




Preserving Historic Windows While Remediating Lead Hazards

What a Homeowner/Landlord Needs to Know

A companion guide to *Lead Paint Adaptation and Remediation Strategies for Historic Windows*

NRF Newport Restoration Foundation

Key Takeaways

1 Homes built before 1978 are likely to have lead-based paint

- Lead exposure can have serious health effects, so mitigating hazards is critical.
- Common lead hazards result from damaged, chipped, and/or peeling paint, **especially in areas prone to wear, such as windows, stair treads, and doors**.
- Rhode Island law requires a Lead Hazard Mitigation Inspection for long term rental units built before 1978, with some exceptions. Consult the RI Department of Health for details.

2 It is possible to safely mitigate lead hazards in your historic windows AND pass a lead inspection without replacing them.

3 Restored wooden windows that are made lead-safe can far outlast most modern replacements. They deliver long-term savings in both time and money, while preserving the authentic historic character and craftsmanship of your home.

4 Paint stripping is the most straightforward and sustainable option for lead mitigation, but there are other options.

5 Although it is possible to fix small lead hazards yourself, it is advisable (and in most cases required) to hire a licensed lead professional who has experience with historic restoration.

6 Documenting paint removal and restoration work can support a successful lead inspection. Hold on to invoices to provide evidence that hazards have been mitigated.

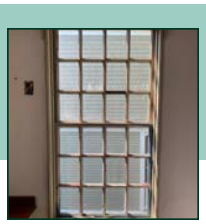
You Might Be Wondering...

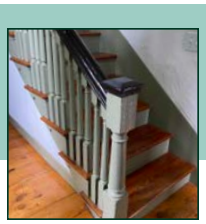
Does my house have lead paint?

Lead-based paint was once widely used for its durability, flexibility, fast dry time, fungicidal properties, and moisture resistance. In 1978, the United States federal government banned the manufacture and sale of lead-based paint for residential use, though it continued in some industrial and military applications. Lead paint remains present in many pre-1978 buildings today. Surfaces with intact, smooth paint can be safely maintained, but once lead paint becomes damaged or deteriorated, it poses a serious hazard. Chipping, peeling, or worn areas release lead dust and paint chips that can easily be inhaled or ingested.

The painted and historic features inside this ca.1740 NRF house are well-maintained without chipping or peeling paint. Features that are encapsulated in a tight layer of paint with no friction points do not pose a hazard.

Windows, stair risers, and other painted surfaces that receive wear and tear can pose lead paint hazards.





What are my responsibilities as a landlord?

Rhode Island's Lead Hazard Mitigation Law, enacted in 2002, requires owners of rental properties built before 1978 to address lead hazards and maintain lead safety. Lead safety requires lead-painted surfaces to be free of chipping, peeling, flaking, and chalking, with no direct impact or abrasion, and pass a lead swipe clearance test to make sure hazardous levels of lead dust are not present. For the most up-to-date details, consult the RI Department of Health Lead Hazard Mitigation Program.

Why is there a focus on windows?

Painted wood windows that are operable (open and close) can create areas of abrasion and impact that release paint dust and chips over time. Some inspectors recommend total window replacement as a solution to these hazards. However, there are ways to safely maintain your existing wood windows without replacement and pass a RI lead inspection.

Why retain your original windows?

The superior materials and craftsmanship found in historic wood windows mean they can (and do!) last for hundreds of years with proper care and maintenance. A typical modern window fails within a few decades, cannot be repaired, and must be fully replaced again. Restoring and maintaining your historic windows limits waste and saves money in the long term, while preserving the character of your home. In the Newport Historic District, window replacement requires survey, review, and approval, and the presence of lead paint is not cause alone for replacement. We prepared this document to help homeowners understand how historic windows can be safely mitigated of lead paint.

