



GUIDELINE FOR WRITING SPECIFICATIONS WHEN USING JAHN INJECTION GROUTS

Select Relevant Selections

Division 4 – Masonry

Part 1 – GENERAL

1.1 SUMMARY OF WORK

- A. Furnish all labor, materials, tools, and equipment as necessary to stabilize or repair cracks and voids in masonry construction, using injection grouts, as shown on drawings and as specified herein.

1.2 SUBMITTALS

- A. Submit the following items in time to prevent a delay in work and to allow adequate time for review and resubmittals, if needed:
 - 1. Samples of all specified materials, product information and data, and Material Safety Data Sheets (MSDS).
 - 2. Certificates of Compliance as furnished by the Manufacturer, stating that all supplied materials are in conformance with the Manufacturer's published literature, and will meet or exceed the current specifications.
 - 3. *Written verification that all specified materials will be used. Provide purchase orders, shipping tickets, receipts, etc. to prove that the specified materials were ordered and received.*
- B. Materials shall not be ordered or work started before receiving written approval.

1.3 QUALITY ASSURANCE

- A. *Applicator Qualifications:* Each applicator must have a record of successful historic masonry repair for at least five years.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store material in original factory packaging, bearing identification of Manufacturer, product, and batch number. A Material Safety Data Sheet (MSDS) is to accompany all shipments.
- B. Deliver, store, and handle material so that it is protected from damage, extreme temperatures, and moisture in accordance with Manufacturer's product literature.
- C. Comply with Manufacturer's written specifications and recommendations for mixing, application, and curing of materials.

- D. Handle all products with appropriate precautions as outlined in the Manufacturer's product literature and Material Safety Data Sheets (MSDS).

1.5 PROJECT/SITE CONDITIONS

- A. *Cold Weather Requirements:* Do not perform specified work in air temperatures below 40° F, if substrate temperature is below 40° F, or if conditions are to be such within a 24-hour period.
- B. *Hot Weather Requirements:* Do not install material in temperatures exceeding 90° F. If, necessary, protect work area from direct sunlight, to prevent repair from drying out.

Part 2 – PRODUCTS

2.1 INJECTION ADHESIVE/GROUT

- A. Mineral-Based Jahn Injection Grouts distributed by Cathedral Stone® Products Inc., 7266 Park Circle Drive, Hanover, MD 21076; tel. (410) 782-9150; fax. (410) 782-9155; website: www.cathedralstone.com email: info@cathedralstone.com. are considered to conform to the requirements of this specification.
- B. Product Description:
 - 1. **Jahn M30 Micro Injection Adhesive** (for hairline cracks up to 3/16" or 5.0 mm in width): Premixed cementitious injection grout that contains no corrosive constituents. The adhesive achieves extraordinary flow capacity, high penetration, and strong adhesion. Refer to product literature and technical data for material specifications.
 - 2. **Jahn M40 Crack and Void Injection Grout** (for cracks approximately 3/16" to 3/8" or 5.0 mm to 10.0 mm in width): Premixed cementitious injection grout that does not contain any acrylic, latex, or other synthetic polymer bonding agents or additives. The grout only needs to be mixed with clean water. The grout is vapor permeable, frost and salt resistant, shrink resistant, and is physically compatible with the substrate. Refer to product literature and technical data for material specifications.
- C. *Substitutions:* If proposed equal is submitted, laboratory testing shall be required to establish equivalent performance levels. An independent testing laboratory shall be utilized as determined by the Architect/Engineer and paid for by the submitting party.

Part 3 – EXECUTION

3.1 WORKMANSHIP

- A. All areas involved in the work shall be inspected by the Contractor to establish extent of work, access, and need for protection of surrounding construction, landscaping, etc. If conditions are not as expected, notify the Architect/Engineer immediately for direction. Do not proceed with work until unsatisfactory conditions are corrected.
- B. Grout workmanship should comply with all applicable recommendations of the Manufacturer's written specifications and requirements.
- C. Do not add any bonding agents, accelerators, or retarders to the grout.

- D. Discard all grout that has hardened or exceeded its allowable pot life after mixing. Provide separate, clearly labeled containers for discarded grout and remove material from the staging area as soon as practical.

3.2 PREPARATION

- A. *Transverse Cracks*: For cracks across the face of the masonry unit, drill a series of injection ports in the center of the crack. These ports should be drilled in a downward direction. Between the ports, the crack should be sealed with removable, non-staining clay or repaired with the appropriate Jahn Mortar.
- B. *Lateral Cracks (Delaminating Layers) or Voids*: Drill a series of injection ports in a square configuration (90° angles) on the face of the substrate to create a “drill frame”. Ports should be drilled in a downward direction.
- C. Wash the surface and interior of the crack using clean water to remove all dust, loose or deleterious material, which could prevent proper flow and/or adhesion, compromising the integrity of the cured injection grout.

3.3 MIXING

- A. It is recommended that safety goggles, gloves, and a dust mask be worn for protection. Do not mix more material than can be used within approximately 30 minutes. Discard any mixed material that has been unused for 30 minutes or more.
- B. *Jahn M30*:
 - 1. The mixing ratio is approximately 2 to 5 parts powder to 1 part water by volume.
 - 2. Mix mechanically using a high-speed drill (3,000 RPM or higher) equipped with a Jiffler type-mixing paddle. After mixing, the mortar should be poured into another clean container using a sieve. Continued agitation is necessary if the mortar is allowed to sit prior to use.
- C. *Jahn M40*:
 - 1. The mixing ratio is approximately 2 – 2 1/2 parts powder to 1 part water by volume.
 - 2. Mix manually or mechanically, using a slow speed drill (400-600 RPM) equipped with a Jiffler type-mixing paddle. The material should be mixed for a minimum of three minutes, with continued agitation should the product be allowed to sit prior to use.

3.4 INJECTION PROCEDURE

- A. Wash the interior of the crack immediately before injection by flushing with clean water. If the crack is allowed to dry out before grout is injected, this step must be repeated.
- B. *Treatment of Transverse Cracks*: Inject grout into lowest port and continue until it flows freely from this port and other ports at the same level. Seal ports using non-staining clay, sealant, or caulk and proceed in identical fashion until the crack is filled. Clean up overflow immediately.
- C. *Treatment of Lateral Cracks (Delaminating Layers) or Voids*: Inject grout into lower left port and proceed until it flows freely from this port and other ports at the same level. Where necessary, insert threaded stainless steel dowels after some grout has been injected, agitate or tap several times to remove any voids or air pockets, and inject the remainder of the grout until port is full and grout flows

freely from other ports at the same level. Seal ports using non-staining clay, sealant, or caulk. Inject grout into lower right port and proceed in identical fashion. The order of injection is lower left, lower right, upper left, then upper right. Clean up overflow immediately.

3.5 FINISHING

- A. Remove plugs after 24 to 48 hours and repair the ports and the crack surface, if not previously performed, using an appropriate Jahn Mortar to match color and type of existing masonry.

3.6 CLEAN UP

- A. Remove uncured mortar from substrate before it dries using clean water and a rubber sponge. Cured mortar may only be removed chemically or mechanically.
- B. Remove uncured mortar from tools and equipment with water as soon as possible. Cured material may only be removed chemically or mechanically.

END OF SECTION

04/2005