

**Good
Practice
for**

**Cleaning
New
BRICK
Work**

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Introduction

The introduction of new face brick colors and textures has brought about changes in materials and methods used in cleaning new brick walls. Also, the continual search for more efficient ways to construct buildings has been responsible for the introduction of several new systems for cleaning masonry.

This publication is a report of many cleaning methods being used currently and a guide to cleaning most types of brick found in this area and is prefaced with recommendations for minimizing the need for cleaning new work.

The information and recommendations made herein are based on our own research, and research and experience of others, and are believed to be accurate. However, no guarantee of their accuracy is made because we cannot cover every possible application of the products described, nor anticipate variations encountered in masonry surfaces, job conditions and cleaning methods used.

Building Clean Brick Walls

The optimum way of ensuring an unblemished appearance for any structure is to keep brickwork clean as walls are being built. Recognizing that the nature of job site environments makes this objective a challenge to bricklayers and other construction personnel, the following tips are provided.

1. Brick should be protected from mud when placed at a job site. The contractor should provide boards, plastic sheeting or other protective material when bricks are unloaded on ground.

In certain cases, brick should be completely covered for protection from weather until used.

2. Protect wall as work progresses. This includes protecting the base of wall after the first course of brick is laid and protecting the wall from the top at the end of the work day.

Use sand, straw, sawdust or plastic sheeting along the ground to prevent mud splashes. Mud removal is much more expensive than ground cover materials. Base protection also minimizes mortar dropping damages.

The wall must be covered at the end of each workday to prevent washout of fresh joints, and to keep excessive water out of the wall to avoid efflorescence. Covering is also essential for cold weather protection.

3. Scaffold should be set far enough away from the wall to allow mortar droppings to fall to the ground. If scaffolds are not set away, mortar may lodge on diagonal bracing and adhere to wall. However, when scaffold brackets are used for the bricklayers platform, bracing presents no problem.

At the end of each workday the boards on the scaffold closest to the wall should be removed or tilted up to dump excess mortar droppings and prevent possible rainfall from splashing mortar and dirt from the boards onto newly laid masonry.

4. If the bricklayer follows good practices he can install clean brick walls. Some good procedures are as follows: After spreading mortar (but before laying brick) use trowel edge to cut mortar even with wall face. This prevents mortar from running down face of wall.

After laying brick, cut off excess mortar with a forward lifting and rolling motion of trowel that will collect mortar and prevent smearing of this mortar back onto brick face. Mortar should not be cut so that surplus drops to base of wall.

Tool joints when mortar is "thumbprint" hard. After tooling, cut off mortar tailings with trowel and brush excess mortar burrs and dust from face of brick. Bagging or sacking very often rubs mortar particles into the brick face if done too soon, making it almost impossible to remove these embedded mortar particles with conventional cleaning methods. Brushing is safer and thus preferable to bagging or sacking. Use a bricklayer's brush made with medium soft hair.

5. Keep the wall clean. Once the bricklayer and mason contractor leave the job, it is important to protect the completed masonry. Make sure that other workers (i.e. the structural concrete crew, the terrazzo crew, welders, roofers, painters, landscape contractors) do not damage the job. They may not realize that almost nothing can be removed from masonry—easily. Keep the mud protection around base of walls until final landscaping work is being completed.

If the preceding techniques are followed a final cleaning should be easy. Very often a water hose with high pressure nozzle will be adequate to remove the construction dust and the occasional mortar smear found on wall.

Good Practice for Cleaning New Brickwork

Brick Cleaning Systems:

1. *Bucket and Brush Cleaning*
Recommended Cleaning Compounds
Recommended Procedure

Brick Cleaning Systems

1. Bucket and Brush Cleaning

Bucket and Brush Cleaning is the most widely used method of cleaning newly constructed brick walls in both small and large jobs. A minimum amount of equipment is needed and workmen do not need to be highly skilled. Only the job foreman or supervisor need to be knowledgeable and experienced.

This method may be used for cleaning all colors and textures of brick. However, care must be used in selecting the proper cleaning solution for the job.

The safest way to determine the proper cleaning solution for a given type of brick is to ask the brick manufacturer for his recommendation.