How to Spot Lead Paint Hazards in your Windows

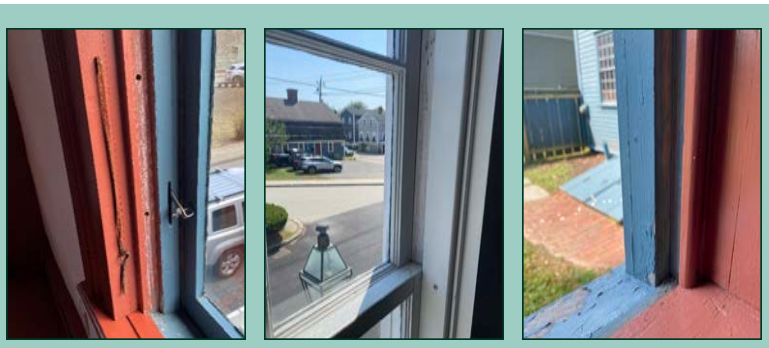
Historic windows pose unique risks because they have surfaces that experience friction (abrasion) and impact. These surfaces can produce lead dust.

Hazards include:

Deteriorated Paint
Chipping, peeling, flaking, and chalking (when powdery residue forms) paint are signs of paint failure and potential exposure to lead dust.

Chipped, flaking, and peeling paint will not pass a lead inspection.

Abrasion
Results when painted surfaces rub against each other as the window is opened and closed.



Worn jambs from years of opening and closing these wood windows can create lead dust.

Impact Damage
Results when the force of closing a window causes paint to crack, chip, and otherwise degrade over time. Impact damage is often visible on windowsills.

Paint is worn and cracking on these sills from exposure and use.

Tactics to Mitigate Lead Hazards in Your Windows

There are a number of field- tested options to remove or reduce lead hazards in your historic wood windows. Critically, remedies must ensure no lead-based paint remains damaged, loose, or exposed to abrasion or impact. Lead mitigation work must be completed by a licensed lead contractor.

Solutions include:

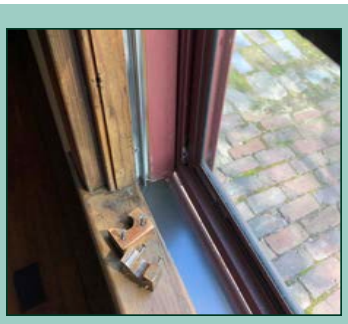
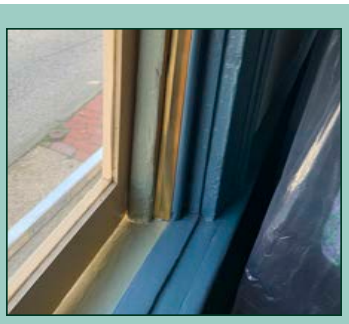
Encapsulation
Sealing lead painted surfaces with a new layer of non-lead paint. This is most applicable for fixed windows (ones that do not open and close) because encapsulation provides a more durable layer of protection on surfaces that don't experience friction or impact. Encapsulated surfaces should be regularly inspected for signs of damage or deterioration and maintained accordingly.


(Left) Fixed, non-operable windows like these do not create lead dust, so encapsulation with paint is sufficient to remove the lead hazard. (Right) This sill was wet-scraped to remove the lead hazard and repainted.

Paint Removal & Refinishing
This is necessary when lead paint has become damaged or deteriorated. When you strip away all layers of old paint, down to bare wood, and then refinish the surface, the lead hazard is substantially controlled.


The jambs, sill, and sash on these windows were stripped to bare wood and repainted.

Enclosure
Covering lead-painted surfaces with new materials (often metal or vinyl parts) that act as a barrier to protect these surfaces from further damage, often in situations where friction or impact are issues. Note that enclosure, like encapsulation, is a temporary solution and must be inspected and maintained regularly.

Here are two jamb enclosure solutions used to address friction hazards. Both a metal track system (left) and a flat bronze strip (right) prevent the sash from rubbing against the jamb and make the window operate more smoothly.

Replacement
Reproducing window parts in-kind. Historic windows were designed to be repaired again and again, and when an individual component becomes too deteriorated, it can be replaced. Certain parts of window systems are good candidates for replacement where a lead hazard is present, especially internal components that may have become encrusted with paint over the years.

(Left) A total replacement window changes the appearance, scale, and depth of a historic window opening. Reproducing window parts in-kind (right) is a sustainable solution to restore your windows while removing smaller lead hazard friction points.

What Strategy Works Best for Your Home?

You may use one or more of these options, depending on the types of windows in your home, their condition, and your budget. Regardless of choice, we recommend partnering with a licensed lead contractor who has expertise in historic window restoration.

