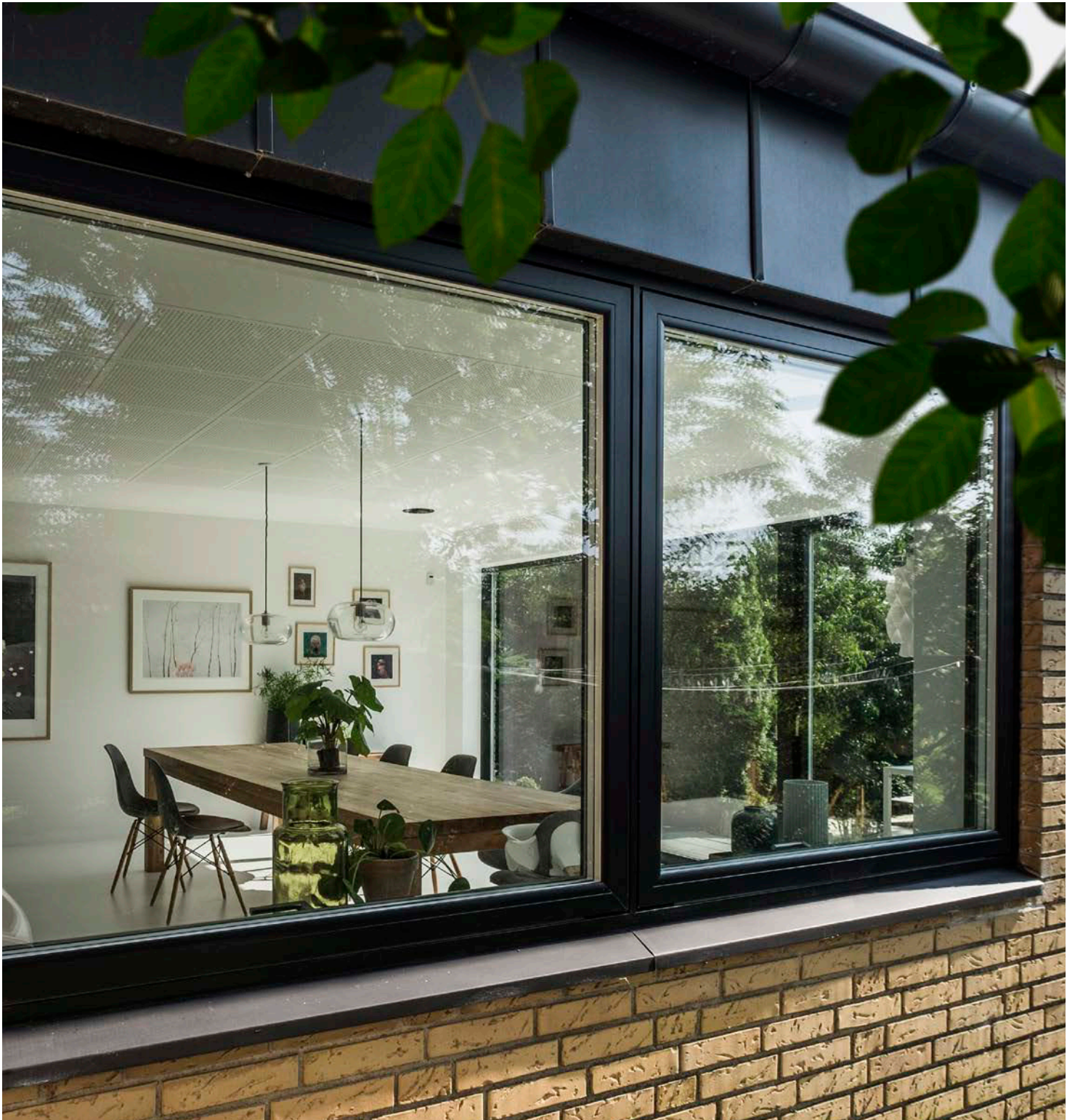


**rational**<sup>®</sup>

# Windows and doors

Beautiful design for sustainable living



Rational windows and doors

# Our story

From a small workshop in Denmark in 1954, a lone carpenter worked diligently to create his first order of 31 barn windows. He invested the profits in modern machinery and Rational was born. More than 60 years later we're still here, shipping 600,000 state-of-the-art windows and doors around the world each year. All of them bespoke, all of them beautiful. We may have grown, but we've maintained our firm focus on quality craftsmanship and service.

Rational today is part of DOVISTA, itself part of the VKR Group, whose mission is to establish model companies that create products useful to society and treat customers, suppliers, employees and shareholders better than most other companies.

At the heart of the organisation is a set of Charitable Foundations created to assist employees and their local communities, as well as fund a wide range of environmental, cultural and social programmes.



