Cathedral Stone Products, Inc.

jahn MASONRY RESTORATION SYSTEMS

PRODUCT DATA SHEET

Jahn M70 | Standard & Horizontal Grade Repair (CERTIFIED INSTALLERS ONLY)

• Brownstone • Limestone • Sandstone

This single-component, cementitious, mineral-based mortar is designed for the restoration of natural stone such as limestone and sandstone. **Jahn M70 is completely vapor permeable at any depth and contains no latex or acrylic bonding agents or additives**. The material is available in a variety of compatible, laboratory-engineered formulations, which match the physical properties of the substrate being repaired. M70 provides a permanent, compatible solution, which repairs and protects the beauty of natural stone.

FEATURES AND BENEFITS

- **Single-Component:** Mixes with water only, improving quality control and consistency of application.
- **Compatible Formulations**: Compatibility of physical properties ensures that the mortar and natural substrate react to the environment in the same way.
- **Contains No Latex or Acrylic Bonding Agents:** It protects the substrate by allowing salts, water vapor, and liquid water to reach the surface, preventing failure due to salt expansion or freeze/thaw cycles.
- **Tenacious Adhesion:** Strong bonding capabilities without relying on synthetic bonding agents.
- **Factory Controlled:** No field chemistry resulting in product variation.
- **Custom Colored Upon Request:** Closely matches existing masonry. Choose from Standard or Custom Colors.
- **Certified Installers:** Only installers with certification from Cathedral Stone Products can purchase Jahn M70 Limestone and Sandstone Repair Mortars.

APPLICATION PROCEDURES

Surface Preparation

Surfaces to receive M70 must be sound and free of all dust, dirt, grease, laitance and/or any other coating or foreign substance which may prevent proper adhesion. Remove all loose and deteriorated masonry from the repair area. The area to be repaired should be cut to provide a minimum of ½" depth. Do not install repairs that have a feathered edge (see diagram below), incorrect installation will cause repairs to fail prematurely. Wash the prepared surface with clean water and a bristle brush to remove dust from the pores. Rinse.

Section: Correct (Square Cut)Surface Preparation

Section: Incorrect (Feathered Edge) Surface Preparation

Exposed Ferrous Metals:

In the event that ferrous metal reinforcement (re-bar, threaded rod, etc.) is exposed within the repair area, coat exposed metal with an appropriate rust inhibitor to prevent future rust jacking/oxide jacking.

Mixing

The mixing ratio is approximately 5 to 5 1/2parts powder to 1 part water by volume, **depending on temperature and humidity.** More water may be required as ambient temperature rises. The mixing may be done by hand, stirring until the mortar is thoroughly mixed. The mortar should be the consistency of damp sand. M70 may also be mixed using a slow speed drill (400 -600 rpm) equipped with a Jiffler-type mixing paddle. For best results, add the powder to the water slowly. The working time will vary, depending upon wind, temperature, and humidity. Using excessive water in the mixture may affect the color of the repair.

Application

Moisten the substrate using clean water. Jahn Mortar should be applied to a glistening wet surface on vertical applications and a well-dampened surface (with no pooling water) on horizontal applications. **If the surface is allowed to dry out before applying M70, this step must be repeated. This is very important.**

The next step of the application is what CSP has termed the "Peanut Butter" coat. The Jahn mortar should be mixed with water to the consistency of wet putty. Apply the "Peanut Butter" coat to the glistening wet substrate approximately 1/8 inch thick. **Important -To achieve proper bond, the "Peanut Butter" coat must not dry out prior to application of Jahn Mortar (5:1) mix!**

Build the material out beyond the surface of the original stone. After achieving initial set, scrape away excess mortar until the desired profile is reached. Due to the effects of heat, humidity, and wind on the final color, the waiting period for scraping should be determined on the job. This is characteristic of all mortars, and should be determined through samples applied on site. In hot weather, darker colors may require scraping within a short time, while in cold weather the wait time may be several hours. For the best result, wait until the Jahn Mortar is the consistency of dry sand and does not stick to the screeding tool. To achieve a rougher texture, wait longer before finishing.

