

Timber Replacement Service

The Complete Homeowner's Guide to Timber Window & Door Replacement



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The Heritage Sash Standard

Every recommendation made by Heritage Sash is guided by three simple principles.

PRESERVE CHARACTER

Where existing joinery remains suitable for continued use, retain it wherever practical. Where replacement is required, reproduce the proportions, detailing and architectural character appropriate to the property.

IMPROVE PERFORMANCE

Replacement provides an opportunity to improve operation, glazing, comfort, security and durability through carefully selected materials and modern performance technologies.

RESPECT TRADITIONAL CRAFTSMANSHIP

New timber windows and doors should reflect the quality and proportions of traditional joinery, combining skilled manufacture with appropriate modern glazing and installation techniques.

"Knowledge creates confidence. Confidence creates trust."

1. Introduction

Traditional timber windows and doors are an important part of the architectural character of many British homes. From Georgian and Victorian sash windows to timber casements, French doors and traditional entrance doors, well-designed joinery contributes significantly to the proportions, appearance and identity of a property.

Where existing joinery has deteriorated, no longer performs as required or is unsuitable for the homeowner's intended improvements, replacement may provide the most appropriate long-term solution. However, replacement does not necessarily mean removing everything that already exists.

Depending on the type and condition of the existing joinery, replacement may involve manufacturing new components to work within a retained frame, repairing and preparing parts of the original installation before fitting new joinery, or removing the existing window or door completely and installing a new frame and unit.

Understanding these different approaches is important. The least disruptive option is not automatically the most suitable, just as complete replacement is not always necessary.

For traditional sash windows in particular, **retro replacement** can allow new upper and lower sashes to be manufactured and installed within an existing box frame. Where appropriate, this can preserve a substantial part of the existing window whilst providing new joinery and the opportunity to introduce modern glazing.

The retained box frame may also be repaired, prepared and decorated as part of the agreed works where its condition requires attention.

Retro replacement does, however, have limitations. Traditional buildings naturally move and settle over time, and an original box frame may no longer be perfectly square, level or plumb. New replacement sashes must operate within the geometry of the retained box, meaning significant historic movement or distortion can sometimes make retro replacement impractical.

Changes to the weight of replacement sashes must also be considered. Modern glazing specifications can produce sashes that are heavier than those originally installed, requiring the counterbalance system to be reassessed and, where necessary, additional or replacement lead counterweights to be installed.

Where retaining the existing frame is not appropriate, **full replacement** provides an alternative approach. The existing window, door and associated frame included within the replacement scope are carefully removed, the opening is prepared, and a completely new frame and unit are installed.

Full replacement allows the new frame to be positioned correctly using modern measuring and levelling equipment. This is particularly important in older properties where the surrounding building may have moved considerably since its original construction.

A new frame should be installed straight, square and level; it should not be deliberately distorted simply to follow an uneven historic opening. Consequently, variations may remain between the new frame and the surrounding wall where historic building movement has occurred. These installation spaces are

appropriately accommodated during fitting, with subsequent finishing of the surrounding building surfaces undertaken separately where required.

Replacement is also about considerably more than the method of installation.

Homeowners may need to consider the type of timber used, glazing specification, architectural detailing, operating requirements, ironmongery and finish. Heritage Sash replacement joinery can be specified using appropriate FSC-certified timber supplied through our specialist joinery supplier, including redwood, hardwood and oak, depending upon the requirements of the project.

Glazing options may include traditional single glazing, insulated double glazing or modern vacuum glazing. Each has different characteristics, and the most appropriate specification will depend upon the property, joinery design, performance requirements and any relevant planning or conservation considerations.

This guide has been written to help homeowners understand these choices before deciding how their existing windows or doors should be replaced.

Throughout this publication, we will explore the difference between retro and full replacement, explain the limitations that can arise when retaining existing frames, examine how complete replacement is installed within older buildings and consider the timber, glazing and architectural choices available when specifying new traditional joinery.

We will also explain where the Heritage Sash installation process begins and ends so that homeowners understand what is included within the replacement works and where subsequent finishing by other trades may be required.

Like all Heritage Sash publications, this guide is built upon three core principles:

- **Preserve Character** — Retain suitable original fabric and reproduce important architectural details wherever practical.
- **Improve Performance** — Use appropriate materials, glazing and installation methods to improve comfort, operation and long-term performance.
- **Respect Traditional Craftsmanship** — Ensure new joinery remains sympathetic to the proportions, detailing and character of the property.

Whether you are considering replacement sash windows, timber casement windows, French doors or traditional timber doors, this guide aims to provide the knowledge and confidence needed to understand the available options and make an informed decision about the most appropriate approach for your property.

Key Facts

- Replacement does not always require removal of the complete existing installation.
- Traditional sash windows may be suitable for retro replacement where the existing box frame can be retained.
- Historic movement or distortion within an existing sash box can limit the suitability of retro replacement.
- Heavier replacement sashes may require additional or replacement lead counterweights, which are separately assessed and costed.
- Full replacement allows a completely new frame to be installed straight, square and level within the existing structural opening.
- Older buildings may have uneven openings due to historic movement, even when the new frame itself is correctly installed.
- Replacement can include sash windows, timber casement windows, French doors and traditional timber doors.
- Timber and glazing specifications can be selected according to the property, design and required performance.

FIGURE 1



HERITAGE SASH

PRESERVE. IMPROVE. RESPECT.

TRADITIONAL TIMBER REPLACEMENT JOINERY

SASH WINDOWS, CASEMENT WINDOWS, FRENCH DOORS & TIMBER ENTRANCE DOORS

Heritage Sash designs, manufactures and installs high-quality traditional timber joinery for period and heritage properties. Every piece of replacement joinery is individually crafted to suit your property, combining traditional aesthetics with modern performance, durability and security.

SASH WINDOWS (BOX SASH)



Classic sliding sash windows with traditional counterbalanced operation, ideal for period properties. Available in retro replacement (new sashes in existing box) or full replacement (complete new box and sashes).

- Traditional appearance with modern performance
- Smooth counterbalanced operation
- Enhanced security options
- Wide range of finishes and colours

CASEMENT WINDOWS



Side-hung windows offering excellent ventilation, ease of use and weather-tight performance. Custom-made to match the character and proportions of your property.

- Excellent ventilation and ease of use
- Weather-tight design and draught seals
- Secure multi-point locking options
- Bespoke detailing and finishes

FRENCH DOORS



Timber French doors combine timeless elegance with practical performance. Perfect for garden access, balconies and period restoration projects.

- Graceful design with traditional proportions
- Secure locking and weather seals
- Strong, durable ironmongery
- Ideal for period and modern homes

TIMBER ENTRANCE DOORS



Bespoke timber entrance doors crafted to enhance the character, security and curb appeal of your home. Made to measure in a wide range of traditional styles.

- Enhanced security and durability
- Traditional craftsmanship and detailing
- Improved insulation and comfort
- Painted or natural finishes available

REPLACEMENT SOLUTIONS

- RETRO REPLACEMENT**
New sashes fitted into a suitable existing sash box, preserving original frames where possible.
- FULL REPLACEMENT**
Complete new frames and joinery, installed straight, square, plumb and level.
- PREMIUM TIMBER**
FSC-certified redwood, hardwood or oak, selected to suit your project.
- GLAZING OPTIONS**
Single glazing, double glazing or vacuum glazing to suit your performance needs.
- TRADITIONAL DETAILING**
Authentic mouldings, glazing bars and ironmongery to match your property.

HERITAGE SASH INSIGHT

Replacement is not a one-size-fits-all solution. We assess the condition, alignment and character of your existing joinery to recommend the most appropriate approach for long-term performance and value.



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<https://1dsash.co.uk>

FIGURE 1 - Traditional timber replacement joinery, illustrating sash windows, casement windows, French doors and timber entrance doors.

FIGURE 2

RETRO REPLACEMENT vs FULL REPLACEMENT

TWO DISTINCT APPROACHES FOR TRADITIONAL TIMBER JOINERY

The condition of the existing joinery and the requirements of your project will determine whether retro replacement or full replacement is the most appropriate solution. Understanding the key differences helps you make an informed decision.



RETRO REPLACEMENT NEW SASHES INTO EXISTING BOX

New upper and lower sashes are manufactured to fit and operate within the existing timber box frame.



1 EXISTING WINDOW
Existing box frame and sashes in place. Box assessed for suitability.

2 SASHES REMOVED
Existing sashes carefully removed. Box inspected and prepared.

3 BOX PREPARED
Repairs, preparation and decoration of the retained box as required.

4 NEW SASHES FITTED
New sashes installed, counterbalanced and adjusted for smooth operation.

WHEN RETRO REPLACEMENT MAY BE APPROPRIATE

- Box frame is structurally sound.
- Box frame remains reasonably square and aligned.
- Only the sashes require replacement.
- You wish to retain as much original fabric as possible.
- Scope includes repairs, preparation and decoration of the retained box (if required).

HERITAGE SASH INSIGHT
Retro replacement retains the original box, partings and staff beads where possible, preserving significant original fabric and the character of your windows while delivering new performance and reliability through newly manufactured sashes and glazing.

FULL REPLACEMENT COMPLETE NEW FRAME AND JOINERY

The existing window and frame are removed and a completely new box window assembly is installed.



1 EXISTING WINDOW
Existing window and frame in place.

2 REMOVED
Existing window and frame removed.

3 NEW FRAME INSTALLED
New box frame aligned, levelled and securely fixed to the structure.

4 NEW WINDOW COMPLETE
New sashes installed, counterbalanced and adjusted. Sealed and finished.

WHEN FULL REPLACEMENT MAY BE APPROPRIATE

- Existing box is structurally unsound.
- Existing box is significantly out of square or alignment.
- Historic movement prevents reliable retrofit.
- You require a different configuration or specification.
- You prefer a completely new installation.

HERITAGE SASH INSIGHT
Full replacement allows the new frame to be installed straight, square, plumb and level—independently of the geometry of the previous installation—creating the best foundation for smooth operation and long-term performance.

PRESERVE OR RENEW
Keep original fabric where it makes sense or start fresh where it's needed.

IMPROVED PERFORMANCE
New sashes and glazing deliver better thermal, acoustic and weather performance.

LONG-TERM VALUE
The right approach protects your property and reduces future maintenance costs.

QUALITY CRAFTSMANSHIP
Traditional joinery methods and modern technology combined for windows that look right and perform beautifully.



KEY DIFFERENCES

SCOPE OF WORK
Retro replaces sashes only. Full replacement removes and replaces the entire frame and joinery.

RETAINED ORIGINAL FABRIC
Retro retains the box frame. Full replacement removes all joinery within scope.

ALIGNMENT CONTROL
Retro works within existing geometry. Full replacement establishes a new, correct datum.

INSTALLATION OPENING
Retro uses existing box. Full replacement prepares the structural opening.

FLEXIBILITY
Retro limited by existing box. Full replacement offers maximum design flexibility.

HERITAGE SASH INSIGHT
The right choice depends on the condition of your existing joinery and your long-term objectives. We will advise you on the most appropriate approach for your

FIGURE 2 — Overview of retro replacement and full replacement, illustrating the fundamental difference between retaining an existing frame and installing a completely new frame.

2. Understanding Timber Window & Door Replacement

Traditional timber joinery is remarkably adaptable. Windows and doors are constructed from individual components that work together as a complete system, and understanding which of those components remain suitable for continued use is an important part of specifying replacement correctly.

Unlike modern replacement systems that are often supplied as complete factory-produced units, traditional timber joinery allows a more considered approach. In some circumstances, substantial parts of an existing installation can remain in place whilst other elements are renewed. In others, the condition, alignment or design of the existing joinery makes complete replacement the more appropriate solution.

For this reason, a Heritage Sash replacement survey considers the existing installation as a whole before determining what should be retained and what should be replaced.

2.1 What Can Be Replaced?

The Heritage Sash replacement service is not limited to sash windows.

Traditional timber replacement joinery may include:

- Sash windows.
- Timber casement windows.
- French doors.
- Timber entrance and external doors.
- Associated timber frames and components forming part of the agreed replacement works.

Each type of joinery operates differently and therefore requires a different approach to measurement, manufacture and installation.

A sash window relies upon vertically sliding glazed sashes, traditionally balanced using cords, pulleys and counterweights concealed within a box frame.

A casement window generally uses hinged opening lights operating within a fixed timber frame.

French doors consist of paired opening doors and their associated frame, with careful alignment particularly important for smooth operation, weather sealing and secure closing.

Traditional timber entrance and external doors may incorporate a wide variety of configurations, glazing arrangements, panels, mouldings and ironmongery.

Although the products differ, the principle behind successful replacement remains the same: the new joinery must be correctly designed for the opening, accurately manufactured and appropriately installed.

2.2 Replacement Begins With the Existing Opening

Before new joinery can be specified, the existing installation must be understood.

A survey considers factors including:

- The type and construction of the existing window or door.
- Overall condition of the existing frame.
- Condition of surrounding timber components.
- Existing dimensions and opening sizes.
- Alignment of the existing frame.
- Evidence of historic building movement.
- Existing glazing specification.
- Architectural proportions and detailing.
- Required operation of the new joinery.
- Proposed glazing specification.
- Suitability of existing components for retention.
- Access and installation considerations.

This information helps determine whether parts of the existing installation can reasonably remain or whether complete replacement provides the better solution.

Accurate assessment is particularly important in older properties. Traditional buildings are rarely perfectly uniform, and two windows that appear identical from a distance may have slightly different dimensions, profiles or levels of historic movement.

Replacement joinery should therefore be measured and specified for the individual opening rather than assumptions being made from neighbouring windows or nominal dimensions.

2.3 Retaining Existing Components

Where existing components remain sound, there may be no practical reason to remove them simply because another part of the installation requires replacement.

Traditional sash windows provide one of the clearest examples.

The upper and lower sashes may require replacement whilst the original box frame remains structurally suitable for continued use. New sashes can then be individually manufactured to work within the retained box.

This approach is commonly referred to throughout this guide as **retro replacement**.

Depending upon the agreed specification, the retained box may also receive localised repairs, preparation and decoration before the new sashes are installed.

Retaining existing components can reduce the extent of intervention within the property and preserve more of the existing building fabric. However, retention is only appropriate where those components remain suitable for the new installation.

A component should not be retained simply for the sake of avoiding replacement if doing so is likely to compromise operation, alignment, durability or the quality of the completed work.

2.4 Complete Replacement

Where the existing frame is unsuitable for retention, or where the project specification requires a completely new installation, full replacement may be recommended.

Full replacement involves removing the existing joinery and frame included within the agreed scope, preparing the opening and installing a completely new window or door assembly.

This approach can be used for sash windows, casement windows, French doors and traditional timber doors.

With a traditional sash window, this may mean replacing the complete box frame together with the upper and lower sashes and associated operating components.

For a casement window, French door or entrance door, the existing frame and opening units are removed and replaced with the appropriate new complete assembly.

The advantage of full replacement is that the new frame can be independently positioned and installed correctly rather than being required to operate within the geometry of an existing frame.

This becomes particularly relevant where historic movement, distortion or deterioration has affected the original installation.

2.5 Replacement Within an Older Building

It is important to distinguish between the alignment of a **new window or door** and the alignment of the **building surrounding it**.

Many traditional properties have experienced movement and settlement during their lifetime. Walls and structural openings that were originally straight and square may no longer remain so.