1954

**The first factory**

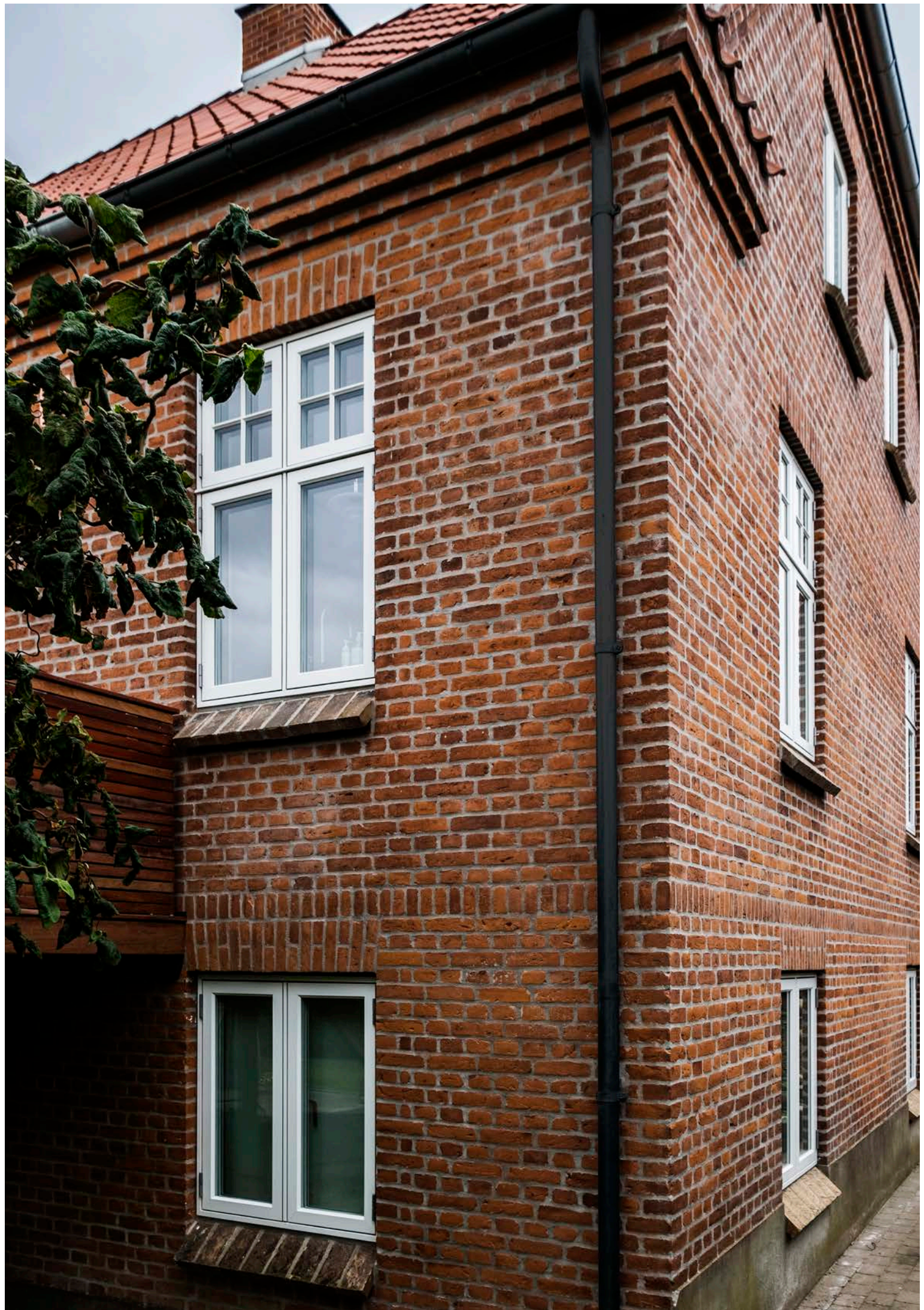


1954

**The first windows leave the factory**

# Contents

5	The right choice for your home
6	Windows
8	Rationel AURA and AURAPLUS
10	Rationel FORMA and FORMAPLUS
12	Window types and openings
14	Doors
17	Customising your door
18	For your inspiration
20	Door types and openings
22	Glazing options
23	Handles and accessories
24	Secured by Design and Part Q
26	Colours



# The right choice for your home

Your door is the gateway to your home; the way it looks and moves influences the building's architectural expression. Your windows set the mood, determining the light and temperature of your environment. Every detail changes how you and your guests feel about your home.

All our products are bespoke, so it's important to carefully consider every aspect – from colour to glazing options to opening and closing functions.

The pages ahead feature our regular style options for your inspiration; we can also manufacture specially shaped units to suit unique spaces. Our experts can help guide your decisions by taking into account the details of your build and the overall impact you are aiming for.

You can visit our website for technical drawings, certification data, videos and more: [rational.co.uk](https://www.rational.co.uk)

# Windows

Windows can shape your outlook in more ways than one. From the way the light gathers at dawn to the flow of air during a hot summer, every element should complement your lifestyle. Let us introduce our two signature styles, AURA and FORMA. Both are available with double and triple glazing. The PLUS models feature timber frames with aluminium cladding, which opens up a new range of possibilities.

## Rational AURA and AURAPLUS

AURA personifies clean lines. The sleek, flat frame gives your window a flush finish for a truly modern, Scandinavian feel. This is our most popular profile, especially for a stand-out “grand design”. Optional glazing bars can increase the architectural elegance of this style. Made from sustainably sourced timber, your windows and doors will last for decades if looked after.

Choose AURAPLUS and we add aluminium cladding to the timber, which means maintenance becomes minimal and life expectancy rises by another 20+ years. The cladding comes in hundreds of colours and gives you the flexibility to have one colour inside your home and another on the outside. It can make a real impact and adds the durability to deal with the harshest of weather.

## Rational FORMA and FORMAPLUS

Designed to complement traditional British architecture, FORMA brings a softer line to your windows and ensures your project blends with its environment. Beautifully styled in sustainable timber that will last for decades, the bevelled edges bring a homely feel. The colour palette is extensive, with the most popular choices shown on page 27; you’ll be choosing the same colour inside and out.

