# VINYL SIDING: THE REAL ISSUES

**A PRESERVATION GUIDE** 

for Historic Property Owners Historic District Commissions Historic Property Commissions

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#### INTRODUCTION

Vinyl siding is a major preservation issue in Connecticut. Throughout the state, more and more historic houses are being covered with vinyl. This trend has affected the historic character of whole neighborhoods in cities and has spread throughout the countryside. Responding to aggressive marketing by the industry, an increasing number of historic house owners are choosing vinyl as a replacement siding, with little understanding of the possible consequences. Historic property owners are pressuring local historic district and property commissions to allow vinyl siding; some commissions have faced lawsuits. The response of the preservation community to this issue is long overdue. It is time to take a stand, to reach out to historic property owners and commissioners and give them the facts they need to make informed decisions.

In this guide we will explore all the issues, pro and con, and hear from preservationists as well as the vinyl industry. We will look at vinyl from many perspectives, assess economic benefits, discuss structural and maintenance concerns, and identify preservation alternatives. Vinyl siding is such a hot button issue in local historic districts that we include an appendix with an analysis of the latest court decision on this subject.

Many of the technical issues summarized in these pages are covered in greater detail both in print and online. For your convenience, a complete list of sources can be found at the back of the guide under "Recommended Reading," along with the current version of the Secretary of the Interior's *Standards for Rehabilitation*.

#### WHY IS VINYL SIDING SO POPULAR?

American consumers have always had a love affair with technology. We buy the latest advertised product, every new, new thing that comes on the market. We do not have the patience for tried and true methods; we look for the quick fix, the latest gadget. "New and improved" is the siren song that sells everything from cars to cornflakes. We buy into the idea of "lifetime guarantee" even as we look in vain for the fine print disclaimers. Now that vinyl siding is no longer a new product, it is time to take a closer look.

What is vinyl anyway? Technically, vinyl is a generic term that applies to a broad group of chemical polymers. It has been around for 40 years. Vinyl is just one of many kinds of plastics we use every day for packaging, shipping, construction, and for a range of home and health-care products. Plastics are a major part of recycling programs in every Connecticut community. In short, plastics are part of modern life.

Remember the magic word "plastics" whispered in Dustin Hoffmans's ear in *The Graduate*? A funny moment in this 1967 film. Little did we know then the impact that plastics would have on our lives or, more importantly, their impact on Connecticut's built environment.

#### CONNECTICUT HERITAGE

Connecticut has a rich and diverse heritage, a shared legacy that all can cherish and enjoy. Historic buildings, the visible part of this legacy, tell the stories of countless men and women who made our state. These structures come in all shapes and sizes. Many were built of wood, and even brick and stone buildings have wooden trim and windows. Historic buildings range from architectural landmarks associated with famous people and major historical events to modest workers' cottages. The institutional life of the past is embodied in our historic churches, town halls, and schools. Just as our agrarian past is reflected in rural farmhouses and barns, the Yankee spirit of enterprise is found in mills and factories, historic urban commercial blocks, and country stores.

The National Register of Historic Places recognizes the importance of many of these historic buildings. In Connecticut, nearly 45,000 historic structures have this designation. National Register listings include 964 individually significant sites and 368 historic districts. Town-based architectural surveys sponsored throughout the state by the Connecticut Historical Commission have identified thousands more that are potentially eligible for this largely honorary listing. Since the federal designation does not restrict any private property owner's rights, changes to National Register buildings, such as vinyl siding, are unregulated.

Some of these historic resources, but not all, are protected under state mandate. In Connecticut, historic district commissions administer 111 local historic districts in 66 towns. A few district commissions also have oversight of individual properties; in other communities, historic property commissions are appointed for this purpose. Altogether, these commissions are responsible for 7500 buildings and sites. An impressive number to be sure, but it is clear that only a relatively small percentage of Connecticut's heritage has the protection of design review. Indeed, the preservation of the vast majority of historic properties must depend upon the informed stewardship of their owners.

