



**TIMBER
DEVELOPMENT
UK**

Build

B.40.05-05

Date Published

1 November 2024

Document Type

Timber Knowledge Sheet

Category

Build

Audience

Carpenter | Designer |
Manufacturer

Theme

Internal

Author

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Timber Windows

Timber windows are popular, particularly in residential properties, because of their stylish appearance and natural warm appeal.



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Timber Windows

Whether double, triple or quadruple-glazed, the insulating qualities of timber-framed windows provide outstanding energy efficiency capabilities.

Performance

- **Durability**

Timber windows are naturally sturdy and designed to withstand extreme weather conditions.

For maximum durability, the window should be fully painted, stained and glazed in a factory before being fitted. It should meet UK standards of performance and provide weather tightness, energy efficiency and security.

The lifespan of timber windows can vary, depending on the quality of the materials used, the manufacturer's design, and how well they are maintained. However, as a guide, the average timber window can last 30-35 years, with the paint finish and glazing unit lasting up to 10 years.

- **Energy efficiency**

Timber has natural insulatory qualities, having a low thermal conductivity. Not only is it a sustainable choice, but it helps minimise "cold-bridging", a condition that causes condensation. Timber windows therefore have strong thermal properties, making them exceptionally energy efficient.

Nonetheless, a key factor is the type of glass used. Whether it is double, triple or quadruple-glazed, an insulating glass unit (IGU), is an important part of how timber windows conserve energy.

The glass can be produced to optimise or control solar gain, reduce noise transmission, self-clean and give extra security. The choice of glass, the spacing between the panes, and the gas used in the unit all affect the energy values and window energy ratings.

There are two ways to measure energy efficiency: U-values and the Window Energy Ratings (WERs). WERs are produced by the British Fenestration Ratings Council (BFRC), the body responsible for the most commonly used energy rating system in windows and doors.

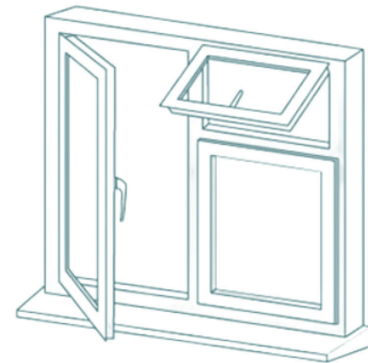
- For new builds, the average U-value of all windows must be 2.2 or under. WER ratings range from A (best) to G with higher ratings increasingly common.
- Requirements vary by building type, so be sure to check the relevant building regulations (**Part L Conservation of Fuel & Power**, or equivalent in Scotland or Ireland).

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Window Types

- **Side hung casement**

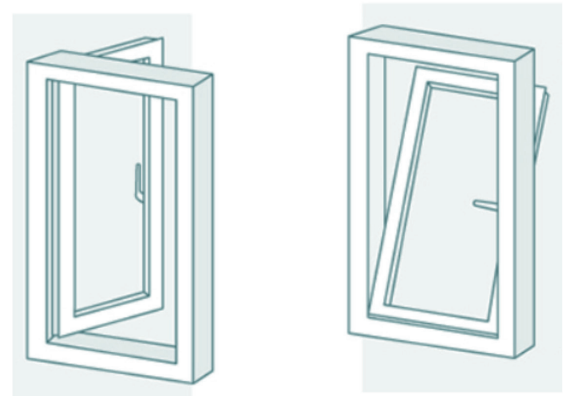
This is the most common type of window, which opens outwards and has a 100% openable area. It usually has a maximum width of 600mm and height of 1,500mm. Hinges attach the sash directly to the frame, and it can use different hinge mechanisms, allowing the window to be cleaned from inside. Modern timber flush casement windows can provide the same draught- and weather-proofing as a lipped or “stormproof” casement.