As a general policy statement, the Brick Industry does not recommend the use of muriatic acid to clean brick. Although muriatic acid has been used successfully in the past in select situations, too frequently its improper use has caused problems. If a request to use muriatic acid is received, permission to do so should be obtained from the brick manufacturer.

There are many commercial cleaning compounds on the market today that will clean new masonry. Many of these cleaners contain small amounts of hydrochloric acid as well as "wetting" and "buffering" agents to improve the solution's action and to minimize deterioration of mortar joints and damage to surrounding materials.

Listed below are some of the recommended commercial cleaning compounds:

SURE KLEAN 101, 600 AND VANATROL
SUPERIOR 800 SERIES
GOLDBLATT BRICK BATH
DIEDRICH 200, 202, 202 VANA-STOP

Formulation of most commercial cleaners is so complicated that the users should not necessarily try to understand terminology such as wetting agents, buffering agents, oxidizing, chelating, inhibitors, etc., but should rely on chemical manufacturers' recommendations as found on containers, and on recommendations of brick manufacturers.

The following procedure is recommended for cleaning by the Bucket and Brush Method:

1. Wait for mortar to harden. While industry standards generally require masonry to be 7 days old before cleaning, it is possible to start cleaning operations 24 to 36 hours after completion of masonry work, depending on the type of brick and weather (drying) conditions.
2. Remove all large mortar particles with hand tools before applying water or cleaning solutions. Use wooden paddle, the rough edge of a brick, or metal scrape hoe. Chisels may be used, if necessary, to remove hardened mortar or concrete. This is a very important point in cleaning new masonry. *Don't expect cleaning solutions alone to remove large particles of hardened mortar.*
3. Mask and otherwise protect adjacent metal, glass, wood, etc. surfaces as recommended by product manufacturers.
4. Saturate the wall with clean water. The area to be cleaned must be saturated as well as all masonry areas below.

Hose should be trained upon wall until brick is saturated. If wall appears to be drying on surface, reapply water until worker is ready to apply cleaning solution. Failure to completely saturate the wall is a major cause of cleaning stains. Cleaning solutions containing dissolved mortar particles can be drawn into a dry masonry wall, causing future staining. Such staining from portland cement dissolved in cleaning materials is extremely difficult, if not impossible, to remove since it is insoluble in most masonry cleaning solutions.

A saturated wall will not draw particles from its surface into brick pores. Water is available, and usually free to the cleaning contractor. Use it generously!

5. Use brush to apply cleaning solution to saturated wall. Start cleaning at the top of wall. Solution should be approved by architect/engineer and brick supplier. Concentration and method of application should be as recommended on container or by manufacturer.

Brick Cleaning Systems:

1. *Bucket and Brush Cleaning*
Recommended Procedure (continued)
2. *High Pressure Water Cleaning*

Cover small area, using long handled fiber brush. Scrub brick, not joints. Allow solution to remain on wall three to six minutes (or as recommended on label) as workmen scrape and scrub vigorously.

6. Rinse thoroughly as small areas are cleaned. To avoid rapid evaporation of water on areas being cleaned, keep crew just ahead of sunshine. This permits ideal conditions for cleaning walls, and also allows walls to dry soon after being washed, permitting crews to learn if all stains are being removed before going too far ahead.

A good phrase to remember in cleaning brickwork is "procedure is more important than the product used."

If the above procedures are followed, cleaning should be relatively easy and trouble free.

(Test clean a sample area to determine effectiveness of cleaning compound and the total cleaning system and to check wall for possible damages caused by the system. Approval of owner or owner's representative should be obtained before proceeding with operation.)

2. High Pressure Water Cleaning

High Pressure Water Cleaning is another method of cleaning newly-constructed masonry and has been used for many years.

The more sophisticated high pressure cleaning systems feature a high pressure gun and nozzle with remote control switch allowing an operator to automatically apply cleaning solution while operating the gun several hundred feet from base unit. Other systems provide two separate hoses, one with plain high pressure water and the other with solution of cleaning material, also under pressure. Care must be taken in selecting cleaning material compatible with the pumping equipment as recommended by pump manufacturer.

All units must be portable in order to be taken within close range of job. Compact units are mounted on skids, wheels, trailer, etc. More elaborate systems are truck mounted, complete with pump, engine or motor, cleaning material containers, water storage tank, and water heater.

