



Not Recommended: *Not repointing where mortar is missing as it increases the potential for moisture infiltration. Also not recommended is repointing which extends on to the face of the masonry units and does not match the original color and composition.*

MORTAR FOR HISTORIC MASONRY

REPOINTING: The process of removing deteriorated mortar from the joints of a masonry wall and replacing it with new mortar.

Before repointing historic masonry it is important to determine and correct the cause of deterioration. It is also important to understand the type of mortar and the pointing techniques used in the wall originally. Sometimes, a wall has had previous repairs or mortar joint profiles are eroded so that careful study is needed to determine the original mortar and the original visual characteristics of the joints.

It is extremely important for repointing to be done correctly to restore the visual and structural integrity of the masonry. Incorrectly done, repointing may cause physical damage to the individual bricks, stones, or other masonry units. Historic mortar, particularly in buildings erected before 1930, was softer and had less compressive strength than the masonry units. The mortar expanded and contracted due to changes in temperature and moisture or settlement. This reduced stress on the masonry units so the masonry units were less likely to crack and/or spall. If a mortar mixture that is harder than the masonry units is used in joints, over time it is likely that the bond will break and cracks will open, allowing moisture to penetrate. This can result in spalling surfaces, cracked masonry units, loose masonry units, and other problems.

Masonry in buildings erected prior to 1873 used soft lime mortar. This mortar was primarily lime and sand, although it might have had some additives such as crushed shells, brick dust, clay, natural cements, pigments, or animal hair. Mortars used between 1873-1930 might also contain some Portland cement (fast-curing hydraulic cement that will harden under water), but usually Portland cement was a minor ingredient. After 1930, masons began to use mortars with a high percentage of Portland cement. Portland cement-based mortars are simpler for masons to use, but they are much harder than the earlier lime mortars. This hardness does not usually cause a problem with most masonry units produced after 1930, because these units are usually hard enough to be used with Portland cement-based mortars. Use of the Portland cement-based mortars is a serious problem when they are used with softer masonry units, especially sandstone and brick that was made before the late 19th century.

GUIDELINES FOR MASONRY AND STUCCO



The main section of the Walter Parsells House has the sturdy sandstone first-story walls characteristic of the early stone houses.

Historic masonry (stone, brick, concrete, and terra cotta) and stucco provide texture, color, and workmanship that are visual links to a time or architectural type or style. For some historic buildings, such as Closter's early stone houses, masonry walls are the dominant visual characteristic of outstanding architectural significance. Most historic buildings have masonry foundations and chimneys that are contributing historic features. In historic districts, the masonry and stucco features are important to a building's relationship with adjacent buildings and with other buildings of its architectural style or type.

Preserving early masonry and stucco exterior surfaces of historic buildings not only contributes to the historic character of the community, but also contributes to the continued longevity of the buildings. Under most conditions, stone, brick, concrete, terra cotta, and stucco are durable. However, water, weather, air pollution, and structural problems can cause problems. The underlying cause of masonry and stucco problems should be determined before attempting to remedy the surface problems. For example, if a crack is patched without correcting the reason for its occurrence, it is likely to reoccur. The proper repair of historic masonry is critical to preserving its distinctive finishes and construction techniques. Improper cleaning, repointing, and other masonry and stucco repairs not only detract from the historic character of the building or structure, but also could endanger it.

For Landmarks, Key Contributing, and Contributing Buildings in Landmark Districts, a Certificate of Appropriateness (C/A) is required for any masonry repair, including cleaning, sandblasting, repointing, exterior waterproofing, and replacing damaged units and the repair of stucco. A C/A is required even when a construction permit is not. A C/A is required for painting unpainted exterior masonry and stucco. The C/A will be reviewed as a Minor Application, unless the proposed work is found not to be appropriate, then a public hearing will be scheduled. A C/A is not required for repainting previously painted masonry or stucco unless paint removal and/or repointing is required.

A C/A is not required for masonry or stucco alterations and repairs on Non-Contributing Buildings in Landmark Districts unless a building permit is required, then the proposed work will be reviewed as a Minor Application.

GUIDELINES

Identify, retain, and maintain exterior masonry and stucco that characterize a property.

Repair rather than replace deteriorated historic materials. Generally limit repairs to the deteriorated areas and use techniques appropriate to the specific building material.

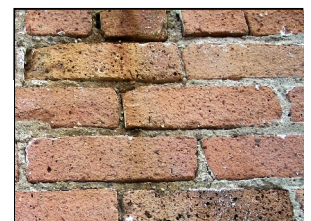
Repair underlying problems before treating surfaces.

For necessary replacements, match the materials in color, texture, and other visual appearance. Match the historic masonry units and mortar in strength (hardness).

Use the gentlest means possible for necessary surface cleaning.

Do not cover historic masonry and stucco with modern replacement materials.

Not Recommended:
Sandblasting masonry as it damages the masonry units and the mortar.



