



## High performance windows & doors for low energy homes & buildings



The mark of  
responsible forestry



Passivhaus & low energy experts [www.greenbuildingstore.co.uk](http://www.greenbuildingstore.co.uk)



## Four Walls retrofit Bristol

### Energy efficient timber windows & doors for low energy & Passivhaus homes

Triple glazed windows and doors can make a big difference to your home's comfort and warmth and are essential for **ultra low energy** projects like Passivhaus.

Green Building Store's windows and doors are made from **FSC®** redwood or fair-faced oak.

#### Fitted the bill

*"We looked at different triple glazed windows and Green Building Store's PERFORMANCE range was by far the most cost-effective of all the quotes we received. They were of a high quality and the U value fitted the bill for the level of retrofit that we were aiming for."*

Ian Mawditt Client

#### Performing well

*"The thermal images of the house, before and after the retrofit, show how well the windows are performing compared to the original windows. The aesthetics of the windows are also very pleasing and they always attract interest when we do OpenHomes events etc."*

Ian Mawditt Client





**Finish quality**

*"We are pleased with the PERFORMANCE windows: they operate well and the finish quality is great. Sometimes they are even mistaken for aluminium windows because of the quality of the finish. We also found Green Building Store to be a very helpful company to deal with."*

Clients



**Newbuild project Hertfordshire**



## Newbuild project County Durham

### Meeting Planning requirements

*"Green Building Store's mock sliding sash option gave the best thermal performance sliding sash type window that we could find. It is a tilt and turn inward opening window that gives a convincing outward appearance of a sliding sash window. We were relieved that it met with the planning department's approval. We have been more than happy with the windows – they do what they say on the tin!"*

Phil Newbold

Passive House Consultant



For more on mock sliding sash windows go to [www.greenbuildingstore.co.uk](http://www.greenbuildingstore.co.uk)



**Newbuild project North Yorkshire**



**Cost effective for low energy**  
*"We chose Green Building Store's PERFORMANCE range because the price was very attractive and they were suitable for our low energy build. We also wanted triple glazing to ensure a quiet house and a design which was in no way 'fussy'. The windows are very good looking. They are plain but sleek, and fit with our traditional exterior and contemporary interior. They have attracted a lot of interest because of their quality appearance."*

Clients

## Large-scale projects



Erneley Close EnerPHit project Manchester

### Part of the team

*“Green Building Store’s PERFORMANCE window suited the project for a number of reasons. It is a substantial window which is solid without being too clunky and is sufficiently robust to help us meet the EnerPHit airtightness requirements. It also offered a cost-effective option for the project and an alternative to high-end Passivhaus ranges. It was really good to have Green Building Store’s input on window detailing at the very beginning of the project. We got far more input from Green Building Store than we would get from other window suppliers and they very much worked with us as one of the team.”*

Eric Parks and Nittai Edelmann  
Architects

[www.greenbuildingstore.co.uk](http://www.greenbuildingstore.co.uk)

### Competitive advantage

*“When we were researching Passivhaus suitable window components, we came across Green Building Store’s PERFORMANCE range which offered the high performance that we needed, combined with affordability. We put them out to tender with our contractors against a competitor’s range and the PERFORMANCE range came out on top.”*

*“We have been happy with the PERFORMANCE windows and doors – they look good and we are pleased with the finish. We would consider specifying the product again if it continues to offer a competitive advantage of price and performance.”*

Jonathan Barattini  
Architect, Gale & Snowden

## Passivhaus homes for Exeter City Council





**Aesthetics**

*“The PERFORMANCE windows and French doors from Green Building Store are very impressive. The clients and construction team have been very pleased with them. Passers-by remark on them and we’ve already had expressions of interest from other potential clients in the area.”*

Chris Hales Project Manager

**Arts & Crafts style house Sussex**



**Flexibility**

*“The clients were very keen to have triple glazing but a lot of the suppliers we explored couldn’t provide the interstitial glazing bars, eyebrow windows or warranties required for the project. Green Building Store was able to deal with these technical requirements, whilst also offering high performance triple glazing at a good price.”*

Chris Hales Project Manager



## Refurbishment Angus

### Traditional

*"We wanted timber windows with a traditional look to match the original style of windows with glazing bars and we also wanted to have good energy efficiency."*

*"The PERFORMANCE windows and doors are great and are of a high quality. We're really pleased with them. The glazing bars and frames look slender and suit the building well."*

Clients





#### A good fit

*"The decision to select the ULTRA windows was a combination of thermal performance, aesthetics and price. The low U values of the frames, and good g values assisted with reducing the heat losses for the house, which was critical for this project and other retrofits, where the orientation and opening sizes are relatively fixed."*

**Patrick Osborne**

Architect, Eco Design Consultants

## Passivhaus retrofit London



#### Reliability

*"There is no shortage of window suppliers in the UK however we mostly work with GBS due to reliability of delivery timings which are essential to meet strict deadlines and stay on budget. The design team respond quickly and are very knowledgeable about their products. We've also found their after-sales team very helpful and respond quickly when it comes to needing spare parts."*

