



Guide to Common Repairs for Historic Buildings

Window Repair

Historic window repair is necessary when windows exhibit severely peeling paint, rotting wood, or deteriorating glazing around glass panes. Improper care of windows allows moisture and insects to enter the building. Poor paint condition on a wooden window frame may indicate a greater problem caused by excessive moisture, in which case professional assessment is advised.

Recommendations for the repair of historic wood windows commonly include removal of exterior and interior paint, removal of sash and re-glazing where needed, replacement of rotten wood in frames, and the weatherproofing and repainting of frames and sash before reinstallation.

For more information, go to: <http://www.nps.gov/history/hps/tps/briefs/brief09.htm>

For information on the cost-effectiveness and efficiency of historic wood windows, go to: http://www.houstontx.gov/histpres/docs/Historic_Windows_Final.pdf

Masonry Repair

Repointing refers to the removal of inappropriate mortar from the joints of brick or stone and replacing it with mortar more sensitive to the limitations of historic building materials. Portland cement, for example, (usually recognizable by its gray color and relative hardness to other mortars) often causes spalling (chipping off) and cracking in historic building materials because of its extreme rigidity and its tendency to trap moisture in the brick or stone. Proper repointing for historic buildings includes the gentle chipping out of inappropriate mortar with hand tools and its careful replacement with a lime-based mortar suited to the specific nature of the building material in use. Repointing might also be necessary if mortar is missing from joints or has been poorly applied. Matching color, texture, hardness and finish size are all to be considered when undertaking this work.

For more information, go to: <http://www.nps.gov/history/hps/tps/briefs/brief02.htm>

Iron Repair

Iron repair may be required when iron balconies, stair railings, window grills or other decorative elements exhibit rust and/or other signs of deterioration. Problems with ironwork often include rusting, peeling paint, missing elements, structural damage, loose fittings or degradation of joints. Ironwork exposed by peeling paint rusts at a greater rate the longer the iron remains untreated.

Recommendations for ironwork repair include rust removal by hand-scraping, low-pressure blasting, or rust-removing chemicals, depending on the extent of oxidation. Proper priming and repainting of the ironwork is essential to preventing further damage. Where iron elements of a balcony or decorative feature are missing, the ironwork should be consolidated or replaced in-kind to prevent further exposure to moisture.

For more information, go to:

- <http://www.nps.gov/history/hps/tps/briefs/brief27.htm>
- http://www.nps.gov/hps/tps/standguide/preserve/preserve_metals.htm

Wood Siding Repair

Damaged wood siding is most often seen in the form of loose, cupping, rotting, or missing clapboard on a building's exterior walls. Siding failure allows harmful moisture penetration and insect infestation into the building's structure. The best way to protect wood siding is regular maintenance that properly protects siding from moisture penetration.

To retain as much of the historic material as possible, repairs should focus only on damaged areas rather than replacement of the entire exterior siding. Repair of historic material is preferred when possible, and any necessary replacements should be in-kind or as similar as possible to the original in material, size, and appearance. Replacement with synthetic siding is not recommended for historic buildings not only because of its historical inaccuracy, but primarily because it does little to prevent further damage to the historic wood siding it covers.

For more information, go to: <http://www.nps.gov/hps/tps/briefs/brief08.htm>



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Re-Painting

Exterior paint serves the dual purpose of protecting the building materials from weather-related deterioration and improving the building's appearance. Although its protective role is essential in preventing moisture damage to the building's materials, its architectural elements, and even its structure, a coat of paint generally lasts only 5-8 years.

Recommendations for exterior repainting generally include a regular maintenance program of gentle cleaning, scraping, and hand-sanding before applying the new coat. In certain cases, care should be taken that some patches of historic paint are retained as a record of the building's physical history. Most historic buildings have been painted with oil, rather than latex, paint and since a new coat of oil paint adheres best to former oil coats, oil based paint is generally recommended. Working with paint on historic buildings almost always involves contact with lead paint, which can be a health hazard if handled improperly. Guidelines for dealing with lead paint can be found through the links below. Proper research and safety precautions should be followed prior to any painting project.

For more information, go to:

- <http://www.nps.gov/history/hps/tps/briefs/brief10.htm>
- <http://www.nps.gov/hps/tps/briefs/brief37.htm>
- <http://www.hud.gov/offices/lead/lbp/hudguidelines/index.cfm>

Mildew/Organic Growth Removal

Organic growth on historic buildings includes mildew and algae growth commonly seen on foundations, window frames, porches, and/or exterior walls (such as plant growth on a building's façade). Such plant growth includes ivy or other vines intended by the property owner. Organic growth on a building can lead to moisture damage and/or insect infestation as well as compromising mortar integrity. Long-term effects can include warping, erosion, and rotting of historic building materials that lead to possible structural damage to the building. The presence of mildew, mold, algae, lichens, or plant growth is often symptoms of deeper moisture problems that should be addressed beyond mere removal of the organic growth.

Recommended treatments for algae and lichen removal include gently rinsing the surface with water and scrubbing away growth with a stiff, natural-bristle brush, then rinsing the surface with water again. Mold and mildew removal may require the aid of chemicals such as TSP, laundry detergent or ammonia diluted with water. Proper research should be conducted prior to application of such chemicals to ensure both human safety and proper protection of the building. Plants such as ivy or ferns should be cut at the roots and allowed to wither prior to gentle removal to avoid further damage to mortar.

For more information, go to:

- <http://www.oldhouseweb.com/how-to-advice/ivy-and-vines-attribute-or-detriment.shtml>
- <http://w3.gsa.gov/web/p/HPTP.NSF/gsa.govAllProceduresDisplay/0420002R>
- <http://www.nps.gov/history/hps/tps/briefs/brief39.htm>

Seasonal Repairs

The best method of protecting a building from deterioration is regular maintenance which involves a thorough walk-around inspection of the building. Inspections are best conducted at the transition from one season to another. At the end of fall, for example, roofs and foundations should be checked for build-up of leaves or other debris. Windows, doors, and chimneys may require maintenance to ensure proper protection from the coming cold weather and possible ice. At the beginning of spring, to ensure gutters and downspouts prevent moisture from penetrating the building, they should be cleared of debris, rust-free, and with all parts intact so that moisture is directed away from the building. Regular inspection coupled with timely repairs will protect your historic building while decreasing the chance of large, expensive repairs in the future caused by deferred or improper maintenance.

For more information, go to: <http://www.wini.com/articles/index.aspx?id=3427>

Preservation Brief 47 is not yet available online. For information on how to obtain a hard copy of the brief, go to: http://www.nps.gov/hps/tps/tpscat_1.htm