



Choosing the right reversible hinge for your needs



In Partnership with



Choosing the right reversible hinge for your needs



Windows are essential in any building – but especially in high-rises, where they are one of the few points of contact occupants have with the outside world.

However, traditionally, there are two problems with the windows in high-rise buildings: they are expensive to clean at scale, and they are difficult and unsafe for occupants to clean from the inside.

The solution to this is reversible windows, which rotate fully, bringing the outer pane inside the room. But because there are two main types of reversible hinge available, fabricators often find it easier to stock only one, or none at all. This means many high-rise windows are not fitted with the best solution for the purpose.

Here is a look at the issue of reversible window hinges in high-rise and multi-storey buildings and how you can ensure you choose the right hinge every time.

The problem of cleaning windows at height

Without reversible hinges, cleaning windows in elevated buildings from the inside is risky. Large panes are difficult to reach fully, encouraging users to lean outwards, often while standing on unstable furniture or window ledges. This creates a fall risk and exposes occupants and passers-by to danger.

Only with reversible hinges that incorporate a lock-out function when reversed does the operation become safe. Reversible hinges allow the windows to rotate inwards, bringing the entire external glass surface inside the room, where users can maintain stable footing and complete the task safely and conveniently.

The issue is that there have long been two variants of reversible hinge available: hold-open and easy-close, traditionally known as the 'hotel' variant:

In Partnership with



Council for Aluminium
in Building



- Usually preferred in private residences where users will be familiar with the operation, “Hold-open” hinges are designed to stay open at a fixed point, holding the sash securely in the restricted and ventilation positions against moderate wind loads.
- Generally preferred in social housing and public buildings where users may not be familiar with the operation, “Easy-close” hinges are designed primarily for simplicity in operation for the end user, requiring no interaction with the restricting mechanism on closure of the window. The product will still limit the opening distance to the restricted or ventilation positions but may close under wind load.

Because these functions are typically offered separately, fabricators may choose to stock only one type or avoid reversible hinges altogether. The result is that many high-rise and multi-storey buildings are fitted with windows that do not offer the level of cleaning convenience, safety, or flexibility they could.

In Partnership with



A clear duty of care

The issue of poor hinge specification in high-rise and multi-storey buildings becomes particularly serious when you consider that hospitals, tower blocks, and other public buildings have a duty of care to their users. This includes:

- Maintaining windows to prevent falls, falling objects, and water ingress
- Reducing risks associated with working at height, including safe window cleaning and maintenance methods
- Ensuring accessibility for all users, including disabled, elderly, and vulnerable occupants
- Meeting relevant building regulations, standards, and guidance
- Minimising hazards to passers-by, such as falling glass, panels, or debris
- Providing safe environments for staff carrying out maintenance and cleaning

Failure to live up to this duty of care can have serious consequences. These include civil claims for compensation if users are injured and prosecution under health and safety legislation. This is not to mention substantial fines, increased insurance costs, and reputational damage that can be hard to recover from.

Aside from these unwanted outcomes, it also makes financial sense to install the right hinge. All public buildings must manage tight budgets, and with high-rise window cleaning often costing £10,000+, there are significant sums to be saved by enabling building users to clean their own windows from the inside.

The hybrid solution

Today, it is no longer necessary to choose between hold-open and easy-close functionality. Modern hybrid reversible hinges incorporate a dual-closing function that can be configured after installation to operate as either:

- Hold-Open (also known as anti-blow back) (the window resists wind forces and improves control in exposed or high-rise environments)
- Easy-close (allowing the sash to be closed easily by the end user without interaction with the restricting mechanism).

This approach delivers safe internal cleaning, alongside controlled holding when required, without changing hardware. For fabricators, it simplifies stockholding; for specifiers, it ensures the right solution is available for every building type; and for users, it provides safer and more convenient windows.

In Partnership with



Council for Aluminium
in Building



The regulations

The issue of poor hinge specification in high-rise and multi-storey buildings becomes particularly serious when you consider that hospitals, tower blocks, and other public buildings have a duty of care to their users. This includes:



PAS 24

A UK Product Assessment Specification that sets out how doorsets and windows are tested and assessed for enhanced resistance to attack by casual or opportunistic burglars, PAS 24 applies to new products before installation and covers a wide range of door and window types.

BS 8213-1

BS 8213 is a British Standard that provides guidance on the safe design, construction, operation, and maintenance of windows, including door-height and roof windows. It focuses on safety in everyday use and during cleaning, covering opening behaviour, controls, restrictors, reach, and safe access at height.