Brick Cleaning Systems:

2. *High Pressure Water Cleaning*
(continued)

Nozzle pressures generally range between 400 PSI and 800 PSI. However, many available units are capable of producing pressures well over 1000 PSI and should be used with caution. Flow is normally between 3 and 8 gallons per minute.

Many cleaning contractors are using high pressure systems in an effort to reduce high labor costs associated with traditional cleaning systems. Most contractors agree the high pressure system is more efficient. However, hand labor is still needed to remove large mortar particles from the wall surface before applying water and cleaning solutions. Also, extreme caution should be used in applying cleaning solutions under high pressure. This practice is economical but could be harmful to the operator, to adjoining property, and could drive the cleaning solution further into the wall than is necessary for surface cleaning, causing further staining.

Cleaning solutions may be applied more effectively and safely by brush or by low pressure (maximum 40 PSI) orchard type sprayer.

In many cases, high pressure water without any special cleaning materials will successfully clean new masonry walls. When hot water is used, high pressure without chemicals is even more efficient. High pressure water cleaning may be used on most hard burned, textured clay brick. This includes reds, buffs, grays and other through-the-body colors. However, it is safest to keep pressure well below 1000 PSI when cleaning buffs, grays, etc., since these colors are more susceptible to mineral oxidation which could be aggravated by excessively deep penetration of water. Also, high pressure water cleaning should be used only with approval of brick manufacturer.

This system is generally acceptable for cleaning lightly sanded or sandblast textures where a fine application of sand is well bonded to the brick body. Caution should be exercised in using high water pressure on slurry or "sandblast" textures where an excessive coating of sand adheres loosely to body. High nozzle pressures may cut streaks in the relatively soft sand facing.

High pressure water cleaning may be detrimental to handmade brick and any underburned product. Also high pressure water can erode mortar joints.

Good Practice for Cleaning New Brickwork

The following procedure is recommended for High Pressure Water Cleaning:

1. Wait for mortar to harden, but cleaning with high pressure water should not start before mortar is 7 days old.
2. Remove all large mortar particles with hand tools before applying water or cleaning solutions. Use wooden paddle, the rough edge of a brick or metal scrape hoe. Chisels may be used, if necessary, to remove hardened mortar or concrete. This “pre-cleaning” is a very important part in cleaning new masonry. Don’t expect cleaning materials and/or water alone to remove large particles of hardened mortar. These can only remove thin smears.
3. Mask and otherwise protect adjacent metal, glass, wood, etc. surfaces as recommended by product manufacturers.
4. Saturate wall with clean water. *All immediate areas to be cleaned must be saturated as well as masonry areas below.*
5. When wall is completely saturated, apply cleaning solution, starting at the top of wall. Solution should be approved previously by architect/engineer and brick supplier. Concentration should be as recommended on container. Solution may be applied to wall with masonry cleaning brush or low pressure (maximum 40 PSI) sprayer. Application of cleaning solution by high pressure should be previously approved by architect/engineer and brick supplier.

Fifty degree nozzle is generally recommended for applying cleaning solutions.

Let cleaning solution remain on wall for 3 to 6 minutes, or as directed on product label.
6. Rinse wall with high pressure water from top to bottom so all dissolved mortar particles will be completely flushed from wall surfaces. The most efficient sprayer is the fan type, stainless steel tip, dispersing a 25 degree to 50 degree fan spray. Never use less than a 15 degree fan spray tip.

(Test clean a sample area to determine effectiveness of cleaning compound and the total cleaning system

Brick Cleaning Systems:

2. *High Pressure Water Cleaning (continued)*
Recommended Procedure
3. *Sandblast Cleaning*

and to check wall for possible damages caused by system. Approval of owner or owner’s representative should be obtained before proceeding with operation.)

See Section 4 when using high pressure water systems to remove type “S” mortar from light colored (buff, gray, white, etc.) brick.

3. Sandblast Cleaning

Dry sandblast cleaning is a relatively new method of cleaning newly built masonry, although the system has been used for many years in masonry restoration work.

Many architect/engineers prefer sandblast cleaning over conventional wet (acid) cleaning because of possible adverse acid reactions with certain types of brick. Other designers are reluctant to permit sandblast cleaning from fear the blasting will erode the face of the brick and mortar joints.