When a complete new frame is installed, Heritage Sash establishes the correct position of the new joinery using accurate measurement and laser levelling equipment.

The objective is to install the new frame straight, square, plumb and level so that the window or door operates as designed.

The new frame is not deliberately installed out of level simply to follow an uneven wall.

As a result, the space between a correctly aligned new frame and the existing structural opening may not always be uniform. One part of the perimeter may require a greater installation allowance than another because the building itself has moved.

This is a normal consideration when installing new joinery into older structures and does not, in itself, indicate incorrect installation.

The installation space allows the new frame to be correctly positioned, securely fixed to the appropriate structure and isolated from irregularities within the existing opening.

Later sections of this guide explain this process in greater detail, including how the perimeter installation space is treated and where the Heritage Sash installation scope concludes.

2.6 Replacement Versus Restoration

Replacement and restoration serve different purposes.

Restoration focuses on retaining and repairing existing joinery. Replacement introduces newly manufactured joinery where existing components are no longer suitable, where a different specification is required or where replacement represents the more appropriate long-term solution.

There is also an important middle ground.

A homeowner may retain an original sash box whilst installing newly manufactured sashes. Another property may require new sashes together with repairs and decoration to the retained box. A different opening may require complete removal and replacement.

The correct approach therefore cannot be determined simply by describing a window or door as "old".

Its construction, condition, alignment, intended use and the homeowner's objectives must all be considered.

For a more detailed explanation of conserving existing sash windows, refer to **HS-RES-001 — The Complete Homeowner's Guide to Sash Window Restoration**.

Making the Right Replacement Decision

A successful replacement project begins long before the existing window or door is removed.

It begins with understanding the existing joinery, identifying what remains serviceable and establishing what the homeowner wants the replacement to achieve.

This prevents unnecessary removal of suitable components whilst also avoiding the problems that can arise when unsuitable frames or structures are retained.

The objective is not to choose the smallest or largest possible scope of work. It is to choose the **appropriate scope** for the individual opening.

Once this has been established, the replacement joinery can be designed around the property rather than attempting to make the property conform to a standard replacement product.

Key Facts

- Heritage Sash replacement services include sash windows, casement windows, French doors and traditional timber doors.
- Every opening should be individually surveyed before replacement joinery is specified.
- Traditional joinery allows suitable existing components to be retained where appropriate.
- Retro replacement can allow new sash windows to be installed within an existing box frame.
- Full replacement removes the existing frame included within the scope and introduces a completely new assembly.
- Historic building movement can result in structural openings that are no longer perfectly square or level.
- New frames should be installed correctly straight, square, plumb and level rather than distorted to follow an uneven building.
- The appropriate replacement scope is determined by the condition, construction and alignment of the existing joinery together with the requirements of the homeowner.

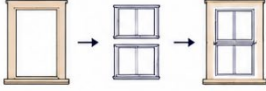
FIGURE 3

CHOOSING THE RIGHT REPLACEMENT APPROACH

RETAIN WHAT REMAINS SERVICEABLE. REPLACE ONLY WHAT THE PROPERTY REQUIRES.

Every property and every opening is different. The three approaches below show how replacement can be tailored to suit the condition of existing joinery, your priorities and the long-term performance required.

1 RETRO REPLACEMENT
Existing frame retained



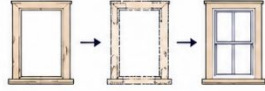
- ✓ Original box frame retained
- ✓ New moving windows/doors manufactured and installed
- ✓ Existing frame otherwise left largely untouched
- ✓ Ideal where the frame is sound, square and in reasonable condition

EXAMPLES



Sash Window Casement Window French Door

2 RETRO + FRAME WORKS
Existing frame retained with repair and preparation



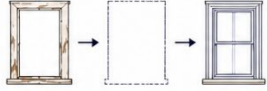
- ✓ Existing box frame retained
- ✓ Localised repairs to timber where required
- ✓ Frame prepared and decorated where included in the works
- ✓ New moving windows/doors installed
- ✓ Suitable where the frame needs attention but can be retained

EXAMPLES



Sash Window Casement Window French Door

3 FULL REPLACEMENT
Complete new frame and moving components installed



- ✓ Existing window/door and frame removed
- ✓ Opening prepared
- ✓ Complete new frame and moving components installed
- ✓ Ideal where the existing frame is beyond repair, distorted or where full upgrade is required

EXAMPLES



Sash Window Casement Window French Door



The most appropriate approach will depend on the condition of the existing joinery, the age and construction of the property, your performance goals, planning or conservation considerations and budget.
A professional survey and advice will ensure you make the right decision for each opening.



HERITAGE SASH

— PRESERVE. IMPROVE. RESPECT. —

HERITAGE SASH INSIGHT

The right approach balances the condition of existing joinery, your goals for the property and the long-term value of your investment.

KEY PRINCIPLES

- ASSESS CAREFULLY**
Understand the condition of what exists before deciding what should be replaced.
- RETAIN WHERE SUITABLE**
Keep sound, serviceable joinery where it makes sense to do so.
- REPLACE SYMPHATICALLY**
New joinery should match the character, proportions and detailing of the property.
- IMPROVE PERFORMANCE**
Use the opportunity to enhance comfort, efficiency, security and durability.
- THINK LONG TERM**
Choose the approach that delivers the best long-term result for your home and its value.



GOOD PRACTICE

A professional survey will help identify the most appropriate approach for each opening and the works required.



<https://ldnsash.co.uk>

FIGURE 3 — Comparison of replacement approaches, showing retained-frame replacement, retained frame with associated repair/preparation works, and complete frame replacement.

3. Understanding Retro Replacement

Retro replacement provides an alternative to removing and replacing an entire traditional sash window. Where the existing box frame remains suitable for continued use, newly manufactured upper and lower sashes can be produced to operate within the original box, allowing a significant proportion of the existing window to remain in place.

For many properties, this provides an effective balance between preservation and renewal. The homeowner benefits from completely new sashes, a new glazing specification and renewed operating components where required, whilst avoiding unnecessary removal of a serviceable box frame and the additional disruption associated with complete replacement.

However, retro replacement should not be viewed simply as a lower-cost version of full replacement. It is a distinct method of replacement with its own advantages, limitations and technical considerations.

Most importantly, the new sashes must work within the dimensions and geometry of the box frame that already exists.

3.1 What Is Retained?

In a typical retro sash replacement, the existing timber box frame remains installed within the property.

This may include:

- Existing pulley stiles.
- Existing external linings.
- Existing internal linings.
- Existing sill where structurally suitable.
- Existing weight pockets.
- Existing pulleys where suitable for continued use.
- Other sound components forming part of the original box construction.

The exact components retained will depend upon the construction and condition of the individual window.

The existing box is inspected before the replacement specification is agreed. Retaining it is appropriate only where it remains structurally suitable and capable of accepting the newly manufactured sashes.

3.2 What Is Replaced?

New upper and lower sashes are individually manufactured to suit the existing box frame and the agreed architectural specification.

Depending upon the project, the new sashes may reproduce important characteristics of the existing window, including:

- Overall sash proportions.
- Meeting rail positions.
- Glazing patterns.
- Glazing bar arrangements.
- Sash horns where appropriate.
- Moulding profiles.
- Traditional sightlines.
- Ironmongery requirements.
- Colour and decorative finish.

The new sashes can also incorporate the glazing specification selected for the project, including single glazing, suitable double glazing or vacuum glazing where appropriate.

Because the sashes are newly manufactured rather than adapted from the existing units, retro replacement can be particularly useful where the original sashes themselves are no longer suitable for restoration, but the surrounding box frame remains serviceable.

3.3 Retro Replacement with Box Frame Works

A retained box does not necessarily need to be in perfect decorative condition before retro replacement can be considered.

Where the box remains fundamentally suitable but requires attention, additional works can be incorporated into the replacement project.

Depending upon its condition and the agreed scope, these may include:

- Localised timber repairs.
- Minor joint repairs.
- Repairs to isolated areas of decay.
- Preparation of existing painted surfaces.
- Removal of loose or defective coatings.

- Making good minor surface defects.
- Preparation and decoration of the retained box.
- Renewal of beads and associated operating components where required.

This allows a homeowner to combine new replacement sashes with appropriate improvement of the retained original box rather than replacing the complete window unnecessarily.

The extent of any box-frame repairs and decoration should be established during the survey and quotation process. These works are separate from the manufacture of the new sashes and will depend upon the condition of each individual window.

3.4 Measuring for Retro Replacement

Accurate measurement is particularly important when manufacturing new sashes for an existing box.

A traditional window that has been installed for many decades may no longer have exactly the same dimensions throughout the opening. Small variations can develop through timber movement, previous repairs, paint accumulation and movement within the building itself.

For this reason, replacement sashes should not be manufactured from a single assumed width and height.

The existing box must be carefully assessed and measured so that the new sashes are manufactured appropriately for the available operating space.

This includes considering:

- Width at relevant points within the box.
- Available sash height.
- Meeting rail position.
- Running clearances.
- Existing bead positions.
- Glazing requirements.
- Pulley and cord positions.
- Counterweight requirements.
- Any visible distortion within the existing box.

Careful measurement can accommodate many of the small irregularities expected within traditional joinery.

It cannot, however, correct significant distortion of the box itself.

3.5 The Existing Box Determines the Geometry

This is one of the most important principles to understand when considering retro replacement.

With a completely new window, the old frame can be removed and the new frame positioned independently within the structural opening.

With retro replacement, the existing box stays where it is.

The newly manufactured sashes must therefore operate within the geometry of that retained box.

If the box remains reasonably straight and correctly aligned, this may present little difficulty.

If the building has moved significantly over time, however, the box may have moved with it. It may no longer be perfectly square, level or plumb.

Measurement can allow new sashes to be manufactured to suit reasonable variations, but there are practical limits to the amount of distortion that can be accommodated whilst still achieving satisfactory appearance and operation.

Retro replacement does not straighten an existing box frame.

Where movement is sufficiently significant that new sashes cannot reasonably be expected to operate correctly within the retained frame, complete replacement may become the more appropriate solution.

This allows the existing box to be removed, and a new box installed correctly straight, square, plumb and level within the available structural opening.

The assessment of historic box movement and its implications for retro replacement are explored in greater detail in the following section.

3.6 Glazing During Retro Replacement

Because entirely new sashes are being manufactured, the glazing specification can be considered as part of their design.

Depending upon the requirements of the property, this may include:

- Traditional single glazing.
- Suitable insulated double glazing.
- Vacuum glazing.

The chosen glazing influences more than thermal performance. It can affect sash thickness, rebate design, glazing-bar construction, sightlines and the overall weight of the completed sash.

These factors must therefore be considered at the design and measurement stage rather than after the replacement sashes have been manufactured.

Vacuum glazing can be particularly useful where homeowners want improved thermal performance whilst retaining comparatively traditional sash proportions. For a detailed explanation of vacuum glazing

technology, performance and available configurations, refer to **HVGS-001 — The Complete Homeowner's Guide to Vacuum Glazing**.

3.7 Sash Weight and Counterbalancing

Traditional sash windows rely upon a counterbalance system to allow the upper and lower sashes to move smoothly and remain controlled during normal operation.

During retro replacement, the existing box frame and its weight pockets are retained. The counterweights concealed within the box were originally selected to balance the weight of the existing sashes and glazing and may therefore not provide the correct balance for the newly manufactured replacements.

The completed weight of a replacement sash is influenced by several factors, including its dimensions, timber sections, glazing specification, glazing-bar arrangement and ironmongery. Where these differ from the original construction, the weight of the new sash may also differ.

For this reason, the existing counterbalance system is assessed as part of the retro replacement process. Where the existing weights remain suitable or can be appropriately adapted, they may continue to form part of the retained system.

Where additional counterweight mass is required, the available space within the original weight pockets becomes an important consideration. Traditional sash boxes provide a finite amount of space, and it may not be possible to achieve the required balance simply by increasing the size of conventional existing weights.

Lead counterweights provide greater mass within a comparatively restricted space and may therefore be required where the newly manufactured sashes cannot be correctly balanced using the existing counterweights.

Where additional or replacement lead counterweights are required as part of a **retro replacement**, they are separately assessed and charged in addition to the cost of the replacement sashes.

Correct counterbalancing is essential to the operation of the completed window. A properly balanced replacement sash should move smoothly, remain controlled throughout its normal range of travel and place no unnecessary strain upon the sash cords or chains, pulleys and associated operating components.

3.8 The Advantages of Retro Replacement

Where the existing box is suitable, retro replacement can provide several advantages.

These may include:

- Retention of suitable original joinery.
- Reduced disturbance to the surrounding building.
- New purpose-manufactured upper and lower sashes.
- Opportunity to introduce improved glazing.

- Reproduction of traditional architectural detailing.
- Ability to combine replacement with box-frame repairs and decoration.
- Reduced extent of removal compared with complete replacement.
- Continued use of the traditional sash-box operating principle.

For the right window, it can provide an excellent long-term solution.

However, its success depends upon the suitability of the structure being retained. A new sash can only perform as intended if the existing box provides a suitable environment in which it can operate.

Understanding the Principle

Retro replacement is best understood as **new joinery working within an existing structure**.

It can preserve more of the original installation and reduce unnecessary intervention, but it cannot remove the limitations of the box frame that remains.

For this reason, a careful survey is essential before retro replacement is specified.

Where the box is suitable, new sashes can provide a significant improvement in appearance, glazing performance and operation whilst retaining much of the traditional window.

Where the box has deteriorated or moved beyond what can reasonably be accommodated, complete replacement allows the installation to begin again with a new correctly aligned frame.

Neither approach is automatically better than the other.

The appropriate solution is the one that provides the most reliable long-term result for the individual property.

Key Facts

- Retro replacement allows new upper and lower sashes to be installed within a retained traditional box frame.
- The existing box must be structurally suitable for continued use.
- Repairs, preparation and decoration of the retained box can be included where required and agreed.
- New sashes are individually measured and manufactured for the existing opening.
- Retro replacement retains the existing geometry of the original box; it does not straighten a distorted frame.
- Single glazing, double glazing or vacuum glazing may be specified depending upon the project requirements.

- Changes in glazing and sash construction can increase the weight of the replacement sashes.
- Existing counterweights must be assessed and may require alteration.
- Additional or replacement lead counterweights are separately assessed and priced.
- Significant historic movement within the existing box may make full replacement the more appropriate solution.

FIGURE 4

ANATOMY OF A RETRO SASH REPLACEMENT

RETAIN THE TRADITIONAL BOX FRAME. REPLACE THE MOVING SASHES.

Retro replacement retains the original box frame and its counterbalance system. New upper and lower sashes are precisely manufactured to fit and operate smoothly within the retained frame.

1 RETAINED EXISTING BOX FRAME

The existing box frame remains installed where structurally suitable and sufficiently well aligned.



+

2 NEW UPPER & LOWER SASHES

New sashes are individually measured and manufactured to suit the retained opening and selected glazing specification.



=

3 COMPLETED RETRO REPLACEMENT

Original box retained. New upper and lower sashes installed and commissioned.



 **RETAIN MORE ORIGINAL FABRIC**
Preserve the character and value of your home.

 **REDUCE DISRUPTION**
Less invasive than full replacement. Faster, cleaner installation.

 **INTRODUCE NEW GLAZING**
Improve thermal efficiency, comfort and noise reduction with modern glazing.

 **PRESERVE TRADITIONAL CHARACTER**
Maintain period appearance inside and out.

HERITAGE SASH INSIGHT

Retro replacement preserves the original box frame and its historic character while introducing new, high-performance sashes.

