SPEC MIX®

U. S. A.

POLYMER MODIFIED
STONE VENEER MORTAR

1-888-SPECMIX

DIVISION
MASONRY PRODUCTS 04

Superior Bond. Highly Durable.

SPEC MIX® Polymer Modified Stone Veneer Mortar (PMSVM) is a blend of dry cementitious materials, masonry sand and performance admixtures specifically designed to provide superior bond for adhered manufactured and natural thin stone as well as thin brick veneer units. The blend of high performance materials used in SPEC MIX PMSVM reduce and eliminate sagging of the masonry unit during installation and delivers a high strength bond to the substrate.

MATERIALS USED

CEMENT
MASON SAND
HYDRATED LIME
PERFORMANCE ADMIXTURES

SPEC MIX PMSVM significantly outperforms standard Type S and N mortar and is the preferred mortar for adhered stone veneer installation. SPEC MIX PMSVM requires only water to be added; there are no bonding agents to mix on the jobsite. SPEC MIX PMSVM has taken the guesswork out of mortar production and selection for adhered stone veneer installation. By blending all of the components together during the manufacturing process SPEC MIX PMSVM ensures installers, designers and project owners alike that the building is constructed with material engineered for consistent workability, high performance, and superior bond strength.

HIGH BOND STRENGTH
NON-SAG PERFORMANCE & REDUCED CRACKING
REDUCES POP-OFFS, CALL BACKS & REPAIRS
RESISTANCE TO WATER PENETRATION & EFFLORESCENCE
PREBLENDED WITH SAND TO MINIMIZE LABOR & WASTE
CONSISTENT QUALITY CONTROL WITH EVERY BAG
GREAT WORKABILITY AND BOARD LIFE

POLYMER MODIFIED STONE VENEER MORTAR (PMSVM)

SPEC MIX Polymer Modified Stone Veneer Mortar (PMSVM) is a technically advanced mortar designed to provide excellent workability, cohesion, high bond strength, water resistance, efflorescence minimization, and durability. SPEC MIX PMSVM is used to bond thin veneer stones and bricks to a substrate and works perfect for scratch and base coat applications. SPEC MIX PMSVM 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 PMSVM should be used to gain bond strength and pop-out protection. 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. SPEC MIX PMSVM 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 PMSVM, 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 substrates. Traditional masonry mortar performance only allows for a standard mechanical bond between the stone veneer unit and substrate—not the optimal solution for a high bond, durable veneer wall system. In comparison, SPEC MIX PMSVM 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 PMSVM 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 stones to the wall substrate. By working with SPEC MIX PMSVM, installation contractors enjoy the benefits of a controlled product; increasing efficiency, resulting in extensive labor savings. SPEC MIX PMSVM contains flexibility characteristics to mitigate common building shifts, movements and deflection while protecting against shrinkage cracking. After job completion, SPEC MIX PMSVM offers optimal impact resistance to help keep stone 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 PMSVM is manufactured locally across North America by our team of over 57 licensed manufacturers. Each manufacturer 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 PMSVM 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, every project!

GREEN BUILDING

SPEC MIX TAKES PRIDE IN HOW ITS SILO DELIVERY SYSTEMS AND PRODUCTS CONTRIBUTE TO LOWER THE IMPACT ON THE ENVIRONMENT IN THE DESIGN AND CONSTRUCTION OF ANY BUILDING. 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 HOW SPEC MIX CONTRIBUTES TO AN EARTH FRIENDLY ENVIRONMENT.

CONSIDER HOW USING SPEC MIX PRODUCTS CAN CONTRIBUTE TO THE FOLLOWING CREDITS IN ACHIEVING A LEED™ CERTIFICATION.

CREDIT 2.1 & 2.2 - EMPTY SPEC MIX BULK BAGS AND PALLETS ARE RECYCLED TIME AND AGAIN. PACKAGING DOESN'T NEED TO BE DISCARDED ON SITE.

CREDIT 2.1 & 2.2 - SPEC MIX PREBLENDED PRODUCTS ELIMINATE THE NEED FOR SAND PILE WASTE ON SITE AND SUBSEQUENT RUN-OFF.