Sandblast operators can be compared with other construction tradesmen: some are artisans and others are incompetent. However, with a qualified operator, proper specifications and good job inspection, sandblast cleaning is as good as any other system and is sometimes superior in many ways.

Basically, sandblast cleaning involves the following equipment: Portable air compressor, blasting tank, blasting nozzle, operators’ protective clothing and hood.

Air pressure delivered by compressor to blasting tank may range from 40 lbs. to 100 lbs. per square inch. Blasting tank is charged with the specified abrasive material and pressurized to force the mixture of abrasive material and air into blasting hose and to nozzle. Blasting pattern is determined by nozzle size, type and air pressure. Speed of cleaning is determined by type of abrasive used, nozzle size, type, air pressure, nozzle-to-wall distance and of course, condition of surface to be cleaned.

Abrasive material used in brick cleaning is usually sand, quartz, or granite and must be clean and finely graded.

Sandblast cleaning material should conform to one of two particle size graduations outlined in the specifications below.

Brick Cleaning Systems:

*3. Sandblast Cleaning (continued)
Recommended Procedure*

Type "A" gradation is to be used when the masonry is very lightly soiled or when only a very light or fine texturing of the brickwork is permitted.

Type "B" gradation is used for cleaning heavy mortar stains from brickwork and where medium texturing of the masonry is permitted.

Sandblast cleaning may be used for cleaning all hard burned, non-glazed, smooth or textured brick. Included in this category are reds, buffs, whites, grays, chocolates, etc.

Lightly sanded, coated, slurry, or sandbox brick should not be cleaned by sandblasting, unless cleaning cannot be accomplished by any other method, as the brick face can be permanently damaged.

Handmade or reclaimed brick may also be permanently disfigured by sandblasting.

As a further precaution, *approval of the brick manufacturer must be obtained before permitting sandblast cleaning.*

The following procedure is recommended for Sandblast Cleaning:

1. Wait for mortar to harden, Brickwork should be completely dry and at least 7 days old, preferably 14 days.
2. Remove all large mortar particles with hand tools before blasting. Use wooden paddle, the rough edge of a brick, or metal scrape hoe. Chisels may be used if necessary to remove hardened mortar or concrete.

This "pre-cleaning is a very important part of sandblast cleaning. Sandblast operator would irreparably damage wall if large droppings are left for him to remove by blasting.

3. Provide adequate protection for all non-masonry surfaces adjacent to work areas, Use plastic sheeting and duct tape to protect windows, doors, etc. If possible, painting, caulking, etc. should be done after sandblast operation is completed.

4. When all surfaces are prepared and protected, the operator can begin a first test cleaning.

Brick Cleaning Systems:

*3. Sandblast Cleaning
Recommended Procedure (continued)
Specifications*

Operator should clean a small area with the nozzle first close to wall, and then at varying distances from the wall, trying to select a working distance that will give the best cleaning job with the least damage to brick and mortar work.

Job superintendent and architectural inspector should be present at this time to confirm acceptable practice. Approved areas should be marked and identified as acceptable standard for the entire job.

Specifications for Sandblast Cleaning

I. Scope

This section includes cleaning of newly constructed clay masonry with dry abrasive material forced by compressed air from tank through hose and nozzle.

II. Material

Cleaning material must be dust-free and abrasive. Hardness should be approximately 6 on Mohs' Scale. Material size shall conform to one of the two categories listed below according to acceptable finish of masonry surface.

Type "A" (Fine Texturing)

Typical Screen Analysis

U.S. SIEVE SIZE	PERCENT PASSING
30 Mesh	98-100
40 Mesh	80-85
50 Mesh	50-60
100 Mesh	5-20
140 Mesh	0-10

The following material is acceptable for "fine texture" sandblasting: Blast Sand Size No. 120 furnished by KMG Minerals, Inc., Kings Mountain, NC.

Type "B" (Medium texturing) *For concrete work and extremely difficult masonry cleaning jobs.*

Typical Screen Analysis

U.S. SIEVE SIZE	PERCENT PASSING
16 Mesh	87-100
18 Mesh	75-95
30 Mesh	25-50
40 Mesh	0-15
50 Mesh	0-10

Good Practice for Cleaning New Brickwork

The following material is acceptable for "medium texturing" sandblasting: Blast Sand No. 55 furnished by KMG Minerals, Inc., Kings Mountain, NC. Local materials may be used when dried and screened to meet required size and hardness and when determined to be free of grease or other impurities.

