



04 DIVISION
MORTAR

POLYMER MODIFIED ADHERED VENEER MASONRY MORTAR



Ultimate Bond. Non Sagging.

SPEC MIX® Polymer Modified Adhered Veneer Mortar (PMAVM) is a technologically advanced adhered veneer mortar for use in bonding adhered manufactured stone veneer, natural thin cut stone and thin brick to a cementitious substrate. PMAVM is designed to provide excellent workability, cohesion, high bond strength, sag resistance, water resistance, efflorescence minimization, and durability. SPEC MIX PMAVM is the ideal solution for architects and contractors with projects where an immediate and ongoing need for mortar delivering high bond strength and sag resistance during installation is required. In applications where mortar joints are not utilized, such as dry stack applications, SPEC MIX PMAVM should be used to gain additional bond strength and “pop-off” protection. Installing natural thin cut stone veneer is aided by the unique anti-sag and high bond properties of SPEC MIX PMAVM.

SPEC MIX PMAVM meets the requirements of ASTM C 1714 and ASTM C 270 for Type S mortars including ANSI A 118.4 and ACI 530 shear bond standards. SPEC MIX PMAVM has been rigorously tested to reduce the probability of unit “pop-offs” and contractor call-backs to repair adhered veneer failures common with standard mortars. SPEC MIX PMAVM is available in standard and custom colors.

In addition to custom mix designs that are available for specific applications or properties, the SPEC MIX Polymer Modified Adhered Veneer Mortar is designed to be compatible with the characteristics of most all specified adhered masonry veneer units. It is acceptable for all types of construction: concrete, masonry, wood frame or steel studs, with submittals available upon request.

TYPICAL MATERIALS

PORTLAND CEMENT
MASON SAND
HYDRATED LIME
PERFORMANCE ADMIXTURES
PIGMENT



STANDARD (VM-04)
COLOR (VM-06)

AVAILABLE
IN COLOR



SPEC MIX Polymer Modified Adhered Veneer Mortar (PMAVM) is a technically advanced mortar designed to provide excellent workability, cohesion, high bond strength, water resistance, efflorescence minimization, and durability. SPEC MIX PMAVM is used to bond thin veneer stones and bricks to a substrate and works perfect for scratch and base coat applications. SPEC MIX PMAVM is the ideal solution for architects and contractors with projects where an immediate and ongoing need for mortar delivering high bond strength and sag resistance during installation is required. In applications where mortar joints are not utilized, such as dry stack applications, SPEC MIX PMAVM should be used to gain bond strength and “pop-off” protection. SPEC MIX PMAVM meets the requirements of ASTM C 270 for mortars including appropriate ANSI A118.4 and ACI 530 shear bond standards. SPEC MIX PMAVM has been rigorously tested to reduce the probability of unit “pop-offs” and contractor callbacks to repair failures common with inferior standard mortars.

ENGINEERED ADHERED VENEER SOLUTION

SPEC MIX PMAVM, when coupled with proper design and workmanship, is specifically engineered to increase adhesion of veneer units to concrete and masonry substrates including properly prepared wood, metal stud and rigid insulation type construction. Traditional masonry mortar performance only allows for a standard mechanical bond between the veneer unit and substrate—not the optimal solution for a high bond, durable veneer wall system. In comparison, SPEC MIX PMAVM significantly increases the wall systems mechanical bond with an added chemical bond created by specially selected polymers that chemically react at the unit and substrate interface to create a molecular bond between the components resulting in superior adhesion.

The SPEC MIX PMAVM proprietary formula is highly cohesive which makes for unparalleled workability when troweled. Its formulation also enhances the mortar’s board life which improves adhesive qualities that make it easy to apply veneer units to the wall substrate. By working with SPEC MIX PMAVM, installation contractors enjoy the benefits of a controlled product; increasing efficiency, resulting in extensive labor savings. SPEC MIX PMAVM contains flexibility characteristics to mitigate common building shifts, movements and deflection while protecting against shrinkage cracking. After job completion, SPEC MIX PMAVM offers optimal impact resistance to help keep veneer projects structurally sound.