For Landmarks and Key Contributing and Contributing Buildings in Landmark Districts

RECOMMENDED

- Refer to the *Resources for Masonry and Stucco* box in this chapter for sources of information on how to maintain, clean, and repair masonry and stucco. Follow the recommended methods. Maintain the original colors and textures of historic masonry and stucco.
- Correct the underlying problems causing the masonry deterioration so that problems will not reoccur.
- Photograph and measure existing conditions before beginning masonry repairs to aid in replication.
- Clean masonry only when necessary to remove heavy soiling or graffiti. Clean using the gentlest means. Often low-pressure water washing followed by a bristle brush is an effective cleaning method. Repoint mortar joints only when seriously deteriorated and moisture problem has been detected or improper mortar has previously been used that is harder than the wall's masonry units. Limit the work to the problem areas. Remove damaged and incorrect mortar in the gentlest way possible, preferably carefully using hand tools. Use mortar that duplicates the historic original in composition, strength, color, and texture. Consider having the original mortar analyzed by a professional. If this is not feasible, match the historic mortar using the methodology recommend in the sources cited in the *Resources for Masonry and Stucco* box. Use mortar for repointing which has a similar content as the original (ratio of Portland cement/sand/lime). Duplicate the width, profile, tooling, size, and other visual characteristics of original mortar joints.
- Consider consolidation techniques or composite repairs for damaged masonry units. If replacement is necessary, replace seriously deteriorated masonry units with in-kind ones that match material, compressive strength

(hardness), size, dimensions, color, texture, and bonding pattern.

- Repair or renew deteriorated stucco using the same building technique as was used in the original stucco construction, matching color and texture.

NOT RECOMMENDED

- Do not remove the patina of age.
- Using cleaning methods, including sandblasting, high-pressure water blasting, and the application of caustic chemicals, that remove the patina of age and damage historic masonry and stucco. These methods erode surfaces and accelerate deterioration. Steam and water pressure exceeding 150-200 p.s.i. may damage sound mortar.
- Using electric saws, hammers, drills, grinders, and metal brushes during cleaning and repairs that can damage masonry, particular soft sandstone and bricks.
- Using hard Portland cement-based mortar on historic masonry constructed prior to 1930.
- Painting or cladding unpainted historic masonry walls or chimneys with new finishes or materials.
- Removing stucco or paint from historically painted or stuccoed walls and masonry.
- Applying waterproofing and water repellents to historic exterior masonry and stucco. Such coatings should be used only on the advice of an experienced, trained historic preservation professional and when other repairs have failed to prevent water penetration.
- Drilling new holes into historic exterior masonry. Make necessary attachments at joints. Holes in masonry units cause permanent damage.
- Replacing historic exterior stucco with synthetic stucco (E.I.F.S.).

RESOURCES FOR MASONRY AND STUCCO

Hopewell, New Jersey, Historic Preservation Commission, *Design Guidelines: Guidelines for Exterior Maintenance, Masonry & Stucco*, <http://208.55.240.96/Guidelines-Historic-Properties.html>

National Park Service, *Preservation Brief 1: The Cleaning and Waterproof Coating of Masonry Buildings*, <http://www.cr.nps.gov/hps/tps/briefs/brief01.htm>

National Park Service, *Preservation Brief 2: Repointing Mortar Joints in Historic Masonry Buildings*, <http://www.cr.nps.gov/hps/tps/briefs/brief02.htm>

National Park Service, *Preservation Brief 6: Dangers of Abrasive Cleaning to Historic Buildings*, <http://www.cr.nps.gov/hps/tps/briefs/brief06.htm>

National Park Service, *Preservation Brief 7: The Preservation of Historic Glazed Architectural Terra Cotta*, <http://www.cr.nps.gov/hps/tps/briefs/brief07.htm>

National Park Service, *Preservation Brief 16: The Use of Substitute Materials on Historic Building Exteriors*, <http://www.cr.nps.gov/hps/tps/briefs/brief16.htm>

National Park Service, *Preservation Brief 15: Preservation of Historic Concrete*, <http://www.cr.nps.gov/hps/tps/briefs/brief15.htm>

National Park Service, *Preservation Brief 16: The Use of Substitute Materials on Historic Building Exteriors*, <http://www.cr.nps.gov/hps/tps/briefs/brief16.htm>

National Park Service, *Preservation Brief 22: The Preservation and Repair of Historic Stucco*, <http://www.cr.nps.gov/hps/tps/briefs/brief22.htm>

National Park Service, *Preservation Brief 38: Removing Graffiti from Historic Masonry*, <http://www.cr.nps.gov/hps/tps/briefs/brief38.htm>

National Park Service, *Preservation Brief 42: The Maintenance, Repair and Replacement of Historic Cast Stone*, <http://www.cr.nps.gov/hps/tps/briefs/brief42.htm>

New Jersey Historic Preservation Office, *FYI Publication: Masonry Cleaning*, <http://www.state.nj.us/dep/hpo/4sustain/masonryclean.pdf>

New Jersey Historic Preservation Office, *FYI Publication: Masonry Repairs*, <http://www.state.nj.us/dep/hpo/4sustain/masonryrepair.pdf>

New York City Landmarks Conservancy, *The Brownstone Guide: Maintenance & Repairs Facts for Historic Property Owners*, <http://www.e-guana.net/organizations/org/BrownstoneGuide.pdf>

New York Landmarks Conservancy, *Composite Patching of Brownstone: A Step-by-Step Overview*, <http://www.e-guana.net/organizations/org/TechnicalTips.pdf>

New York Landmarks Conservancy, *Removing Graffiti*, <http://www.e-guana.net/organizations/org/GraffitiBR.pdf>



The commercial area has more masonry buildings than elsewhere in Closter's railroad suburb. The 2½ -story brick building, erected between 1865-76, once housed M. Kohler, a feed and grain store. Remnants of a painted sign are visible on the front wall above the 2nd-story windows.



The façade of the Closter Borough Hall, which was built in 1937-38, is red brick with cream-colored terra cotta panels.