WHAT MAY ALSO BE REQUIRED

-  **LOCALISED BOX-FRAME REPAIRS**
Repair decayed or damaged sections to ensure strength and longevity.
-  **PREPARATION & DECORATION**
Prepare, prime and decorate box frame and new sashes to match existing finishes.
-  **NEW BEADS & CORDS**
Fit new parting beads, staff beads and cords for smooth operation and a neat finish.
-  **COUNTERWEIGHT ASSESSMENT**
Check existing weights, pulleys and cords. Replace worn components as needed.
-  **ADDITIONAL LEAD WEIGHTS**
Heavier replacement sashes may require additional or replacement lead weights.

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FIGURE 4 — Retro replacement retains the original box frame. The existing counterbalance system is assessed and adapted where required to suit the newly manufactured sashes.

FIGURE 4A

RETRO REPLACEMENT + BOX REPAIR & DECORATION

RESTORE THE RETAINED BOX. INSTALL NEW UPPER & LOWER SASHES.

Where the existing box frame is worth retaining but shows localised wear, repairs, preparation and decoration can restore it before the new sashes are fitted. The result is a beautiful window that retains original character and delivers improved performance.



RETAIN ORIGINAL FABRIC
Keep as much historic material as possible.



COST & DISRUPTION
Less invasive than full replacement and typically more cost-effective.



BETTER FINISH
High-quality decoration restores appearance and extends service life.



IMPROVE PERFORMANCE
New sashes and glazing deliver better thermal and acoustic performance.



SUSTAINABLE CHOICE
Repair and reuse reduces waste and supports sustainability.



HERITAGE SASH INSIGHT

Retaining the original box does not mean leaving it untouched. Where the box is structurally suitable, localised repairs, preparation and decoration restore it before the newly manufactured sashes are installed.



WHEN THIS WORKS

- Box frame is structurally suitable
- Movement within acceptable limits
- Deterioration is localised and repairable
- New sashes can operate correctly within existing geometry
- The existing box is worth retaining



WHEN IT DOESN'T WORK

- Significant distortion or racking
- Extensive timber decay or failure
- Repairs would not provide reliable long-term performance
- New sashes cannot be made to operate correctly



WHERE THESE CONDITIONS APPLY, CONSIDER FULL REPLACEMENT.

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FIGURE 4a — Anatomy of a retro sash replacement, showing the retained traditional box frame and newly manufactured upper and lower sashes.

4. Important Considerations with Retro Replacement

Retro replacement can provide an excellent solution where the original sash box remains suitable for continued use. However, retaining an existing frame means retaining some of the characteristics, irregularities and limitations that have developed within that frame over its lifetime.

This is particularly important in period properties.

A sash box may have been installed more than a century ago and, during that time, both the timber and the building surrounding it may have experienced movement. The window may have been repaired, decorated and adjusted many times, whilst the structure itself may have gradually settled.

For this reason, retro replacement should always be approached with an understanding of what can—and cannot—be corrected whilst the original box remains in place.

4.1 Historic Movement of the Building

Traditional buildings naturally move over time.

Settlement, seasonal movement and changes within the surrounding structure can gradually alter the shape of an original window opening. Because the sash box is fixed within that opening, it may move with the building.

The result can be a box frame that is no longer perfectly:

- Square.
- Level.
- Plumb.
- Parallel from one side to the other.

In many cases, these variations are relatively minor and have little effect on the suitability of the window for retro replacement.

Where movement is more significant, however, it becomes an important consideration.

New replacement sashes can be carefully measured and manufactured for the existing opening, but they must still travel within the channels and geometry provided by the retained box.

The new sashes cannot independently correct the alignment of the structure around them.

4.2 What Measurement Can Accommodate

Accurate measurement allows many of the natural irregularities found within older sash windows to be considered during manufacture.

A traditional box does not need to be mathematically perfect before retro replacement can be considered.

Small variations can often be accommodated through careful measurement, appropriate running clearances and accurate manufacture of the replacement sashes.

There is, however, a practical limit.

Where the box has moved substantially, manufacturing a sash simply to match the distorted opening may create other problems. Meeting rails may not align correctly, sightlines may appear uneven and the available running clearance may vary significantly through the travel of the sash.

The objective is not simply to manufacture a new sash that physically fits into the opening.

The completed window must also operate reliably and provide an acceptable finished appearance.

4.3 Retro Replacement Does Not Straighten the Existing Box

This distinction is fundamental.

During retro replacement, the original box remains installed within the building. The work does not involve removing and repositioning the complete box in an attempt to correct historic structural movement.

Where the box is sufficiently distorted that satisfactory operation cannot reasonably be achieved, there are limited practical options for correcting that geometry whilst still treating the project as a retro replacement.

In these circumstances, the more appropriate solution may be to replace the complete window.

Removing the original box allows a new box frame to be introduced and installed correctly straight, square, plumb and level, independently of the alignment of the old frame.

This does not correct historic movement within the building itself, but it provides the new sashes with a correctly aligned box in which to operate.

4.4 Existing Box Condition

Alignment is not the only consideration when deciding whether a box should be retained.

The timber itself must also remain suitable for continued service.

Assessment may identify:

- Localised timber decay.
- Deteriorated external linings.
- Defective sill sections.
- Loose or deteriorated joints.
- Previous inappropriate repairs.
- Excessive paint accumulation.

- Damage around pulley or weight-pocket areas.
- General surface deterioration.

Localised defects do not automatically prevent retro replacement.

Where appropriate, repairs can be undertaken to the retained box before or alongside installation of the new sashes. Preparation and decoration may also form part of the agreed scope.

The important distinction is between a box that requires **reasonable repair and preparation** and one whose overall condition or alignment makes continued retention inappropriate.

Where repairs become sufficiently extensive that the reliability or economy of retaining the box is questionable, full replacement should be considered.

4.5 Existing Counterweights

Counterbalancing is another important consideration that is unique to traditional sash-window retro replacement.

The original weights concealed within the box were selected for the original sashes.

When those sashes are replaced, the new units may have a different overall weight because of changes to:

- Timber sections.
- Glazing thickness.
- Glazing specification.
- Glazing-bar construction.
- Ironmongery.
- Overall sash design.

A replacement sash that is significantly heavier than its counterweight will not operate as intended.

The existing weights therefore need to be assessed against the weight of the newly manufactured sashes.

4.6 Why Lead Counterweights May Be Required

Traditional sash boxes provide a finite amount of space for counterweights. During retro replacement, the original box and its weight pockets are retained, so the available space for balancing the newly manufactured sashes is determined by the existing construction.

The original counterweights were selected to balance the previous sashes and glazing. Where new sashes incorporate different timber sections, glazing or ironmongery, their completed weight may be greater than the originals and the existing counterweights may no longer provide the correct balance.

Where only a modest increase in counterweight is required, the existing balancing arrangement may be capable of adaptation. Where substantially more mass is required, however, the limited space within the original weight pockets becomes an important consideration. Lead has a high density and allows greater counterbalancing mass to be accommodated within this restricted space.

For this reason, additional or replacement lead counterweights may be required where newly manufactured sashes—particularly those incorporating heavier glazing specifications—cannot be correctly balanced using the existing weights.

The requirement for additional lead cannot always be determined from the appearance of the existing window alone. It depends upon the final manufactured weight of the new sash, the existing counterweights and the capacity of the retained counterbalance system.

Where additional or replacement lead counterweights are required as part of a retro replacement, they are assessed separately and are not included within the basic cost of the replacement sashes.

4.7 Why Correct Balance Matters

A sash window is designed around the relationship between the moving sash and its counterweight.

When correctly balanced, the sash should move smoothly with controlled effort and remain stable during normal operation.

Incorrect balance can result in:

- A sash that feels unnecessarily heavy.
- A sash that drops when released.
- Excessive effort being required to open the window.
- Additional strain on cords and associated components.
- Poor day-to-day operation.

Counterweight assessment is therefore not simply an optional refinement. It forms an important part of ensuring that newly manufactured sashes operate correctly within the retained traditional box.

4.8 Understanding the Limits Before Manufacture

Retro replacement involves bespoke joinery manufactured for an existing structure.

For this reason, potential limitations should be identified as early as practicable.

The survey and measurement process considers the condition and alignment of the retained box, the proposed glazing specification and the likely requirements of the counterbalance system before the replacement sashes are manufactured.

Even with careful assessment, older buildings can reveal irregularities once work begins that were not fully visible beforehand. Traditional construction frequently contains concealed elements, historic repairs and variations that only become apparent once components are accessed.

Where additional work becomes necessary, the homeowner should be informed of the issue and the appropriate solution before that additional work proceeds.

When Full Replacement Becomes the Better Option

The purpose of assessing these limitations is not to discourage retro replacement.

Where the existing box remains suitable, retro replacement can preserve original fabric, reduce disruption and provide an excellent platform for newly manufactured high-quality sashes.

The purpose is to ensure that the retained structure is capable of supporting the quality of installation expected from the new joinery.

Where significant box distortion, structural deterioration or other limitations prevent this, retaining the box simply because it is already there may not represent the best long-term decision.

In those circumstances, full replacement provides the opportunity to remove the compromised existing frame and install a completely new box correctly aligned for the new sashes.

The principle is straightforward:

Retain the existing box where it provides a sound foundation for the new joinery. Replace it where it does not.

Key Facts

- Traditional buildings and their window openings can move and settle over time.
- An original sash box may therefore no longer be perfectly square, level or plumb.
- Retro replacement retains the geometry of the existing box.
- Careful measurement can accommodate reasonable irregularities but cannot correct significant frame distortion.
- Where an existing box is unsuitable for reliable operation, full replacement may provide the better long-term solution.
- Localised box-frame repairs can often be undertaken without requiring complete replacement.
- Replacement sashes may be heavier than the original sashes, particularly where the glazing specification changes.
- Existing counterweights must be assessed against the weight of the new sashes.
- Restricted weight-pocket space can make lead counterweights necessary.
- New or additional lead counterweights are separately assessed and charged in addition to the cost of the replacement sashes.

FIGURE 5

RETRO REPLACEMENT: LIMITATIONS OF THE EXISTING BOX FRAME

ALIGNMENT MATTERS. SIGNIFICANT HISTORIC MOVEMENT CAN LIMIT WHAT CAN BE ACHIEVED.

Retro replacement relies on the geometry of the existing box frame. Where the frame is reasonably square, level and plumb, new sashes can operate smoothly. Where the frame is distorted, operation, clearances and weather performance can be compromised.

✓ REASONABLY ALIGNED BOX FRAME
IDEAL FOR RETRO REPLACEMENT

SQUARE
Sides parallel and corners square.

LEVEL
Head and sill level across the opening.

PLUMB
Sides vertical and true.

RESULT
Sashes move freely with even gaps, good weather sealing and smooth operation.

Where alignment is good, retro replacement can deliver excellent results with improved performance and longevity.

✗ DISTORTED OR OUT OF ALIGNMENT
RETRO REPLACEMENT MAY BE LIMITED

OUT OF SQUARE
Corners not square, sides not parallel.

OUT OF LEVEL
Head or sill slopes, causing uneven gaps.

OUT OF PLUMB
Sides lean inwards or outwards.

RESULT
Sashes may bind, gaps become uneven, draughts increase and reliable operation is compromised.

Significant distortion can cause replacement sashes to bind, create uneven clearances and prevent reliable operation within the retained box frame.

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HERITAGE SASH — PRESERVE. IMPROVE. RESPECT. —

HERITAGE INSIGHT

Traditional buildings move and settle over time due to age, load, moisture changes and historical alterations.

Careful assessment is essential to decide whether the existing box frame is suitable for retro replacement.

FACTORS THAT CAN CAUSE MOVEMENT

AGE & SETTLEMENT
Natural settlement over decades or centuries.

STRUCTURAL MOVEMENT
Building movement due to load, ground movement or alterations.

MOISTURE CHANGES
Seasonal moisture variation affects timber and surrounding masonry.

PREVIOUS ALTERATIONS
Past building works may have distorted the opening.

GOOD PRACTICE
A professional survey will measure key dimensions at multiple points to determine suitability for retro replacement.



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FIGURE 5 — Historic box movement, comparing a reasonably aligned existing sash box suitable for retro replacement with a significantly distorted box where full replacement may be more appropriate.

FIGURE 6

COUNTERWEIGHTS & BALANCE CONSIDERATIONS

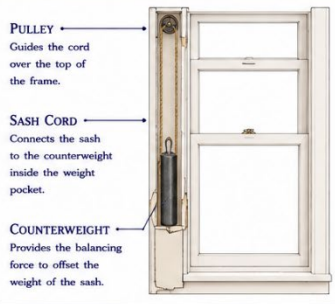
ENSURING SMOOTH, RELIABLE OPERATION FOR YOUR NEW SASH WINDOWS AND DOORS.

Sash windows and some timber doors rely on a counterbalance system to operate smoothly.

Replacement sashes may differ in weight depending on their timber, dimensions and glazing specification.

The existing counterweights are assessed to ensure they correctly balance the new moving components.

HOW THE COUNTERBALANCE SYSTEM WORKS



PULLEY
Guides the cord over the top of the frame.

SASH CORD
Connects the sash to the counterweight inside the weight pocket.

COUNTERWEIGHT
Provides the balancing force to offset the weight of the sash.

PROPERLY BALANCED
When correctly balanced, the sash can be lifted and lowered smoothly and will stay in any position without drifting.

Incorrect balance causes heaviness, drift, wear on components and reduced security.

ASSESSMENT DURING REPLACEMENT

We assess the existing counterweights, cords, pulleys and related components to confirm they are in good condition and suitable for the new replacement sash.

- INSPECT**
Check counterweights, cords, pulleys and fixings for wear, damage and suitability.
- CALCULATE**
Compare the weight of the new sash with the existing counterbalance.
- ADJUST OR REPLACE**
Where required, adjust the existing system or provide additional/replacement counterweights to achieve correct balance.

RETRO REPLACEMENT (FRAME RETAINED)

The existing box frame and its counterweights are retained where suitable.

If additional or replacement counterweights are required, new lead counterweights are not included in the standard replacement cost and are quoted separately.

MAY REQUIRE:

- Additional lead counterweights
- Replacement of damaged or inadequate counterweights
- New sash cords or pulleys

FULL BOX REPLACEMENT (COMPLETE FRAME REPLACEMENT)

A complete new frame with new counterweights, cords, pulleys and related components is supplied and installed.

All counterweights required for correct balance are included as standard.

INCLUDED AS STANDARD:

- New counterweights
- New sash cords
- New pulleys
- All related components
- Balanced and tested

HERITAGE SASH — PRESERVE. IMPROVE. RESPECT. —

HERITAGE INSIGHT

The counterbalance system is hidden but essential. Correct balance reduces wear, prevents strain on cords and pulleys, and ensures effortless operation.

KEY POINTS

- Replacement sashes may differ in weight depending on timber and glazing specification.
- Existing counterweights are assessed and reused where suitable.
- Additional or replacement counterweights may be required to achieve correct balance.
- Lead counterweights may be used where greater mass is required within the available weight pocket.

IMPORTANT COST NOTE

For retro replacement, new lead counterweights are not included within the standard replacement sash cost and, where required, are quoted separately.