QUALITY CONTROL DRIVES OUR PROCESS

The driving force behind our commitment to quality and our statement to the design community is: “What you specify is what you get!” Our process embraces our commitment to supply superior products. SPEC MIX PMAVM is manufactured locally across North America by our team of manufacturing facilities. Each facility utilizes state of the art batching equipment that starts with a custom formulation or mix design, then all raw materials are pre-weighed and checked for accuracy. Like all SPEC MIX products, the PMAVM mix is produced with the finest raw materials available in each regional market. Once each material is weighed, the batch is thoroughly blended for total uniformity and consistency. This process is supported by our strict quality control procedures to meet project specifications, contractor expectations and applicable ASTM, ANSI and ACI Standards. Unlike field-mixed mortar, a digital printout displaying the actual proportions of materials in each batch may be kept as a permanent record. This is the level of quality assurance you get from SPEC MIX on every project!



GREEN BUILDING

AT SPEC MIX ENVIRONMENTAL STEWARDSHIP AND SUSTAINABILITY ARE THE KEYSTONES FOR THE WAY WE DEVELOP AND IMPLEMENT CEMENT BASED BUILDING MATERIALS AND MIXING SYSTEMS FOR THE CONSTRUCTION INDUSTRY. WE TAKE PRIDE IN HOW OUR SILO DELIVERY SYSTEMS AND PRODUCTS CONTRIBUTE TO LOWER THE IMPACT ON THE ENVIRONMENT IN THE DESIGN AND CONSTRUCTION OF ANY BUILDING.

OUR ONGOING GOAL IS TO SUPPORT ENHANCED ENVIRONMENTAL AND BIODIVERSITY MANAGEMENT. WE STRIVE TO STRENGTHEN REGIONAL ECONOMIES BY SUPPORTING LOCAL COMMUNITIES IN REDUCING FUEL CONSUMPTION AND AIR POLLUTION CAUSED BY TRANSPORTING BUILDING MATERIALS LONG DISTANCES.

WITH MORE THAN 60 MANUFACTURING FACILITIES, THE SPEC MIX ORGANIZATION IS POSITIONED TO SERVICE EVERY MAJOR MARKET THROUGHOUT NORTH AMERICA WITH FACTORY PREBLENDED, HIGH PERFORMANCE MASONRY MORTARS, GROUT, STUCCO BASECOATS, AND SHOTCRETE.

SPEC MIX IS YOUR FIRST SOURCE TO LOOK AT WHEN YOU WANT YOUR PROJECT TO BE LEED™ CERTIFIED. CONSULT WITH US OR YOUR LOCAL SPEC MIX REPRESENTATIVE TO FIND OUT MORE ON HOW SPEC MIX CONTRIBUTES TO AN EARTH FRIENDLY ENVIRONMENT.

SPEC MIX POLYMER MODIFIED ADHERED VENEER MORTAR IS THE ONLY VENEER MORTAR THOROUGHLY TESTED FOR OPTIMAL PERFORMANCE.



INSTALLATION/APPLICATION

The proprietary design of SPEC MIX Polymer Modified Adhered Veneer Mortar makes it versatile for use with all types of thin adhered masonry veneer units on both residential and commercial construction applications. When SPEC MIX PMAVM is properly used, it is the necessary solution to a high-quality durable thin veneer system. SPEC MIX PMAVM should be installed in accordance with the provisions of the local building codes and applicable ASTM standards. These products should also be installed in accordance with the instructions and requirements provided by the manufacturer of the thin stone or brick. Prior to installation, all surfaces should be clean of dust, debris, oil and residue, and washed before applying mortar.

PERFORMANCE STANDARDS

SPEC MIX POLYMER MODIFIED ADHERED VENEER MORTAR WAS PUT TO THE TEST TO CONFIRM IT MEETS OR EXCEEDS THE FOLLOWING PERFORMANCE STANDARDS:

- MEETS OR EXCEEDS REQUIREMENTS OF ASTM C-270 TABLE 1 FOR TYPE S MORTARS.
- MEETS CRITICAL ACI AND ANSI SHEAR BOND TESTING REQUIREMENTS.

SHEAR BOND STANDARD	REQUIREMENT	SPEC MIX PMAVM
ACI 530 (6.3.2.4) 28 DAY SHEAR BOND (LABORATORY PREPARED)	50 PSI (0.3 MPa)	>300 PSI (2.0 MPa)
ANSI A 118.4 7 DAY SHEAR BOND (LABORATORY PREPARED)	300 PSI (2.0 MPa)	>400 PSI (2.7 MPa)

SPEC MIX POLYMER MODIFIED ADHERED VENEER MORTAR EXCEEDS OTHER ANSI A118.4 STANDARDS FOR MODIFIED DRY-SET CEMENT MORTAR.

