



**CS 77 WINDOW
FOR ACCESSIBLE HOMES**

R
REYNAERS
aluminium



LIFETIME HOMES AND DOCUMENT M

There is a recognised need for thousands of new homes to be built in the UK, and increasingly these homes have to be designed in such a way that it is easier for disabled and elderly people to live independently in their homes for longer, without compromising on aesthetics or cost-effectiveness.



Document M in the Building Regulations for England includes three categories of guidelines aimed at making new homes accessible and adaptable to accommodate the needs of the occupiers and their visitors:

- Category 1 - Visitable dwellings
- Category 2 - Accessible and adaptable dwellings
- Category 3 - Wheelchair user dwellings

Categories 2 and 3 are 'optional requirements' but they may be stipulated as part of the planning requirement.

In Wales, all publicly funded new homes are being built to the Lifetime Homes Standard, which comprises 16 design criteria based on five overarching principles that achieve much the same thing as Part M(4) Category 2 of the English Building Regulations:

INCLUSIVITY

The potential to provide for the widest cross-section of individuals within the general population.

ACCESSIBILITY

Helping the widest range of people get to the home and move around and use the essential facilities within the home.

ADAPTABILITY

The building and its facilities can be easily adapted to meet its occupants' changing needs over time.

SUSTAINABILITY

The creation of stable and popular communities supported by the availability of well-designed and flexible houses that people want to live in.

GOOD VALUE

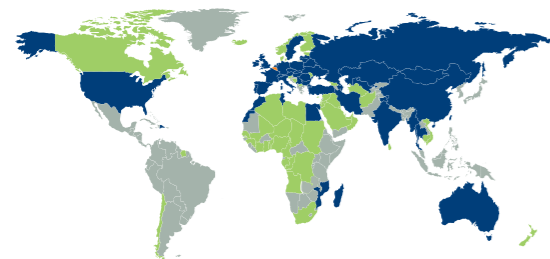
The criteria can be incorporated into the design from the outset with only a marginal cost effect. The adaptability of the dwelling should actually save a household money if changes are required.

For a window to support an accessible housing design, it needs to be well designed and positioned in the right way. Categories 2 and 3 of Approved Document M(4) and the Lifetime Homes standard set out the requirements for positioning to ensure usability for a wide range of users, including elderly and disabled people and people who use wheelchairs. For more information on Lifetime Homes, go to www.lifetimehomes.org.uk. For Approved Document M(4) of English Building Regulations, visit www.gov.uk and search for Document M.

ABOUT REYNAERS

For over 50 years, Reynaers Aluminium has been designing cutting-edge glazing solutions for some of the most iconic buildings in the world. Engineered without compromise, our range of aluminium windows, doors and curtain wall systems have been specified time and again by the world's leading architects and construction companies.

At Reynaers we are recognised globally for the premium quality of our products. To help us maintain this reputation, we have invested in a world-class design and testing facility. When you choose Reynaers products, you can rest assured that you are choosing a product that will not only look great, but will also offer industry-leading performance and reliability.



- Headquarters: Duffel, Belgium
- Countries with offices
- Countries with sales only, no offices



RECOGNISING THE PROBLEM

Being able to open and close a window is something that many of us take for granted.

Most domestic properties in the UK have windows that open outwards, often with a handle that is half-way up the window.

For many elderly or disabled people, those in wheelchairs for example, reaching the window handle can be problematic, and when the window is opened, the handle moves even further away, making closing the window even more awkward. A window above a kitchen sink or over a staircase, for example, can be awkward to reach for all but the tallest, able-bodied people.

Reynaers' window for accessible homes offers an ingenious and very welcome solution with absolutely no compromise on the aesthetics or performance of the window.