People buy historic houses for a variety of reasons: to restore and preserve them for future generations; to make a good investment; or simply to have a well built home. In any event, buying a house is a major purchase, probably the largest single outlay most people make in their lifetimes. As numerous studies have shown, historic houses are a sound investment. Often undervalued at time of purchase, they appreciate faster than new construction over time. Prudent homeowners recognize that they must preserve the value of their investment by proper maintenance.

Sooner or later every historic homeowner faces a basic maintenance problem: a new paint job. Your house is looking a little shabby, what with all that dirt, mildew, and peeling and cracking paint. The temptation is just to cover it up with artificial siding. The vinyl industry tells you its product will last a lifetime, so why not? You may have heard that the preservation community has some reservations about vinyl siding, but you do not really know why. There is much more substance to this debate, as the following section will show. The real issue is which method, paint or vinyl, is better for your historic house in the long term. Only you can decide.

## THE GREAT DEBATE

## The Vinyl Industry Position:

Vinyl manufacturers believe that vinyl siding is superior to paint. The industry's claims for vinyl siding can be summarized in five ways:

- Vinyl is cost-effective.
- Vinyl improves appearance.
- Vinyl is weatherproof.
- Vinyl conserves energy.
- Vinyl is maintenance-free.

### The Preservation View:

### Is Vinyl Cost-Effective?

Any cost-benefit analysis looks first at the bottom line. Is vinyl a better buy?

It looks like a bargain, but over 20 years, the usual guarantee period,<sup>1</sup> the cost of installing vinyl siding is more or less equal to the cost of two quality paint jobs. For preservationists, value, not cost, is the real economic issue. Is there a genuine long-term benefit to vinyl siding? Will it improve the appearance of your house, save energy, or reduce maintenance costs as the industry claims?

## **Does Vinyl Improve Appearance?**

For preservationists, appearance is the major value issue in this debate. While we have no quarrel with the use of vinyl siding in new construction, we have always contended that the character of a historic house is substantially altered and diminished by artificial siding of any type. Seasoned real estate appraisers tend to agree with this view. Many will tell you that there is an automatic markdown for artificial siding on historic buildings.

Vinyl is just the latest in a long list of artificial sidings that goes back to the asphalt and asbestos siding of the 1930s. These older substitutes for wood did little damage to historic fabric and have been removed with some success. Aluminum siding that came on the market after World War II was another story. After extensive testing, it was found that aluminum siding posed a potential threat to wood-framed historic buildings and, like vinyl, it had a decided impact on appearance and historic character.

The subtle and often decorative textures of historic wood sidings are lost when vinyl siding is applied, turning once individually distinctive houses into bland, anonymous boxes. Despite industry claims, vinyl does not look like wood. Attempts to give vinyl siding a fake woodgrain appearance are particularly ineffective.

Keep in mind that the installation process itself is potentially destructive. Historic character is lost when decorative trim is removed or cut down to install vinyl siding. Standard installation requires removal of the historic corner boards that frame your house; the vinyl replacement is always much too narrow. Ends of sills and cornices are cut off, leaving doors and windows looking bare and unfinished. Even when a homeowner pays more to have siding fitted around existing trim, decorative details and profiles are diminished or obscured by the thickness of the surrounding vinyl. Furring strips and any rigid insulation board under the siding must be nailed or screwed, leaving the walls peppered with holes.

## Is Vinyl Weatherproof?

There is no question that vinyl siding, properly installed, is a weatherproof material. It does a good job of keeping water away from building exteriors. **For preservationists, the real issue is that vinyl also keeps water inside a** <sup>1</sup> Longer guarantee periods are usually prorated after 20 years.

**building**. When you wrap your house in plastic, moisture can build up in wall cavities, a problem for older houses. Unlike wood, vinyl does not breathe. Water vapor trying to pass to the outside is trapped in the wall, where it reaches its dew point temperature and condenses. The water then puddles at the base of the wall, leading to rot in sills and other structural components, along with unpleasant problems like mold and insect damage.