	SPEC MIX PMAVM
OPEN TIME	
ROOM TEMPERATURE OPEN TIME (70 TO 77 °F OR 21 TO 25 °C)	Exceeds 65 min
HIGH TEMPERATURE OPEN TIME (100 TO 110 °F OR 37 TO 43 °C)	Exceeds 25 min
ADJUSTABILITY	
ROOM TEMPERATURE ADJUSTABILITY (70 TO 77 °F OR 21 TO 25 °C)	Exceeds 35 min
HIGH TEMPERATURE ADJUSTABILITY (100 TO 110 °F OR 37 TO 43 °C)	Exceeds 15 min
SAG ON VERTICAL SURFACES	0 inch

APPROXIMATE COVERAGE RATES

	80 lb (36.2 kg) Bag	3,000 lb (1,360.7 kg) Bag
SCRATCH COAT	20 to 23 ft ² (1.8 to 2.1 m ²)	750 to 860 ft ² (70 to 80 m ²)
BONDING COAT	24 to 26 ft ² (2.2 to 2.4 m ²)	900 to 975 ft ² (84 to 91 m ²)
JOINT GROUT - 1/2 in (13 mm) JOINTS	38 to 40 ft ² (3.5 to 3.7 m ²)	1,425 to 1,500 ft ² (132 to 139 m ²)
FULL INSTALLATION (SCRATCH, BOND, & JOINT)	13 to 15 ft ² (1.2 to 1.4 m ²)	485 to 560 ft ² (45 to 52 m ²)

NOTE: THE YIELDS GIVEN ABOVE ARE APPROXIMATE AND DEPEND ON LABOR PRACTICES, SITE CONDITIONS AND DESIGN OF WORK. YIELDS INCLUDE TYPICAL WASTE. SOME AREAS SUCH AS FL, CA, OR, AND WA EXPERIENCE HIGHER YIELDS DUE TO CONSTRUCTION PRACTICES. PLEASE CONTACT YOUR LOCAL REPRESENTATIVE FOR MORE SPECIFIC YIELD INFORMATION IN YOUR AREA.

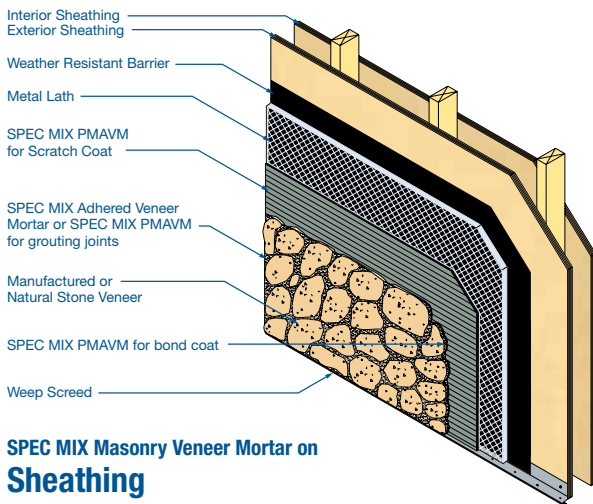
ADDITIONAL INSTALLATION INSTRUCTIONS

- FOLLOW PROPER COLD-WEATHER AND HOT-WEATHER MASONRY CONSTRUCTION PRACTICES IN THE CONCRETE MASONRY HANDBOOK AS PUBLISHED BY THE PORTLAND CEMENT ASSOCIATION WHEN AIR TEMPERATURE IS BELOW 40 °F (4 °C) OR ABOVE 100 °F (38 °C) RESPECTIVELY.
- CONTROL JOINTS CAN BE INSTALLED TO MITIGATE THE EFFECTS OF SUPPORT MOVEMENT TYPICALLY CAUSED BY SEISMIC CONDITIONS, CHANGE IN WEATHER, SHRINKAGE, AND DEFLECTION. THESE SHOULD BE INSTALLED IN ACCORDANCE WITH SPECIFICATIONS OF ENGINEER, ARCHITECT, DESIGNER AND LOCAL BUILDING CODES.
- FOR ADDITIONAL MOISTURE PROTECTION, A MASONRY SEALER CAN BE APPLIED TO THE JOINTS ACCORDING TO MANUFACTURER'S INSTRUCTIONS. CONSULT WITH THE VENEER MANUFACTURER FOR THE COMPATIBILITY OF SEALER WITH THE UNIT.
- PREVENT WORK FROM OCCURRING ON THE OPPOSITE SIDE OF WALLS TO WHICH THE VENEER IS BEING APPLIED WITHIN 48 HOURS AFTER AND DURING INSTALLATION.
- WHERE DISSIMILAR MATERIALS ABOUT THE VENEER, SUCH AS WOOD, METAL OR VINYL, LEAVE A 1/2 in SPACE TO INSTALL BACKER ROD AND SEALANT.