III. Equipment

Air compressor must be capable of producing pressure between 60 pounds and 100 pounds per square inch at the machine and should have a minimum air flow capacity of 125 cu. ft. per minute.

Nozzle inside orifice or bore size may vary from 3/16" diameter to 5/16" diameter.

Sandblast machine (or tank) must be equipped with controls to regulate flow of abrasive materials to nozzle, and shall be capable of supplying sand at a minimum rate of 300 pounds per hour.

Operator must wear O.S.H.A.– approved hood and protective clothing.

IV. Workmanship

A. Brickwork must be dry and at least 7 days old, preferably 14 days.

B. Before blasting, all large mortar particles must be removed with hand tools. Use wooden paddles, metal scrape hoes or chisels if necessary to remove hardened mortar.

C. Provide adequate protection for all non-masonry surfaces adjacent to work area. Use plastic sheeting and duct tape to protect windows, doors, etc.

D. Sandblast operation may begin if representatives of architect and/or prime contractor are present to inspect trial cleaning areas.

Operators must test clean several areas, with nozzle trained at varying distances from wall, finally selecting working distance that affords best cleaning job with least damage to brick and joints.

Test areas approved by representative of architect and/or prime contractor must be marked and identified as acceptable standard for entire job.

Brick Cleaning Systems:

3. Sandblast Cleaning

Specifications (continued)

4. Special Systems for Wet Cleaning Through-The-Body Light Brick Where Type "S" Mortar Is Used *Recommended Procedures*

E. All brick and mortar joint areas considered by the architect to be severely damaged by the cleaning operation must be replaced at the expense of the cleaning contractor.

F. If directed by the architect or engineer all brickwork cleaned by sandblasting shall be waterproofed with an approved clear coating as designated by architect or engineer.

4. Special Systems for Wet Cleaning Through-the-Body Light Brick Where Type "S" Mortar is Used

Type "S" (and Type "M") mortar is very difficult to remove from the face of all brick, but is a special problem when through-the-body or light colored brick is used due to the sensitivity of these brick to strong cleaning materials.

The following cleaning procedures are recommended according to age of masonry work:

A. AFTER WORK IS 10 DAYS OLD:

1. Remove all large mortar particles with hand tools before applying cleaning solutions.
2. Mask and otherwise protect adjacent non-masonry materials.
3. Saturate wall with clean water.
4. Use cleaning brush to apply solution of SURE KLEAN VANATROL, DIEDRICH 202 VANA-STOP (*or equal*) mixed 4 to 6 parts of water to 1 part of solution.
5. Allow solution to remain on wall for 3 to 5 minutes while brushing and scraping, reapply solution.
6. Thoroughly rinse and brush clean.

B. AFTER WORK IS 30 DAYS OLD:

1. Use procedure described above in steps 1–5.
2. Use high water pressure equipment to rinse wall, using pressure not greater than 800 PSI with a 40 degree nozzle fan tip. Consult brick manufacturer before using high pressure water system.

(Test clean a sample area to determine effectiveness of cleaning compound and the total cleaning system and to check wall for possible damages caused by system. Approval of owner or owner's representative should be obtained before proceeding with operation.)

Cleaning Guide

Red Brick—Textured

This category includes all textured red through-the-body brick.

Brick in this category may be cleaned by the bucket and brush method, high water pressure method, or by sandblasting.

Red Brick—Heavy Sand Finish

This category includes all red through-the-body brick with various applied heavy sand finish faces.

Brick in this category may best be cleaned by the bucket and brush method, using plain water and scrub brush, or with lightly applied high pressure water system, with plain water being used. Sandblast cleaning is not recommended. If mortar stains are excessive, use of cleaning compounds may be required.

White, Buff, Gray & Chocolate Brick

This category includes all textured and sand finish brick with through-the-body colors other than natural red.