Make it FORMAPLUS and the aluminium cladding gives you the option of another colour for the outside of your home – however, it’s unlikely you’ll want to cover up this beautiful styling. The cladded frame requires minimal maintenance and is extremely durable in all weather conditions. All styles are available with glazing bars, which particularly suit this style of window.



# Our contemporary style

Rationel AURA and AURAPLUS



Top  
**Topguided window**

Top  
**Side opening with fixed lights**

Bottom  
**Reversible windows**

Bottom  
**Casement door**

This development used fully reversible windows with coloured opaque glass on the first floor.



# Key features

## Rationel AURA and AURAPLUS

AURA and AURAPLUS come with security hardware as standard to meet Secured by Design requirements. The majority of timber originates from FSC®-certified forests. Read more at [rationel.co.uk](http://rationel.co.uk)

### Triple glazed

- 0.78 W/m<sup>2</sup> K U-value
- 42 dB Rw sound reduction



### Triple glazed

- 0.79 W/m<sup>2</sup> K U-value
- 42 dB Rw sound reduction



### Double glazed

- 1.29 W/m<sup>2</sup> K U-value
- 41 dB Rw sound reduction



### Double glazed

- 1.29 W/m<sup>2</sup> K U-value
- 40 dB Rw sound reduction



#### Top and bottom **Rationel AURA**

- Timber frame
- Minimum 40-year life expectancy
- Available in more than 200 colours

#### Top and bottom **Rationel AURAPLUS**

- Aluminium-clad timber frame
  - Low-maintenance
- Minimum 40-year life expectancy
- Available in more than 200 colours
  - Dual colour no extra charge

# Our traditional style

## Rational FORMA and FORMAPLUS



Top  
**Side hung window**

Double side hung window with satin glass.

Bottom  
**Side guided windows**

This residential development used side guided windows with horizontal glazing bar.

Top  
**Double casement door**

Bottom  
**Double patio door**

# Key features

## Rational FORMA and FORMAPLUS

FORMA and FORMAPLUS come with security hardware as standard to meet Secured by Design requirements. The majority of timber originates from FSC®-certified forests. Read more at [rational.co.uk](http://rational.co.uk)

### Triple glazed

- 0.78 W/m<sup>2</sup> K U-value
- 42 dB Rw sound reduction



### Triple glazed

- 0.80 W/m<sup>2</sup> K U-value
- 43 dB Rw sound reduction



### Double glazed

- 1.27 W/m<sup>2</sup> K U-value
- 40 dB Rw sound reduction



### Double glazed

- 1.28 W/m<sup>2</sup> K U-value
- 40 dB Rw sound reduction



#### Top and bottom **Rational FORMA**

- Timber frame
- Minimum 40-year life expectancy
- Available in more than 200 colours

#### Top and bottom **Rational FORMAPLUS**

- Aluminium-clad timber frame
  - Low-maintenance
- Minimum 40-year life expectancy
- Available in more than 200 colours
  - Dual colour no extra charge

# Types and openings

## Windows

Hung, swung or guided: the drawings below show the range of styles available.  
Contact Rational for information on different style combinations.



### Topguided window

Elegant style that is suitable for all rooms. Simple, seamless opening function allows for effective ventilation when open, both above and below the sash. Clean look with no visible external hinges.

Min. width	Min. height	Max. width	Max. height
358mm	383mm	1,798mm	1,598mm



### Fully reversible window

Multi-functional style suitable for multi-storey buildings. Sash can be turned to clean the glass from the inside. Comes with a child-proof opening limiter.

Min. width	Min. height	Max. width	Max. height
553mm	548mm	1,598mm	1,598mm



### Fixed light

Simple style that allows for optimal views. Ideal when you need maximum internal light and solar heat. Can be fitted with trickle-vents for ventilation.

Min. width	Min. height	Max. width	Max. height
253mm	253mm	2,998mm	2,998mm

All maximum width and height measurements are subject to glass weight and specification.



### Side hung window

Simple, stylish design with a seamless opening function. On larger windows, the friction brake allows the window to be fixed in any open position. Suitable as escape windows.

Min. width	Min. height	Max. width	Max. height
353mm	353mm	948mm	1,798mm



### Side guided window

Minimalist design that moves seamlessly, with no visible external hinges. When fully open the glass can be cleaned from the inside..

Min. width	Min. height	Max. width	Max. height
453mm	438mm	998mm	1,798mm



### Tilt and turn

Multi-functional style suitable for multi-storey buildings. Tilt function opens the top of the sash inwards for ventilation. Can be cleaned from the inside, and are perfectly suited as “escape windows” or emergency exits. **Available in AURAPLUS triple glazed only.**