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FIGURE 6 — Traditional sash counterbalance system, illustrating how increased replacement-sash weight may require additional or replacement lead counterweights within the existing weight pockets.

5. Understanding Full Replacement

Where an existing window or door frame is no longer suitable for retention, or where the requirements of the project make complete renewal the more appropriate solution, full replacement allows the existing installation to be removed and a completely new timber window or door assembly installed.

Unlike retro replacement, full replacement is not limited to traditional sash windows.

It may apply to:

- Traditional box sash windows.
- Timber casement windows.
- French doors.
- Timber entrance and external doors.
- Associated frames forming part of the agreed replacement works.

Although the construction of each product differs, the fundamental principle remains the same: the existing joinery included within the replacement scope is removed, the opening is prepared and a new complete assembly is installed correctly within the existing structure.

Full replacement provides the opportunity to begin with a newly manufactured frame rather than requiring new joinery to work within the geometry and condition of an existing one.

5.1 When Full Replacement May Be Appropriate

There is no single reason why a window or door may require complete replacement.

In some cases, the existing joinery may have deteriorated beyond the point where repair or partial replacement represents a sensible long-term investment.

In others, historic movement may have left the existing frame significantly distorted, making it unsuitable for newly manufactured replacement components.

Full replacement may also form part of a wider refurbishment project where the homeowner has chosen to renew the complete installation or where a different design, configuration or performance specification is required.

Typical considerations may include:

- Significant deterioration of the existing frame.
- Extensive previous repairs or alterations.
- Structural failure within important joinery components.
- Significant distortion or movement of the existing frame.

- Existing joinery unsuitable for the required glazing or specification.
- A change in window or door configuration.
- A homeowner preference for a completely new installation.
- A new opening requiring purpose-manufactured joinery.

The decision should be based upon the condition of the existing installation and the objectives of the project rather than age alone.

5.2 What Full Replacement Includes

The precise components removed will depend upon the type of joinery being replaced.

For a traditional sash window, full replacement normally involves removal of the existing box frame and sashes before installation of a completely new box sash window assembly.

For a casement window, the existing opening lights and frame are removed before the new complete casement assembly is installed.

For French doors or a traditional external door, the existing door leaf or leaves and associated frame included within the scope are removed before installation of the new complete door assembly.

For this reason, the term **removal of the existing joinery** is used throughout this guide rather than assuming every replacement involves removal of sash windows.

Once the existing installation has been removed, the underlying opening can be prepared to receive the new frame.

5.3 Preparing the Existing Opening

Removing an old window or door exposes the structural opening into which the new joinery must be installed.

The opening is made ready for the new frame by removing material associated with the previous installation where necessary and clearing the areas required for accurate positioning and secure fixing.

The objective at this stage is to create a suitable installation opening.

It is important to distinguish **preparing the opening for installation** from carrying out general building refurbishment.

Heritage Sash prepares the opening to the extent required to position, secure and install the new timber joinery. The replacement service does not include general plastering or comprehensive finishing of surrounding walls and decorative surfaces.

This distinction becomes particularly important in older buildings where removal of the existing frame may expose historic finishes, irregular substrates or previous building work.

5.4 Installing the New Frame Correctly

Once the opening has been prepared, the new frame can be positioned.

Accurate alignment is essential to the long-term operation of any window or door.

A new frame should be installed:

- Straight.
- Square.
- Plumb.
- Level.
- Correctly positioned within the opening.
- Securely fixed to the appropriate surrounding structure.

Heritage Sash uses accurate measurement and laser levelling equipment to establish the correct position of the new installation.

This is particularly important for moving joinery.

Sash windows require correctly aligned channels for smooth vertical operation. Casement windows require accurate frame geometry so that opening sections operate and close correctly. French doors rely upon careful alignment between the paired leaves and frame, whilst entrance doors require appropriate alignment for reliable closing, sealing and locking.

Correct installation of the frame therefore forms the foundation of the completed replacement.

5.5 The Building May Not Be Level

A common misconception is that a new window or door should automatically follow the lines of the wall surrounding it.

In a newly constructed and correctly formed opening, the structural opening may itself be straight, square, plumb and level.

Older buildings can be very different.

A period property may have experienced movement and settlement over many decades. Walls can lean, openings can become uneven and original structural lines can gradually move away from their original position.

When the old frame is removed, these irregularities can become much more apparent.

The new frame is not deliberately distorted to follow them.

Instead, the replacement is positioned correctly so that the new window or door can operate as it was designed to operate.

This can result in a variable space between the new frame and the existing building.

For example, one side of a correctly level window may sit closer to the existing wall than the other because the wall itself is no longer plumb.

Similarly, the top of a new frame may reveal a varying installation gap where the existing opening has moved over time.

This does not necessarily indicate a problem with the new installation.

It can demonstrate the difference between the correct geometry of the newly installed joinery and the historic geometry of the building surrounding it.

5.6 Securing the New Frame

Once the new frame has been correctly positioned straight, square, plumb and level, it is mechanically secured to the appropriate surrounding structure.

The mechanical fixings provide the structural connection between the replacement frame and the building and are installed so that the established position and geometry of the new joinery are maintained.

An appropriate perimeter installation space is retained between the new frame and the existing structural opening. This allowance enables the frame to be positioned correctly without forcing it against irregular or uneven surfaces within the existing building.

This is particularly important in older properties. Where historic movement has affected the structural opening, the perimeter space may vary around the new frame. The frame should not be pulled, twisted or distorted simply to create an artificially uniform gap against an opening that is no longer straight or level.

Once the frame has been mechanically secured in its correct position, suitable expanding foam is applied within the perimeter installation space. **The expanding foam forms part of the treatment of the perimeter installation space; it is not the structural fixing used to secure the frame to the building.**

After the foam has fully cured, excess material is cut back. The new window or door can then be adjusted and commissioned as appropriate to ensure correct operation.

5.7 Where the Heritage Sash Installation Ends

Full replacement involves more than simply removing one window or door and placing another into the opening. Once existing joinery is removed, areas of the surrounding building that have been concealed for many years may become visible. This can include uneven reveals, historic plasterwork, render, previous repairs and variations caused by movement or settlement of the building.

The Heritage Sash replacement installation is focused specifically upon the removal, preparation and correct installation of the new timber joinery.

As part of the standard full-replacement installation, Heritage Sash will:

- Carefully remove the existing window, door and associated frame included within the agreed scope.
- Prepare the structural opening to the extent required to receive the new joinery.
- Introduce and correctly position the new frame within the opening.
- Establish the correct installation geometry using accurate measurement and laser levelling equipment.
- Install the new frame straight, square, plumb and level.
- Mechanically secure the frame to the appropriate surrounding structure.
- Apply suitable expanding foam within the perimeter installation space.
- Allow the foam to cure and cut back the excess material.
- Install, adjust and commission the new window or door to ensure correct operation.

Preparation of the opening is limited to the work required for installation of the new joinery. It does not include general refurbishment of the surrounding wall surfaces.

Where an older structural opening is uneven because of historic building movement, the correctly installed new frame may leave varying spaces between the frame and the surrounding reveals. Heritage Sash will not deliberately distort the new joinery to follow these irregularities simply to create a visually uniform perimeter.

Once the new frame has been correctly installed and secured, the perimeter foam has been cured and cut back, and the new window or door has been adjusted and commissioned, the **Heritage Sash replacement installation is complete.**

Plastering is not undertaken by Heritage Sash as part of the standard replacement service. Any subsequent plastering, rendering, filling, decorative making good or finishing required to the surrounding internal or external building surfaces should be completed by the appropriate follow-on service team or trade.

This clear division of responsibility allows Heritage Sash to concentrate on the accurate manufacture and installation of the new timber joinery while allowing the surrounding building fabric to be finished appropriately afterwards.

5.8 New Structural Openings

A brand-new structural opening presents a different installation scenario.

Rather than removing an existing window or door and inheriting the geometry of a historic opening, new joinery can be manufactured for a newly formed aperture.

The same principles of accurate positioning, levelling, fixing and perimeter allowance continue to apply.

However, the quality, dimensions and readiness of the structural opening remain important.

The opening must be appropriately formed and ready to receive the new joinery before installation.

Any structural construction, alteration, plastering or other building work required to create or finish a new opening falls outside the normal Heritage Sash replacement installation unless specifically agreed as part of a separate scope.

A New Frame Within an Existing Building

Full replacement provides the opportunity to remove the limitations of an old window or door frame.

It does not remove the history of the building surrounding it.

A new frame can be installed correctly straight, square, plumb and level even where the walls around it are no longer perfectly aligned.

The resulting perimeter variations can then be addressed by the appropriate finishing trades without compromising the geometry or operation of the new joinery.

This is an important distinction.

The objective of a professional replacement installation is not to make the new window or door visually follow every irregularity within an old building. It is to create a secure, accurately aligned installation that operates correctly and provides a sound foundation for the subsequent finishing works.

Key Facts

- Full replacement can apply to sash windows, casement windows, French doors and traditional timber doors.
- The existing joinery and associated frame within the agreed scope are removed before the new complete assembly is installed.
- Full replacement allows the new frame to be positioned independently of the geometry of the old frame.
- The structural opening is prepared to the extent required for installation of the new joinery.
- New frames are installed straight, square, plumb and level using accurate measurement and laser levelling.
- Historic buildings may have openings that are no longer straight or level.
- A correctly aligned new frame can therefore result in variable perimeter gaps against an older building.
- The new frame is mechanically secured to the appropriate surrounding structure.
- Expanding foam is applied within the perimeter installation space and cut back once cured.
- Heritage Sash does not include plastering within the standard replacement installation.
- Surrounding plaster, render and decorative finishing required after installation is undertaken by the appropriate follow-on service team or trade.
- Brand-new structural openings must be appropriately formed and ready to receive the new joinery.

FIGURE 7

FULL REPLACEMENT SEQUENCE

REMOVE. PREPARE. INSTALL. FINISH.

When the existing box frame is beyond repair or too distorted, full replacement is the most reliable solution. The complete window system is removed and a new, made-to-measure frame is installed.



HERITAGE SASH INSIGHT

Full replacement is appropriate when the existing box is structurally unsound, significantly distorted or beyond economic repair.

WHY CHOOSE FULL REPLACEMENT?

-  **LONG-TERM RELIABILITY**
A new frame provides strength, stability and lasting performance.
-  **PRECISE INSTALLATION**
A new, true frame ensures smooth operation and a perfect fit.
-  **BETTER PERFORMANCE**
Correct detailing improves thermal, acoustic and weather performance.
-  **BEAUTIFUL FINISH**
A fresh start inside and out with a high-quality finish.

GOOD PRACTICE

A professional survey will confirm whether full replacement is required and ensure the new window performs perfectly for decades to come.

- | | | | | | |
|---|--|--|--|---|---|
|  STRUCTURAL INTEGRITY
New frames provide strength and stability for long-term peace of mind. |  PERFECT FIT
Made-to-measure frames ensure precise installation and smooth operation. |  IMPROVED EFFICIENCY
Better sealing and glazing options deliver enhanced thermal performance. |  REDUCED NOISE
Modern glazing and tight seals improve acoustic comfort. |  HERITAGE APPEARANCE
Traditional designs, proportions and details faithfully reproduced. |  SUSTAINABLE CHOICE
Quality materials and expert installation for a lower-carbon future. |
|---|--|--|--|---|---|



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FIGURE 7 — Full replacement sequence, illustrating removal of existing timber joinery, the prepared structural opening and installation of the new complete frame.

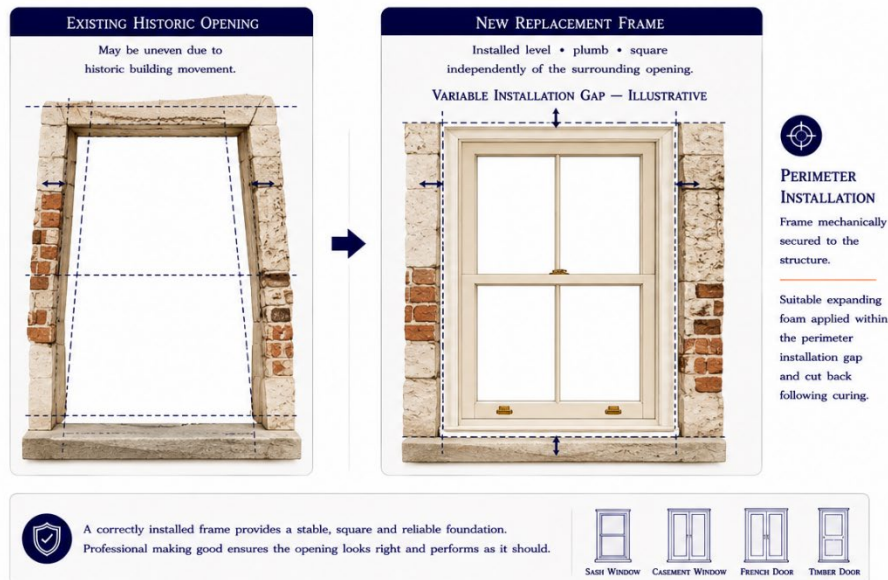
FIGURE 8

NEW FRAME INSTALLATION IN UNEVEN OPENINGS

INSTALLED LEVEL, PLUMB AND SQUARE — REGARDLESS OF HISTORIC IRREGULARITIES.

Historic buildings rarely offer perfectly straight, level or square openings.

The new replacement frame is installed true and independent to deliver reliable operation and long-term performance.



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HERITAGE SASH
 — PRESERVE. IMPROVE. RESPECT. —

HERITAGE INSIGHT

Installing the new frame true ensures smooth operation, consistent sightlines, effective draught sealing and the best possible finish.

KEY POINTS

- ✓ The new frame is not distorted to follow an uneven historic opening.
- ✓ The frame is installed level, plumb and square using precision methods.
- ✓ Installation gaps will vary around the perimeter.
- ✓ The gaps are filled, sealed and finished as part of a quality installation.

IMPORTANT NOTE

Any resulting differences between the correctly installed frame and surrounding wall or reveal are made good by the appropriate follow-on trade.

Plastering is not included within the Heritage Sash installation.



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FIGURE 8 — Correct installation of a new frame within an older uneven opening, showing the new frame laser level and square with variable perimeter installation gaps caused by historic building movement.

6. The Replacement & Installation Process

A successful timber window or door replacement depends as much upon accurate surveying, manufacture and installation as it does upon the quality of the finished joinery.

Traditional properties rarely provide perfectly standard openings. Dimensions can vary from one window to another, historic movement may have altered the original geometry and previous repairs or alterations can introduce further differences that are not immediately apparent.

For this reason, every replacement project should follow a considered process from initial assessment through to final installation.

The precise method will vary depending upon whether the project involves retro replacement or full replacement, and whether the new joinery consists of sash windows, casement windows, French doors or traditional timber doors.

However, the fundamental Heritage Sash process remains consistent.

6.1 Initial Survey

The process begins with an assessment of the existing joinery and the homeowner's requirements.

During the initial survey, consideration is given to:

- The type of existing window or door.
- General condition of the existing joinery.
- Condition of frames proposed for retention.
- Evidence of timber deterioration.
- Existing alignment and historic movement.
- Architectural style and detailing.
- Existing glazing.
- Proposed glazing specification.
- Access and installation considerations.
- The homeowner's objectives for the replacement.

The purpose of this first stage is to establish the appropriate replacement approach.

