

CLEANING NEW MASONRY

Masonry is a material chosen for a variety of reasons, including its aesthetic appeal. The final appearance of masonry requires that effective cleaning procedures be employed to deliver an appearance consistent with design expectations. Three elements, working in concert, are required to fulfil these requirements:

- Care and protection during construction;
- Appropriate cleaning products and techniques; and
- Maintaining a "clean" appearance

1. Care and Protection During Construction

The extent of cleaning procedures can be significantly reduced with the employment of careful construction practices. These include:

- Clean and dry storage of masonry materials on site prior to construction;
- Working neatly during the laying phase, removing excess mortar before it sets;
- Covering the top of incomplete wall to prevent water intrusion during construction;
- Protecting wall bases from rain splash and turning inner scaffold planking on its edge to reduce rain induced splashes of mortar and job dirt onto the completed wall surface;
- Commencing cleaning as soon as is practical after mortar has cured;
- Protection from work of other trades (e.g. welding spatter, drilling run-off, grinding dust, concrete splash, membranes drips, etc.)

2. Appropriate Cleaning Products and Techniques

A sample test area which replicates, as closely as possible, actual field conditions (unit selection, mortar type, profiles, and ambient factors) should be cleaned to confirm both cleaning solution selection and concentration as well as to establish appropriate techniques. Method of application, dwell times, scrubbing and rinse procedures should be finalized. This test panel should be left for as long as possible (at least one week after application) before evaluating its effectiveness and accepting the test panel as the design expectation. Most masonry unit manufacturers recommend the use of proprietary cleaning compounds. These are specially formulated for specific masonry units and minimize secondary staining and other reactions triggered by uncontrolled acid reactions. Proprietary acidic cleaning solutions typically incorporate wetting agents, inhibitors and stain control agents to maximize cleaner effectiveness and minimize negative impacts on the masonry and mortar. Muriatic acid is a traditional cleaner that is still occasionally used, however it is not a proprietary or specialized masonry cleaning product.

The designer should rely on the recommendations of the masonry unit and cleaning product manufacturers that include the following considerations:

- Cleaning of a test area which represents, as closely as possible, actual field conditions including unit selection, mortar type, profiles, and ambient factors);
- Commencement of cleaning as soon as mortar has hardened sufficiently.
- Protection of adjacent surface which could be impacted by the cleaning process;
- Avoiding contact of metal tools and containers with acidic cleaning compounds;
- Removal of large mortar particles before cleaning;

- Thorough wetting of the surfaces to be cleaned to minimize absorption of the cleaning solution into the masonry and to prevent absorption of cleaning residue into surfaces underneath the areas being cleaned;
- Proper concentration of the cleaning solution;
- Appropriate dwell times for the cleaning solution;
- Scrubbing of the cleaning solution to "work" it into the materials to be removed;
- Thorough and complete rinsing of cleaning solution and solubilized materials;
- Avoidance of conditions that will minimize cleaner effectiveness (cold weather) or lead to premature drying of cleaning solution (hot and/or windy weather).

3. Maintaining a "Clean" Appearance

Once the masonry has been cleaned, care should be taken to minimize the need for recleaning. Appropriate design and maintenance include:

- Adequate wall cappings to prevent water intrusion (and subsequent efflorescence bloom);
- Caulking and flashings where required to effectively manage water movement;
- Water repellent treatment to minimize absorption of rain borne contaminants, algae growth, and efflorescence, applied as soon as practical after cleaning.