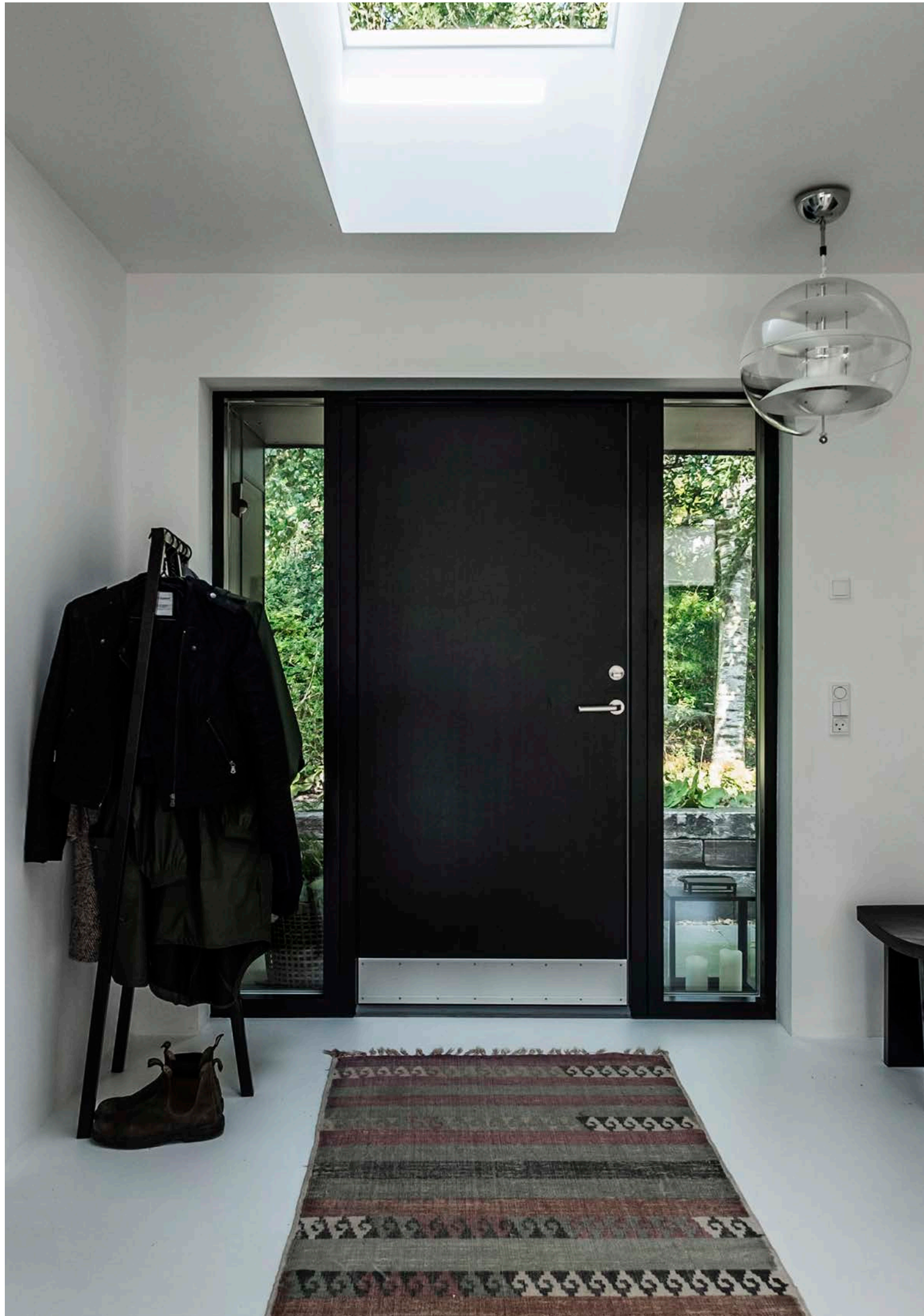
Min. width	Min. height	Max. width	Max. height
478mm	438mm	1,298mm	2,400mm

All maximum width and height measurements are subject to glass weight and specification.

# Doors

Make a grand entrance with a bold front door or bring fluidity to your space with sliding patio doors; a great door will change the way you live. Browse the styles, colours, materials and security features we offer in the following pages.





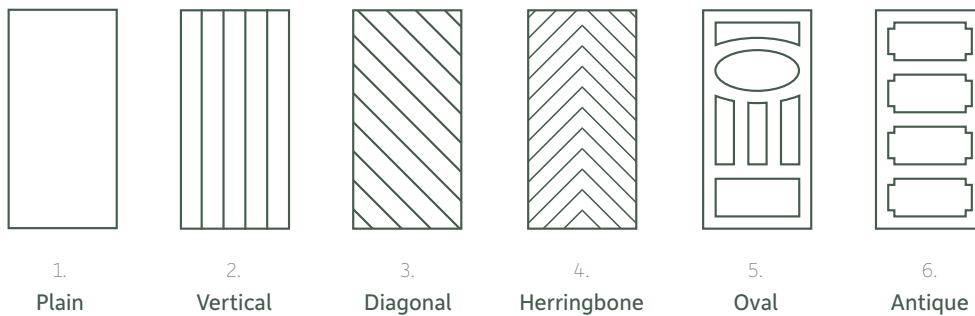


# Customising your door

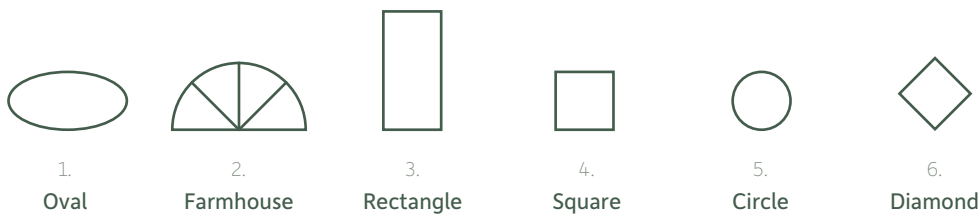
The following illustrations are examples of door and vision panel styles that can be matched.

## Flush entrance doors

Flush entrance doors can be customised, with several options to mix and match your preferred door with vision panel style and position.