CREDIT 4.1 & 4.2 - MANY SPEC MIX PRODUCTS INCORPORATE "PRE-CONSUMER" WASTE BYPRODUCTS, SUCH AS FLYASH.

CREDIT 5.1 & 5.2 - WITH 57 LICENSED MANUFACTURES AROUND NORTH AMERICA, MOST ALL SPEC MIX PRODUCTS ARE EXTRACTED AND MANUFACTURED WITHIN 500 MILES OF THE JOBSITE.

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

INSTALLATION/APPLICATION

The proprietary design of SPEC MIX® Polymer Modified Stone Veneer Mortar makes it versatile for use with all types of thin adhered masonry veneer units on all residential and commercial construction applications. When SPEC MIX PMSVM is properly used, it is the necessary solution to a high-quality durable thin stone veneer system. SPEC MIX PMSVM should be installed in accordance with the provision 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 STONE VENEER MORTAR WAS PUT TO THE TEST TO CONFIRM IT EXCEEDS THE FOLLOWING PERFORMANCE STANDARDS:

- MEETS OR EXCEEDS REQUIREMENTS OF ASTM C-270 TABLE 2 FOR TYPE S AND TYPE N MORTAR.
- MEETS OR EXCEEDS REQUIREMENTS OF ASTM C-1384 STANDARD SPECIFICATION FOR ADMIXTURES FOR MASONRY MORTARS.
- MEETS CRITICAL ACI AND ANSI SHEAR BOND TESTING REQUIREMENTS.

SHEAR BOND STANDARD	REQUIREMENT	PMSVM
ACI 530 (6.3.2.4) 28 DAY SHEAR BOND	50 PSI	EXCEEDS
ANSI 118.4 (F-5.1.5) 28 DAY SHEAR BOND	300 PSI	428 PSI

SPEC MIX POLYMER MODIFIED STONE VENEER MORTAR EXCEEDS OTHER ANSI 118.4 STANDARDS FOR LATEX MODIFIED PORTLAND CEMENT MORTAR.

	SPEC MIX PMSVM
OPEN TIME	
ROOM TEMPERATURE OPEN TIME (70 – 77˚F)	EXCEEDS 65 MIN.
HIGH TEMPERATURE OPEN TIME (100 – 110˚F)	EXCEEDS 25 MIN
ADJUSTABILITY	
ROOM TEMPERATURE ADJUSTABILITY (70 – 77˚F)	EXCEEDS 35 MIN
HIGH TEMPERATURE ADJUSTABILITY (100 – 110˚F)	EXCEEDS 15 MIN
SAG ON VERTICAL SURFACES	0 INCH

APPROXIMATE COVERAGE RATES

	3/8" SCRATCH COAT	BOND COAT
50 LB. BAG	14 SQ. FT.	16 SQ. FT.
80 LB. BAG	22 SQ. FT	25 SQ. FT.
94 LB. BAG	25 SQ. FT.	29 SQ. FT.
3,000 LB. BULK BAG	825 SQ. FT.	940 SQ. FT.

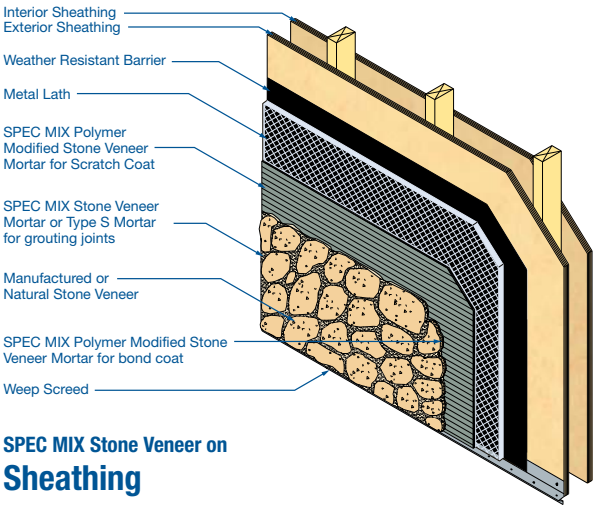
NOTE: COVERAGE IS APPROXIMATE AND WILL VARY DEPENDING ON WORKMANSHIP, METHOD OF INSTALLATION, SUBSTRATE, STYLE OF STONE, WASTE AND REGIONAL VARIATION.

