

# JAHN M160

- Granite Repair Mortar
- Bluestone Repair Mortar

## CERTIFIED INSTALLERS ONLY

These single-component, cementitious, mineral based mortars are designed for the restoration of granite, bluestone and other hardstones. **Jahn M160 is completely vapor permeable at any depth and contains no latex or acrylic bonding agents or additives.** M160 has been specifically engineered to replicate the physical properties of the dense substrate being repaired. M160 provides a permanent and compatible repair for deteriorated hardstones. (Only Certified Installers may purchase Jahn M160.)

## 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 and Custom Colors.
- **Certified Installers:** Only installers with certification from Cathedral Stone Products can purchase Jahn M160 Granite and Bluestone Repair Mortar.

## Application Procedures

### Surface Preparation

Surfaces to receive M160 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 using manual or pneumatic cutting tools. Areas to be repaired should be cut to provide a minimum of 1/2" 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.



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 or repairs are adjacent to ferrous metal jambs, lintels, anchoring systems etc., the Corotech V160 Surface Tolerant Epoxy Mastic must be applied to all properly prepared ferrous metal surfaces before repairs are made. Refer to the Technical Data Sheets within Cathedral Stone's Product line for proper preparation and use of the Corotech V160 Surface Tolerant Epoxy Mastic.

## Mixing

The mixing ratio is approximately 5 parts 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 M160, 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 up material beyond the surface of the original stone. After achieving initial set, remove

excess material from the surface of the repair **using a brush**, until the desired profile is reached. **M160 is difficult to screed because of the large aggregate in the mortar.** The waiting period before finishing will vary, depending upon wind, temperature, and humidity. This is characteristic of all mortars, and should be determined through samples applied on site.

For the best result, wait until the Jahn Mortar is the consistency of dry sand. To achieve a rougher texture, wait longer before finishing.

The finishing technique is different for the granite repair mortar; due to the presence of granite chips in the mortar. When the repair is finished and has dried, a diluted acid wash can be used to clean and expose the aggregate.

If necessary, coarser aggregate and/or colored granite chips may be applied **to the top surface only**. Aggregate should be sifted and then rinsed to ensure that it is free of dust. Dip the trowel into water, then into the aggregate, press firmly into the installed repair while mortar is damp.

If a smooth surface is required, scrape the repairs sooner and float the trowel lightly over the repair while the mortar is still damp (this can lighten the repairs).

### **Curing**

Periodically mist M160 repairs using clean water for at least a 72-hour period. The timing for initial misting will vary with ambient conditions. Hot, dry conditions may require misting in 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.

### **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). Cured mortar may only be removed chemically or mechanically.

### **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 1/2".

### **Packaging and Coverage**

A 5-gallon plastic pail contains approximately 44 lb. of material. This will cover 0.5 cubic feet (12 square feet at 1/2" thickness).

### **Storage And 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 6 months in original, unopened packaging.

### **Technical Data**

#### *Jahn M160 #161 – Granite*

<b>LIQUID/ PLASTIC PHASE</b>	
Rate of water/dry material	2.0 to 2.1 fl. oz./lb.
Volume per pound mixed mortar	9.0 fl. oz./lb.
<b>HARDENED PHASE</b>	
Compressive strength	3800 to 5100 psi
Tensile bending strength	680 to 800 psi
Tensile strength	700 to 900 psi
Absorption (%)	2.0 to 5.5
Specific gravity	1.7
E modulus	3000 to 3500 ksi

#### *Jahn M160 #162 – Bluestone*

<b>LIQUID/ PLASTIC PHASE</b>	
Rate of water/dry material	2.3 to 2.6 fl. oz./lb.
Volume per pound mixed mortar	12.0 fl. oz./lb.
<b>HARDENED PHASE</b>	
Compressive strength	3600 to 5300 psi
Tensile bending strength	600 to 700 psi
Tensile strength	700 to 1000 psi
Absorption (%)	1.8 to 4.5
Specific gravity	1.7
E modulus	2700 to 2900 ksi

### **Warning**

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

**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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