

## Best Practices for Successfully Cleaning Architectural Concrete Masonry Walls



**C**leaning concrete masonry walls is a key step to achieving a beautiful end result. Care must be taken however to assure that the cleaning method itself does not damage the wall.

### Code Requirements

Code requirements are very clear. The mason is required to:

***“Clean exposed masonry surfaces of stains, efflorescence, mortar or grout droppings and debris.”***

The accepted sample panel sets the standard for the work:

***“The acceptable standard for the Work is established by the accepted (sample) panel.”***

### QUICK POINTS

- Clean off droppings and stains as the wall is built to minimize post-construction cleaning.
- Protect masonry materials from water intrusion and mud stains during construction.
- Clean the walls promptly for easiest and best results.
- Use the gentlest available cleaning method.
- Always demonstrate and gain acceptance for cleaning methods on the sample panel first.
- If cleaning is done later than ideally it should be, test first and explore alternatives to aggressive cleaning with acid based cleaners.

**M**ore than any other function the mason contractor performs on a building- cleaning is a “means and methods” task. Best results come when the mason contractor minimizes jobsite stains during installation, and then cleans the walls before mortar, grout and stains fully harden on the wall surface – typically within four to seven days after laying the wall. This method allows use of the gentlest chemicals or just water and a nonmetallic brush, and the stains are easy to remove if this approach is taken.

## Specifying Cleaning Requirements

So how should the specifier approach the issue of how to specify requirement for cleaning the walls? The use of a sample panel to demonstrate cleaning methods for approval before applying them to the wall is a key to success. The sample panel sets the standard for workmanship and finished aesthetics of the wall. It is a great way to allow the designer to set the standard for cleaning results and for all parties to have a clear standard for what results are expected and required

Demonstrating the means and methods the mason will use to clean the walls on the sample panel is the safest strategy for everyone involved to protect the appearance and integrity of the wall. Once the architect or owner’s representative accepts the results of the means and methods for cleaning on the sample panel, then the standard for acceptance of the final wall is established.

Here are some suggestions for specification language for cleaning masonry walls:

***Exposed masonry surfaces must be cleaned of stains, efflorescence, mortar, grout and debris. The cleaning methods and procedures must not damage or change the appearance of the masonry. Consult the masonry manufacturer for materials and methods that have proven successful with their products.***

***Test sections must be cleaned prior to attempting to clean the entire wall. The project sample panel will be used for this purpose.***

***Sample panels are typically cleaned before the stains have fully cured or hardened. If the stains on the actual walls have cured a longer period than those demonstrated on the sample panel, a new test section on the wall must be demonstrated and approved before attempting to clean the entire wall.***

## General Cleaning Recommendations

1. Clean off mortar and grout stains as the wall is built to keep post construction cleaning to a minimum.
2. Protect the masonry materials and unfinished walls from mud splatters and water intrusion during construction. Water left in cores of partially constructed masonry walls can lead to efflorescence, especially if the wall lacks a flashing and weep system. Cover the wall when work is interrupted until the wall is capped to prevent this.
3. Clean architectural masonry walls before mortar and grout stains have had a chance to harden. Typically best results will be obtained by cleaning the walls after the mortar has had a chance to set up within 4 to 7 days of laying the masonry units.
4. Use the gentlest cleaning method available, including using just plain water and a nonmetallic brush. If chemicals are used, use a masonry cleaner that has been proven successful with architectural concrete masonry. Follow the manufacturer's recommendations, but in general, the process should include pre-soaking the wall with water thoroughly prior to application, and thoroughly removing the cleaning agent by rinsing the wall completely and promptly after application.
5. Always demonstrate the Cleaning means and methods on the sample panel first and obtain acceptance of those methods before applying them to the building.

## How to Handle Difficult Cleaning Situations

Following the standard sample panel process and cleaning the walls promptly after construction is the best way to assure good results. But what if something goes wrong on the job? For example, what if mortar or grout stains are allowed to fully harden on the wall contrary to specified cleaning requirements? When significant mortar, grout and stains are left on the wall, and allowed to fully harden before cleaning, the mason must often resort to aggressive chemicals to clean the wall. This can lead to problems.

Unless applied by experts, aggressive chemical cleaners can damage and change the appearance of the wall. Aggressive application of cleaners can etch and scar, or change the color or texture of architectural masonry. Acid-based cleaners may actually remove significant amounts of cement paste from the concrete – which may have detrimental effects on both appearance and long-term moisture protection of the wall system.

BEFORE this happens, investigate the use of alternate cleaning materials and methods including baking soda blasting. Such methods can remove difficult mortar and grout stains without damaging the wall.

## Conclusion

**The cleaning method, as always should be tested on the sample panel, or if that is not possible on an inconspicuous portion of the wall to avoid damaging the aesthetics of the main wall sections -- The last thing you want to do is expose the entire wall to a cleaning method before knowing that it is not damaging.**



## Questions?

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