For some sash windows, this may indicate that the existing box remains suitable for retro replacement.

For others, the condition or alignment of the existing box may make full replacement more appropriate.

Casement windows, French doors and traditional timber doors are assessed according to their own construction and the requirements of the proposed replacement.

6.2 Agreeing the Replacement Specification

Once the appropriate replacement route has been established, the specification for the new joinery can be developed.

This may include decisions relating to:

- Timber selection.
- Glazing specification.
- Window or door configuration.
- Glazing patterns.
- Glazing bars.
- Moulding profiles.
- Sash horns where appropriate.
- Opening arrangements.
- Ironmongery.
- Security requirements.
- Colour and decorative finish.
- Retained-frame repairs where applicable.
- Existing-frame preparation and decoration where included.

The objective is to establish the important technical and visual requirements before the new joinery enters manufacture.

Where the project involves a period property, particular attention should be given to the proportions and detailing of the existing windows and doors so that replacement joinery remains sympathetic to the character of the building.

6.3 Detailed Measurement

Replacement joinery is manufactured for the individual opening.

Once the replacement approach and specification have been agreed, detailed measurements are taken for manufacture.

This stage is particularly important because traditional buildings frequently contain small dimensional variations even where several windows or doors appear visually identical.

Measurements are therefore taken from the individual openings rather than assuming that one size applies throughout the property.

For retro sash replacement, measurement also considers the geometry of the retained box, available running clearances, meeting-rail position and the requirements of the existing counterbalance system.

For full replacement, measurements establish the dimensions required for the new complete frame whilst providing an appropriate installation allowance between the new joinery and the existing structural opening.

Accurate measurement at this stage is fundamental because the joinery will subsequently be manufactured specifically for the property.

6.4 Manufacture

Once the detailed measurements and final specification have been confirmed, the replacement joinery enters manufacture in the **Heritage Sash workshop**.

Every replacement window or door is made to measure for its individual opening rather than produced as a standard-sized replacement unit. The agreed timber, glazing, architectural detailing, opening arrangement and finish are incorporated into the manufacturing specification before production begins.

Depending upon the project, manufacture may include:

- New upper and lower replacement sashes.
- Complete box sash window assemblies.
- Timber casement windows.
- French door assemblies.
- Traditional timber doors and frames.
- Specified glazing bars and mouldings.
- Required glazing preparation.
- Associated joinery components.

The glazing specification forms part of the design of the new joinery rather than being treated as an addition after manufacture. This is particularly important where double glazing or vacuum glazing is specified, as glass thickness and weight can influence timber sections, rebates, glazing bars and—in the case of sash windows—the counterbalance requirements.

For standard replacement joinery, the **typical manufacturing lead time is approximately 6–8 weeks** once the final specification and measurements have been confirmed.

Where the replacement incorporates **vacuum glazing**, the typical lead time may increase to approximately **8–10 weeks**, reflecting the additional manufacturing and glazing requirements associated with the vacuum-glazed units.

Lead times are provided as an expected manufacturing period and may vary where a project includes particularly complex joinery, specialist components or other requirements identified within the individual specification.

Once manufacture is complete and the new joinery is ready for installation, the project moves to scheduling and preparation for the installation stage.

6.5 Preparing for Installation

Once the new joinery is ready, installation is scheduled with the homeowner.

Before removal begins, appropriate consideration is given to protecting the immediate working area and providing safe access to the existing installation.

The exact preparation required depends upon the location and type of joinery being replaced.

A sash window, casement window, French door and entrance door each present different practical considerations, but the objective remains the same: to remove the existing components within the agreed scope carefully and create suitable access for the new installation.

6.6 Removal of Existing Joinery

The removal method depends upon the replacement approach.

Retro Replacement

Where new sash windows are being installed into a retained box, the existing upper and lower sashes and the components necessary to access them are carefully removed.

The retained box can then be inspected and any agreed repairs, preparation or decoration undertaken before the new sashes are installed.

Full Replacement

Where complete replacement has been specified, the existing window or door and its associated frame within the agreed scope are carefully removed.

Removal is undertaken with consideration for the surrounding structure, although some disturbance to finishes immediately adjoining an existing frame can be unavoidable.

Traditional frames may have been installed, repaired, decorated and built around many times during the life of the property. Their removal can therefore expose historic materials or irregularities that were previously concealed.

6.7 Preparing the Opening

For full replacement, the exposed opening is prepared so that the new frame can be correctly positioned and securely installed.

Material associated with the previous installation is removed where necessary and the relevant fixing areas are made ready.

This preparation is undertaken specifically for installation of the new joinery.

It should not be confused with plastering or general refurbishment of the surrounding wall surfaces.

The objective is to provide a suitable opening into which the new frame can be accurately positioned and structurally secured.

6.8 Positioning and Levelling

The new frame is then introduced into the opening and its position established.

Accurate measuring and laser levelling equipment is used to ensure the new installation is correctly:

- Positioned.
- Straight.
- Square.
- Plumb.
- Level.

This stage should not be rushed.

The geometry of the frame directly affects the operation of the finished joinery.

A sash box must allow the sashes to travel correctly. Casement openings need appropriate alignment around their frames. French doors require accurate relationships between both door leaves, and entrance doors must close and secure correctly within their frame.

Where the surrounding building has moved over time, the frame is positioned according to the correct installation datum rather than deliberately following an uneven wall.

6.9 Fixing the New Frame

Once the correct position has been established, the frame is mechanically fixed securely to the appropriate structure of the opening.

The fixings maintain the established frame position whilst providing the structural connection required between the new joinery and the building.

An appropriate installation space is retained around the perimeter.

This allows the frame to remain correctly aligned even where the existing opening contains irregularities.

The new frame should not be forced against an uneven structure in a way that distorts its geometry or compromises the operation of the finished window or door.

6.10 Perimeter Installation Space

Once the new frame has been correctly positioned, levelled and mechanically secured to the appropriate surrounding structure, an installation space remains between the new timber frame and the existing structural opening.

This perimeter space is intentional. It provides the tolerance required to install the new frame correctly straight, square, plumb and level without forcing or distorting the joinery to follow irregularities within the surrounding building.

Suitable expanding foam is applied within the perimeter installation space. Once the foam has fully cured, excess material is cut back to the installation line.

Within an older property, the width of the resulting perimeter space may vary around the frame. This is particularly likely where the structural opening has experienced historic movement but the new frame has been correctly installed to its own level and alignment.

Heritage Sash does not distort the new frame in an attempt to create an artificially uniform gap against an uneven historic opening. The correct geometry and reliable operation of the new window or door take priority.

Once the frame has been securely installed, the perimeter foam has cured and been cut back, and the new joinery has been adjusted and commissioned, the **Heritage Sash installation is complete.**

Any subsequent work required to surrounding internal or external reveals, plaster, render or decorative finishes is undertaken by the appropriate follow-on service team or trade. **Plastering and comprehensive decorative making good of the surrounding building fabric are not included within the standard Heritage Sash replacement installation.**

6.11 Installing and Commissioning the Joinery

Once the frame has been correctly installed, the operating elements of the new joinery can be completed and checked as appropriate to the product.

For sash windows, this includes ensuring the sashes operate smoothly and that the counterbalance system is correctly configured.

For casement windows, opening sections are checked for alignment, closing and operation.

French doors are checked for correct alignment between the paired leaves, smooth operation and secure closing.

Traditional timber doors are similarly checked for correct operation within their new frame.

Ironmongery, locks and other specified operating components are inspected and adjusted where necessary.

The objective is to leave the newly installed joinery operating correctly within the frame that has been established for it.

6.12 Completion of the Heritage Sash Installation

For a full replacement, the standard Heritage Sash installation concludes once:

- The existing joinery within the agreed scope has been removed.
- The opening has been prepared for installation.
- The new frame has been correctly positioned.
- The frame has been installed straight, square, plumb and level.
- The new frame has been mechanically secured to the appropriate structure.
- The perimeter installation space has been filled with suitable expanding foam.

- The cured excess foam has been cut back.
- The new window or door has been installed, adjusted and checked for correct operation.

Heritage Sash does **not** undertake plastering as part of the standard replacement installation.

Where removal and replacement leave surrounding reveals, plaster, render or decorative surfaces requiring further attention, these areas are left ready for the appropriate follow-on service team or trade to complete the necessary making good and finishing.

Understanding this boundary before installation helps homeowners coordinate any subsequent works and ensures that responsibility for each stage of the project remains clear.

From Survey to Completion

Replacing traditional timber joinery is a sequence rather than a single installation event.

Each stage influences the next.

A careful survey establishes the appropriate replacement route. Accurate measurement allows the joinery to be manufactured correctly. A considered specification ensures that timber, glazing and architectural details are agreed before manufacture. Accurate installation then allows the finished window or door to operate as intended.

When these stages are approached as one coordinated process, replacement joinery can provide a durable, sympathetic and carefully integrated addition to a traditional property.

Key Facts

- Every replacement project begins with assessment of the existing joinery and the individual opening.
- Timber, glazing, design and architectural details should be agreed before manufacture.
- Replacement joinery is individually measured rather than assumed to be a standard size.
- Retro and full replacement require different removal and installation methods.
- Full replacement openings are prepared specifically to receive the new joinery.
- New frames are accurately positioned using measurement and laser levelling equipment.
- Frames are mechanically secured to the appropriate surrounding structure.
- Suitable expanding foam is used within the perimeter installation space and cut back after curing.
- Historic movement can result in variable perimeter gaps even when the new frame is correctly installed.
- Every new window or door is adjusted and checked for correct operation.

- Plastering and subsequent finishing of surrounding building surfaces are not included within the standard Heritage Sash replacement installation.



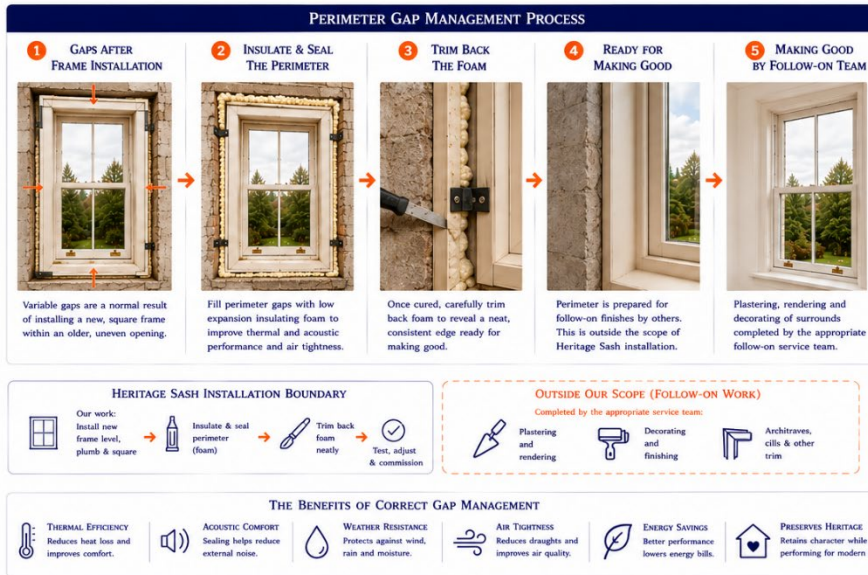
FIGURE 9 — The Heritage Sash replacement journey, showing survey, specification, detailed measurement, manufacture, removal, preparation, installation and final commissioning.

FIGURE 10

PERIMETER GAP MANAGEMENT & FOLLOW-ON MAKING GOOD

INSTALL CORRECTLY. SEAL EFFECTIVELY. MAKE GOOD APPROPRIATELY.

After the new frame is installed level, plumb and square, variable perimeter gaps are insulated and sealed for performance. The final finishes around the frame are completed by the appropriate follow-on service team.



HERITAGE SASH INSIGHT

Correct installation is only half the job. Effective sealing and appropriate follow-on making good ensure the best performance and a beautiful, lasting result.

KEY PRINCIPLES

- PERFORMANCE**
Proper sealing improves thermal, acoustic and weather performance.
- PROTECTION**
Sealed gaps protect against air leakage, moisture ingress and draughts.
- COLLABORATION**
Clear boundaries ensure the right teams deliver the right outcomes.
- LASTING QUALITY**
A well-sealed and well-finished installation stands the test of time.

GOOD PRACTICE
Agree responsibilities and finishes early. Good communication with your builder or plasterer ensures a seamless result and avoids delays.



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FIGURE 10 — Installation boundary cross-section, showing the new timber frame, structural fixing, perimeter expanding foam and the surrounding areas requiring subsequent making good by the appropriate follow-on trade.

7. Timber, Glazing & Design Choices

Replacement provides an opportunity to consider not only what is being renewed, but how the new window or door should be constructed.

The timber species, glazing specification and architectural detailing all contribute to the appearance, durability and performance of the finished joinery. These decisions should therefore be considered together rather than as isolated choices.

For period properties in particular, improved performance should not come at the expense of inappropriate proportions or detailing. A well-designed replacement should sit comfortably within the building and respect the character of the joinery it replaces.

Heritage Sash replacement windows and doors are individually specified for the property, allowing the materials, glazing and design to be selected according to the requirements of each project.

7.1 Timber Selection

Timber remains one of the most appropriate materials for traditional window and door replacement.

It can be accurately machined into traditional profiles, repaired and maintained throughout its service life and decorated in a wide variety of finishes. It also allows replacement joinery to reproduce the proportions and architectural detailing associated with period properties.

Heritage Sash replacement joinery is manufactured using **FSC-certified timber sourced through our specialist joinery supplier.**

Depending upon the requirements of the project, the available specification may include:

- Redwood.
- Hardwood.
- Oak.

The most appropriate timber will depend upon the application, design, exposure, intended finish and homeowner's requirements.

7.2 Redwood

Redwood has a long association with traditional painted timber joinery and remains a suitable choice for many replacement windows and doors.

Its characteristics make it particularly appropriate where the completed joinery will receive a painted finish and where traditional timber construction is required.

When correctly manufactured, protected and maintained, redwood can provide a durable solution for replacement joinery.

As with all external timber, its long-term performance depends upon good design, appropriate preparation, a suitable protective coating system and ongoing maintenance.

7.3 Hardwood

Hardwood provides an alternative specification for replacement timber windows and doors and may be selected where the requirements of the project call for a particular species, appearance or material characteristic.

The term hardwood describes a broad category of timber rather than a single species. Different hardwood species have different characteristics, including density, durability, stability, grain and suitability for, particular applications. The specific timber used should therefore be selected according to the type of joinery, its exposure, intended finish and the requirements of the individual project.

Heritage Sash sources the hardwood used for replacement joinery through our specialist timber supplier, with the appropriate species selected for the application and agreed specification.

Where a painted finish is proposed, a suitable hardwood can provide a robust foundation for traditional timber windows and doors whilst allowing the proportions, mouldings and architectural detailing required for the property to be reproduced.

Where the natural appearance of the timber is intended to remain visible, the selected species, grain and finishing system should be considered as part of the overall design rather than treating all hardwoods as visually or technically interchangeable.

7.4 Oak

Oak can be specified where its appearance, character or material properties are particularly appropriate to the project.

It has a long history within British buildings and can provide a distinctive premium finish, particularly where the natural character of the timber is intended to remain visible.

The choice of oak should be considered alongside the design of the joinery, the surrounding property and the intended decorative finish.

