)
- Using a trowel, apply mortar 1/2" (12.7 mm) thick to prepare the surface so no lath is exposed
- To avoid setting or excessive water loss due to evaporation, apply mortar only in a working area less than 10 ft² (0.93 m²)
- Ensure that the lath is completely covered by the Polymer Modified Stone Veneer Mortar or Stone Veneer Mortar
- Before the mortar begins to harden, use a scratcher, scarifier or notched trowel to "scratch" the mortar surface
- After a 24-hour curing period, coat the back of each adhered masonry unit with sufficient mortar and press it firmly into place until the excess material spreads from the sides of the unit
- Once all units are in place, fill a grout bag with SPEC MIX Stone Veneer Mortar; fill each joint by extruding the grout from the bag
- Tool, brush or rake joints



Engineered for optimal workability, bond strength and durability, SPEC MIX veneer mortars are superior

Application Over Masonry and Concrete

- Prepare painted, waterproofed or dirty surfaces for mortar application by sandblasting and cleaning, or by attaching a ASTM C847 compliant metal lath and applying a scratch coat of SPEC MIX Stone Veneer Mortar or PMSVM
- Apply the mortar to the back of the masonry veneer unit surface at a minimum 1/2" (12.7 mm) thickness
- Apply the unit directly to the masonry, concrete substrate or scratch coat until the excess material spreads from the sides of the unit
- Once all the units are in place, fill a grout bag with SPEC MIX Stone Veneer Mortar; fill each joint by extruding the grout from the bag
- Tool, brush or rake joints

PRECAUTIONS

- Do not use PMSVM when temperatures are below 40 degrees F (4 degrees C)
- Allow mortar to cure for a minimum of 28 days
- Do not use mortar 1 hour or more after mixing
- Clean mortar only with potable water - do not use muriatic acid
- Tool mortar joints when the surface is thumbprint hard and keep tooling times consistent
- Do not strike joints too early or too late, as the color will not remain consistent with the mock-up panel
- Do not retemper colored Stone Veneer Mortar or PMSVM by adding additional water as it will affect the final mortar color

Safety

This product contains greater than 0.1% crystalline silica. Avoid breathing dust; use a NIOSH-approved dust respirator and use only with adequate ventilation to keep dust below permissible levels. The product also contains cementitious materials injurious to eyes. Contact with freshly mixed product can cause severe burns. Avoid eye contact or prolonged contact with skin. Wash thoroughly after handling. In case of eye contact, flush with plenty of water for 15 minutes. Consult a physician. Keep out of the reach of children.

BUILDING CODES

SPEC MIX Polymer Modified Stone Veneer Mortar and Stone Veneer Mortar must be installed in accordance with the provisions of local building codes and in accordance with instructions and requirements provided by the precast stone or brick manufacturer.

6. Availability & Cost

AVAILABILITY

SPEC MIX Products and SPEC MIX silo delivery systems are available through a network of nationally licensed manufacturers, with local distribution to major U.S. markets and to select regions of Canada. Contact SPEC MIX, Inc. for more information, or visit www.specmix.com to locate a local manufacturer.

COST

Market pricing and installed cost information may be obtained from a local SPEC MIX manufacturer or through SPEC MIX, Inc. by calling (888) 773-2649.

7. Warranty

SPEC MIX LIMITED PRODUCT WARRANTY: SPEC MIX, Inc. warrants this product to be of merchantable quality when used or applied in accordance with the instructions. This product is not warranted as suitable for any purpose or use other than the general purpose for which it is intended. Liability under this warranty is LIMITED to the replacement of the product (as purchased), if found to be defective, or, at the shipping companies' option, to the refund of the purchase price. All claims under this warranty must be written and submitted to SPEC MIX, Inc.

8. Maintenance

Properly mixed and installed masonry units and mortar require little maintenance. Depending on service conditions, masonry walls may require periodic cleaning and tuck-pointing. Clean masonry with potable water only. Do not use muriatic acid to clean colored mortar.

9. Technical Services

SPEC MIX products are produced locally across the United States and Canada by licensed manufacturers who use sophisticated blending equipment and follow strict quality control procedures to meet project specifications, contractor expectations and applicable ASTM standards.

SPEC MIX products are manufactured with strict standards and comprehensive quality control procedures in place for each batch. A digital printout displaying the proper proportions per batch is available upon request and may be kept as a permanent record. Only SPEC MIX offers this laboratory-controlled production system in preblended mortar.

SPEC MIX, Inc. will provide product samples for architectural approval and testing if requested, using all materials and systems that will be employed in the final project. Contact SPEC MIX, Inc. or a local SPEC MIX manufacturer, for technical service requests.

10. Filing Systems

- SmartBuilding Index
- MANU-SPEC®
- Additional product information is available from the manufacturer upon request.