On a painted house, many excess moisture conditions become quite obvious; in fact, peeling paint can help homeowners pinpoint problem areas so that repairs can be made. If you already have a condensation problem, installing vinyl siding is a major mistake. Hiding pre-existing moisture conditions of any kind will not make them go away. They will only get worse over time, and structural repairs down the road are even more expensive.

The construction industry is well aware of the condensation problem. Modern houses are engineered to exhaust moisture-laden air and are provided with internal vapor barriers. New products used for underlayment on the outside are designed to breathe. Vinyl manufacturers now recommend installation of continuous wall vents under the eaves to improve air circulation in wall cavities and have added weep holes to their product. The manufacturers point out that the connector channels used in vinyl siding are another path for water vapor. All these measures are steps in the right direction for new construction, but they do not really solve the problem for older buildings.

### **Does Vinyl Siding Conserve Energy?**

The insulation value of vinyl siding is minimal. Even when siding is backed with a thin layer of insulating foam, or applied over rigid board insulation, the thermal envelope created has about the same "R" value as two to four inches of airspace. Tests have shown that up to 75 percent of heat loss is through the roof. Insulating the attic is a more cost-effective way of reducing your heating bill, followed by the installation of storm windows and weather stripping but forget about insulating walls.

There is really no effective way to insulate the walls in a historic house. Standard batt insulation with vapor barriers cannot be installed in walls without destroying plaster, woodwork, and other original historic fabric. The types of insulation that can be introduced into wall cavities from the outside have their own problems; for example, blown-in insulation often settles to the base of the wall. Chemicals in the foam types can be destructive to wood fibers. Of course, in the absence of vapor barriers, both types can contribute to the condensation problem. The full story of energy conservation in historic buildings is complex and beyond the scope of this guide. For more information, please see *Preservation Brief 3: Conserving Energy in Historic Buildings* and other articles on this subject cited in "Recommended Reading."

## Is Vinyl Really Maintenance Free?

Certainly vinyl siding lasts a long time, but it is not indestructible. Vinyl is subject to denting, cupping, and warping, and over time, colors fade from exposure to sunlight. Repairing or replacing damaged vinyl siding can be difficult. Just finding a piece to match the old vinyl used on your house will be a problem. Eventually the surface will need to be cleaned and, yes, even painted.

Painting vinyl is a risky business. In fact, many manufacturers void their guarantees if vinyl is painted. If you must paint, there are special rules. The type of paint and even the color must be compatible with vinyl's physical properties. Since vinyl expands and contracts with changes in temperature, the paint coating must be equally flexible. Paint darker than the original vinyl will absorb more heat from the sun, which can lead to severe warping and curling of the siding.

## THE PRESERVATION ALTERNATIVE

Painting has always been the preservation alternative to artificial siding. We believe that a program of painting combined with other good maintenance practices is the best way to protect your historic house and preserve its historic character. This approach is fully in accord with a long-standing preservation principle summarized in the Secretary of the Interior's *Standards* as follows:

• Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.

The original materials used on your historic house have stood the test of time. Brick and stone, of course, are permanent materials; properly maintained and painted, wood also can last indefinitely. Even masonry buildings have wood features that need periodic refinishing. But it is a waste of time and money to paint a wet house. Deal with any moisture problems before you even consider painting

## **Moisture Problems**

Condensation is a major problem for historic homeowners. Our modern life-style, which puts a premium on comfort, is largely responsible for this condition. Past generations made do without central heating and instead of air conditioning, they just opened windows in summer. As a result, the average air temperature differential between inside and outside was much less than it is today, making condensation of water vapor in walls less likely. In addition, there was a limited amount of moisture in the home, which came mainly from cooking and burning wood in fireplaces or stoves. Today, with the incredible amount of water vapor the average household produces, historic homeowners must install exhaust fans and special vapor barrier paints in bathrooms, laundries, and kitchens.