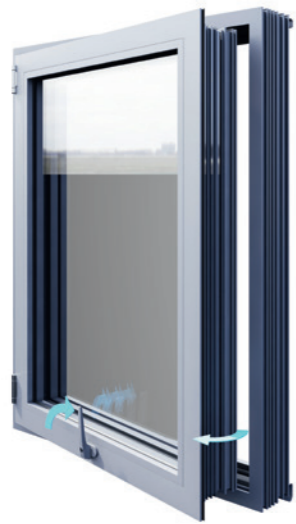
HOW REYNAERS' WINDOW FOR ACCESSIBLE HOMES WORKS

Reynaers' solution is based on two principles. Firstly the window opens inwards instead of outwards. This means that the handle is not moving out of reach when the window is opened. Secondly, the window has a very ingenious mechanism to open and close the window.

The handle is located centrally on the horizontal frame at the bottom of the window to keep it within easy reach.

OPENING OPTION ONE

Turn the handle through a quarter turn and the window will swing inwards on side hinges like a door.



Handle pointing upwards: window swings inwards on side hinges

OPENING OPTION TWO

Push the window shut and turn the handle through another quarter turn and the window will tilt inwards on bottom hinges to provide ventilation.



Handle pointing to the right: window tilts inwards on bottom hinges

THE CLEVER BIT

The really clever bit is that when you want to close this tilted-in window, there is no need to reach up to the top of the open window to push it shut. Just turn the handle back again and the mechanism will close the window for you.



Handle pointing to the left: window is closed



PERFORMANCE

Reynaers' window for accessible homes is a variant of the CS77 window system, which has proved to be immensely popular over recent years and remains Reynaers' best-selling window system in the UK. This highly insulated window offers excellent performance and great versatility.

MAXIMUM SIZES	
Maximum vent weight	80kg
Maximum vent size	2.2m ²
Maximum vent width ¹	1,434mm
Maximum vent height ¹	1,634mm

SIGHTLINES	
Outer frame depth	68mm
Vent depth	77mm
Visible frame width (outside)	64mm**
Visible vent width (outside)	51mm
Visible frame width (inside)	34mm**
Visible vent width (inside)	81mm

ACOUSTIC PERFORMANCE	
Noise resistance test ⁸	Rw (C;Ctr) = 36 (-1; -4)dB / 42 (-2; -4)dB

WEATHER PERFORMANCE	
Air-tightness ²	Class 4
Water-tightness ³	Class 9A
Wind load - max. test pressure ⁴	CE2400
Wind load resistance - frame deflection ⁴	Class C

Importantly this window was tested at its maximum size

THERMAL PERFORMANCE	
Uf value ⁵	Down to 1.9W/m ² K*
Uw value ⁶	Down to 0.92W/m ² K*

SECURITY PERFORMANCE	
Burglar resistance test ⁷	PAS24 2012

Notes

- * Depending on the frame/vent combination and the glass thickness
- ** Depending on the outer frame selected
- 1 Specific details of maximum sizes are shown in the Lifetime Homes CS 77 product catalogue.
- 2 The air-tightness test (EN1026; EN12207) measures the volume of air that would pass through a closed window at a certain pressure.
- 3 The water-tightness test (EN1027; EN12208) involves applying a uniform water spray at increasing air pressure until water penetrates the window.
- 4 The wind load resistance test (EN12210; EN12211) is a measure of the profile's structural strength and is tested by applying increasing levels of air pressure to simulate the wind force.
- 5 The Uf value is a measure of heat transfer across the frame. The lower the number, the better the thermal insulation.
- 6 The Uw value is a measure of heat transfer across the whole window - including the frame and glass. The lower the number, the better the thermal insulation. This was achieved with a window measuring 1,388mm x 1,676mm, using triple glazing with Swisspacer Ultimate.
- 7 Burglar resistance is tested with both static and dynamic loads as well as by simulated attempts to break in using specified tools.
- 8 The sound reduction test (EN ISO 140-3; EN ISO 717-1) measures the ability of the frame to cut out unwanted noise.

OPTIONS

HANDLE

The standard lockable handle is available in a selection of different colours. Details are available on request.

WINDOW DESIGN

Reynaers' window for accessible homes is available as a turn/tilt window. It is possible to add a fixed-pane window above, below, or to the side of the opening window.

GLAZING BEADS

A number of glazing beads are available to accommodate glazing thicknesses from 4mm to 42mm.

HINGE COVER CAPS

Available in white as standard. Other colours may be available on request.





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