It is not automatically necessary simply because a property is old or historically significant. The appropriate timber is the one that best suits the design, application and specification of the individual project.

7.5 Responsible Timber Sourcing

The source of new timber is an important consideration when manufacturing replacement windows and doors.

Heritage Sash replacement joinery is manufactured using **FSC-certified timber sourced through our specialist timber supplier**. This allows new timber introduced as part of a replacement project to be sourced from responsibly managed and appropriately controlled supply chains.

Our replacement joinery can be manufactured in **redwood, selected hardwood or oak**, with the appropriate timber chosen according to the application, design, exposure, intended finish and requirements of the individual project.

The term hardwood covers a broad range of timber species rather than one single material. Where hardwood is specified, the appropriate species is selected according to the requirements of the particular joinery rather than assuming that all hardwoods provide identical characteristics.

Responsible sourcing forms one part of the overall specification. Timber must also be appropriate for its intended use, correctly manufactured into the required joinery, properly protected with a suitable finishing system and maintained throughout its service life.

The objective is to combine **responsible material sourcing with appropriate timber selection and traditional joinery design**, ensuring that new replacement windows and doors are suited both to their application and to the character of the property.

7.6 Choosing the Glazing

Glazing is one of the most important decisions within a replacement specification.

The choice influences:

- Thermal performance.
- Acoustic performance.
- Overall glass thickness.
- Sash or opening-light weight.
- Timber rebate requirements.
- Glazing-bar construction.
- Sightlines.
- Traditional appearance.
- Counterweight requirements in sash windows.

For this reason, the glazing specification should be established before the replacement joinery is manufactured.

Heritage Sash replacement joinery can be considered with three principal glazing approaches:

- Single glazing.
- Double glazing.
- Vacuum glazing.

The most appropriate choice depends upon the property, the design of the new joinery, the required performance and any relevant planning or conservation requirements.

7.7 Single Glazing

Traditional single glazing remains appropriate for some replacement projects.

This may be because of conservation requirements, architectural considerations, homeowner preference or a specification intended to reproduce traditional construction as closely as possible.

Single glazing allows extremely traditional proportions and glazing details to be maintained, particularly where fine glazing bars and historic sightlines are important.

Its principal limitation is thermal performance when compared with modern insulated glazing systems.

For some properties, however, preserving a particular traditional construction may take priority over achieving the maximum available thermal improvement.

7.8 Double Glazing

Double glazing uses two panes of glass separated by a sealed insulating cavity.

When appropriately designed into new timber joinery, it can provide significantly improved thermal performance compared with traditional single glazing.

Because replacement windows and doors are newly manufactured, timber sections and glazing rebates can be designed around the selected double-glazed unit rather than attempting to adapt an existing historic sash.

However, conventional double glazing is generally thicker and heavier than single glazing.

This can influence:

- Timber section dimensions.
- Glazing-bar proportions.
- Overall sightlines.
- Sash weight.
- Counterbalance requirements.
- The visual character of the finished window.

These factors are particularly important where replacement joinery is intended to reproduce the appearance of fine traditional windows.

7.9 Vacuum Glazing

Vacuum glazing provides another option where improved thermal performance is required alongside comparatively slim glazing construction.

A vacuum-glazed unit uses two panes separated by an extremely narrow evacuated cavity. The absence of air within this cavity substantially reduces heat transfer while allowing the complete glazing unit to remain much slimmer than conventional insulated double glazing.

For traditional replacement joinery, this can provide significant design advantages.

Slimmer glazing can help maintain:

- Finer timber profiles.
- More traditional glazing-bar proportions.
- Traditional sightlines.
- Reduced overall glazing thickness.

Vacuum glazing may therefore be particularly attractive where the objective is to combine newly manufactured traditional joinery with modern performance whilst retaining a sympathetic appearance.

The final suitability of any vacuum-glazing specification depends upon the individual window or door design, glass dimensions, planning considerations and the requirements of the selected glazing system.

For a comprehensive explanation of vacuum glazing technology, refer to **HVGS-001 — The Complete Homeowner's Guide to Vacuum Glazing**.

7.10 Glazing Weight and Sash Windows

Glazing weight requires particular consideration where replacement involves traditional sliding sash windows.

A sash window depends upon a correctly balanced relationship between each moving sash and the counterweights concealed within the box. The timber construction, dimensions, glazing specification and ironmongery all contribute to the final manufactured weight of the sash and must therefore be considered when specifying the counterbalance system.

With a **completely new box sash window**, the entire window is manufactured as a new assembly. The counterbalance system is specified to suit the newly manufactured upper and lower sashes, and the required counterweights form part of the complete replacement box-window specification.

With **retro replacement**, the existing box and its weight pockets remain in place. The existing counterweights were originally selected for the previous sashes and may not provide sufficient mass to correctly balance the newly manufactured replacements.

Where the existing counterweights can be appropriately adapted, they may continue to form part of the retained system. Where additional counterweight mass is required, the restricted space within the original weight pockets may make lead counterweights necessary because lead allows greater mass to be accommodated within a comparatively small space.

Any additional or replacement lead counterweights required specifically for a **retro replacement** are separately assessed and charged in addition to the cost of the replacement sashes.

This distinction is important when comparing retro replacement with complete box replacement: **a new full box sash window is supplied with the counterbalance system required for the new assembly, whereas additional lead required to adapt an existing box during retro replacement represents a separate requirement.**

7.11 Respecting Traditional Proportions

Material quality alone does not determine whether replacement joinery is sympathetic to a period property.

The proportions and details matter equally.

Traditional windows and doors developed distinct architectural characteristics according to their period, location and style.

When replacement is being specified, consideration may therefore be given to:

- Overall frame proportions.
- Width and position of glazing bars.
- Pane arrangements.
- Meeting-rail dimensions.
- Sash horns.
- Moulding profiles.
- Casement proportions.
- Door-panel arrangements.
- Glass-to-timber ratios.
- Traditional sightlines.

A replacement window can be manufactured from excellent timber and fitted with high-performance glass yet still appear inappropriate if these details are poorly considered.

The objective should be to ensure that the replacement looks as though it belongs to the building.

7.12 Glazing Patterns

Glazing patterns can have a significant effect on the appearance of traditional properties.

Georgian, Victorian and Edwardian buildings frequently used different pane arrangements, although substantial variation exists between individual properties.

Where an existing window or door contains an appropriate original pattern, this can provide a valuable reference when developing the replacement design.

Where previous alterations have removed the original arrangement, neighbouring original joinery, historic photographs or other surviving architectural evidence may help inform the specification where appropriate.

The intention is not to create an artificial historic appearance, but to ensure that new joinery responds sensitively to the architecture of the property.

7.13 Ironmongery

Ironmongery contributes to both the operation and appearance of replacement windows and doors.

Depending upon the product, this may include:

- Sash fasteners.
- Sash lifts.
- Security fittings.
- Casement stays.
- Casement fasteners.
- Hinges.
- Door handles.
- Locks.
- Restrictors.
- Other appropriate operating furniture.

The style and finish of the selected hardware should complement the design of the joinery whilst providing the required level of operation and security.

Where suitable original ironmongery remains available and its reuse forms part of the agreed specification, retention may be considered. Where new fittings are required, appropriately selected traditional or sympathetic designs can help maintain the character of the finished installation.

7.14 Decorative Finish

The decorative finish performs two important functions.

It contributes to the appearance of the new joinery while also protecting the timber from weather exposure and moisture.

The final coating system should therefore be suitable for external timber joinery and compatible with the timber being used.

Colour can also influence how successfully a replacement integrates with the building.

Traditional white and off-white finishes remain common for sash and casement windows, but period properties can support a much broader range of historically sympathetic colours depending upon their architecture and the homeowner's preferred specification.

Where natural oak or another visible timber finish is selected, the coating system should be appropriate for that intended appearance and exposure.

Whatever finish is chosen, ongoing maintenance remains essential to the long-term protection of the timber.

Bringing the Specification Together

The most successful replacement joinery is not created by selecting the most expensive timber or the highest-performing glass in isolation.

It results from combining materials and design choices that work together.

Timber sections must support the selected glazing. Glazing bars must remain appropriate to the architecture. The weight of the glass must be considered in sash-window balancing. Ironmongery must suit the method of operation. Decorative finishes must protect the selected timber.

Each decision influences another.

By considering the complete specification before manufacture begins, replacement windows and doors can achieve improved modern performance whilst remaining sympathetic to the proportions and character of the property.

Key Facts

- Heritage Sash replacement joinery is manufactured using FSC-certified timber sourced through our specialist joinery supplier.
- Available timber specifications may include redwood, hardwood and oak according to the project requirements.
- Glazing should be specified before manufacture because it influences the construction and weight of the new joinery.
- Replacement windows and doors may be specified with single glazing, double glazing or vacuum glazing where appropriate.
- Conventional double glazing can require heavier timber sections and can influence traditional sightlines.
- Vacuum glazing can provide high thermal performance within a comparatively slim glazing unit.
- Heavier glazing is particularly important when specifying traditional sash windows because the counterbalance system must match the completed sash weight.
- Traditional proportions, glazing patterns, mouldings and architectural details are important considerations when designing sympathetic replacement joinery.

- Ironmongery should provide the required operation and security whilst complementing the architectural character of the replacement.
- Appropriate decoration protects new timber as well as determining its finished appearance.

FIGURE 11

TIMBER CHOICES

QUALITY TIMBER FOR BEAUTIFUL, LONG LASTING RESULTS.

We use carefully selected timber, chosen for its stability, workability and suitability for traditional joinery.



REDWOOD

Versatile traditional joinery timber, suitable for many replacement applications.



- Excellent stability and durability
- Easy to work and shape to fine detail
- Takes paint well for a lasting finish
- A proven choice for traditional windows



SELECTED HARDWOOD

Species selected according to the application, design and required performance.



- Chosen for strength, stability and longevity
- Selected to suit specific performance needs
- Hard wearing and resistant to distortion
- Ideal for demanding applications



OAK

Distinctive natural appearance and traditional character where specifically selected.



- Beautiful, characteristic grain
- Strong and durable for long-term use
- Traditional choice for period properties
- Used where specified in the design



All timber is responsibly sourced and kiln dried for stability. Every piece is carefully machined and crafted to exacting standards for a perfect fit and smooth operation.



SUSTAINABLE BY CHOICE.
FSC-certified timber sourced through our specialist supplier.



HERITAGE SASH

— PRESERVE. IMPROVE. RESPECT. —

HERITAGE INSIGHT

The right timber makes all the difference. Quality, well-selected timber ensures your windows look beautiful, operate smoothly and stand the test of time.

KEY POINTS

- ✓ We match the timber to the application and design.
- ✓ All timber is carefully selected for stability and performance.
- ✓ Traditional species and modern standards for the best outcome.
- ✓ Crafted in our workshop to the highest standards.

IMPORTANT NOTE

Timber is a natural material. Variations in colour, grain and texture are normal and part of its unique character. Finishes may vary slightly from batch to batch.



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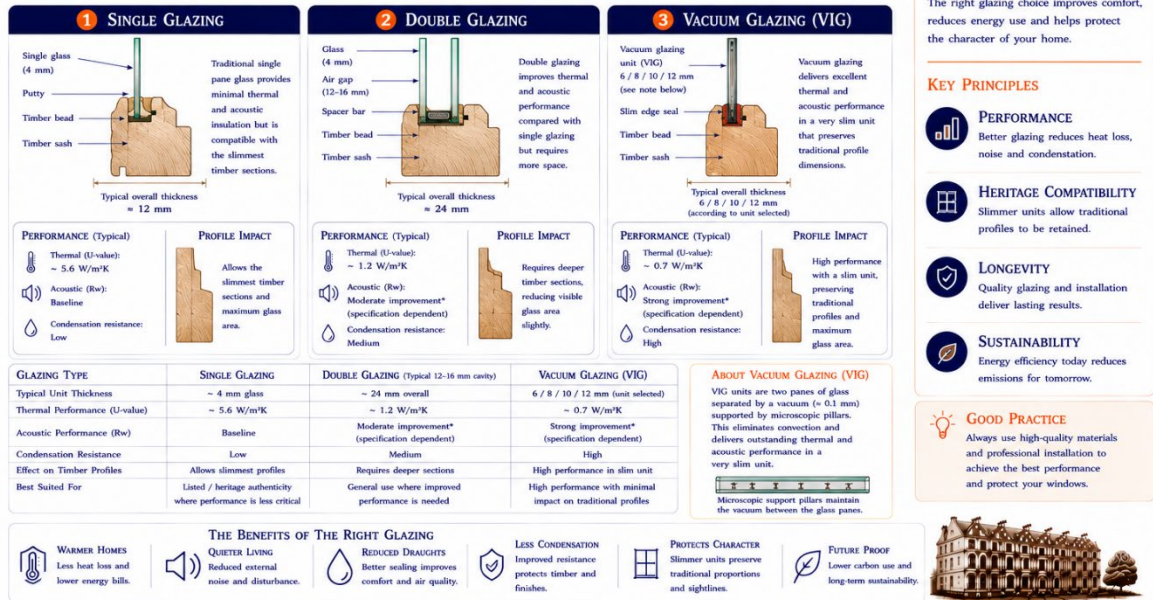
FIGURE 11 — Timber choices for replacement joinery, illustrating FSC-certified redwood, hardwood and oak and their typical use within traditional timber windows and doors.

FIGURE 12

COMPARISON OF SINGLE, DOUBLE & VACUUM GLAZING

GLAZING CHOICES WITHIN TRADITIONAL TIMBER JOINERY.

Different glazing constructions offer different levels of performance and affect the overall thickness of the timber profiles. Vacuum glazing delivers excellent performance with the slimmest units.



HERITAGE SASH

— PRESERVE. IMPROVE. RESPECT. —

HERITAGE SASH INSIGHT

The right glazing choice improves comfort, reduces energy use and helps protect the character of your home.

KEY PRINCIPLES

- PERFORMANCE**
Better glazing reduces heat loss, noise and condensation.
- HERITAGE COMPATIBILITY**
Slimmer units allow traditional profiles to be retained.
- LONGEVITY**
Quality glazing and installation deliver lasting results.
- SUSTAINABILITY**
Energy efficiency today reduces emissions for tomorrow.

GOOD PRACTICE

Always use high-quality materials and professional installation to achieve the best performance and protect your windows.



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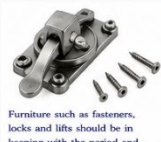
FIGURE 12 — Comparison of single glazing, double glazing and vacuum glazing within traditional timber joinery, illustrating the difference in overall glazing construction and its effect on timber profiles.

FIGURE 13

TRADITIONAL DETAILS THAT INFLUENCE REPLACEMENT DESIGN

GLAZING BARS, SASH HORNS, MEETING RAILS, MOULDING PROFILES, CASEMENT DETAILS, DOOR PANELS AND SYMPATHETIC IRONMONGERY.

Respecting original proportions and details ensures new joinery looks authentic, performs well and preserves the character of your home.