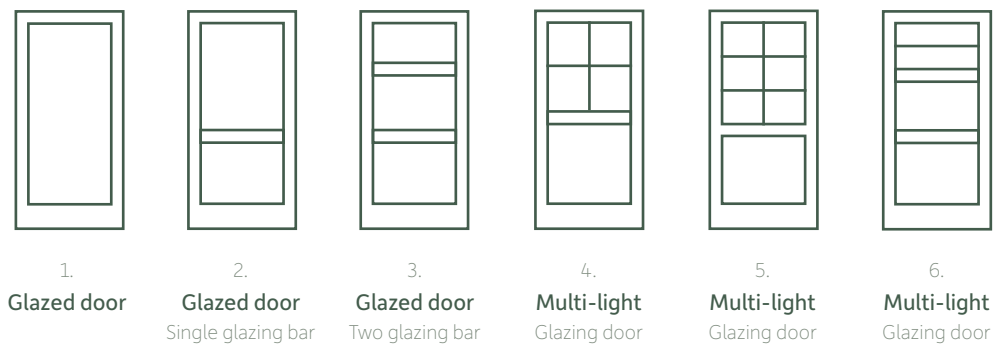


## Window types



## Glazed entrance doors and patio doors

Glazed entrance doors can also be customised. We can recommend standard options or work with you to create any variation you require.



# For your inspiration



1.  
Glazed  
entrance door



2.  
Glazed  
entrance door



3.  
Flush  
entrance door



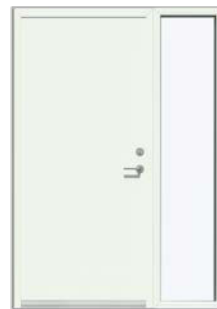
4.  
Flush  
entrance door



5.  
Flush entrance door  
with integrated side light



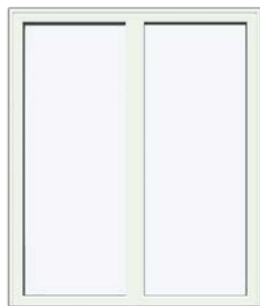
6.  
Flush entrance door  
with integrated side light



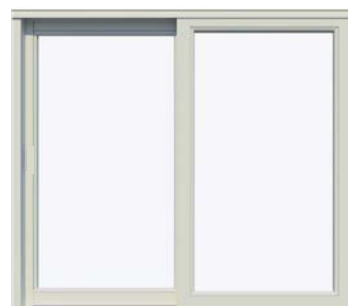
7.  
Flush entrance door  
with side light



8.  
Glazed entrance door  
with integrated side light



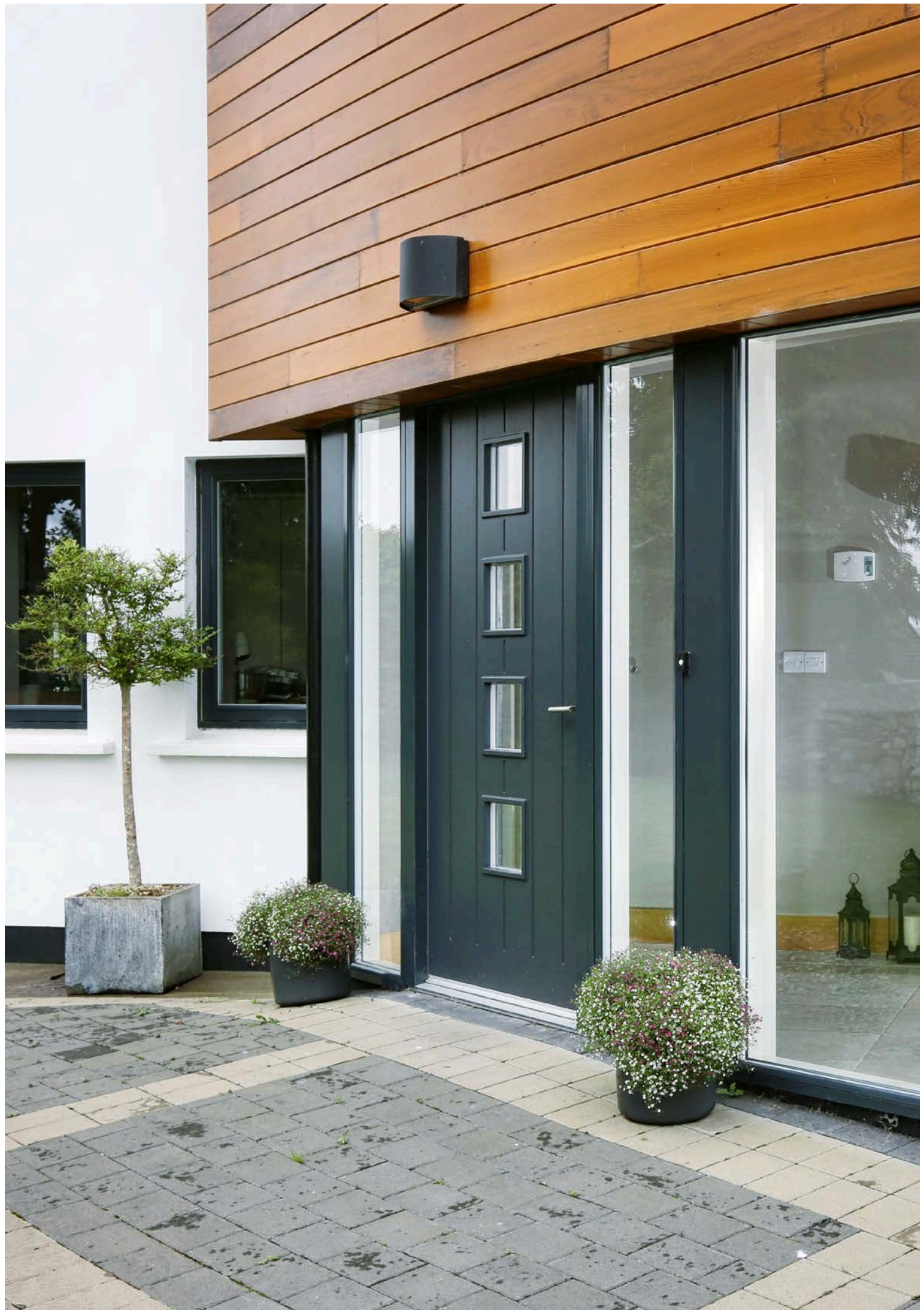
9.  
Double casement door



10.  
Sliding door  
Only available in AURAPLUS  
triple-glazed only

## Your choice

Contact us for more options, we can help you design the perfect door for your project.