Water penetration is another major problem. A wet basement is a perennial condition in some old houses, and there may also be actual leaks from cracked or missing roof shingles or deteriorated gutters and downspouts, and even household plumbing. In addition to the potential for structural damage if not corrected, long-term leaks can lead to growth of new mold strains that are actually dangerous to your health. So far, these newly discovered mycotoxins seem to be confined to recent construction. They thrive on newer materials such as sheet rock; historic houses with plastered walls seem to be less vulnerable.

Rising moisture, from high water tables or poor drainage, is another area of concern, particularly in Colonial-style houses, which have low foundations. But every homeowner should take steps to correct drainage problems by grading the slope away from the foundation or, in some cases, installing a complete perimeter drain system with perforated pipe laid over gravel. For the most recent publication on diagnosing and solving moisture problems, please see *Preservation Brief 39: Holding the Line: Controlling Unwanted Moisture in Historic Buildings*, cited under "Recommended Reading."

## PAINTING YOUR HOUSE

First off, we must admit that painting a historic house is not a quick fix. Painting, and especially the preparation work, is tedious and labor-intensive. Decisions must be made about what paint to use. There have been great strides in paint chemistry since lead was banned in the 1970s. While the new paint coatings are quite durable, they do not last as long as the oldfashioned lead-based paints that were good for 20 years or more.

## Preparation

Paint coats fail for a number of reasons. Inadequate preparation is the primary cause, but mistakes made in the application process can also create problems. New paint bonds better to clean, dry, and dull surfaces. Peeling, the most common form of paint failure, is usually a sign that earlier coatings did not adhere or bond. In that case, surface preparation requires scraping and sanding of the deteriorated areas, and a complete light sanding to dull the rest of the surfaces, followed by a thorough cleaning.

Badly deteriorated paint coats, with wholesale cracking and peeling, must be

removed down to bare wood. If the surface is "alligatored" with deep cracks, there may be too many layers of old paint. Chemical paint removers can do the job, but heat guns and heat plates, followed by hand scraping, are the recommended methods for complete paint removal. Blowtorches are no longer used because of the potential fire danger.

### Sandblasting to remove paint is a mistake. Highly destructive, it grinds away softer wood fibers and leaves behind striated, porous surfaces.

## **CAUTIONS:**

- Lead, or other hazardous materials, may be present. Even for minor preparation work, such as sanding, safety precautions are advised, including facemasks and goggles.
- Complete paint removal is not a project for the homeowner. Only an experienced contractor has the knowledge and equipment to do the job safely and effectively.

### Cleaning

A garden hose, some household detergent, and a soft scrub brush are all you really need to clean a house. This method will remove chalking (powdering of the surface of the old paint film), dirt, and even loose paint. Excessive dirt or mildew requires scrubbing with a solution of household bleach or trisodium phosphate (TSP) in water. Dirt accumulates under eaves, soffits, and edges of clapboards. Look for signs of mildew or fungus on the shady side of the house, especially behind foundation plantings. If shrubs are overgrown and too close to the building, now is the time to prune them back. A thorough rinsing should always follow cleaning. Failure to rinse off all the TSP or other chemicals can cause your new paint job to fail prematurely. Allow the surface to dry completely before you paint. Moisture still in the wood can cause the new paint to bubble.

Painting contractors will prefer to power wash your house. It saves them time and achieves the same results. Be sure that they use a low-pressure wash (under 100 p.s.i.). Water under high pressure can be as harmful as sand blasting. It not only damages wall surfaces and makes them more porous, but it can also destroy the beauty of irreplaceable architectural details.

### Painting

Good-quality paint properly applied and maintained will last on average about eight to ten years. The best paint is expensive but well worth the money. Buying cheaper bargain paint will end up costing you more in the long run. At least two coats will be needed, a primer and a finish coat. Spot priming in areas that have been scraped and sanded may be adequate, but all bare wood must be completely primed for good adhesion. The best choice for historic houses is an alkyd-based primer. Have it tinted to a shade just slightly lighter than the topcoat. It will make the application of the finish coat much easier. Follow the manufacturer's recommendation for a compatible finish coat, preferably one with a low luster.