1. GLAZING BARS Pattern & Proportion  Traditional glazing bars define the window's character. Replicate sight lines, thickness and putty detail.	2. SASH HORNS Strength & Authenticity  Sash horns reinforce the joints at the corners of the sash. Their size and shape should match the original.	3. MEETING RAILS Strength & Proportion  The meeting rail strengthens the joint between top and bottom sashes. Replicate the profile and height.	4. PULLEY WHEELS Smooth Operation  Traditional pulley wheels enable the sash cords or chains to run smoothly. Use quality wheels matched to the original style and fitment.	5. SASH CORDS & CHAINS Balance & Reliability  Sashes are traditionally balanced using waxed cotton sash cord or metal sash chain. Use quality materials and fixings appropriate to the period of the window.
6. LEAD COUNTERWEIGHTS Smooth Balance  Lead counterweights balance the sashes for smooth movement. Weights must be correctly matched and securely fitted for safe, long-term performance.	7. IRONMONGERY Function & Finishing Touch  Furniture such as fasteners, locks and lifts should be in keeping with the period and style of the window and securely fitted.	8. BEADS & MOULDINGS Profile & Detail  Staff beads, parting beads and associated mouldings form important functional and visual details. Profiles should be selected sympathetically to suit the original joinery and architectural character.	9. CASEMENT DETAILS Sight Lines & Function  Casement arrangements should reflect the original design and maintain the intended proportions and operation.	10. INTERIOR & EXTERIOR FINISH Consistency & Care  Details should be consistent inside and out. Paint systems and finishes must be appropriate for longevity.

PROPORTIONS
 Keep sight lines and section sizes true to the original.

PROFILES
 Replicate mouldings and shapes to maintain character.

MATERIALS
 Use quality FSC® timber and traditional materials.

IRONMONGERY
 Use traditional patterns and quality finishes.

FINISHES
 Specifying the right paint system ensures longevity.

SKILLED INSTALLATION
 Expert installation protects the building and ensures smooth operation.

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HERITAGE SASH
— PRESERVE. IMPROVE. RESPECT. —

HERITAGE SASH INSIGHT

The success of replacement joinery is in the details. Small features make a big difference to how authentic and well integrated your new joinery will be.

KEY PRINCIPLES

- AUTHENTICITY**
 Match original details, proportions and sight lines.
- PERFORMANCE**
 Traditional details and materials deliver proven long-term performance.
- CRAFTSMANSHIP**
 Quality workmanship in the details ensures beauty and durability.
- INTEGRATION**
 New joinery should look like it has always been part of the home.

GOOD PRACTICE
 Survey existing windows and doors carefully. Take measurements, note profiles and photograph details before designing replacements.



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FIGURE 13 — Traditional details that influence replacement design, highlighting glazing bars, sash horns, meeting rails, moulding profiles, casement details, door panels and sympathetic ironmongery.

8. Maintaining Replacement Timber Joinery

New timber windows and doors are designed to provide many years of reliable service, but their long-term performance depends upon appropriate care and maintenance.

One of the principal advantages of high-quality timber joinery is its maintainability. Protective coatings can be renewed, ironmongery can be adjusted or replaced, glazing systems can be inspected and individual components can often be repaired without replacing the complete window or door.

A replacement project should therefore be viewed as the beginning of a new maintenance cycle rather than the installation of a product that will never require further attention.

Simple routine inspection and early attention to minor defects can significantly extend the service life of replacement joinery.

8.1 Routine Visual Inspection

Homeowners should periodically inspect their timber windows and doors for early signs of deterioration or maintenance requirements.

Particular attention should be given to:

- Paint or protective coating condition.
- External timber surfaces.
- Sills and other horizontal surfaces.
- Glazing and glazing seals.
- Perimeter seals.
- Opening and closing operation.
- Ironmongery.
- Hinges and moving components.
- Sash cords where applicable.
- Draught seals.
- Signs of moisture ingress.
- Areas where water may collect around the surrounding building.

Identifying small defects early allows maintenance to be undertaken before more significant deterioration develops.

8.2 Protecting the Timber

The decorative coating applied to external timber performs an important protective function.

Paint and other suitable coating systems help prevent excessive moisture from entering the timber whilst protecting the surface from weathering and ultraviolet exposure.

Over time, external coatings naturally deteriorate.

The rate at which this occurs depends upon factors including:

- Exposure to sunlight.
- Exposure to wind and rain.
- Orientation of the property.
- Local environmental conditions.
- Timber species.
- Quality of the coating system.
- Quality of previous preparation.
- Ongoing maintenance.

South- and west-facing elevations can experience different levels of weather exposure from more sheltered parts of the same property, meaning not every window or door will necessarily require maintenance at the same time.

Homeowners should therefore monitor the **condition of the finish** rather than relying solely upon a fixed redecoration interval.

8.3 Early Paint Failure

Small areas of coating failure should be addressed promptly.

Typical warning signs include:

- Fine cracking.
- Flaking.
- Blistering.
- Exposed timber.
- Damage around joints.
- Localised impact damage.
- Breakdown around glazing or lower sections.

Allowing exposed timber to remain unprotected increases the opportunity for moisture to enter the joinery.

A relatively minor decorative repair undertaken early can therefore help prevent a much larger timber repair later.

8.4 Cleaning Timber Windows and Doors

Regular cleaning helps maintain appearance and provides an opportunity to inspect the joinery closely.

Painted timber surfaces can generally be cleaned using mild methods such as warm water, a suitable gentle detergent and a soft cloth or sponge.

Aggressive abrasive products should be avoided where they could damage the protective coating.

Pressure washing should not be used directly against timber windows and doors, glazing seals or perimeter joints, as high-pressure water can force moisture into areas that are designed to remain protected.

Tracks, channels and drainage areas should also be kept clear where applicable to the individual product.

8.5 Looking After Sash Windows

Traditional replacement sash windows contain moving components that benefit from periodic observation.

Homeowners should ensure that:

- Upper and lower sashes continue to move smoothly.
- Sashes remain correctly balanced.
- Sash cords remain in good condition.
- Locks and fasteners operate correctly.
- Draught seals remain secure.
- Pulleys operate correctly.
- The window closes correctly at the meeting rails.

A significant change in operation should not be ignored.

If a sash suddenly becomes unusually heavy, fails to remain in position or develops a problem with its cord or counterbalance system, professional inspection is recommended.

Correcting a relatively small mechanical problem early can prevent unnecessary strain on other components.

8.6 Looking After Casement Windows

Timber casement windows rely upon correctly aligned hinges, fasteners and opening sections.

Routine inspection should consider:

- Smooth opening and closing.
- Hinge condition.
- Fastener operation.
- Window stays.
- Restrictors where fitted.
- Weather seals.
- Alignment between the opening casement and frame.

If an opening section begins to catch or becomes difficult to close, it should be investigated rather than repeatedly forced.

Minor adjustment may be all that is required, whereas continued forced operation can place unnecessary stress on hinges, fasteners and timber components.

8.7 Looking After French Doors and Timber Doors

Doors experience different forces from windows because of their size, weight and frequency of use.

French doors also rely upon the relationship between two opening leaves, making continued alignment particularly important.

Homeowners should periodically check:

- Smooth opening and closing.
- Hinge operation.
- Alignment of door leaves.
- Locks and latches.
- Handles and other ironmongery.
- Threshold areas.
- Weather seals.
- Glazing where applicable.
- Protective coatings to lower rails and exposed edges.

A door that begins to catch, drag or require excessive force to lock may require adjustment.

Early attention can help prevent unnecessary wear to locks, hinges and the surrounding timber.

8.8 Glazing and Seals

The glazing within replacement joinery should also form part of routine inspection.

Homeowners should look for:

- Damage to the glass.
- Deterioration around glazing seals.
- Movement within glazing components.
- Water penetration.
- Damage to surrounding timber finishes.
- Condensation between panes of sealed glazing units where applicable.

Condensation on the room-facing surface of glass is different from condensation developing inside a sealed glazing unit.

Where moisture appears between the panes of a sealed double-glazed or vacuum-glazed unit, professional advice should be sought.

8.9 Perimeter Areas Around Full Replacement Frames

Following full replacement, the new frame operates independently from the decorative finishes surrounding it.

Homeowners should continue to monitor the areas around the installation as part of normal property maintenance.

Particular attention should be given to:

- Cracks developing in surrounding finishes.
- Failed external sealants where present.
- Water penetration from adjacent building defects.
- Deteriorated render or pointing.
- Leaking gutters or downpipes above the opening.
- Other sources of moisture affecting the surrounding structure.

A new timber window or door cannot prevent water damage caused by defects elsewhere in the building.

Maintaining the surrounding building fabric is therefore an important part of protecting the replacement joinery.

8.10 Building Movement After Installation

Buildings continue to move naturally after new windows and doors have been installed.

Minor seasonal movement is normal, particularly within traditional properties constructed from materials that respond to changes in temperature and moisture.

If significant movement develops within the surrounding structure, this may eventually affect the alignment or decorative finishes around the new joinery.

Where a window or door that previously operated correctly develops a substantial alignment problem, the cause should be investigated.

The issue may relate to adjustment of the joinery itself, but it may also indicate movement within the building surrounding the frame.

Understanding the difference is important before deciding upon the appropriate remedy.

8.11 Ironmongery and Moving Components

Locks, handles, hinges, pulleys, sash cords or chains, fasteners and other moving components naturally experience wear through regular use.

These components should be inspected periodically for signs of looseness, wear, damage or changes in operation. Loose fittings should be addressed promptly before continued movement enlarges fixing holes, places unnecessary strain on surrounding timber or causes damage to associated components.

Where lubrication is appropriate, only products suitable for the particular component and finish should be used. Excessive lubrication or unsuitable products should be avoided where they could attract dirt, damage decorative finishes or affect surrounding timber.

One of the advantages of traditional timber joinery is that many operating components can be maintained, adjusted or replaced independently. Worn ironmongery, sash cords, chains, pulleys and other serviceable components can therefore often be renewed without requiring replacement of the complete window or door.

8.12 When to Seek Professional Advice

Professional inspection is recommended where homeowners identify:

- Timber decay.
- Persistent water penetration.
- Significant coating failure.
- Loose or damaged glazing.
- Failed sealed glazing units.

- Broken sash cords.
- Incorrect sash balancing.
- Windows or doors becoming difficult to operate.
- Significant movement within a frame.
- French doors becoming noticeably misaligned.
- Locks or security components failing to operate correctly.
- Unexpected movement around a replacement installation.

Early investigation usually provides more options for straightforward maintenance or repair.

Allowing a relatively small problem to continue can result in unnecessary damage to otherwise sound joinery.

Designed to Be Maintained

Timber replacement joinery should not be regarded as disposable.

The same qualities that have allowed traditional timber windows and doors to survive for generations remain relevant to newly manufactured joinery today.

Timber can be maintained.

Protective finishes can be renewed.

Ironmongery can be serviced.

Individual components can be repaired.

Glazing can be replaced where necessary.

With appropriate care, a well-manufactured and correctly installed timber window or door can provide a long and highly serviceable life whilst continuing to complement the character of the property.

Regular maintenance protects the investment made during replacement and helps ensure that today's new joinery remains part of the building for many years to come.

Key Facts

- New timber windows and doors require ongoing maintenance throughout their service life.
- Protective coatings are an important defence against moisture and weathering.
- Maintenance should be based upon the condition and exposure of the joinery rather than a rigid timetable alone.
- Small coating defects should be addressed before moisture reaches exposed timber.

- Sash windows, casement windows and doors each have different moving components that require periodic inspection.
- A sudden change in operation should be investigated rather than overcome by applying additional force.
- Glazing, seals and surrounding building fabric should form part of routine inspection.
- Defects elsewhere in the building can introduce moisture around otherwise correctly installed replacement joinery.
- Timber joinery is inherently maintainable, allowing individual components to be serviced or repaired throughout its lifespan.
- Early maintenance generally reduces the likelihood of more extensive repairs later.

FIGURE 14

MAINTENANCE CHECKLIST FOR REPLACEMENT TIMBER JOINERY

REGULAR CARE KEEPS YOUR TIMBER WINDOWS AND DOORS LOOKING BEAUTIFUL AND PERFORMING AT THEIR BEST.
Use this checklist to maintain your joinery and catch small issues early.

WHAT TO CHECK	HOW OFTEN	WHAT TO LOOK FOR	WHAT TO DO
1. PAINT / FINISH 	REGULARLY (Spring & Autumn) 	- Cracks, peeling or flaking paint - Exposed timber - Deterioration of end grain - Dirt build-up	- Clean gently with mild detergent - Sand back loose paint - Prime any bare timber - Repaint with quality system
2. OPERATION 	PERIODICALLY 	- Sashes stick or bind - Uneven movement - Sash drops when released - Noisy operation	- Clean tracks and staff beads - Lubricate moving parts - Check balances (see row 4) - Adjust where necessary
3. DRAUGHT SEALS 	PERIODICALLY 	- Worn or missing brush seals - Gaps around sashes - Perished or loose seals	- Clean seals - Replace worn or missing seals - Ensure sashes close tightly
4. BALANCES & WEIGHTS 	PERIODICALLY 	- Sash rises or drops by itself - Cord fraying or wear - Incorrect or noisy balance	- Check cord condition - Ensure weights are secure - Have the balance system professionally assessed where required
5. MOISTURE & TIMBER 	REGULARLY (Spring & Autumn) 	- Signs of moisture penetration - Soft or spongy timber - Condensation on glass	- Identify and address source - Repair timber promptly - Improve ventilation if required
6. IRONMONGERY 	PERIODICALLY 	- Loose screws - Corrosion or tarnish - Stiff or seized parts	- Tighten screws - Clean and lubricate - Replace if necessary

PERIODIC PROFESSIONAL INSPECTION

Professional inspection can help identify developing issues before they become more significant.

- ✓ Timber condition
- ✓ Ironmongery
- ✓ Operation and balances
- ✓ Glazing and seals
- ✓ Ironmongery
- ✓ Finish condition

KEEP A MAINTENANCE RECORD

Record dates of checks, works completed and products used. This helps protect your warranty and budget for future works.

NEED HELP?

If you notice anything unusual or are unsure what to do, contact Heritage Sash. We're here to help keep your windows and doors performing beautifully for years to come.

HERITAGE SASH INSIGHT

A little maintenance, done regularly, prevents problems, protects your investment and ensures long-term performance and beauty.

KEY PRINCIPLES

- PREVENT**
Regular checks prevent small issues from becoming costly repairs.
- CLEAN**
Keeping joinery clean protects finishes and ensures smooth operation.
- LUBRICATE**
Moving parts need lubrication to operate quietly and last longer.
- INSPECT**
Look for early signs of wear, damage or moisture ingress.
- PROTECT**
Good finishes and draught seals protect against weather and decay.

GOOD PRACTICE
Keep a simple record of inspections and any works carried out. This helps you plan, budget and protect your warranty.

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FIGURE 14 — Maintenance checklist for replacement timber joinery, showing the principal inspection points across sash windows, casement windows and timber doors.

9. Frequently Asked Questions

Choosing to replace traditional timber windows or doors can involve a number of decisions, particularly where parts of the existing joinery may still be suitable for retention.

The questions below address some of the most common considerations surrounding retro replacement, full replacement, glazing, timber specification and installation.

Do I have to replace the entire window?

Not necessarily.

For traditional sash windows, it may be possible to manufacture new upper and lower sashes whilst retaining the existing box frame. This is referred to throughout this guide as retro replacement.

Where the existing box remains suitable but requires attention, agreed repairs, preparation and decoration can also be undertaken before the new sashes are installed.

Where the existing frame is unsuitable for retention, full replacement may provide the more appropriate solution.

What is retro replacement?

Retro replacement involves manufacturing new sash windows to operate within an existing traditional box frame.

