

## A guide to a comfortable, efficient home

# Windows

Upgrading windows can make a significant difference in a home's energy efficiency, comfort, and warmth.

Windows can lose more than ten times the heat of a well-insulated wall. Developments in window and glass technology mean that new windows can reduce a homes' heat loss significantly. Look for windows with a U-value (whole unit) of less than 1.0 W/m<sup>2</sup>K to ensure excellent insulation. To achieve the best performance from your new windows, make sure that they are installed using the latest insulation and airtightness products.

### Key considerations for window replacement

#### Airtightness

Ensure an airtight seal between the window frame and the external wall to prevent draughts and heat loss. High-performance airtightness tape is recommended to limit infiltration, making the home warmer and more energy-efficient.

#### Thermal bridging

The connection between the window and the wall is a common weak point for heat transfer. To reduce the risk of condensation and mould growth:

- Use low-conductivity materials, such as cavity closers and compacfoam.
- Apply a thin layer of insulation to the internal window reveal such as Pavatex wood fibre reveal board or Gyproc thermaline wallboard.

#### Ventilation system

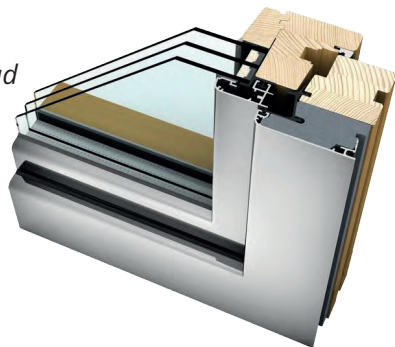
Most new windows come with trickle vents as standard. When combined with extractor fans these form the basis of a basic ventilation system. Some homes require more advanced ventilation, particularly if you're aiming for high levels of insulation so it's important to make decisions about your ventilation system before ordering new windows.

#### When replacement isn't possible

In listed buildings or conservation areas, replacing the whole window may not be appropriate. In these cases, consider alternative methods to improve efficiency, such as:

- Draught proofing to seal gaps and prevent cold air from entering.
- Secondary glazing to add an extra layer of insulation while preserving the original window.
- Vacuum glass retrofitted into the original frame (providing the existing glass is not historic).

Triple glazed aluclad timber window  
(Source: Iternom)



Secondary glazing  
(Photo by: Cosy Homes Oxfordshire)