



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'.