

Replacing windows in conservation areas

Repair, Replicate, Replace



The **Wood Window** Alliance



**WOOD. AT THE HEART
OF A GOOD WINDOW**

Authenticity and energy-efficiency

The visual character of conservation areas is under threat from unsympathetic replacement windows and doors. In most conservation areas nothing is done to stop the tide of PVC-u replacement windows, while elsewhere Conservation Officers and Building Inspectors argue over the authenticity of single-glazing versus the energy and acoustic efficiency of new high performance wooden windows.

This conflict can be resolved by specifying traditionally detailed, high performance timber replacement windows that meet the current Building Regulations while incorporating traditional sightlines. Members of the Wood Window Alliance have combined today's levels of energy-efficiency with authentic materials and historic sections that both Conservation Officers and Building Inspectors can embrace.

Examples of incorrectly detailed windows using unsympathetic materials in period properties



Front cover, top: *Portsmouth, 1845*, box sash, double glazed timber windows, 17mm fine lamb's tongue glazing bars in Grade II listed property. Front cover, left to right: *Chelsea, London*, large pane, double glazed, Georgian-style timber windows. *Blackheath, Dulwich*, traditional, flush-fitting, double glazed casements. *Chipping Hill, Essex*, replacement double glazed timber windows. *Sidmouth, Devon*, double glazed timber windows and doorsets for Edwardian villa

Conservation areas and what they mean

Since 1967, some 9,300 conservation areas have been designated across England, giving the local authority extra controls over demolition, minor developments (such as certain types of cladding, inserting dormer windows and putting up satellite dishes visible from the street) and the protection of trees.

Article 4 Directions

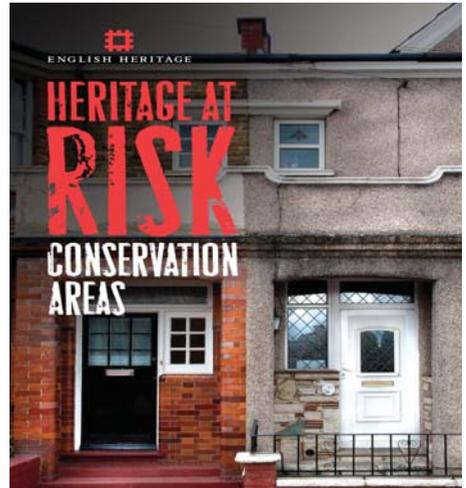
Under legislation introduced in 1995, local authorities can make further restrictions on the kind of alterations allowed, depending on how these might affect the key elements of buildings in the conservation area. Examples include putting up porches, painting a house a different colour, or changing distinctive doors, windows or other architectural details. The local authority has to take account of public views before doing so. These restrictions are called Article 4 Directions.

In 2009 an English Heritage survey of 360 local authorities found that only 13% of

conservation areas had an Article 4 Direction allowing them to prevent the installation of plastic windows and doors, and only 36% of conservation areas had seen enforcement action within the last three years requiring unauthorised works to be rectified.

Yet the survey also shows that conservation areas with Article 4 Directions are almost twice as likely to improve in the next three years as those without.

The Government's proposed Localism Bill is likely to have an impact in this area, devolving greater discretionary powers to the local town/parish council. This may change the criteria of selection when providing guidelines. It is therefore essential that a comprehensive set of options is provided to suit the sensitivity of the buildings being considered. Too narrow a view on replacement, not taking into account residents' wishes for greater energy-efficiency, could alienate the local community.



Top left: Mixed use of PVC-u and wooden windows in the same elevation

Bottom left: PVC-u windows have replaced traditional timber sashes

Windows and the character of a building

Windows are one of the most important design features of a building. Even small changes have a significant effect on its appearance. The position of the window in the opening, the proportions of the sashes, the arrangement of the opening lights, the



thickness and profile of glazing bars and rails, the joints, the frame material, even the glass itself, all have an effect on the appearance of the window and its appropriateness.

The English Heritage survey showed that one in seven conservation areas was deemed to be 'at risk', implying that the area had deteriorated over the last three years or was expected to do so over the next three years. The biggest single threat was seen as 'unsympathetic replacement doors and windows' (in 83% of conservation areas).

But it's not only conservation areas that have suffered. Walk down almost any street in the country and you will see the damage that has been done.

Correctly detailed windows have restored the original appearance of this street. The house on the left has incorrect top-hung windows and an inappropriate front dormer

Windows and the value of a building

A well-presented home is worth more than one that shows signs of neglect or an inappropriate 'make-over'. A national survey of Estate Agents carried out by English Heritage found: 'Unsympathetic replacement windows and doors, particularly plastic/PVC-u, are the single biggest threat to property values in conservation areas.'