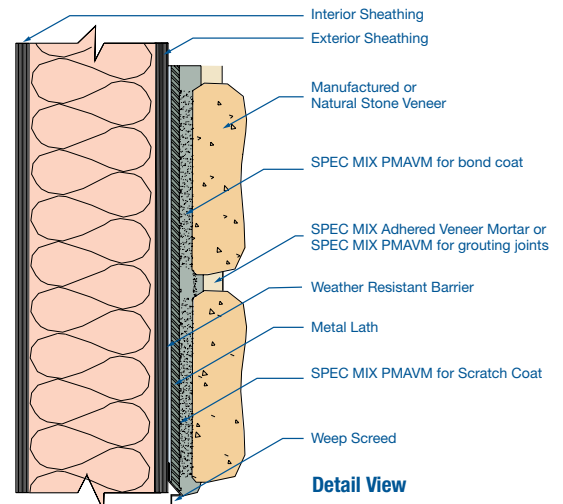
POLYMER MODIFIED ADHERED VENEER MASONRY MORTAR (PMAVM)

INSTALLATION ON SHEATHED WOOD FRAME CONSTRUCTION

Install moisture barrier and metal lath according to manufacturer's instructions. Install metal lath over the moisture barrier. Lathing material should conform to ASTM C 847 galvanized expanded metal lath or ASTM C 847 painted expanded metal lath. Use 2.5 lb galvanized expanded metal lath, 18 gauge woven wire mesh, or 3.4 lb galvanized expanded rib lath or consult local building codes for acceptable materials. Apply a scratch coat of SPEC MIX Polymer Modified Adhered Veneer Mortar at a 3/8 to 1/2 inch (9.5 to 13 mm) minimum thickness to the metal lath. Before the mortar begins to harden, use a notched trowel to "scratch" the mortar surface. After a 24 hour curing period, install the veneer units to the scratch coat with SPEC MIX PMAVM by applying the mortar to the back of the unit at a minimum 1/2 in (13 mm) thickness and pressing it firmly up to the substrate. After pressing the unit, the distance from unit to substrate should be approximately 3/8 in (9.5 mm). Clean excess mortar from the sides of the unit. Wait preferably 24 hours for units to set before grouting joints. With a grout bag or pointing tool, apply standard SPEC MIX Adhered Veneer Mortar or SPEC MIX PMAVM mortar to the joints between the units. Once the joint grout has stiffened to the touch, rake with a jointing tool, then brush. Keep raking and tooling time consistent. Do not rake, tool and finish joints too early or too late as the color will not remain consistent throughout the project. Install a drainage plane system behind the lath for additional moisture protection.



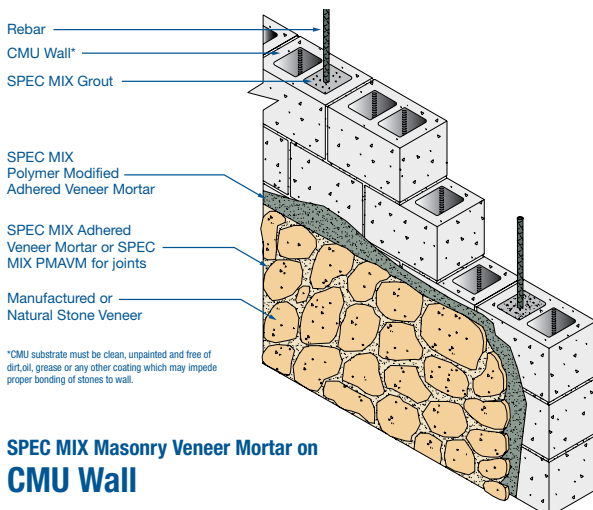
SPEC MIX Masonry Veneer Mortar on Sheathing