BS 6375

BS 6375-1 provides guidance on selecting and specifying windows and doorsets in the UK based on their performance characteristics. It focuses on weathertightness, including air permeability, water tightness, and wind resistance, and applies to both factory- and site-glazed products.

BS 6375-2

BS 6375-2 covers operation and strength performance requirements, including durability classification in accordance with EN 12400. It addresses mechanical performance, including operating forces, load-bearing capacity of safety devices, and resistance to vertical loads and static torsion.

Building Regulation - (Scotland) Regulations 2004

For projects in Scotland, the Building (Scotland) Regulations 2004 set the legal standards for the design, construction, and alteration of buildings. They aim to ensure buildings are safe, healthy, accessible, energy efficient, and sustainable, and cover structure, fire safety, security, drainage, ventilation, and energy performance.

Only when a reversible window hinge combines hold-open and easy-close functionality in a single package and meets all the above standards can it be said to provide the all-round solution you need.



British Building Regulations

Fully reversible hinges comply with Approved Document Q where the complete window is tested and certified to PAS 24 with those hinges fitted, demonstrating resistance to opportunistic attack and secure performance. They also align with Approved Document B by supporting safe means of escape, enabling windows to open fully, smoothly and in the correct direction of escape, without impediment, which is essential for effective fire egress, occupant safety, and ease of evacuation in residential buildings when specified as part of a compliant window.

In Partnership with



Council for Aluminium
in Building



Introducing the Yale Revolution Window Hinge

The Yale Revolution Window Hinge is a fully reversible hinge that allows building users to rotate the window 180 degrees, making cleaning from the inside safe, simple, and convenient.



Thanks to its unique patented dual closing function, the functionality can be switched after installation between anti-blowback (Hold-open) and easy-close functions depending on specification and housing requirements, so Specifiers can choose to retain "hold-open" functionality or remove this feature to provide "easy-close" for the end user.

Onsite configuration allows for increased flexibility across housing portfolios with multiple building types, and also helps reduce time and costs associated with returns or contractors carrying high levels of stock.

The hinge is offered in 27 sizes, providing a comprehensive selection that suits sash heights from 300 mm up to 1,780 mm and can be included in PAS 24 window sets. It is compatible with PVCu, timber, and aluminium windows.

The hinge holds full BBA certification, demonstrating consistent performance, quality, and manufacturing standards. To maintain certification, products undergo both a QA assessment and an annual audit of the product and manufacturing process. Additionally, the Yale Revolution Window Hinge is manufactured in the UK, proudly bearing the Made in the UK marque.



Furthermore, the Yale Revolution Window Hinge has achieved a product-specific Environmental Product Declaration (EPD). The globally recognised declaration provides environmental information on the Yale Revolution Window Hinge and the materials used to make it. It also details the manufacturing processes involved, including the environmental implications of the raw material used, energy efficiency, transportation impact, and waste generation.

In addition, the fully reversible windows are by definition flush systems, meaning they perfectly match the aesthetic flush trend that is currently popular with many homeowners.

Find out more: <https://www.yaledws.co.uk/uk/en/products/window-hinges/the-yale-revolution-window-hinge>.

Avoid the pitfall of unsuitable window hinges in elevated buildings. Instead, invest in a fully reversible, hybrid hinge for your upcoming projects – and provide a solution that is safer, more convenient, and more cost-effective.

To find out more about the Yale and its range of door and window solutions, please visit www.yaledws.co.uk

In Partnership with



Council for Aluminium
in Building

About

Yale is trusted by millions of people every day to keep what's important to them safe.

Our innovations have protected their homes, families and belongings for over 180 years.

We have expanded from being a leader in mechanical lock engineering to innovating connected smart locks and homes.

Because we always make every effort to push the boundaries in a changing world.

We were there for your grandparents (and probably theirs) and we'll be there for your children.

Today, and every day to come.

About

Together, we are the global leader in access solutions.

Every day, ASSA ABLOY helps people feel safe, secure, and fosters a more open world.

With 63,000 employees worldwide and sales of EUR 13.2 billion, we hold leading positions in efficient door openings, trusted identities, and entrance automation.

Our innovative products make accessing physical and digital spaces safer, more secure, and more convenient.

About

The Council for Aluminium in Building (CAB) was formed in 1994 by the bringing together of three existing trade associations; the Architectural Aluminium Association, the Patent Glazing Contractors Association and the Aluminium Window Association.

Its members include consultants, fabricators, installers, systems companies and many specialist product supply and manufacturing companies.

CAB became a company limited by guarantee in January 2006.



This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.



Trusted every day

Yale Door and Window Solutions
School Street, Willenhall,
West Midlands,
WV13 3PW

www.yaledws.co.uk