

Brick Cleaning Recommendations

General

An important phase of constructing a masonry wall is cleaning. Sometimes walls are determined unacceptable because of poor cleaning. Failure to properly clean the brick after construction or use of aggressive cleaning products and/or methods can cause many problems. Mortar smear, white scum, efflorescence, green stain, etched bricks and mortar joints, removal of brick coatings, discolored masonry, acid burn, corrosion of reinforcing, pitting of window frames, and metal staining of the masonry are a few of the common problems associated with poor and/or improper cleaning.

The intent of this bulletin is to provide general brick cleaning guidelines that, when followed, will reduce or eliminate the problems mentioned above. Although **EaCo Chem** and **Prosoco Prosoco Sure Klean®** products are identified in this bulletin; it does not preclude the use of other acceptable brick cleaning products. For additional information refer to BIA Technical Note # 20. (www.gobrick.com)

All information presented in this document is for general information only, representing what is deemed 'best practice'. This information should not under any circumstances be relied upon for any specific project cleaning applications of brick installations without independent evaluation by an experienced brick cleaning professional familiar with the products, means, and methods noted. Anyone making use of this information does so at their own risk and assumes any and all liability resulting from such use.

Methods

There are three acceptable methods for cleaning brick recommended by the Brick Industries Association (BIA). These are: (1) 'Bucket and Brush' hand cleaning, and/or Low-Pressure water/detergent spray; (2) High- Pressure water spray; and, (3) Abrasive Blasting. **Interstate Brick®** and **H.C. Muddox** strongly recommend that options (2) and (3) be reserved for only those projects in which the other methods have failed to properly clean the masonry, and the owner accept the condition of the brick after such cleaning.

Products

Pre-mixed commercial cleaners are recommended over job blended mixtures of acids and detergents. Pre-blended cleaners reduce the risk of acid burn, metal staining, scum, corrosion, and etching.

Not all cleaning agents react the same on all brick and mortar. Some products are formulated to control manganese, iron, vanadium, and other metals found in brick. Use caution when specifying commercial cleaners to insure compatibility with the brick, mortar, and surrounding materials.

EaCo Chem NMD 80 is a buffered detergent-based solution designed for the cleaning of new masonry structures. **EaCo Chem SOS 50** is a buffered detergent-based solution in which hydrochloric acid has been substituted with an organic salt and can be used for cleaning new masonry structures where uses of acidic solutions are precluded.

NMD 80 and SOS 50 can be used on any type of brick, block, stone, cast stone, and pre-cast. No scrubbing is necessary. Both products help prevent efflorescence, manganese and vanadium stains and are safe for glass and anodized aluminum when used as directed.

Prosoco Sure Klean® 600 is a safe, effective general-purpose cleaner formulated of surface acting acids, chelating and wetting agents to clean excess mortar grout and job dirt. When properly applied, this product will not discolor or damage the surface. **Prosoco Sure Klean® Vana Trol®** is a blend of organic and inorganic acids with special inhibitors which control oxidation of vanadium, manganese, molybdenum and other metallic salts common in most light colored brick. **Vana Trol®** removes mortar and grout stains, and other new construction stains and controls efflorescence. **Vana Trol®** is also recommended for colored mortars as it will not bleach the mortar.

Use **EaCo Chem** or **Prosoco Sure Klean®** products as defined in the following table titled "Recommended Cleaners" or an approved equivalent.

Limitations

1. High-pressure spray application of the cleaning solution is not recommended.
2. High-pressure spray is not recommended for all brick surfaces and may cause damage.
3. Brick cleaning should not be performed on wall surfaces in which the ambient air temperature falls below 40°F (Fahrenheit degrees).
4. Where a pressure sprayer is used, the masonry wall shall be allowed to cure for 7 days for **EaCo Chem** products and 14 days for **Prosoco Sure Klean®** before cleaning.
5. Surface coated brick:
EaCo Chem: Use EC Jet or low pressure (50 psi or lower) application and low-pressure rinsing.
Prosoco Sure Klean®: Use low-pressure (50 psi or lower) or the bucket and brush method application and low-pressure rinsing. Post-fired coatings on brick may wash off with aggressive cleaning means and methods, and over time.
6. Do not use unbuffered or non-buffered acidic solutions to clean brick.