Casement

- **Projecting top hung casement**

Popular windows in flats and medium-to-high-rise buildings with a 100% openable area. A “topswing” or “H-type” hinge mechanism allows the sash to rotate on the outside of the frame, for easy cleaning and painting. The mechanism often incorporates an “espagnolette” locking system and child safety locks which restrict opening to 100mm, but which can be overridden.



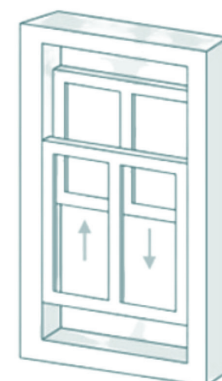
Tilt and turn

- **Tilt and turn**

Popular in Europe and increasingly in the UK with a 100% openable area. As it tilts from the bottom it allows secure ventilation, while turning the handle in the opposite direction opens the window as a casement inside the room.

- **Vertical sliding sash**

A traditional window type, synonymous with the Georgian and Edwardian eras, with a 50% openable area. Often required for older buildings and conservation projects where like-for-like replacements are needed. Both sashes open by sliding within the frame. External access is required for redecoration and cleaning.



Sliding sash

IMAGE: Window types

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- **Pivot hung**

Popular in the 1960s and 1970s, where a simple centre pivot allows the sash to turn through 180 degrees giving a 90% openable area.

- **Other types**

Multi-light windows mix different opening windows into one. For example, a side-hung sash with a top-hung vent and direct glazed window below.

Other combinations may include a projecting casement and fixed-light window, or tilt and turn and fixed-light.

Timber window security checklist

Most insurance companies require locks to be fitted to ground floor windows.

Windows manufactured by the Wood Window Alliance are fitted with security ironmongery and comply with enhanced security regulations **BS 7950: 1997 Specification for enhanced security performance of windows for domestic applications.**

‘Secured by Design’ (SBD) windows comply with **BS 644:2009 Timber windows. Fully finished factory-assembled windows of various types. Specification**, the BM TRADA Q Mark scheme and the British Woodworking Federation Timber Window Accreditation Scheme (with third-party enhanced security compliance).

Laminated glass can also improve the security of windows.

Specification

A number of factors can determine the appropriate choice of timber window:

- **Species**

Engineered softwood timber, in particular Pine or redwood (*Pinus sylvestris*) is frequently used for windows for dwellings. Recognised for its durability and natural strength, natural tannins in the timber reduce the likelihood of rot over time, while engineered laminated sections prevent warping.

Oak (*Quercus spp.*) has historically been the timber of choice for windows, although its high density makes it more costly.

- **Size**

The size of a timber window impacts overall costs, as larger frames cost more. Some manufacturers offer their own standard window sizes, although no set standard for window size exists in the UK, meaning bespoke options are necessary - especially for restoration projects.

- **Colour and finish**

Timber windows can use a wide variety of possible finishes, from stains to show off natural timber grain to matte paint cover. A factory finish with preservative treatment before sanding, followed by a basecoat and two topcoats will ensure maximum performance and durability.

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Installation

Whether installing fully factory-finished and glazed windows, or timber windows with a primer or base coat stain which require glazing, they still need careful handling and storage:

- Check the delivery complies with the order and there is no damage
- Where possible store windows upright in clean, dry and covered conditions
- If outside, stack on level bearers and cover with a tarpaulin; do not use polythene as it can cause condensation
- Store in the sequence of use
- Use spacers between frames with projecting sills or hardware
- Do not lift frames by their fittings.

When fitting windows:

- Use durable packings between windows and the structure to avoid distortion to the frames when securing them
- Take care with packings to sash windows not to distort the sliding mechanism
- Damp proofing should be fitted in accordance with building regulations
- For fixing to the structure and gap sealing, use specialised proprietary fixings and foams, in accordance with the manufacturer's instructions.

Avoid projecting timber sills and use stone, brick or tile sub-sills which allow the windows to be recessed to provide protection for the window and brickwork (a requirement of **Approved Document L** of the Building Regulations).