

General

An important phase of constructing a masonry wall is cleaning times walls are determined unacceptable because of poor cleaning. Failure to properly clean the brick after construction can cause many problems. Mortar smear, white scum, efflorescence, green stain, etched mortar joints, 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 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 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

Methods

There are three acceptable methods for cleaning brick recommended by the Brick Institute of America (BIA). These are (1) Bucket and Brush Hand Cleaning or Low Pressure Water, (2) High Pressure Water, and (3) Sand Blasting. **Interstate Brick** and **H.C. Muddox** recommend that sandblasting be reserved for only those projects in which the other methods have failed to properly clean the masonry.

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.

600 Detergent 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. **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 **Sure Klean**® products as defined in the following table titled "Recommended Cleaners" or an approved equivalent.

Limitations

1. High-pressure 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 high-pressure sprayer is used, the masonry wall shall be allowed to cure for 7 days for **EaCo Chem** products and 14 days for **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.
Sure Klean®: Use low pressure (50 psi or lower) or the bucket and brush method application and low pressure rinsing.

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.



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1. The cleaning operation should be undertaken within 7 to 28 days when using **EaCo Chem** products; and 14 to 28 days when using **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 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 **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.
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 Detergent: Dilute 1 part concentrate to 6 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

H.C. Muddox

Brick Color	EaCo Chem	Sure Klean®
Autumn Wheat	NMD 80	Vana Trol®
Bronze Ridge	NMD 80	Vana Trol®
Burnt Rose	NMD 80	Vana Trol®
California Rose	NMD 80	Vana Trol®
Carob	NMD 80	Vana Trol®
Common Select	NMD 80	Vana Trol®
Dusty Rose	NMD 80	Vana Trol®
Ebony	NMD 80	Vana Trol®
Frosted Almond	NMD 80	Vana Trol®
Iron Mountain	NMD 80	Vana Trol®
Iron Spot	NMD 80	Vana Trol®
Mission Common	NMD 80	Vana Trol®
Mission Hills	NMD 80	Vana Trol®
Monterey Bay Flashed	NMD 80	Vana Trol®
Mountain Rose	NMD 80	Vana Trol®
Old Sacramento Blend	NMD 80	Vana Trol®
Old Town Red	NMD 80	Vana Trol®
Railroad Blend	NMD 80	Vana Trol®
Sierra Slate	NMD 80	Vana Trol®
Spanish Moss	NMD 80	Vana Trol®
Summer Wheat	NMD 80	Vana Trol®
Sutter Gold	NMD 80	Vana Trol®
Tule Fog	NMD 80	Vana Trol®
Tumbleweed	NMD 80	Vana Trol®

Interstate Brick

Brick Color	EaCo Chem	Sure Klean®
Arctic White/Glacier Mist	NMD 80	Vana Trol®
Autumn Red	NMD 80	600 Detergent
Bronzestone/Bronzecreek	NMD 80	Vana Trol®
Canyon Rose/Canyon Mist	NMD 80	Vana Trol®
Cedar/Wheat	NMD 80	Vana Trol®
Copperstone/Caramel	NMD 80	600 Detergent
Desert Sand/Sahara	NMD 80	Vana Trol®
Golden Buff	NMD 80	Vana Trol®
Ironstone/Cast Iron	NMD 80	600 Detergent
Manhattan	NMD 80	Vana Trol®
Midnight Black/Ebony	NMD 80	Vana Trol®
Mission	NMD 80	600 Detergent
Monterey/Santa Cruz	NMD 80	600 Detergent
Moroccan Brown	NMD 80	Vana Trol®
Mountain Red/Cherry Red	NMD 80	600 Detergent
Ochre Buff/Marigold	NMD 80	600 Detergent
Park Rose/Primrose	NMD 80	Vana Trol®
Platinum/Chrome	NMD 80	Vana Trol®
Slatestone/Obsidian	NMD 80	Vana Trol®
Smokey Mtn/Smokey Mist	NMD 80	Vana Trol®
Terra Cotta	NMD 80	600 Detergent
Walnut/Mojave Brown	NMD 80	600 Detergent



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