# Types and openings

## Doors

Tilt, turn or slide: the drawings below show the range of styles available.  
Contact Rational for information about more options and style combinations.



### Flush entrance door

Available as inward- or outward-opening, flush doors are hung on grey powder-coated adjustable hinges and fitted with a minimum three-point locking espagnolette bolt.

Flush doors can be manufactured with a wide range of patterns and vision panels.  
See examples on page 17.

Min. width	Min. height	Max. width	Max. height
653mm	1,703mm	1,198mm	2,398mm



### Glazed entrance door

Available as inward- or outward-opening, glazed entrance doors are hung on grey powder-coated adjustable hinges and fitted with a multipoint lock box with latch deadbolt locking espagnolette bolt.

Glazed entrance doors are constructed using a frame and sash with an option of glazing bars, transoms and mullions. The glass can be composite or insulated panel.

Min. width	Min. height	Max. width	Max. height
653mm	1,703mm	1,198mm	2,498mm



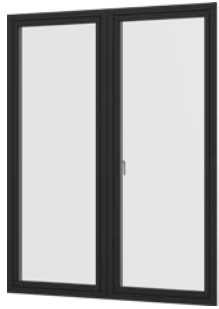
### Patio door

Available as either inward- or outward-opening, patio doors are ideal for access to balconies, gardens and patios.

Doors have an inbuilt friction brake\*, operated by turning the handle down in any given position. They are hung on grey powder-coated adjustable hinges and fitted with a minimum three-point locking espagnolette bolt. \*Available on master door leaf only.

Min. width	Min. height	Max. width	Max. height
1,188mm	1,703mm	2,328mm	2,498mm

All maximum width and height measurements are subject to glass weight and specification.



### Tilt and turn door

Available as inward-opening only, tilt and turn doors function in two ways. They are hinged from the side and open inwards, or, for ventilation, the leaf can be tilted. Tilt is available on master leaf only. **Available in Rationel AURAPLUS triple-glazed only.**

Min. width	Min. height	Max. width	Max. height
1,003mm	1,803mm	1,998mm	2,198mm



### Casement door

Available as outward-opening only, casement doors are ideal for access to balconies, gardens and patios. The slim construction allows maximum daylight and heat into the house without compromising functionality and comfort. Casement doors come fitted with an inbuilt friction brake operated by turning the handle down in any given position. They are hung on grey powder-coated adjustable hinges and fitted with a minimum three-point locking espagnolette bolt.

Min. width	Min. height	Max. width	Max. height
938mm	1,703mm	2,328mm	2,398mm



### Sliding door

Designed to be as beautiful as the views they frame, sliding doors allow the garden into your home in the summer but keep the heat inside throughout the winter. Sliding doors, where one half slides and the other is fixed, are ideal when space is at a premium. The sliding part lifts easily and glides in front of the fixed section to create a clear opening of up to 1.55 metres.. **Available in AURAPLUS triple glazed only.**

Min. width	Min. height	Max. width	Max. height
1,788mm	1,863mm	3,588mm	2,388mm

All maximum width and height measurements are subject to glass weight and specification.

# Glazing options

Rational windows combine safety, privacy and energy-efficiency features that help you make the very best of your home.



## Rational SECURE

Our windows are built with security in mind. Read more about our Secured by Design certification on page 24 or watch the video on our website.



## Rational OBSCURE

Our panes are designed to restrict the view into private areas such as bathrooms. Choose from six different types of glass to get the combination of light and privacy you desire.



## Rational SAFETY

Our glass holds together when shattered, reducing the risk of injury if someone falls into the pane. The toughened glass is designed to fall out of the sash and shatter into small, harmless pieces. Panes can be made of toughened glass, laminated glass or a combination of both.



## Rational FACADE

Used in buildings either to create a visually coherent facade or for special colour effects, Facade is well suited to storey divisions as well as ventilated and insulated panels, and is available in special colours on request.



## Rational SOUND

If your home is subject to environmental noise, our noise-reducing panes are for you. Panes feature two glass sheets that act as a break, dramatically reducing the movement of sound into your home and creating a peaceful environment.



## Rational SOLAR

Our solar panes limit the amount of sunlight and heat coming into a building, depending on the light and heat shielding levels required. This means significantly less energy will be required to cool hot rooms.

# Handles and accessories

Customise your windows and doors with different handles and accessories.