Full restoration—stripping the entire window down to bare wood and refinishing — can be one of the most durable and sustainable options for lead mitigation on many window types. Although this strategy presents a higher upfront cost, it greatly reduces the lead hazard by creating smooth, cleanable surfaces that can be safely maintained over time. For non-operable (fixed) windows, this approach may be unnecessary unless the paint is already degraded.

Targeted mitigation through a combination of encapsulation, enclosure, and more limited paint stripping/refinishing is an effective way to make your windows Lead-Safe. While less expensive, this option requires a thorough investigation of your specific window type(s) and their parts to understand how to address individual hazards, including areas of damaged paint, friction, and impact in a targeted way. For more information about targeted mitigation, please consult this guide's companion manual: Lead Paint Adaptation and Remediation Strategies for Historic Windows.

Total replacement of historic windows should be treated as a last resort and reserved for windows that have deteriorated beyond repair. Historic districts often require replacement windows (if permitted at all) to meet quality standards that put costs in line with or even above full restoration. In the Newport Historic District, replacing historic windows requires approval, and the presence of lead paint on your windows is not cause alone for replacement. Although total replacement eliminates the window lead hazard, it represents the least sustainable option and destroys historic character in your home. Targeted mitigation and replacement of window components, not full window systems, is recommended.

How To Get the Help You Need

Inspectors

In Rhode Island, Lead Inspectors are independent contractors who are licensed to certify that a home is lead safe. Lead inspectors have discretion when evaluating hazards and some have more familiarity and comfort with historic windows than others. Consider contacting more than one inspector for your property, and approach selecting an inspector as you would any contractor: share your goal to preserve your windows and discuss how to make that happen.

In preparing to interview an inspector, familiarize yourself with the types of windows you own, what abrasion or impact hazards they may pose, and potential solutions, as described above.

Here are some key questions to help you choose an inspector for your home:

1. **What is your experience inspecting historic properties? Where have you typically found lead paint hazards in these properties, and how have you seen them mitigated?**

   - Some inspectors have experience working with clients who have successfully mitigated lead hazards in older windows and passed an inspection, while others will insist historic windows be removed before they inspect.

2. **Do you use an XRF spectrometer to identify lead hazards at a property? Can you let us know how this may change our inspection?**

   - Not all lead inspectors have chosen to invest in this technology, but an XRF spectrometer can definitively test every layer of existing paint on a surface, taking the guesswork out of where lead paint is present in an older home. Access to this technology can help you focus your mitigation efforts especially if your property may have already had window replacements or other instances of lead mitigation over the years.

3. **Can you suggest any site prep before the inspection to make the process go more smoothly?**

   - Asking this question will prepare you to address all areas of lead paint in your home—not just your windows. It may help you identify and repair other areas of potential lead paint hazards in your home before the inspection.

Contractors

Lead Safe repairs fall under the Renovation, Repair, and Painting Rule (RRP), requiring the work be done by a licensed individual or firm. Licensed lead professionals will follow all applicable RI Lead Hazard Mitigation Laws to keep the jobsite clean of lead dust and make sure workers, tenants, and neighbors stay safe from lead exposure during mitigation work.

Looking for a contractor who has the skills to work on historic windows? Reach out to your local preservation non-profits for advice or recommendations. Many organizations have qualified contractor lists available.

When selecting a contractor for your property, ask about their experience with historic properties. Provide them with a copy of this report for guidance on removing lead hazards.

Financial Resources

Lead hazard mitigation can be costly, but help is available. Several municipalities offer resources, repair programs, and loans for eligible households. Consult the RI Lead Hazard Mitigation Program for current assistance and tax credit opportunities.

Please note: This guide focuses on the techniques used to remove lead hazards from wood windows. All lead work in Rhode Island is regulated and governed by the Lead Safe Work Practices Rules and Regulations. Renovation, Repair, and Painting (RRP) work can only be performed by a Licensed Lead Renovation Firm. To be considered "lead safe," windows should always be tested by a RI licensed lead inspector. NRF cannot guarantee that the application of these techniques will result in a passed lead inspection. For more information, please consult the Rhode Island Department of Health.

Acknowledgements

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