The original box remains installed within the property whilst the existing sashes are replaced with newly manufactured units.

This can preserve a significant proportion of the existing window whilst allowing new timber sashes and a new glazing specification to be introduced.

Retro replacement is principally relevant to traditional sash windows because of their modular box-and-sash construction.

Can every existing sash box be retained?

No.

The existing box must be structurally suitable and sufficiently well aligned to allow the new sashes to operate correctly.

Localised deterioration can often be repaired, and preparation and decoration of the retained box may be incorporated into the agreed works.

However, significant structural deterioration or historic movement can make retention impractical.

The suitability of the box should therefore be assessed before new replacement sashes are manufactured.

What happens if my existing sash box is not square?

Traditional buildings can move and settle over time, and the sash box may move with the surrounding structure.

Minor irregularities can often be accommodated through careful measurement and manufacture.

Significant distortion is more difficult.

Retro replacement does not straighten the existing box. The new sashes must operate within the geometry that remains.

Where the box has moved beyond what can reasonably be accommodated, full replacement may be recommended so that the existing box can be removed and a completely new box installed straight, square, plumb and level.

Why might my replacement sashes need new lead weights?

Traditional sash windows use counterweights concealed inside the box to balance the moving sashes.

The original counterweights were selected for the weight of the original timber and glass.

New replacement sashes—particularly those incorporating a different or heavier glazing specification—may weigh more than the original units.

Where the existing weights are insufficient, additional counterweight is required.

Because space within a traditional weight pocket is limited, lead may be required to provide the necessary mass within the available space.

Are new lead counterweights included in the price?

For retro replacement, not necessarily.

Where newly manufactured sashes are installed within an existing retained box, the original counterweights are assessed against the completed weight of the new sashes. Where the existing weights cannot provide the correct balance and additional or replacement lead counterweights are required, these are separately assessed and charged in addition to the cost of the replacement sashes.

With a complete new box sash window, the counterbalance system is specified as part of the newly manufactured window assembly. The counterweights required to correctly balance the new upper and lower sashes are therefore included within the complete box replacement specification.

This distinction exists because retro replacement retains the original box and its existing weight pockets, whereas full box replacement allows the complete counterbalance system to be designed around the new window from manufacture.

What is full replacement?

Full replacement involves removing the existing window or door and its associated frame within the agreed scope before installing a completely new assembly.

This can apply to:

- Sash windows.
- Casement windows.
- French doors.
- Traditional timber entrance and external doors.

The existing opening is prepared for installation, after which the new frame is correctly positioned, levelled and securely fixed to the appropriate structure.

Will the new frame follow my existing walls?

Not necessarily.

Older buildings are frequently no longer perfectly straight, square or level.

A new window or door frame should be installed correctly straight, square, plumb and level so that the new joinery operates as intended.

It should not be deliberately distorted simply to follow an uneven historic wall.

As a result, the space between the new frame and the surrounding building may vary around the perimeter.

This can reflect historic movement within the property rather than incorrect installation of the new joinery.

What happens to the gap around a full replacement frame?

An appropriate installation allowance is maintained between the new frame and the existing structural opening.

Once the frame has been correctly positioned and mechanically secured, suitable expanding foam is applied within the perimeter installation space.

After the foam has cured, the excess is cut back.

Where further finishing is required around the internal or external reveals, this is subsequently undertaken by the appropriate follow-on service team or trade.

Do Heritage Sash plaster or fully make good around replacement windows and doors?

No.

As part of a full replacement, Heritage Sash carefully removes the existing window or door and associated frame within the agreed scope, prepares the opening to receive the new joinery and installs the new frame correctly straight, square, plumb and level.

The new frame is mechanically secured to the appropriate surrounding structure. Suitable expanding foam is applied within the perimeter installation space and once cured, the excess foam is cut back. The new window or door is then adjusted and commissioned to ensure correct operation.

Our installation scope concludes at this point.

Removal of existing joinery—particularly within older properties—can expose uneven reveals, historic plasterwork, render, previous repairs or variations caused by movement of the building. Heritage Sash does not distort the new frame to follow these irregularities, nor do we undertake plastering or comprehensive decorative making good of the surrounding building surfaces as part of the standard replacement installation.

Where further work is required to the internal or external reveals, plaster, render or surrounding decorative finishes, these areas should be completed by the appropriate follow-on service team or trade after the Heritage Sash installation is complete.

This distinction ensures that the new joinery is installed to the correct geometry for reliable long-term operation, while the surrounding building fabric can subsequently be finished appropriately without compromising the alignment of the new frame.

Does full replacement mean my walls will be made straight?

No.

Full replacement allows the **new frame** to be installed correctly straight, square, plumb and level.

It does not correct historic movement or irregularities within the surrounding building.

Where walls or openings have moved over time, this may result in variable perimeter spaces around the correctly installed new frame. These areas can subsequently be made good by the appropriate finishing trade.

Can you replace more than sash windows?

Yes.

The Heritage Sash replacement service can include traditional timber:

- Sash windows.
- Casement windows.
- French doors.
- Entrance and external doors.

The installation method is adapted according to the construction and operating requirements of the individual product.

What timber can I choose?

Heritage Sash replacement joinery is manufactured using FSC-certified timber sourced through our specialist joinery supplier.

Depending upon the requirements of the project, available specifications may include:

- Redwood.
- Hardwood.
- Oak.

The appropriate timber will depend upon the type of joinery, design, exposure, intended finish and individual project specification.

Can replacement windows be single glazed?

Yes.

Single glazing remains appropriate for some properties and specifications, particularly where traditional construction or conservation considerations are important.

The glazing should be selected as part of the overall joinery specification before manufacture begins.

Can I have double glazing?

Where appropriate to the design and requirements of the project, replacement timber joinery can be manufactured to accommodate insulated double glazing.

Because the joinery is newly manufactured, timber sections and glazing rebates can be designed around the selected glazing unit.

However, the additional thickness and weight of conventional double glazing should be considered alongside traditional proportions and sightlines.

Can I have vacuum glazing?

Where appropriate, yes.

Vacuum glazing can provide high levels of thermal performance within a considerably slimmer construction than conventional double glazing.

This can make it particularly suitable for traditional-style replacement joinery where fine timber profiles and sympathetic sightlines are important.

For detailed information about vacuum glazing, refer to **HVGS-001 — The Complete Homeowner's Guide to Vacuum Glazing**.

Will the replacement look like my existing windows or doors?

Where retaining the traditional character of the property forms part of the project specification, important architectural details can be considered during the design of the new joinery.

These may include:

- Overall proportions.
- Glazing patterns.
- Glazing bars.
- Meeting rails.
- Sash horns.
- Moulding profiles.
- Casement arrangements.
- Door-panel configurations.
- Ironmongery.
- Colour and finish.

The objective is for new joinery to sit comfortably within the architecture of the property rather than appearing as an unrelated standard replacement product.

Is replacement always better than restoration?

No.

Replacement and restoration address different circumstances.

Where original joinery remains suitable for repair and continued use, restoration may provide the more appropriate solution.

Where existing components are no longer suitable, where the required specification cannot reasonably be achieved through restoration, or where the homeowner has chosen to renew the installation, replacement may be appropriate.

The decision should be based upon the condition and requirements of the individual property rather than assuming that either restoration or replacement is universally better.

For more information about restoration, refer to **HS-RES-001 — The Complete Homeowner's Guide to Sash Window Restoration**.

How long should replacement timber windows and doors last?

There is no single fixed lifespan.

The longevity of timber joinery depends upon the quality of manufacture and installation, exposure, protective coating system, maintenance and the condition of the surrounding building.

One of the principal advantages of timber is that it can be maintained and repaired throughout its service life.

Regular inspection and timely maintenance can allow high-quality timber windows and doors to remain in service for many decades.

Do new timber windows and doors still need maintenance?

Yes.

New timber joinery requires routine inspection and maintenance throughout its life.

Protective coatings, glazing seals, ironmongery and moving components should be monitored and maintained as required.

Small defects should be addressed before they develop into more extensive problems.

A well-maintained timber window or door is designed to remain a repairable and serviceable part of the building rather than a disposable product.

Key Facts

- Replacement does not always mean removing the complete existing installation.
- Retro replacement is available where an existing sash box remains suitable for retention.
- Significant historic movement can make an existing sash box unsuitable for retro replacement.
- New replacement sashes may require additional lead counterweights, which are separately assessed and charged.
- Full replacement can include sash windows, casement windows, French doors and traditional timber doors.
- New frames are installed straight, square, plumb and level even where the surrounding building is uneven.
- Variable perimeter gaps can result from historic building movement.
- Plastering and subsequent finishing of surrounding surfaces are not included within the standard Heritage Sash replacement installation.
- Replacement joinery can be specified in FSC-certified redwood, hardwood or oak according to project requirements.



- Single glazing, double glazing and vacuum glazing may be considered depending upon the individual specification.
- Replacement should be chosen because it is appropriate for the property—not simply because the existing joinery is old.

10. Conclusion

Throughout this guide, we have explored the different approaches available when replacing traditional timber windows and doors, demonstrating that replacement does not always mean removing everything that already exists.

The appropriate solution depends upon the type of joinery, its condition, the geometry of the existing installation, the requirements of the property and the objectives of the homeowner.

For traditional sash windows, retro replacement can provide an effective way of introducing completely new upper and lower sashes whilst retaining a suitable existing box frame. Where required, this can be combined with repairs, preparation and decoration of the retained box, allowing a significant proportion of the existing installation to remain in service.

However, retention must be appropriate.

Traditional buildings move and settle over time, and an original sash box may no longer remain perfectly straight, square, plumb or level. Because retro replacement requires the new sashes to operate within the geometry of that existing box, significant historic movement can place practical limits on what can be achieved.

Careful measurement can accommodate many of the normal irregularities found within traditional joinery, but it cannot straighten a significantly distorted box frame.

Where the existing frame no longer provides a suitable foundation for new joinery, full replacement allows the old frame to be removed and a completely new installation introduced.

This principle extends beyond sash windows.

Heritage Sash replacement work can include traditional timber casement windows, French doors and timber entrance or external doors, each individually surveyed, measured and manufactured according to the requirements of the property.

Full replacement provides an important opportunity to establish the geometry of the new installation independently of the frame being removed.

A new window or door should be installed correctly straight, square, plumb and level so that it operates as designed.

In an older building, the surrounding structural opening may no longer share that same geometry.

Historic settlement can result in walls and openings that have moved considerably since their original construction. Installing new joinery correctly can therefore leave varying perimeter spaces between the new frame and the existing building.

The correct response is not to distort the new frame to follow an uneven wall.

The new frame is accurately positioned, mechanically secured to the appropriate structure and the perimeter installation space is filled using suitable expanding foam. Once cured, excess foam is cut back and the installed joinery is adjusted and commissioned.

Where the surrounding reveals, plaster, render or decorative surfaces require subsequent attention, these areas are completed by the appropriate follow-on service team or trade.

Plastering does not form part of the standard Heritage Sash replacement installation.

Understanding this division of responsibility is an important part of planning a replacement project, particularly within period buildings where removing an old frame can expose irregularities that have remained concealed for many years.

Replacement Is More Than Installation

The quality of replacement joinery is determined long before installation begins.

Accurate surveying and measurement establish the foundation of the project.

Timber selection determines the material from which the new joinery will be manufactured.

Glazing influences thermal performance, acoustic performance, sightlines, timber sections and overall weight.

Architectural detailing determines whether the completed window or door sits comfortably within the character of the property.

Ironmongery affects both operation and appearance.

Finally, accurate installation allows all of these elements to work together correctly.

A successful replacement project therefore considers the complete system rather than treating the window or door as an isolated product.

Choosing the Appropriate Glazing

Modern replacement joinery provides homeowners with a range of glazing choices.

Traditional single glazing may remain appropriate where conservation, appearance or a particular specification requires it.

Insulated double glazing can provide improved thermal performance where its additional thickness and weight can be appropriately incorporated into the design.

Vacuum glazing provides another option, combining high thermal performance with a comparatively slim glazing construction that can be particularly useful where traditional proportions and fine timber details are important.

No single glazing specification is appropriate for every property.

The correct choice should consider performance requirements alongside architectural appearance, joinery design and any relevant planning or conservation requirements.

Choosing the Appropriate Timber

Replacement also provides an opportunity to select timber appropriate to the individual project.

Heritage Sash replacement joinery is manufactured using FSC-certified timber sourced through our specialist joinery supplier, with specifications including redwood, hardwood and oak according to the requirements of the project.

Each provides different characteristics and possibilities.

The most appropriate choice depends upon the type of joinery, intended finish, exposure, architectural requirements and homeowner preference.

What matters most is that the selected timber forms part of a properly considered specification and is subsequently protected and maintained throughout its service life.

New Joinery Should Still Belong to the Building

Replacement should not mean abandoning the architectural character of a traditional property.

The proportions of a sash window, the position of its meeting rails, the dimensions of its glazing bars, the shape of its horns, the arrangement of a casement or the panel configuration of a traditional door can all contribute significantly to the appearance of the building.

These details deserve consideration when new joinery is being designed.

The objective is not simply to manufacture something that fits the structural opening.

It is to manufacture and install a window or door that looks and feels appropriate to the property in which it will remain for many years.

The Heritage Sash Approach

At Heritage Sash, replacement is not considered the automatic solution simply because existing joinery is old.

Where appropriate original windows can be repaired or restored, preservation should remain an important consideration.

Where parts of an existing installation remain suitable, retro replacement can provide a valuable middle ground between restoration and complete renewal.

Where retention would compromise the quality, operation or longevity of the completed project, full replacement provides the opportunity to begin again with correctly manufactured and installed new joinery.

The objective is therefore not to preserve at any cost or replace without consideration.

It is to understand the building, understand the existing joinery and select the intervention that provides the most appropriate long-term outcome.

High-quality timber joinery has always been designed around this principle of longevity.

It can be maintained.

It can be adjusted.

It can be repaired.

Its protective finishes can be renewed.

Its operating components can be serviced.

And, with appropriate care, today's replacement timber windows and doors can continue to form part of the architectural character of the property for many decades to come.

The Heritage Sash Principles

Every Heritage Sash project is guided by three core principles:

Preserve Character

Retain suitable original fabric wherever practical and ensure replacement joinery respects the proportions, detailing and architectural character of the property.

Improve Performance

Use appropriate timber, glazing, hardware and installation methods to improve comfort, operation, durability and performance whilst remaining sympathetic to the building.

Respect Traditional Craftsmanship

Combine traditional joinery principles with modern manufacturing, glazing and installation techniques to create replacement windows and doors appropriate to the quality and character of Britain's traditional buildings.

These principles underpin every publication within the Heritage Sash Knowledge Library and reflect our commitment to helping homeowners make informed decisions about the preservation, improvement and replacement of traditional timber joinery.

11. Continue Your Learning

This guide forms part of the **Heritage Sash Knowledge Library**, a growing collection of educational publications designed to help homeowners understand, maintain and improve traditional timber windows and doors.

You may also find the following publications helpful:

- **HVGS-001 — The Complete Homeowner's Guide to Vacuum Glazing**
- **HS-RES-001 — The Complete Homeowner's Guide to Sash Window Restoration**
- **HS-REP-001 — The Complete Homeowner's Guide to Timber Window Repairs**

Each publication explores a specific aspect of traditional timber joinery, allowing homeowners to make informed decisions about repair, restoration, performance upgrades and replacement.

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