



# Service life, maintenance and repairability

The **Wood Window** Alliance



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



# Service life, maintenance and repairability

Ensuring that any product continues to perform well over its life requires a little time and effort whether it's a computer, a car, or a building component.

Effective maintenance of a window will extend its service life and:

- Reduce whole life costs
- Reduce the environmental impacts associated with replacement and disposal costs
- Prolong the carbon store effect.

Simple rules apply:

- Check handles are working correctly and lubricate or adjust where necessary
- Check locks and latches are functional
- Check that seals around glazing units are undamaged and replace if necessary
- Check seals round opening casements and sashes are undamaged and replace if necessary
- Ensure external frames are cleaned regularly and re-decorated within the manufacturer's recommended schedule
- Check external frames for damage and repair if necessary.

## What makes modern wood windows last longer?

Advances in the durability of softwood windows have resulted in extended maintenance intervals and a longer service life. With planned maintenance, softwood windows can be expected to operate well beyond the service life warranty.

Improvements include:

- Better timber treatment systems
- Use of end-grain sealants to prevent water ingress to vulnerable sections
- Advances in paint and stain systems applied in the factory for better protection than brush applied finishes
- Greater use of hardwood and engineered sections, such as laminated or finger-jointed timber
- Reduced number and size of knots to minimize resin staining
- Improved machining processes for a smoother timber surface and a better paint surface
- Improved component design, with angled horizontal sections to prevent standing rainwater, water ingress and rot in vulnerable areas
- Rounded corners, rather than sharp edges, to help paint adhesion
- Improved glazing systems which increase glazing unit service life.

## How long will they last in service?

- BRE's Green Guide suggests a minimum service life of 35 years for high quality windows such as those made to Timber Window Accreditation (TWA) Scheme or equivalent specification
- Windows carrying the Wood Window Alliance quality mark are manufactured to TWA's, or higher, specifications
- Case study evidence of 19 year old factory painted windows suggests a likely service life of 40 years and more
- There are many examples across the UK of original wood windows which are over 100 years old and still in use today, thanks to good quality timber and regular maintenance.





## Performance for higher quality

- Buy timber windows fully finished and glazed by the manufacturer
- Advances in factory-applied paint or stain finishing techniques provide finishing conditions which cannot be replicated by on-site painting
- Unlike on-site painting, factory-applied coatings provide a consistent coating to all areas of the window
- The manufacturer is able to offer service life, paint-life and glazing unit warranties if these are performed in a factory-controlled environment
- Buying unfinished or unglazed windows and painting on-site can invalidate preservative warranties, lead to moisture ingress, timber movement, premature breakdown of the glazing units, premature frame decay, and ruin the overall aesthetic qualities of the window.

## Initial treatment of a quality wood window

- Coating manufacturers recommend that base stains and primers are applied by a method of saturation, whether dipping, saturate spraying or flow coating
- This provides better absorption, leading to superior adhesion of the first coating layer
- Cut outs, vents and v-joints are all reached by such coating methods, giving better overall protection.

## Types of finish

- Coatings may be solvent or water-based. The latter are more commonly used by window manufacturers and have lower environmental impact
- Coatings are applied in controlled conditions indoors, ensuring wet weather and high outdoor humidity do not lead to high moisture contents which hinder the absorption and adhesion of coatings
- Coatings are applied to all concealed surfaces, which cannot be achieved once windows are installed
- Coating operatives are easier to monitor and audit in factories than on-site
- Spray-applied factory finishes give smooth coatings with high film builds that are very difficult to replicate with site-applied finishes



- Higher build factory applied coatings offer better durability and a longer service life.

### **Opaque finishes (paints) give a solid colour.**

- Some grain texture will show through, providing a natural wood character, unlike a plastic window
- The heavier pigmentation of opaque paints protects the surface from UV light damage and provides long lifespans
- White, or paler colours, provide the most effective UV protection
- The darker the finish, the greater the solar heat gain and risk of resin exudation and timber movement.

### **Translucent stains will show the grain structure of the timber underneath.**

- Lighter shades will have a more pleasing, clear appearance but require more frequent re-coating because they are susceptible to damage from UV light
- Colourless coatings are very susceptible to damage from UV light and are not recommended.

## Designing for low maintenance

Building designers can extend maintenance intervals for wood windows by:

- Considering the aspect of the window in relation to the sun and prevailing weather
- Providing some protection, such as roof or other overhangs
- Setting the windows back into the window reveal.

For upper storeys or less accessible windows, consider designs that allow cleaning and decoration from inside the building:

- Reversible windows
- Projecting hinge, or 'easy clean' casements.

Aluminium composites, or aluminium clad timber windows, are a good option for medium rise buildings, and offer longer paint service life and reduced maintenance periods.

Different aspects of the building will require differing maintenance schedules:

- North-facing windows will suffer less damage from UV light, and coatings can last more than twice as long as south-facing windows
- Coastal and high altitude climates are the most challenging because of prevailing winds and the impact of salt, sand, wind and rain
- Windows in inner cities will suffer from dirt and pollution and require more frequent cleaning to ensure a longer lifespan
- Good quality coating manufacturers will recommend different maintenance regimes depending on the aspect of the window and its environment.

## Maintenance and repairs

Modern paint and stain systems do not need the same maintenance programmes and methods as older brush painted windows:

- Planned maintenance programmes are recommended as they reduce whole life costs and prolong the life of the windows
- 'Burning off' is a thing of the past; a simple rub-down and brush application is often all that is required
- Any knocks and abrasions can easily be repaired with fillers and coatings



- Hot waxes are quick to apply and can give near invisible repairs
- Coatings manufacturers can advise on which window manufacturers participate in planned maintenance schemes
- Refer to coatings manufacturers' advice sheets or websites.

## Upgrading wood windows

It may often be better to retain the old wood windows within a building rather than replace them. In many cases, architectural or historic features may have to be retained and replacement windows may not be appropriate.

- Upgrading wood windows can be more cost-effective than replacement
- 'Repair and renew' is often a better environmental option than replacement and prolongs the carbon store effect
- Improvements to seals, ironmongery and other mechanisms will lead to improved weather performance
- Secondary glazing may be an alternative to double-glazing where this is not an acceptable option
- Wood is easily repairable. Sections of timber can be replaced and the window 'made good'.