Detail View

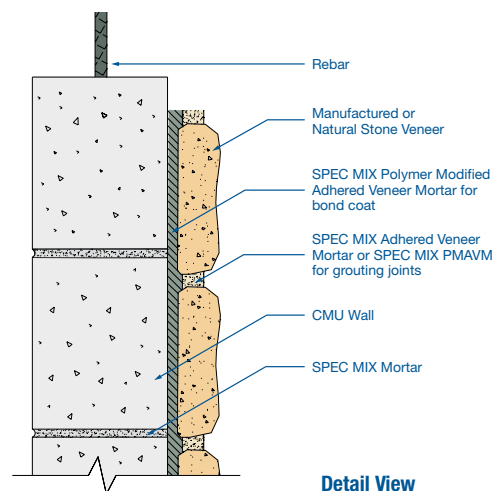
INSTALLATION TO CONCRETE AND MASONRY CONSTRUCTION

Install the veneer units directly to clean and stable concrete or masonry surfaces with SPEC MIX Polymer Modified Adhered Veneer Mortar by applying the mortar to the back of the unit at a minimum 1/2 in (13 mm) thickness and pressing it firmly up to the concrete or masonry substrate. After pressing the unit, the distance from unit to substrate should be approximately 3/8 in (9.5 mm). Clean excess mortar from the sides of the unit. If concrete or masonry surface contains paint, dirt, oil, grease or any other type of coating, the wall must be sandblasted to expose a clean concrete surface or the bond will be poor. ASTM C 847 compliant metal lath can be attached and a scratch coat of SPEC MIX PMAVM may be installed and cured in lieu of sandblasting. Wait preferably 24 hours for bonding mortar to cure before grouting the joints. With a grout bag or pointing tool, apply standard SPEC MIX Adhered Veneer Mortar or SPEC MIX PMAVM mortar to the joints between the units. Once the joint mortar has stiffened to the touch, rake with a jointing tool, then brush. Keep tooling and raking time consistent. Do not rake and tool joints too early or too late as the color will not remain consistent throughout the project.



*CMU substrate must be clean, unpainted and free of dirt, oil, grease or any other coating which may impede proper bonding of stones to wall.

SPEC MIX Masonry Veneer Mortar on CMU Wall



Detail View

SPEC MIX SILO SYSTEM: ULTIMATE JOB SITE QUALITY CONTROL, LABOR EFFICIENCY AND PRODUCTIVITY

OUR MANTRA AT SPEC MIX IS "KEEP GOING. KEEP MOVING. KEEP WORKING." TO KEEP A PROJECT PROGRESSING, WE BELIEVE THAT PRODUCT CONSISTENCY IS DIRECTLY RELATED TO A CONTRACTOR'S EFFICIENCY AND PRODUCTIVITY. WITH SPEC MIX SILO SYSTEMS ON SITE, A CONTRACTOR ACHIEVES MAXIMUM EFFICIENCY. OUR SILO DELIVERY SYSTEMS VARY IN SIZE AND CAPACITY, FROM 1 CUBIC YARD, 5 CUBIC YARDS TO AS MUCH AS 10 CUBIC YARDS OF PRODUCT. REGARDLESS OF THE PROJECT SCOPE AND SIZE, EACH IS UNIQUELY ENGINEERED TO INCREASE A CONTRACTOR'S JOBSITE PRODUCTIVITY AND SAFETY AT THE MIXING STATION. ALL SILOS OPERATE EASILY AND SMOOTHLY, ELIMINATING THE HEAVY LIFTING AND TWISTING ASSOCIATED WITH SHOVELING SAND AND LIFTING BAGS. OUR SILO DELIVERY SYSTEMS AND BULK BAGS REDUCE THE PROBABILITY OF PRODUCT CONTAMINATION FROM WEATHER, EXPOSURE TO JOBSITE DIRT AND DEBRIS, WHICH ULTIMATELY CONTROLS UNSIGHTLY EFFLORESCENCE, COLOR VARIATION AS WELL AS STRUCTURAL INTEGRITY OF MASONRY WALLS.



MIXING INSTRUCTIONS

WEAR IMPERVIOUS GLOVES, such as nitrile.

When mixing SPEC MIX PMAVM, use a mechanical batch mixer or an electric drill with a paddle to ensure homogeneity and good board life.

- 1 Add each 80 lb (36.2 kg) bag of SPEC MIX Polymer Modified Adhered Veneer Mortar to approximately 5.5 to 6.0 quarts (5.2 to 5.7 liters) of clean, potable water. Start with approximately 75% of the required water. (See chart for details)
- 2 During 3 to 5 minutes of initial mixing, add remaining water as necessary. (Water addition rates vary based on climate, installation method, and veneer type.)
- 3 Let the mortar rest for 2 minutes and then remix for at least 1 minute.
- 4 The workability of the mortar can be adjusted as necessary by adding either more water or more powder prior to final mixing.