Brick in this category may be cleaned by the bucket and brush method, or by lightly applied high pressure water system. Sandblast cleaning is also recommended except in the cases where heavy sand finish is involved. In the two wet cleaning systems, no muriatic acid or compounds containing muriatic acid may be used. Only plain water and detergent, or Sure Klean Vanatrol, Diedrich 202V Vana-Stop or equal may be used.

See Section 4 for special cleaning systems where Type "S" mortar is used.

Specialty Cleaning

White Efflorescence

White efflorescence is a water soluble salt that is brought to the surface of masonry by evaporation of either construction water or by evaporation of rain water that has penetrated the wall.

Water used in mortar, grout, etc. will sometimes cause this "New Building Bloom." As the wall dries

out, and as successive rains wash the walls, the "Bloom" should disappear.

If the masonry has received its regular cleaning and white efflorescence appears or reappears, no further action should be taken until this wall has had an opportunity to dry out completely. Application of additional cleaning solutions may only aggravate the problem at this point. Also, application of clear water repellent materials may lock in moisture and crystalline growth, causing more scumming and possible spalling of brick.

If efflorescence stains persist, it is likely that rainwater is penetrating the wall. An inspection of the stained areas should be made to determine if sizeable cracks or openings exist, permitting water penetration. Faulty flashing or a lack of flashing will contribute to staining.

Any large openings should be repaired. Where only very fine hairline cracks are assumed to be allowing water penetration, application of a penetrating water repellent may be the only solution to the problem short of a complete tuckpointing job.

Before applying water repellent materials, all possible repairs should be made and all efflorescence removed. This may be removed by applying plain water and brushing the affected area. If water fails to remove stain, use dilute solution of commercial cleaning compounds such as SURE KLEAN 600, DIEDRICH 202 NEW MASONRY DETERGENT (*or equal*) for red brick and SURE KLEAN VANATROL, DIEDRICH 202V VANA-STOP (*or equal*) for all others. Some heavy white stains, known as "lime runs" or "silicone deposits" may require special cleaning procedures for removal. Contact Brick Industry Southeast Region for further details. Allow entire wall to dry out completely (*over a period of little or no rainfall*) before applying waterproofing solutions.

Green Stains

Green staining is caused by presence of vanadium salts. Color and solubility of these salts are dependent upon acidity of the brick. Very often green stains are brought about by wrongful use of muriatic acid or compounds containing muriatic acid. When green stains appear, brick manufacturer should be consulted before attempting to remove stain.

Good Practice for Cleaning New Brickwork

Green Stains may be removed by using SURE KLEAN 800 STAIN REMOVER, SURE KLEAN FERROUS STAIN REMOVER, DIEDRICH 940 IRON AND MANGANESE STAIN REMOVER, DIEDRICH 950 ACID BURN REMOVER (*or equal*).

Brown Stains

Brown staining can be caused by presence of soluble manganese or iron oxides. Very often brown or manganese stains are brought on by wrongful use of muriatic acid or compounds containing muriatic acid.

If these stains are light, BRICK KLENZ may take them off with little difficulty.

Also, oxalic acid (one pound mixed in a gallon of water) may do the job if stains are new and light in color.

Many brown stains can be removed with SURE KLEAN 800 STAIN REMOVER, SURE KLEAN FERROUS STAIN REMOVER, SURE KLEAN RESTORATION CLEANER, DIEDRICH 950 ACID BURN REMOVER, DIEDRICH 940 IRON AND MANGANESE STAIN REMOVER, DIEDRICH 101G BRICK CLEANER (*or equal*).

Each product should be tested for effectiveness and possible bleaching action on joints.

White Scum—Insoluble

Insoluble white scum is generally caused by faulty cleaning—failure to adequately saturate wall before cleaning and failure to flush wall after applying cleaning compound. As opposed to white efflorescence, this stain cannot be removed with detergents or regular cleaning compounds.

Currently known method of removal is to use SURE KLEAN WHITE SCUM REMOVER, DIEDRICH 930 WHITE SCUM REMOVER (*or equal*).

Smoke Stains

Smoke Stains can generally be removed by using one of the following cleaners: BRICK KLENZ *or* SURE KLEAN SMOKE REMOVER. A follow-up cleaning with SURE KLEAN RESTORATION CLEANER, DIEDRICH 101G BRICK CLEANER (*or equal*) may be required after using smoke removal products.

