

Technical Guides for Exterior Alterations



A Practical Series for the Preservation and Maintenance of Rockville's Historic Resources

15: Substitute Materials: *Artificial Siding, vinyl windows, plastic fencing, etc.*

Background

*"The Secretary of the Interior's Standards for Rehabilitation require that "deteriorated architectural features be repaired rather than replaced, wherever possible. In the event that replacement is necessary, the new material should match the material being replaced in composition, design, color, texture and other visual properties." Substitute materials should be used only on a limited basis and only when they will match the appearance and general properties of the historic material and will not damage the historic resource."*¹

As the global population grows, and natural resources diminish, manufactured products are being produced to fill the gap. As noted by the National Park Service (NPS), the use of more common materials in imitation of more expensive and less available materials is a long-standing tradition. George Washington, for example, used sand impregnated paint at Mount Vernon to imitate cut ashlar stone.

Sometimes, the artificial products have special merit in their own right, and address factors such as material weight, cost and availability. However, recognizing that historic structures are a limited and valued cultural resource, the National Park Service recommends: "When deteriorated, damaged, or lost features of a historic building need repair or replacement, it is almost always best to use historic materials."

Substitute materials that have been commonly used in the recent past include rigid asbestos shingles for siding (1940s), flexible asbestos shingles for roofing (1900s) and aluminum siding to cover wood clapboard (1950s). On historic structures, these materials were typically installed over historic materials to hide maintenance problems such as moisture damage or peeling paint, or to provide a low-cost replacement for higher cost natural materials. In most instances, the original materials are still intact beneath the later installation.

To find a broader audience, substitute materials were designed to replicate historic materials. One measure of

their market success is the degree to which the substitute materials fool the eye so that people assume there have been no changes. Over time, product manufacturers have adapted their products to more closely approximate the appearance of historic materials, but crucial differences remain. These includes apparent lack of sturdiness displayed by many artificial materials due to their reduced thickness, such as for aluminum or vinyl siding and asphalt roofing shingles. New materials are often more flexible than the original materials, such as when vinyl siding is compared to wood siding. The new materials are often in smaller pieces, so there are new "match lines" that would not have been apparent with historic materials. Sometimes there is overcompensation with the attempts to replicate a historic condition, such as offering the look of weathered and deteriorated wood siding with a "wood grained look" presented in a new vinyl material.

In considering whether a particular substitute material will complement the historic structure, one must fully understand the properties of both the structure and the original and substitute materials, taking into account characteristics such as expected longevity and moisture permeability. It also is important to consider the method of installation of the substitute materials, as well as their potential effect on adjacent historic materials. Finally, one should consider the projected life of the substitute material, and consider the timetable and the effects of their removal and replacement at such point when that becomes necessary.

Even the NPS agrees that the use of substitute materials may be warranted under the following specific conditions: "1) the unavailability of historic materials; 2) the unavailability of skilled craftsmen; 3) inherent flaws in the original materials; and 4) code-required changes. Cost may be a determining factor in considering the use of substitute materials. Depending on the area of the country, the amount of material needed and the projected life of less durable substitute materials, it may be cheaper in the long run to use the original material, even though it may be harder to find."

¹ *The Use of Substitute Materials on Historic Building Exteriors*, Sharon C. Park, AIA, NPS Preservation

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15: Substitute Materials *(continued)*

HDC Policy

- Original materials shall be repaired and maintained in historic districts. Repairs and replacement with in-kind materials are encouraged, and qualify for tax credits.
- Correction of problems that have led to deterioration of historic structures, such as faulty gutters, shall be taken into consideration in an application to install substitute materials.
- If the original materials are deteriorated beyond repair, consideration for a comparable substitute material will be given. The substitute material must be a close match in appearance and functionality to the original materials.

Certificate of Approval

- Justification for use of substitute materials
- Photographs of the deteriorated condition of the historic fabric
- Contractor bids for replacement in-kind **and** for proposed alternative material
- Specifications and samples of the proposed substitute material
- Description of method of application

Tax Credit Information

Tax credits may apply. To maintain eligibility, please have before and after photographs of the work. Obtain HDC approval prior to undertaking the work if a COA is required, and make sure you follow all zoning requirements. Work done without a required HDC Certificate of Approval is not eligible for the tax credits. Forms are available on the City Web site or at the CPDS information desk.

Contact Us

For additional information and questions, please contact:
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Additional information

Adopted Architectural Design Guidelines for the Exterior Rehabilitation of Buildings in Rockville's Historic Districts, September 1977, Rockville Historic District Commission, 44, 70-71, and Appendix 4.

Secretary of the Interior's Standards and Guidelines for Rehabilitation, (1995), National Park Service (NPS), U.S. Department of Interior, www2.cr.nps.gov/tps/standguide.

Preservation Brief # 16: *The Use of Substitute Materials on Historic Building Exteriors*.