Good brushes are a necessity. No other method offers the durability of paint applied with brush. Above all, read the directions on the can about the best temperature range for painting, and what to use to clean up when you are done. Avoid painting in direct sunlight. The outer layer will dry too fast and wrinkle, a condition also caused by not waiting for the primer coat to dry. Other causes of wrinkling include applying paint too thickly, or failing to brush it out well.

Spray painting is often the choice of painting contractors, but with this method, paint is often thinned for ease of application or to get a smoother coat. Be aware that too much paint thinner can compromise paint chemistry and shorten the life of the paint coating.

Painting looks easy but, given all the possible pitfalls, it may pay to hire a skilled professional, one who has been in business for a long time. Before hiring a painting contractor, check out references. Take a look at projects the company completed five or more years ago and see how well they have held up. A final word of advice: Your new paint job will last longer with yearly washing and spot maintenance.

#### CONCLUSION

In this guide, we have made the preservationists' case for the best way to maintain your historic property and pointed out ways in which vinyl siding fails to live up to its promise. We have also discussed the problems with vinyl as a replacement siding, especially how it can contribute to water retention in the walls of historic buildings. Despite industry claims, this type of siding has limited value as insulation and, as numerous homeowners have discovered, vinyl eventually needs maintenance and even painting. For many in the preservation community, the overriding issue is simply loss of historic character: by hiding or obscuring important architectural features, vinyl siding can diminish your home's esthetic and economic value. We have demonstrated how proper maintenance and the application of paint remain the preferred approach to preserving and protecting your historic property. We hope this guide has contributed to your understanding of these issues, and for additional information, we invite you to consult published and online sources listed in Appendix B: "Recommended Reading."

## **APPENDIX** A

### THE COURTS DECIDE

The 1999 decision by the Connecticut Appeals Court in the case of Church of Christ, Scientist v. Historic District Commission of the Town of Ridgefield (AC 18423) was a great victory for the preservation community. In affirming the commission's right to deny the church's application to install vinyl siding, the court resolved important preservation issues. The decision in this landmark case, however, has much broader implications. The Appeals Court not only validated some long-standing preservation principles, but it also reaffirmed the discretionary authority of local historic commissions and the legitimacy of state historic district and property legislation.

There is a certain irony to this case. Nearly four years of litigation were needed to resolve a preservation issue concerning a property that is not a historic building. Although obviously located in a historic district, the Colonial Revival-style church is a wood-framed building sheathed with clapboard, constructed in 1965. In 1995, after its application to reside with vinyl was denied by the commission, the church appealed the case to the Superior Court in Danbury. Since the commission had failed to make an adequate record of its proceedings, the judge ordered a new public hearing, which was held in June 1996. The commission once again voted to deny the application. The church filed suit in Superior Court, where Judge Socrates Mihalakos ruled in favor of the commission on all counts and dismissed the lawsuit. When this decision was upheld by the Appeals Court, the church appealed to the Connecticut Supreme Court, which declined to hear the case. As a basis for its decision, the Connecticut Appeals Court adopted the earlier lower-court opinion written by Judge Mihalakos. This well-reasoned opinion should reassure historic district and property commissioners who may have been concerned about the extent of their discretionary authority in vinyl siding cases.

#### The rulings:

- commissions have the authority to require applications for vinyl siding.
- commissions can base <u>all</u> decisions on esthetic considerations, not just in vinyl siding cases.

It was the plaintiff's contention that vinyl siding is "ordinary maintenance and repair" which does not require a certificate of appropriateness. Judge Mihalakos ruled that "recladding" a church in vinyl does not "fall within the scope of ordinary maintenance and repair," and that use of vinyl instead of paint constituted a change in appearance and materials, both of which are subject to review by district commissions. The judge also noted that both the state historic district legislation and the Ridgefield historic preservation ordinance provide that ordinary maintenance and repair does not involve a change in appearance or design.