**Rafael Delimata**

Technical Director,  
Bow Tie Construction





From outside

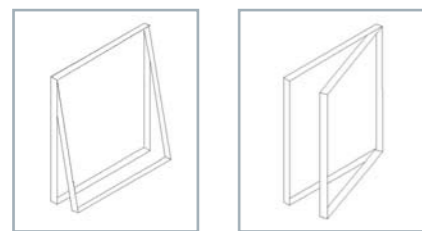


From inside

Typical maximum sizes

Fixed light: 2500 mm x 2500 mm  
 Side hung: 950 mm x 1520mm  
 Top hung: 1300 mm x 1650 mm

Opening styles



top hung

side hung



# Outward opening casement windows

## Technical data

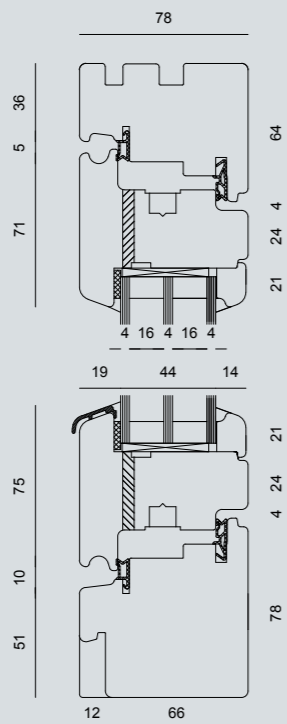
### PERFORMANCE

78mm profile  
 Cost-effective option  
 $U_w: 0.85 \text{ W/m}^2\text{K}$

### Glazing & U values

Whole window  $U_w$ :  
 0.85  $\text{W/m}^2\text{K}$  Redwood  
 0.93  $\text{W/m}^2\text{K}$  Oak  
 Glazing U value:  $U_g: 0.58 \text{ W/m}^2\text{K}$   
 Triple unit: Argon fill 44 mm  
 Light transmission value: 74.1%

### CAD section



insulated frame

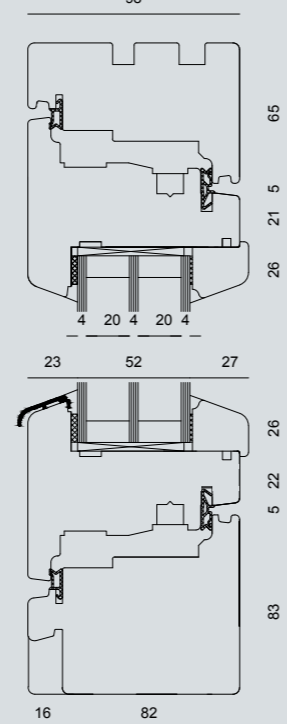
### ULTRA

98mm profile  
 For Passivhaus and higher specification projects  
 $U_w: 0.75/0.68 \text{ W/m}^2\text{K}$

### Glazing & U values

**Solid frame:**  
 Whole window  $U_w$ :  
 0.75  $\text{W/m}^2\text{K}$  Redwood  
 0.83  $\text{W/m}^2\text{K}$  Oak  
**Insulated frame (Passivhaus certified):**  
 Whole window  $U_w$ :  
 0.68  $\text{W/m}^2\text{K}$  Redwood  
 0.72  $\text{W/m}^2\text{K}$  Oak  
 Glazing U value:  $U_g: 0.52 \text{ W/m}^2\text{K}$   
 Triple unit: Argon fill 52 mm  
 Light transmission value: 74.1%

### CAD section



Showing solid frame section

# Inward opening tilt and turn

## Technical data

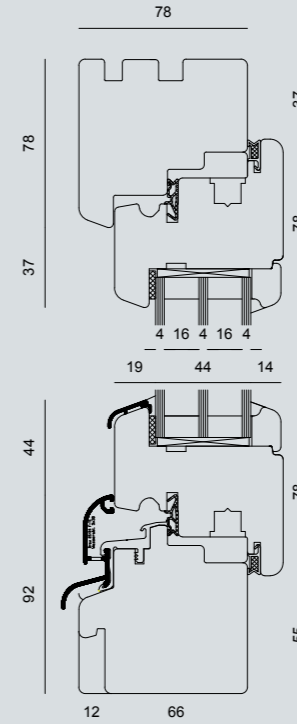
### PERFORMANCE

78mm profile  
 Cost-effective option  
 $U_w: 0.85 \text{ W/m}^2\text{K}$

### Glazing & U values

Whole window  $U_w$ :  
 0.85  $\text{W/m}^2\text{K}$  Redwood  
 0.94  $\text{W/m}^2\text{K}$  Oak  
 Glazing U value:  $U_g: 0.58 \text{ W/m}^2\text{K}$   
 Triple unit: Argon fill 44 mm  
 Light transmission value: 74.1%

### CAD section



From outside

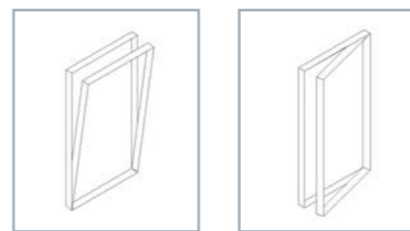


From inside

Typical maximum sizes

Tilt & turn: 1300 mm x 2300 mm  
 Tilt only: 2000 mm x 950 mm  
 or 1300 mm x 2300 mm