ADDITIONAL INSTALLATION INSTRUCTIONS

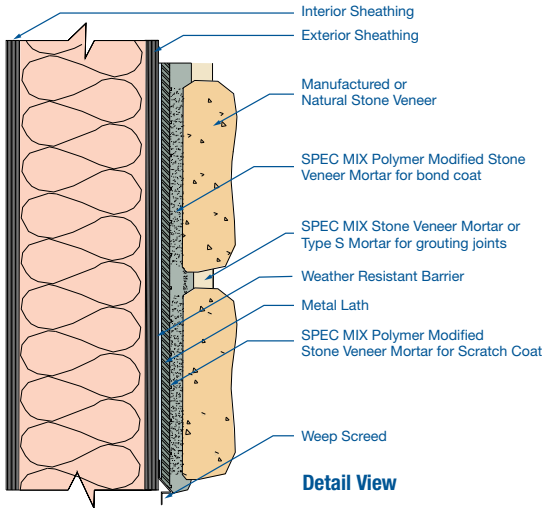
- WHEN AIR TEMPERATURE IS BELOW 40˚F (4.5˚C), FOLLOW COLD-WEATHER MASONRY CONSTRUCTION PRACTICES IN THE CONCRETE MASONRY HANDBOOK AS PUBLISHED BY THE PORTLAND CEMENT ASSOCIATION.
- CONTROL JOINTS CAN BE INSTALLED TO MITIGATE THE EFFECTS OF SUPPORT MOVEMENT TYPICALLY CAUSED BY SEISMIC CONDITIONS, CHANGE 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 STONE MANUFACTURER FOR THE COMPATIBILITY OF SEALER WITH THE STONES.
- PREVENT WORK FROM OCCURRING ON THE OPPOSITE SIDE OF WALLS TO WHICH THE STONE VENEER IS BEING APPLIED WITHIN 48 HOURS AFTER AND DURING INSTALLATION.

INSTALLATION ON SHEATHED WOOD FRAME CONSTRUCTION

Install moisture barrier and metal lath according to stone manufacturer's instructions. Install metal lath over the moisture barrier. Lathing material should conform to ASTM C847 galvanized expanded metal lath or ASTM C847 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 Stone Veneer Mortar at a 3/8" 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 stone veneer units to the scratch coat with SPEC MIX PMSVM by applying the mortar to the back of the stone at a minimum 1/2" thickness and pressing it firmly up to the substrate. After pressing stone, the distance from stone to substrate should be approximately 3/8". Clean excess mortar from the sides of the stone. Wait preferably 24 hours for stones to set before grouting joints. With a grout bag or pointing tool, apply standard SPEC MIX Stone Veneer Mortar or type "S" mortar to the joints between the stones. Do not use SPEC MIX Polymer Modified Stone Veneer Mortar for jointing. 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 and 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.