Judge Mihalakos relied on the Secretary of the Interior's *Standards for Rehabilitation* for guidance in this matter and made relevant sections a part of the record, perhaps a first in preservation law. He observed that the *Standards* state that :

- maintenance generally involves the least amount of work needed to preserve the materials and features of the building;
- maintenance of a frame building would include caulking and painting or, where paint is excessively cracking and peeling, its removal and the reapplication of a protective paint coating.

He further noted that the Standards provide that:

• deteriorated architectural features shall be repaired rather than replaced wherever possible, and that if replacement is necessary, the new material should match [the original] in composition, design, color, texture, and other qualities.<sup>2</sup>

The plaintiff also claimed that in denying the application, the commission had exceeded the bounds of "permissible esthetic considerations." The judge ruled that Connecticut case law had already decided this question, citing, among others, a 1976 Connecticut Supreme Court case in Norwich, Figarksy v. Historic District (171 Conn. 198 368 A. 2d 163), which upheld the validity of esthetic considerations in land use regulations. It is clear, however, that esthetic judgements must be based on objective facts. For example, in the Ridgefield case, among the changes in appearance noted in the denial of the application were:

- The proposed vinyl siding did not match the original clapboards in size or exposure.
- Double seams where vinyl siding overlaps are more pronounced than staggered butt joints used with clapboards.

<sup>2</sup> The wording is taken from an earlier version of the *Standards*.

- Original projecting trim around windows and doors would be recessed.
- Molding details would be lost or over simplified by the proposed bent aluminum trim.

The decision in the Ridgefield case is also a cautionary tale, one that underscores the importance of a fair hearing process in full compliance with the state's "sunshine law." Commissions should take care to have a recording and/or a transcript of all regularly scheduled meetings and hearings, as well as adjourned hearings held at other locations, such as at the applicant's property, or even at an out-of-town site, which was the case in Ridgefield. Also, as the full transcripts of the case make very clear, commissions cannot have a pre-established policy on vinyl siding. Each application for vinyl siding must be judged on its own merits, and in the case of districts, for the potential impact on the historic district as a whole.

A final caution is implicit in the opinion rendered in this case. Time and time again, references were made to conformance with the state statute, as well as local historic preservation ordinances. Presumably town counsels have reviewed all local ordinances for substantial compliance with the state statute, but a review might be in order. Many local ordinances incorporate the exact wording of the statute, perhaps the best approach.

That the judge in this case cited Secretary of the Interior's *Standards* sends a clear signal to historic district and property commissions. Some commissions have already adopted the *Standards* as policy; others use them as a checklist. In either case, the *Standards* can provide a practical and philosophical basis for deliberations. Indeed, by using the *Standards*, commissioners can be sure that their decisions are grounded in time-tested preservation principles, ones that will stand up to legal challenge. Perhaps, more importantly, the even-handed application of recognized objective standards increases public confidence in the fairness of the design review process.

## **APPENDIX B**

#### **RECOMMENDED READING**

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Jan Cunningham has been actively involved in historic preservation in Connecticut for more than 20 years. After receiving her master's degree in American Studies from Wesleyan University in 1979, she became director of the Greater Middletown Preservation Trust. A member of the Middle Haddam Historic District Commission, she served as chairman for two years. Since 1984, Cunningham has been a professional historic preservation consultant, specializing in National Register of Historic Places nominations, architectural surveys, and certified historic rehabilitations. Clients have included the National Park Service, the Connecticut Historical Commission, municipal governments and agencies, historical societies and commissions, and private historic property owners and developers. Cunningham has written extensively on historic architecture and community history in Connecticut and her publications received awards from the American Association for State and Local History and the Connecticut League of Historical Societies.

The Connecticut Trust for Historic Preservation was established in 1975 by a special act of the Connecticut General Assembly. The mission of the Connecticut Trust is to preserve and protect the vitality of Connecticut's historically significant places. Working with local preservation groups and individuals as well as with statewide organizations, it encourages, educates about, and facilitates historic preservation throughout Connecticut.

For more information on the Connecticut Trust, please visit its web site at www.cttrust.org or call 203-562-6312.