Mortar shall be used and placed in final position within one hour after initial mixing or discarded after that time period. Whenever possible, do not retemper colored SPEC MIX masonry mortars by adding additional water; retempering may affect color consistency. SPEC MIX products are custom packaged to the specification. They must be kept dry, covered and protected from weather and other damage.

MORTAR POWDER TO WATER RATIO

SPEC MIX PMAVM	REQUIRED MIXING WATER
80 lb (36.2 kg) Bag	5.5 to 6 quarts (5.2 to 5.7 liters)
3,000 lb (1,360.7 kg) Bag	Contact your local SPEC MIX Representative

NOTE: WATER ADDITION RATES CAN VARY SLIGHTLY BASED ON CLIMATE, INSTALLATION METHOD, STONE TYPE, AND REGIONAL MATERIAL DIFFERENCES.



POLYMER MODIFIED ADHERED VENEER MASONRY MORTAR (PMAVM)

PACKAGE SIZES AND DELIVERY EQUIPMENT

SPEC MIX Polymer Modified Adhered Veneer Mortar is available in 80 lb (36.2 kg) packages for easy hand loading. Also available in 3,000 lb (1,360.7 kg) reusable bulk bags to be used with the various SPEC MIX silo delivery systems. Once the bulk bags of mortar are delivered to the project site, load them into the portable silo with a jobsite forklift and dispense the product into a mechanical batch mixer.

SILO OPERATION

Space is a premium on most project sites. SPEC MIX silos are versatile and easily adapt to the diverse needs of mason contractors working on any site. The portable silos and bulk bags require no special equipment—only a standard forklift to lift and dispense the 3,000 lb (1,360.7 kg) bags or relocate the silo on site. Ranging in size from a pallet sized footprint to an 8 ft x 11 ft (2.4 m x 3.4 m) footprint, SPEC MIX silos allow any contractor to use less space than traditional mixing stations. With various styles to choose from, our silo systems are ideal for interior work as well as exterior work. The dry, preblended material coupled with our unique silo allows work to continue through all seasons. With the SPEC MIX system, mason contractors can remain productive year round. No more frozen or water saturated sand piles that affect product quality and consistency—just add water and pull the silo's handle—it's that easy. Now getting quality, consistent mortar is simple, every job.

LIMITATIONS

SPEC MIX Polymer Modified Adhered Veneer Mortar should be installed in accordance with the provisions of the local building code and applicable ASTM standards. Good workmanship coupled with proper detailing and design assures durable, functional, watertight construction. Follow proper cold-weather and hot-weather masonry procedures at temperatures below 40 °F (4 °C) or above 100 °F (38 °C) respectively.

LIMITED WARRANTY

SPEC MIX, Inc. warrants this product to be of merchantable quality when used or applied in accordance with the instructions hereon. 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 its product (as purchased) if found to be defective,

COLORED PMAVM

Colored Polymer Modified Adhered Veneer Mortar (PMAVM) is easily achieved through the SPEC MIX preblended approach perfected for over 20 years. SPEC MIX colored PMAVM uniformity starts with sourcing high quality, stable pigments and then preblending them into the formula to ensure color consistency throughout the project.

Colored PMAVM should be used in adhered veneer projects such as the bonding mortar for drystack applications where the applicator, owner or specifier desires a specific color mortar other than standard gray to blend into the background of the stone. Using Colored PMAVM for joint grouting is also an excellent solution where a joint color to match or blend with the adhered veneer is desired. The SPEC MIX standard colored mortar line is available in the PMAVM formulation and consists of a collection of 25 colors that are available in 80 lb (36.2 kg) and 3,000 lb (1,360.7 kg) bags throughout North America. When building owners and designers want a unique color that supports their vision for a project, the options for custom SPEC MIX colored mortars are endless and consistent from batch to batch.



or at the shipping company's option, to refund the purchase price. In the event of a claim under this warranty, notice must be given to SPEC MIX, Inc. in writing at: One Securities Centre, 3490 Piedmont Road, Suite 1300, Atlanta, GA 30305. THIS WARRANTY IS ISSUED AND ACCEPTED IN LIEU OF ALL OTHER EXPRESS WARRANTIES AND EXPRESSLY EXCLUDES LIABILITY FOR CONSEQUENTIAL DAMAGES.

TECHNICAL SUPPORT

- CONTACT YOUR LOCAL SPEC MIX® MANUFACTURER
- VISIT WWW.SPECMIX.COM
- CONTACT SPEC MIX®, INC.
PHONE: 888-SPEC MIX FAX: 651-454-5315