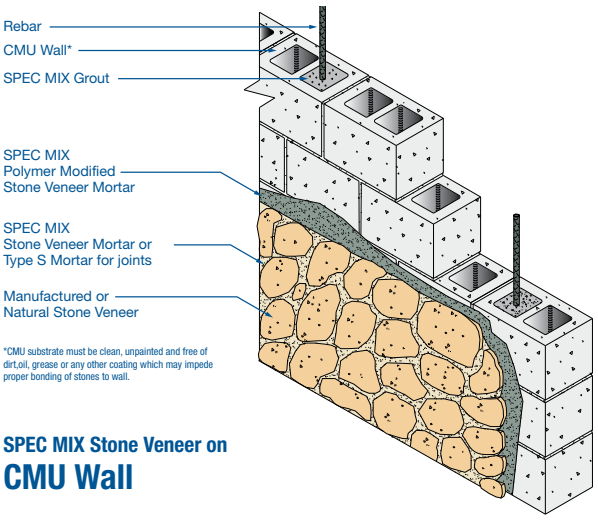
SPEC MIX Stone Veneer on
Sheathing



Detail View

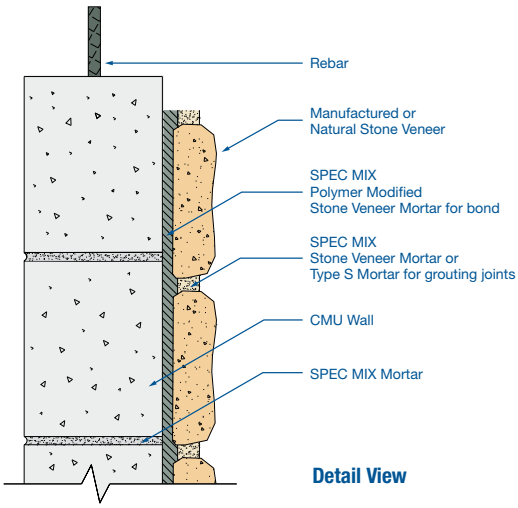
INSTALLATION TO CONCRETE AND MASONRY CONSTRUCTION

Install the stone veneer units directly to the clean and stable concrete or masonry surfaces with SPEC MIX Polymer Modified Stone Veneer Mortar by applying the mortar to the back of the stone at a minimum 1/2" thickness and pressing it firmly up to the concrete or masonry substrate. After pressing the stone, the distance from stone to substrate should be approximately 3/8". Clean excess mortar from the sides of the stone. 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 C847 compliant metal lath can be attached and a scratch coat of SPEC MIX PMSVM 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 Stone Veneer Mortar or type "S" mortar to the joints between the stones. 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. Do not use SPEC MIX Polymer Modified Stone Veneer Mortar for jointing. If applicable, install a drainage plane system behind the lath for additional moisture protection.



*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 Stone Veneer 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 PATENTED 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

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

1. Add dry SPEC MIX PMSVM to clean potable water. Start with approximately 75% of the required water. (See chart for details)
2. During 1-2 minutes of initial mixing, add remaining water as necessary, then let the mortar slake or set for approximately 5 minutes and then remix for 2 minutes.
3. Gauge the consistency of the mortar visually. A good workable mortar should have the consistency to be trowelable, but stiff enough retain ridges and peaks when troweled on a horizontal or vertical surface area.
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 PMSVM	REQUIRED MIXING WATER
50 LB. BAG	3.5 QUARTS (3.3 LITERS)
80 LB. BAG	5.5 QUARTS (5.2 LITERS)
94 LB. BAG	6.5 QUARTS (6.1 LITERS)
3,000 LB. BULK 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.

PACKAGE SIZES AND DELIVERY EQUIPMENT

SPEC MIX® Polymer Modified Stone Veneer Mortar is available in 50 lb. (22 kg.), 80 lb. (36 kg.) or 94 lb. (42 kg.) packages for easy hand loading. Also available in 3,000 lb. (1,362 kg.) reusable bulk bags to be used with the various patented 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

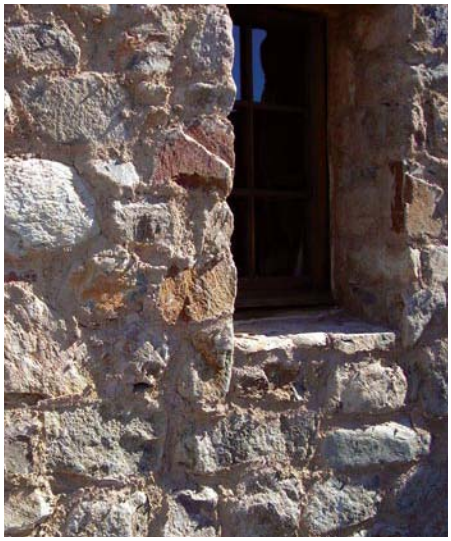
Space is a premium on most project sites. SPEC MIX silos are versatile and easily adapt to the diverse needs of mason contractors working on any site. The portable silos and bulk bags require no special equipment—only a standard forklift to lift and dispense the 3,000 lb. (1,362 kg.) bags or relocate the silo on site. Ranging in size from a pallet sized footprint to an 8' x 11' 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.