The value of a property may at first appear irrelevant to conservation but it actually helps with its acceptance. The homeowner can be made aware that reinstating the authenticity of a building and investing in conservation measures through installing correctly detailed wooden windows, is a much better long-term investment and will effectively raise the value of the property, as well as saving energy costs and carbon dioxide emissions.



These 'Before' and 'After' images indicate how the kerbside appeal of a property can be easily enhanced by upgrading windows and doors

The 3 R's – Repair, Replicate, Replace

Repair

Most changes to windows in listed buildings, including 'like for like' replacement, will require Listed Building Consent. It is a criminal offence to carry out any alteration to a listed building without having obtained prior Listed Building Consent. For more information visit www.planning-applications.co.uk

For historic or listed buildings, where restrictions prevent the use of correctly detailed modern replacement timber windows, consider repair. Sections of the frame can be cut out and replaced, sashes can be freed, cords replaced and draught-proofing materials added discreetly.

In relation to performance this will always be a compromise, since simple energy-efficiency measures, such as shutters or curtains, can only limit the impact on the property of the thermal deficiencies of the windows. Remember it is not possible to improve the thermal performance of a repaired window and the current Government's Green Deal grants will enforce penalties on under-performing properties. Although secondary glazing is also possible, cleaning is often difficult and care must be taken to ensure glazing bars match the secondary windows' bars.

Replicate

In historic or listed buildings, it will be necessary to replicate the existing windows using single (putty) glazing, matched

mouldings and historic glass. CE Marking of replica windows is not a requirement.



Bespoke single glazed timber windows designed and supplied by a Wood Window Alliance manufacturer have been used in these sensitive restorations

Replace

For houses in a conservation area, or for period properties more generally, replacement with a Wood Window Alliance factory-made,

energy efficient, high performance timber window is the best alternative. PVC-u windows should never be considered.



Which windows are double glazed? The answer is on the back cover*

Replace

It is important to replace like with like, whether a steel window in an Art Deco semi, or a timber window in most period dwellings. Other materials do not have an authentic appearance, or character; the finish won't be the same, the profiles, the joints, the hinges – the small details which end up making all the difference.



Modern double or triple glazed replacement wooden windows combine authenticity with high performance: energy-efficiency, security, acoustic performance and low maintenance. Because they are factory-made, with factory-applied coatings and glazing systems, they offer an estimated service life of over 60 years, providing superior quality and

performance for longer.

Longevity can be enhanced still further by best-practice construction detailing, such as recessed reveals and stone sub-cills.

*Spot the difference? Which property has double glazed windows? **The answer is on the the back cover*

Double-glazing

Replacement period windows are an excellent compromise. They achieve the energy-efficiency required of a modern window, are made with authentic and sustainable materials and offer traditional sightlines, but they are not replicas of historic windows.

Three objections are often raised, all relating to modern glazing methods:

Reflection: modern, defect-free glass will always look different from old glass and can increase reflection. But the alternative of fitting secondary glazing to existing windows, sometimes favoured by Conservation Officers, will also affect the reflection, as well as making cleaning more difficult, encouraging condensation and creating a fire hazard. Period glass can now be incorporated in double glazed units and some Wood Window Alliance members offer a Victorian sheet option which creates the authentic wavy

reflection of traditional hand blown crown and cylinder glass.

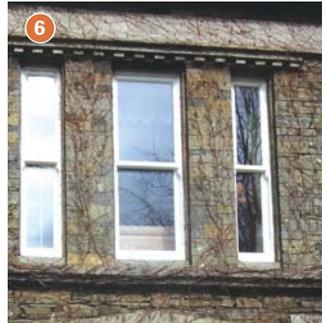
The depth of the unit: Slimline glazing units are available but their performance is open to question. They are expensive, less energy efficient than conventional double glazed units and can only offer a marginal improvement in appearance in relation to spacer depth.

Indicative values for sliding sash windows

Single glazed unit	5.4 W/m ² K
Double glazed unit	1.4 W/m ² K
Triple glazed unit (argon filled)	1.0 W/m ² K

Glazing bars: Wood Window Alliance members are able to produce double glazed windows with a range of different glazing bars, from a width of just 17mm.

Replace



1. Traditional cords and sash weights. 2 & 16. Wimborne, Dorset, traditional flush timber casements. 3 & 13. Derbyshire, double glazed sliding sashes for pre-1845 farmhouse. 4 & 20. Byker Estate, Newcastle, Scandinavian-style, double glazed, tilt turn timber windows replace aluminium window profiles. 5. Period sash horn with vertical Swedish joint, modern manufacturing improves design and prevents paint cracking. 6. Windermere, Cumbria, traditional double glazed timber sash windows with weights and pulleys. 7. Sidmouth, Devon, double glazed timber windows and doorsets for Edwardian villa. 8 & 9. Great Westwood House, Buckinghamshire, double glazed, Georgian-style box sash windows and curved on plan French doorsets