## Windows



1.  
**Handle**  
Outward opening window and patio door



2.  
**Handle**  
With lockable child safety lock



3.  
**Handle**  
With child lock



4.  
**Night vent position**



5.  
**Restrictor**



6.  
**Trickle vent**

## Doors



7.  
**Entrance door handle**  
With round rose key-key



8.  
**Entrance door handle**  
With round rose key-thumb turn



9.  
**Entrance door handle**  
With back plate key-key



10.  
**Entrance door handle**  
With back plate key-thumb turn



11.  
**Patio door handle**  
With key internal only



12.  
**Sliding door finger pull**



13.  
**Sliding door handle**



14.  
**Normal letter plate**



15.  
**Secured by Design letter plate**

# Secured by Design and Part Q

Our experience working with housing associations, community developments and commercial projects means the security and safety of our doors are second to none.

Our doors are tested and marked according to several national and European standards, including Secured by Design. That means the frame, lock and hardware can withstand common burglary methods.

To meet Part Q requirements, windows and doors must satisfy particular standards of robustness, use approved hardware and demonstrate proven security performance.



Top

## Three-point locking

Three-point espagnolette locking mechanism inhibits burglary.

Top

## Reinforced espagnolette

Reinforced espagnolette increases the strength of all closing points.

Top

## Reinforced screws

Extra-strong reinforced screws increase the strength of all hinges.

Bottom

## Hook bolts

Hook bolts in hardened steel combined with a reinforced front plate resist even severe attacks.

Bottom

## Laminated pane

The length of time it takes to break a laminated pane will discourage even the most persistent burglar.

Bottom

## Letterbox

The letterbox has an inner protective housing with a unique concealed hinge mechanism. This limits the opening of the inner flap for maximum protection from "fishing" burglaries.

Secured by Design



Official Police Security Initiative



# Durability tests

All our windows are tested for durability.  
A series of videos are available to view on the Rationel website.



Air permeability  
**600Pa**



Wind resistance  
**1600Pa**



Operation  
**10.000 cycles**



Water tightness  
**600Pa**

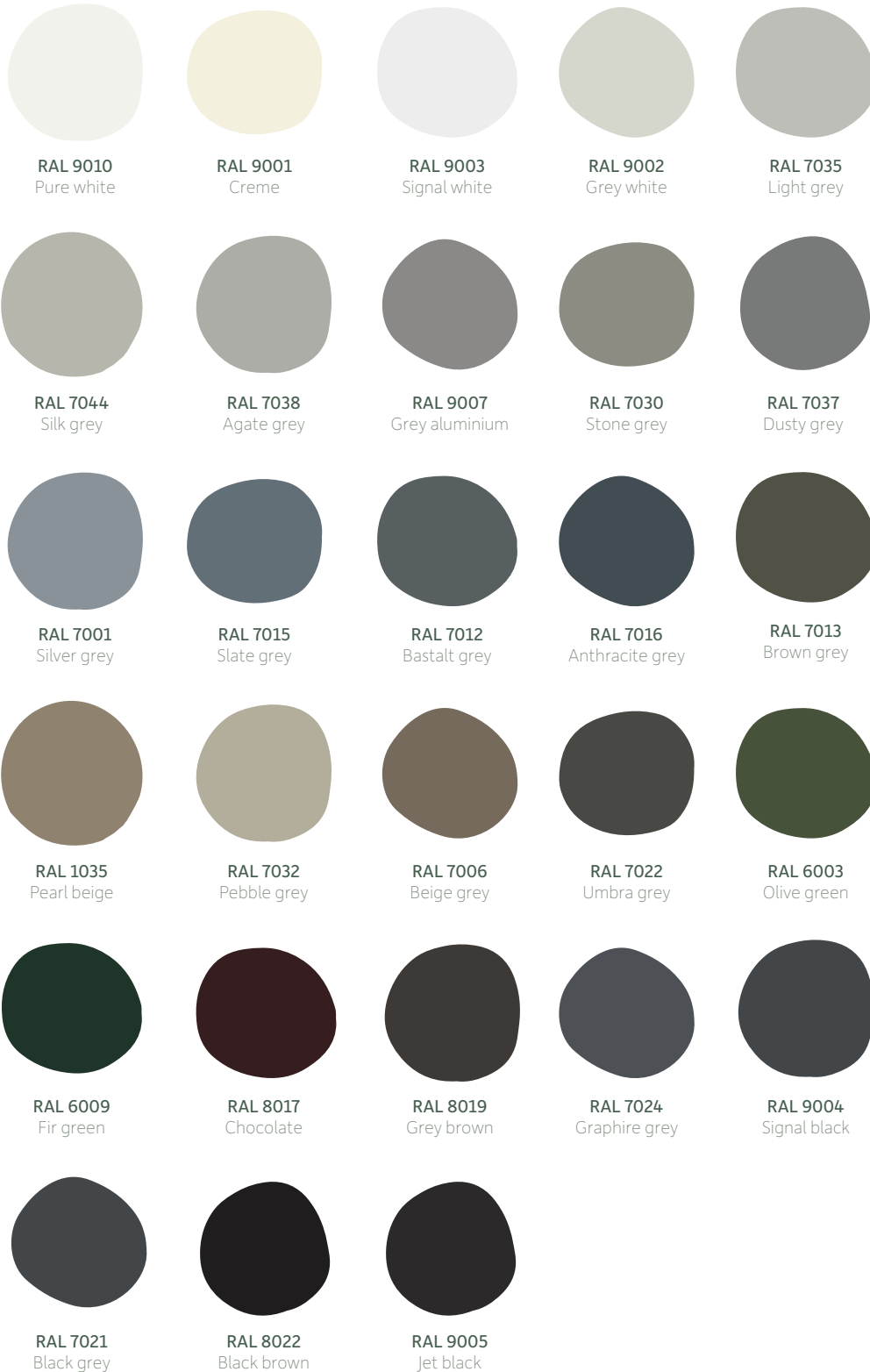
# Colour

Make a statement or play it cool with your choice of colour. Our standard colours suit most architectural styles, while our special range is ideal for highlighting unique features. Our windows and doors are available in one standard colour all over. AURAPLUS and FORMAPLUS windows can also be ordered with a different colour inside to outside, with no additional cost.