LIMITED PRODCUT WARRANTY

SPEC MIX, Inc. warrants that its Product will conform to and perform in accordance with the product specifications and instructions. The foregoing warranty is in lieu of all other warranties, express or implied, including, but not limited to, those concerning merchantability and fitness for a particular purpose. This product is not warranted as suitable for any purpose or use other than the general purpose for which it is intended. Because of the difficulty in ascertaining and measuring damages hereunder, it is agreed that, except for claims for bodily injury. 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 refund the purchase price. All claims under this warranty must be written and submitted to the SPEC MIX, Inc.

APPLICABLE STANDARDS: ASTM, ANSI, UBC, ACI & MISC

ASTM C 91 STANDARD SPECIFICATION FOR MASONRY CEMENT **ASTM C 109** STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF HYDRAULIC CEMENT MORTARS **ASTM C 144** STANDARD SPECIFICATION FOR AGGREGATE FOR MASONRY MORTAR **ASTM C 150** STANDARD SPECIFICATION FOR PORTLAND CEMENT **ASTM C 207** STANDARD SPECIFICATION FOR HYDRATED LIME FOR MASONRY PURPOSES **ASTM C 270** STANDARD SPECIFICATION FOR MORTAR FOR UNIT MASONRY **ASTM C 595** STANDARD SPECIFICATION FOR BLENDED HYDRAULIC CEMENTS **ASTM C847** STANDARD SPECIFICATION FOR METAL LATH **ASTM C 897** STANDARD SPECIFICATION FOR AGGREGATE FOR JOB-MIXED PORTLAND CEMENT BASED PLASTER **ASTM C 926** STANDARD SPECIFICATION FOR APPLICATION OF PORTLAND CEMENT BASED PLASTER **ASTM C 979** STANDARD SPECIFICATION FOR PIGMENTS FOR INTEGRALLY COLORED CONCRETE **ASTM C 1329** STANDARD SPECIFICATION FOR MORTAR CEMENT **ASTM C 1384** STANDARD SPECIFICATION FOR ADMIXTURES FOR MASONRY MORTARS **ASTM C 482** STANDARD SPECIFICATION FOR BOND STRENGTH OF CERAMIC TILE TO PORTLAND CEMENT **ASTM C67** STANDARD SPECIFICATION FOR FREEZE-THAW RESISTANCE **ASTM C 190** STANDARD SPECIFICATION FOR TENSILE STRENGTH OF HYDRAULIC CEMENT MORTARS **ASTM C 348** STANDARD SPECIFICATION FOR FLEXURAL STRENGTH OF HYDRAULIC CEMENT MORTARS **ASTM C979** STANDARD SPECIFICATION FOR PIGMENTS FOR INTEGRALLY COLORED CONCRETE **ANSI 118.4** AMERICAN NATIONAL STANDARD SPECIFICATIONS FOR LATEX-PORTLAND CEMENT MORTAR **UBC 15-5** SPECIFICATION FOR MOISTURE ABSORPTION **ACI 530** BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES **IMIAC** HOT AND COLD WEATHER CONSTRUCTION GUIDE **PCA** CONCRETE MASONRY HANDBOOK



LIMITATIONS

SPEC MIX Polymer Modified Stone Veneer Mortar and standard Stone 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, and watertight construction. SPEC MIX PMSVM achieves best results when used at temperatures above 50°F (10°C) and below 90°F (32°C). Follow proper cold-weather masonry procedures at temperatures below 40°F (4°C).

PRECAUTIONS

Safety glasses and a dust mask are recommended when handling any mortar mixture containing silica. The cementitious materials mixed onsite are alkaline in nature and on contact with water will irritate the eyes and skin. If contact with eyes occurs, flood eyes repeatedly with clean water and see a physician immediately. Do not rub eyes. Wash hands thoroughly after handling or before eating. Do not take internally. Keep out of reach of children.

TECHNICAL SUPPORT

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