



# Masonry Cleaning & Restoration

BY RONALD BAER

**The basics of what you  
and your contractors  
should know**

As in all aspects of masonry, there is a great deal of artistry in restoring older and historic masonry. When tackling a new project, the artisan mason, while not looking for originality, needs to have a vision of the tradition of the structure, the composition and formulation of the original materials, and knowledge of the technology of the period in which the original was created. So much depends on the craftsman applying his skills and accumulated experience to match those of the original masters, while applying whatever modern technology is available. The determination of whether the challenge is to repair and clean the structure (to serve its current and future purpose with modern technology while gracing the physical location), or to restore the structure (to its historic appearance while employing technology to prolong the life of the structure) is generally clear-cut. All efforts to preserve a historical structure must be aimed at restoring and preserving while repairing and cleaning; perhaps modernizing is the task for non-historical structures. Though different outcomes are required, the basic methods are similar.

As in all projects, preparation is key to the success of a restoration project. A clear, common understanding of the desired outcome and purpose of the restoration is a discussion with the owner/project director, the contractor, the contractor's foreman,

(above and opposite)

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involved governmental/political entities and, often, consultants representing the owners and the community. The restoration contractor must assure that the team has sufficient breadth of knowledge – and specific knowledge about the project – to address any anticipated work and unanticipated problems. Discussions might also include individuals with expertise in cleaning chemicals, mortars and other materials that may be employed on the project. The final result is dependent on the contractor's skills and willingness to accept others' expertise. Even if the general scope of the work is known, it is generally impossible to know the scope of the damage that needs to be repaired. Therefore, it is important that the contractor protect his interest in dealing with unforeseen conditions hidden within the walls and history of the structure.

Perhaps no step in the entire restoration process is as important as testing to determine or confirm the original composition and peculiarities of materials to be encountered, such as mortars, colors, brick and stone, and the ways to preserve them for reuse or to duplicate them when replacement is required. All new materials to be used, including chemicals and cleaning equipment, should be tested on an inconspicuous spot to determine their efficacy, appropriateness to the specific project and their ability to achieve the desired outcome. Often, because of the lack of consistent quality and chemistry of the original materials, adjustments will need to be made to duplicate those differences as the work progresses. The challenge for historical restorations is to make the repairs indistinguishable from the original work, while addressing the problems that caused the damage. It is never just a matter of repairing but of diagnosing causes, correcting them and then repairing. Testing will confirm the skilled contractor's best assumption of what materials to use. When approved, the tested results will establish the standard for the project.

In today's economy, contractors who have specialized in new construction may be tempted to try their hand at restoration projects. Usually, these projects will not be historic preservations but rather repairs and cleaning to functioning commercial structures. This certainly can be done successfully so long as the contractor understands the differences in problems that will arise in restoration versus new masonry projects, as well as the need to alter familiar methods.

Cleaning older masonry requires chemicals specifically formulated for the types of stains and the surface material. Generally, these cleaning chemicals need to have dwell time on the wall to penetrate the stains; they are more effective if applied to a surface that has been pre-wetted and warmed with hot water. A common practice is to apply the chemical with a garden-type sprayer. A much more efficient way to do the cleaning is with a pressure washer that is specifically made for masonry cleaning and, unlike common pressure washers, has the capability to apply the chemical at low pressure without water, enabling the chemical to stay on the surface. These washers have the added advantage of being able to function as a standard washer for pre-wetting the wall and for thorough rinsing of the wall with hot water, making switching between low pressure and high pressure sprayers unnecessary. Because these washers have large chemical tanks, frequent filling necessary for smaller garden sprayers is eliminated.

The measure of success of a restoration project is the realization of the goals of the project, including effectively re-establishing the structure as an artistic element in its environs, extending the longevity of the structure and, when desired, maintaining its historical integrity. With proper planning, testing and execution by well-trained and properly equipped craftsmen, the goals for the restoration project will be met and a landmark preserved. **DMD**

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