10. Hampshire, high performance sliding sash windows in refurbishment of old hospital building as luxury apartments. 11. Elegant fine lamb's tongue glazing bar detail. 12 & 15. Warwickshire, double glazed, timber window replacements for 17th Century farmhouse. 14. Millfields School, Hackney, spiral balance and dual swing sash windows



17. Cadogan Gardens, London, fixed, double glazed, timber casements. 18. Chiswick, London, special-shape, double glazed timber casements. 19. Double glazed tilt and slide sash window. 21. Premium quality hardware. 22. Blackheath, Dulwich, double glazed timber casements and entrance door. 23. Georgian terrace, London, Georgian-style double glazed timber sliding sash windows and French doorsets

Wood Window Alliance windows

Members of the Wood Window Alliance have to meet tough, third-party accredited performance, quality and sustainability criteria. They also offer class-leading warranties: typically 30 years on the frame, 8 to 10 years on the paint finish and 10 years on the glass and ironmongery.

Not all windows manufactured by a member will meet these criteria – single glazed period windows, or putty-glazed windows, are two of the exceptions - but all will be made to high quality design and manufacturing standards.

Glazing bars are available in traditional profiles for both single and double glazed units. Sash windows can be supplied with traditional sash cords and lead weights or with balanced springs. They can also be hinged, or tilt-operated for easy cleaning and maintenance. Traditional flush casements, (as opposed to modern storm-proof sections), traditionally hung on butt hinges, are fully-reversible and pivot types can also be supplied.

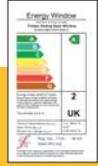
Windows are available factory-finished, in most RAL colours, fully glazed and fitted with ironmongery and high security locks.



Traditional flush fitting casement

Energy-efficiency

WWA members can produce 'A - C' rated windows. Even box sash windows can be supplied with an 'A' rating. Typical double-glazed box sashes can meet a whole window U-value of 1.4W/m²k. Triple glazed, 1.0W/m²k or lower.



Value for money

Research by Heriot Watt University, Edinburgh demonstrates that the longer service life of typical Wood Window Alliance windows makes them excellent long-term value in comparison to equivalent PVC-u windows. Period-style or more specialist wood windows may be more expensive, but will last a lifetime with appropriate maintenance, and add extra value to a home.

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Whole Life Analysis of timber, modified timber and aluminium-clad timber windows: Whole Life Costing (WLC), Dr Gillian F. Menzies, Institute for Building and Urban Design, Heriot Watt University, June 2013.



Modern storm-proof casement detail with incorrect rebated openers lipping over the face of the frame

Low maintenance

Fully factory-finished WWA windows with an opaque coating (paint) typically carry an 8-10 year warranty on the paint finish.

Durability

With standard maintenance, fully factory-finished WWA window frames will last a lifetime. Heriot Watt University estimates a 56-65 year service life, depending on exposure conditions.

Low condensation

Double-glazing units, coupled with warm-edge spacer technology, have virtually eliminated condensation, an inherent characteristic of single glazed windows.

Acoustic performance

A double glazed unit significantly reduces external noise compared to a single glazed window. Some WWA manufacturers offer acoustic glazing options.

Security

Today's timber windows are designed with a high degree of security in mind. Wood Window Alliance windows come ready-fitted with all hardware.

Lockable handles and Secured by Design windows and doors are available from many members.



Low carbon footprint

Research by Heriot Watt University shows that each WWA specification window used instead of an equivalent PVC-u window saves approximately 160kgs CO₂ over 60 years.

Whole Life Analysis of timber, modified timber and aluminium-clad timber windows: Life Cycle Assessment (LCA), Dr Gillian F. Menzies, Institute for Building and Urban Design, Heriot Watt University, June 2013.

Sustainability

BRE gives domestic wood windows made to the standards of the Wood Window Alliance the highest possible LCA rating of A+ in the Green Guide. All wood used in Wood Window Alliance windows is certified as sourced from sustainably managed forests for both domestic and commercial applications. All members have Chain of Custody certification. Preservative treatments and paints are water-based.

Our standards

- Meet BS 644, the main British Standard for wood windows, or equivalent standards from other countries
- Meet the performance standards for wind and weather resistance of BS 6375 Part 1
- Meet the minimum performance standards for operational aspects of BS 6375 Part 2, or equivalent standards from other countries
- Accredited by an independent UK or European body to prove compliance with those standards
- Manufactured from timber sourced legally from sustainably managed forests and with chain of custody certification
- Offer service life warranties for durability, typically 30 years; paint life, typically 8 years; ironmongery and insulated glass units, typically 10 years
- Meet or exceed the UK Building Regulations' recommendations for energy-efficiency.



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All members make windows that meet WWA standards.
See www.woodwindowalliance.com for the latest list.

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Download the Heriot Watt Whole Life Analysis and view CPD films at
www.woodwindowalliance.com/professional

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Answers to questions on pages 5 & 6: *All of them **The property on the right - but you would never know