Follow the directions found on containers.

Specialty Cleaning (continued)

Mud Stains

Mud stains are the most difficult of all to remove.

Currently known method of removal is as follows: Apply SURE KLEAN RESTORATION CLEANER, DIEDRICH 101G BRICK CLEANER (*or equal*) full strength, with stainless steel pressurized “orchard” sprayer. Allow to remain on wall 5 minutes. Flush off with high pressure water spray. Repeat if necessary. Sprayer nozzle should be held at 90 degree angle to wall, as should rinse water nozzle. SURE KLEAN LIGHT DUTY CONCRETE CLEANER *or* DIEDRICH 960 HEAVY DUTY CONCRETE CLEANER might be less likely to bleach joints than SURE KLEAN RESTORATION CLEANER *or* DIEDRICH 101G BRICK CLEANER.

Paint Stains

Paint stains are very difficult to remove from masonry. Probably sandblasting is the fastest way to remove paint, but this process is sometimes harmful to the masonry surface.

Commercial paint removers are effective in some cases.

SURE KLEAN DEFACER ERASER, SURE KLEAN HEAVY DUTY PAINT STRIPPER, DIEDRICH 505 PAINT STRIPPER *or* DIEDRICH 606 MULTI-LAYER PAINT REMOVER (*or equal*) are very good for paint removal. If these products do not completely remove all paint particles after following printed directions, apply SURE KLEAN RESTORATION CLEANER, DIEDRICH 101G BRICK CLEANER (*or equal*) to the stained area. Allow to remain on wall several minutes, then “blast” the area with water hose. *Follow directions found on containers.*

Cleaning Masonry Laid with Colored Mortar

Colored mortar is highly sensitive to masonry cleaning solutions. While mineral oxide pigments are inert and are not affected by most cleaning materials, the materials will dissolve surrounding cement paste, allowing pigment to be washed away, exposing sand grains and causing a change in mortar color and texture.

Most manufacturers of colored mortar recommend cleaning with detergent and water only. Where mortar stains are heavy, a 1 to 6 solution of SURE KLEAN VANATROL, DIEDRICH 202V VANA-STOP (*or equal*) and water may be used; but a curing period of 3 to 5 weeks is recommended before cleaning with anything other than detergent and water.

Sandblast cleaning is usually acceptable, as is high pressure water cleaning with approved cleaning compounds. Protection of brick face must also be considered in selecting a cleaning system. *(As with all cleaning jobs, test clean a sample area to determine effectiveness of cleaning compound and the total cleaning system and to check wall for possible damages caused by system. Approval of owner or owner's representative should be obtained before proceeding with operation.)*

General Information

Light & Dark Joints

Color change in mortar joints may be attributed to change in quality of masonry cement, type of masonry cement, change in type or gradation of sand and change in methods of cleaning. Also, color of joints can be affected by variations in moisture content of individual brick surrounding the joint.

Joints struck while excessively wet can become light in color. Joints struck when "thumbprint" hard should dry to a uniform color if mortar and sand properties remain consistent.

Normal variations in joint color will be eliminated after completion of one of the wet cleaning processes. Where wide color variations are found, a mild bleaching of all joints with increased concentration of cleaning solutions usually brings improvement. Caution should be taken in using this process with acid-sensitive brick and colored mortars.

Light joints may be darkened by staining the joints with pigments specially selected to produce the required shade.

Clear Water Repellent Application

Care must be used in deciding where and when to use clear water repellent materials on masonry walls.

Generally the industry considers applications of clear coatings to be a remedial process rather than a new construction process – to be used only if water penetration cannot be stopped by all other reasonable means. The use of penetrating water repellents which allow the wall to breath are recommended.

Please refer to "White Efflorescence" under Specialty Cleaning on page 7 for basic information on this subject.

For these reasons architects may be inviting trouble when they indiscriminately specify clear water repellent on all newly built, newly cleaned walls.

If materials are being used only to protect masonry walls from atmospheric stains, the same precautions outlined under "White Efflorescence" should also be observed.

**Brick
Industry**
Southeast
Region



Good Practice for Cleaning New Brickwork

800.62.BRICK

gobricksoutheast.com

8420 University Executive Park Drive
Suite 800
Charlotte, NC 28262

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