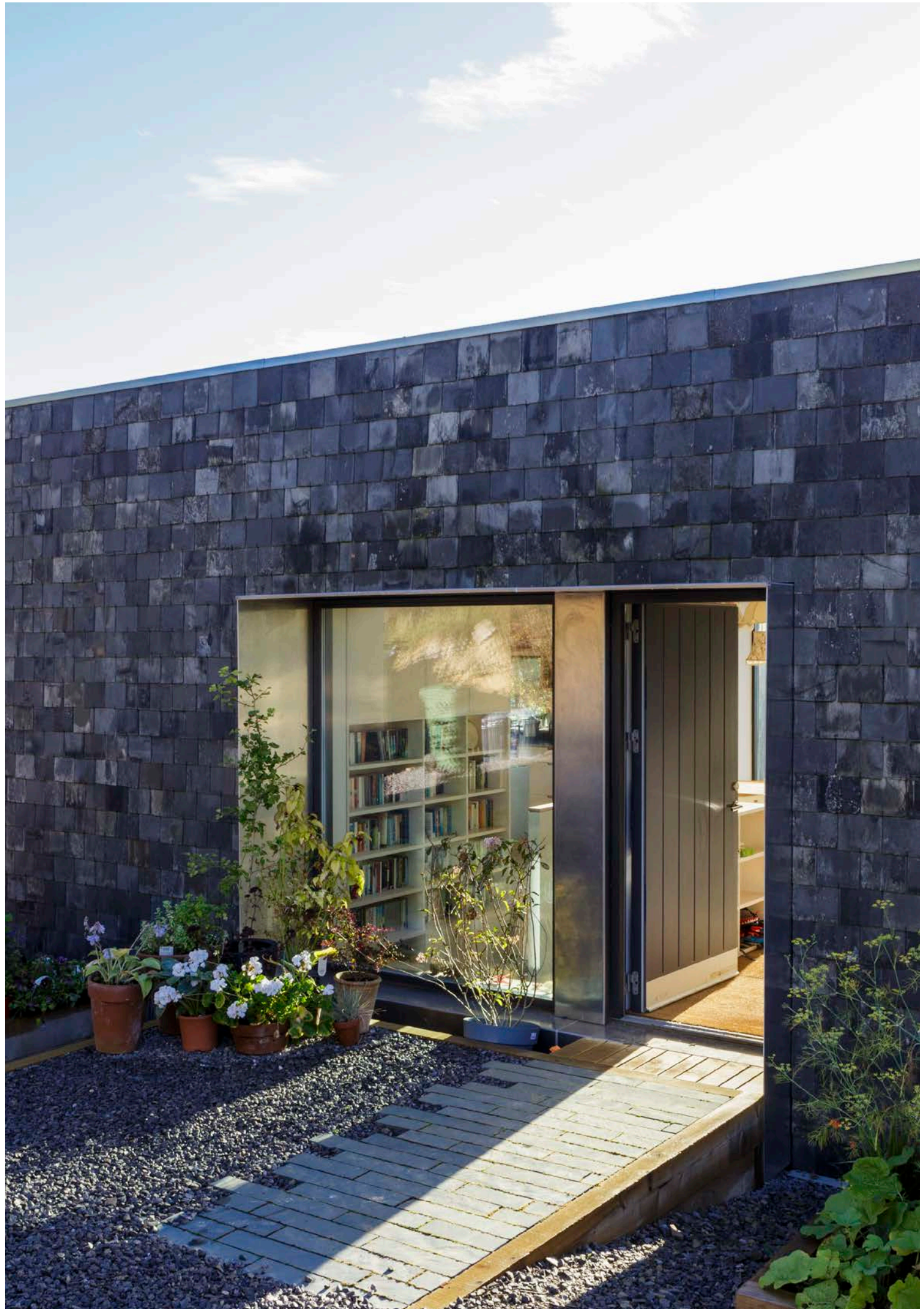
# Standard colours

If you can't see the colour you want here, you can choose from the whole RAL classic colour chart.  
Non-standard colours may be subject to additional costs and lead times.  
Colours shown are indicative only.









# Turn your dream home into a design reality

Rational specialises in Scandinavian design. Slim sight lines, high-quality timber and unique ironmongery, along with the flexibility to stand tall, slant or curve to your requirements, mean our windows and doors add something truly special to your home. Our experts will help you find the perfect style to suit your project, whether that's traditional, modern or somewhere in between. Our doors and windows look good but they perform even better; they're built to last, designed to meet the highest standards of comfort, security and weather-tightness. For your peace of mind, our doors and windows have Secured by Design accreditation, which means they are extremely difficult to break into. We plan to be crafting windows and doors for homes for generations to come. So we go out of our way to source sustainable materials, whether that's the FSC®-certified trees that go into our frames or the waste timber that fuels our factories.

Our cleverly positioned, energy-efficient windows maximise natural light to reduce CO<sup>2</sup> emissions and utility costs. We make it our mission to provide exceptional service, from initial design support to hassle-free delivery and efficient after-sales care. Our network of local distributors means we're never far away, and for the times we can't talk in person, we're just a phone call, live chat or email away.

# rational®

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