



# Alexandria Times

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## Out of the Attic

### Caring for masonry buildings (*part two*)

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*Image: Hard Portland cement has damaged the face of the soft historic brick. Photo, Al Cox, Office of Historic Preservation.*

Last week we discussed some of the different types of brick and mortar used to build historic Alexandria. Despite its durability, both old and new brick construction can suffer from the effects of moisture and/or improper maintenance. Regular care, evaluation and maintenance are imperative to the building's longevity.

Open joints, plant growth on masonry and leaking gutters can all create problems for masonry buildings. Rising, damp water below grade wicking up through the wall and then escaping through the face of the wall may result in spalling or crumbling of the brick face due to freeze/thaw cycles over time. Ivy on a masonry wall will hold moisture against the brick and lead to spalling. Efflorescence, seen as a localized, white powdery coating, occurs when excessive moisture builds up within the wall and leaves impurities on the face when it evaporates.



While it is unattractive, this surface coating is not generally a problem in itself but may indicate a moisture problem within the wall. Bowing walls and stairstepped cracks in the brick along the mortar joints result from uneven settlement of the foundation and accelerate moisture penetration. For masonry buildings, regular visual evaluation can help identify problems before they become too serious. Repointing with the wrong type of mortar or inappropriate cleaning by sandblasting can also lead to serious, permanent damage that will compromise brick construction over time.

Repointing refers to the process by which the existing mortar is removed and replaced. Repointing, sometimes called tuckpointing, should be limited to damaged areas.

On historic buildings, mortar should be removed with hand tools only, as power tools can permanently damage the brick. The mortar should be removed to a depth of 2.5 times the height of the joint. The replacement mortar should match the historic mortar with respect to the color, texture and composition of the ratio of sand, lime and other additives. The historic mortar joint profile on the surface should also be matched. Mortar comprises 15 percent of a masonry wall surface, so a poor repointing job can negatively affect the appearance of a building while also leading to long-term structural issues.

Cleaning masonry should always be done by the gentlest means possible to avoid permanently damaging the brick. Sandblasting, sometimes used in the mid-20th century, is never an appropriate



## Office of Historic Alexandria City of Alexandria, Virginia

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method for cleaning brick, as it causes irreversible damage by removing the hard-fired brick surface and exposing the soft interior to the weather. Appropriate chemical cleaners may be used, followed by low pressure water wash. However, a small test patch should be applied first to assess the effect on the brick.

In many instances, brick buildings were painted to avoid addressing a larger maintenance issue, or even necessary repointing, rather than aesthetics. But painting masonry results in breathability problems for the brick and can lead to further demise of the wall over time. Because masonry construction is extremely durable and long lasting, painting masonry also results in unnecessary ongoing maintenance and cost of repainting.

Eco-friendly paint strippers for paint removal from masonry can remove decades of paint with relative ease. The paint stripper is usually applied in conjunction with low pressure water as part of the removal and to neutralize the chemicals and residue. The rich brick color, mortar color and decorative elements of a masonry building are renewed with the removal of paint.

*“Out of the Attic” is published each week in the Alexandria Times newspaper. The column began in September 2007 as “Marking Time” and explored Alexandria’s history through collection items, historical images and architectural representations. Within the first year, it evolved into “Out of the Attic” and featured historical photographs of Alexandria.*

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