During Construction

1. Proper care should be taken during construction to keep the wall free of mortar and grout smears. Grout left on

the wall for even short periods of time become difficult to remove. Use a soft bristle brush immediately after tooling to remove excessive mortar. Avoid cleaning motions that press the mortar and grout into the face.

2. Cover the wall at the end of each working day. Failure to prevent moisture from entering the wall may result in efflorescence and other leaching problems.
3. Protect the wall from dirt and mortar splatter.
4. Store brick above the ground to protect from soil contamination.

Application

Follow the manufacturers' instruction for application and cleaning (www.eacoChem.com, www.prosoco.com) . The following steps are only guidelines.

1. The cleaning operation should be undertaken within 7 to 28 days when using **EaCo Chem** products; and 14 to 28 days when using **Prosoco Sure Klean®** Products, after the masonry construction. Cleaning before the wall has properly cured may weaken the masonry. Prolonged curing prior to cleaning may create more permanent stains which may become difficult to remove.
2. Test panel: Test proposed cleaning means and methods to ensure acceptable results. Test a small area of wall in an inconspicuous location using the cleaning mixture specified. A 16 sq. foot area may be sufficient. Where field panels are required, they should be cleaned using the product and procedures specified for the project. This can alert the owner's representative and contractor of any adverse reactions prior to cleaning the wall. Allow the test area to dry for one week prior to evaluating the effectiveness of the solution. The architect or owners' representative shall evaluate and approve the test area prior to cleaning the remainder of the wall. If the cleaning procedure is not effective, contact the manufacturer of the cleaner for further recommendations.
3. Mask or protect metal, glass, wood and other materials that may be adversely affected by the cleaning solution.
4. Pre-wet the area of wall to be cleaned and the area directly below. This will prevent absorption of the dissolved particles into the brick.
5. Use EC Jet or low pressure (50 psi or lower) spray to apply **EaCo Chem** products. Use a soft-fibered brush or a low-pressure spray to apply **Prosoco Sure Klean®** products. **DO NOT USE HIGH-PRESSURE SPRAY.**
6. **EaCo Chem:** Allow the solution to remain on the wall for 5 minutes and reapply. Allow solution to remain on the wall for additional 5 minutes after reapplication. **DO NOT ALLOW THE CLEANING SOLUTION TO DRY ON THE BRICK.**
Note: Depending on the mortar type or age a third application of **NMD 80** and **SOS 50** may be required.

Prosoco Sure Klean®: Allow the solution to remain on the wall for 1 to 3 minutes. Immediately reapply cleaning solution and remove heavy buildups of mortar and grout. **DO NOT ALLOW THE CLEANING SOLUTION TO DRY ON THE BRICK.**

7. Rinse thoroughly with clean water. Remove all cleaning solution from the area cleaned and any rundown. Failure to remove all cleaning solution may result in streaking, staining, and scumming.

Coverage

NMD 80: Dilute 1 part concentrate to 4 parts water

SOS 50: Dilute 1 part concentrate to 4 parts water

600: Dilute 1 part concentrate to 4 to 12 parts water

Vana Trol®: Dilute 1 part concentrate to 4 to 8 parts water

The test panel will help to identify the actual coverage rate required.

Precautions

Masonry cleaners are acidic and should be handled with caution. Applicators should wear goggles, rubber gloves, suits, etc. to avoid contact with the skin. To remove special stains refer to the BIA Technical Note # 20 for additional brick cleaning recommendations.

Recommended Cleaners

INTERSTATE® BRICK

H.C. MUDDOX PLANT

All brick colors can be cleaned using EaCo Chem NMD80 or PROSOCO Sure Klean® Vana Trol.

INTERSTATE® BRICK

WEST JORDAN, UT PLANT

All brick colors can be cleaned using EaCoChem NMD80 or PROSOCO Sure Klean® Vana Trol. In addition, the following brick colors may also be cleaned with PROSOCO Sure Klean® 600:

Brick Color	EaCo Chem	Prosoco Sure Klean®
Copperstone	NMD 80	600
Ironstone	NMD 80	600
Mojave Brown	NMD 80	600
Monterey	NMD 80	600
Mountain Red	NMD 80	600
Ochre Buff	NMD 80	600
Terra Cotta	NMD 80	600
Walnut	NMD 80	600

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