Where necessary, anchor using threaded stainless steel dowels (or other acceptable anchors). It is not recommended to build an armature within the repair using tie wire (or other material), or to use wire lath.

Horizontal Grade Repair (HG)

When repairing horizontal surfaces using this product, apply material flush to the surface and finish to a tight steel troweled finish, float, or broom to achieve a textured effect.

Curing

Traditional Cure

Periodically mist M70 repairs using clean water for at least a 72-hour period. The timing for initial water misting will vary with ambient conditions. Hot, dry conditions may require misting within 30 to 60 minutes. Cooler, damp conditions may require waiting several hours before beginning the curing process. Mist several times a day. Should access to the repairs be impossible over a period of time, plastic may be used to cover them temporarily. The application of plastic, however, does not remove the need for normal curing techniques.

Self-Cure

No curing is necessary when masonry surface temperature is 85°F or lower. When working on surface temperatures above 85°F, follow the Traditional Cure procedures outlined above.

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Notice: The information contained herein is based on our own research and the research of others, and it is provided solely as a service to help users. It is believed to be accurate to the best of our knowledge. However, no guarantee of its accuracy can be made, and it is not intended to serve as the basis for determining this product's suitability in any particular situation. For this reason, purchasers are responsible to make their own tests and assume all risks associated with using this product.

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Clean Up

Remove uncured mortar from the perimeter of the repair before it dries using clean water and a rubber sponge. Repeat several times with clean water to prevent a halo effect (staining of adjacent masonry).

SAFETY REQUIREMENTS

It is recommended that safety goggles, gloves, and a dust mask equipped with P-2 filters (or equivalent) be worn for protection while mixing.

Limitations

- Do not apply Jahn Mortar to a frozen or exceedingly hot substrate. The applied mortar must be protected from extreme heat, freezing, excessive wind, direct sunlight, and rain. Ambient temperature range should be 40° F to 90° F with low to average humidity.
- Do not add bonding agents to Jahn Mortar or use them as surface preparation materials.
- Minimum thickness of mortar application is ½ “.

PACKAGING AND COVERAGE

A 5 gallon plastic pail contains approx. 44 lb. Of material. This will cover 0.5 cu. ft. (12 sq. ft. at 1/2” thickness).

STORAGE & SHELF LIFE

Store material in a dry area away from direct sunlight. Ambient storage conditions should be in the range of 40°F to 90°F with low to average humidity. Average shelf life is 2 years in original, unopened packaging.

TECHNICAL DATA

Jahn M70 - Sandstone

LIQUID/ PLASTIC PHASE	
Ratio water/dry material	2.3 to 3.0 fl. oz./lb.
Volume mixed mortar M70 in inches/3 per lb. Of dry material	12.0 fl. oz./lb. (approx.)
HARDENED PHASE	
Compressive strength, dry	1800 to 2200 psi
Tensile bending strength, dry	420 to 530 psi
Tensile strength	145 to 290 psi
Linear coefficient of thermal expansion	3.45E-06 to 4.20E-06 in/in °F
Hydraulic coefficient of expansion (%)	0.45 to 0.543
Modulus of elasticity	2418 to 2580 ksi
Open porosity (%)	34.1 to 35.5
Water absorption (%)	14 (approx.)
Specific gravity	1.6

TECHNICAL DATA

Jahn M70 - Limestone

LIQUID/ PLASTIC PHASE	
Ratio water/dry material	2.3 to 3.0 fl. oz./lb.
Volume mixed mortar M70 in inches/3 per lb. Of dry material	12.0 fl. oz./lb. (approx.)
HARDENED PHASE	
Compressive strength, dry	2600 to 3200 psi
Tensile bending strength, dry	540 to 620 psi
Tensile strength	145 to 290 psi
Linear coefficient of thermal expansion	2.0E-06 to 2.8E-06 in/in °F
Hydraulic coefficient of expansion (%)	0.30 to 0.40
Modulus of elasticity	1730 to 1860 ksi
Open porosity (%)	32.8 to 37.6
Water absorption (%)	16 (approx.)
Specific gravity	1.4

WARNING

Not for internal consumption. Keep out of reach of children and animals. Consult Material Safety Data Sheet (MSDS) for specific information.

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