Opening styles



tilt & turn



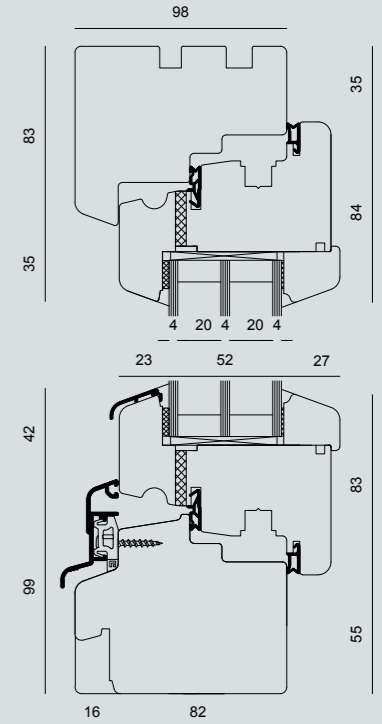
### ULTRA

98mm profile  
 For Passivhaus and higher specification projects  
 $U_w: 0.75/0.68 \text{ W/m}^2\text{K}$

### Glazing & U values

**Solid frame:**  
 Whole window  $U_w$ :  
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 0.72  $\text{W/m}^2\text{K}$  Oak  
 Glazing U value:  $U_g: 0.52 \text{ W/m}^2\text{K}$   
 Triple unit Argon fill 52 mm  
 Light transmission value: 74.1%

### CAD section



Showing solid frame section

\*U values calculated for standard single window 1230 x 1480

# Single & double doors



**Typical maximum sizes**  
 Single: 1250 mm (w) X 2400 mm (h)  
 Double: Total opening width up to 2500 mm

\*U values calculated for standard single doorset 1230 x 2180

## Accessibility

Building regulation Part M requires at least one entrance door in a new build dwelling to allow mobility access. To comply with Part M a door needs to have a mobility threshold and a clear opening width of 775 mm.

Green Building Store supplies our single and double doors with a Part M compliant threshold, as standard. We can however add various sizes of hardwood thresholds if requested.

To get the 775 mm clear opening required for new build dwellings, the minimum manufactured width of our PERFORMANCE door, including the frame, is 998 mm and our ULTRA door is 1008 mm. For commercial buildings and some social housing schemes the clear opening required may be bigger and in these instances the manufactured width of our doors may need to increase accordingly.

Please speak to a member of the windows team if you need further explanation or to check which regulations apply to your project.

Please note: For retrofit projects Part M does not apply unless the building is classed as change of use.

# Single & double doors

## Technical data

**PERFORMANCE**  
 78mm profile  
 Cost-effective option  
 U<sub>D</sub>: as low as 0.95 W/m<sup>2</sup>K

**ULTRA**  
 98mm profile  
 For Passivhaus and higher specification projects  
 U<sub>D</sub>: as low as 0.56 W/m<sup>2</sup>K

### Glazing & U values

#### Single fully glazed door

Whole door U<sub>D</sub>:  
 0.95 W/m<sup>2</sup>K Redwood  
 1.1 W/m<sup>2</sup>K Oak  
 Glazing U value: U<sub>g</sub>: 0.58 W/m<sup>2</sup>K  
 Triple unit: Argon fill 44 mm  
 Light transmission value: 74.1%

#### Single fully panelled door

Whole door U<sub>D</sub>:  
 1.1 W/m<sup>2</sup>K Redwood  
 1.3 W/m<sup>2</sup>K Oak

### Glazing & U values

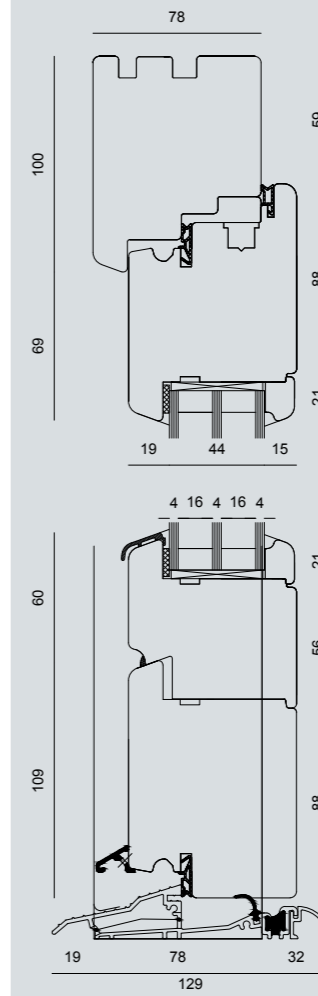
#### Single fully glazed door

Whole door U<sub>D</sub>:  
 0.79 W/m<sup>2</sup>K Redwood  
 0.89 W/m<sup>2</sup>K Oak  
 Glazing U value: U<sub>g</sub>: 0.52 W/m<sup>2</sup>K  
 ULTRA Triple unit: Argon fill 52 mm  
 Light transmission value: 74.1%

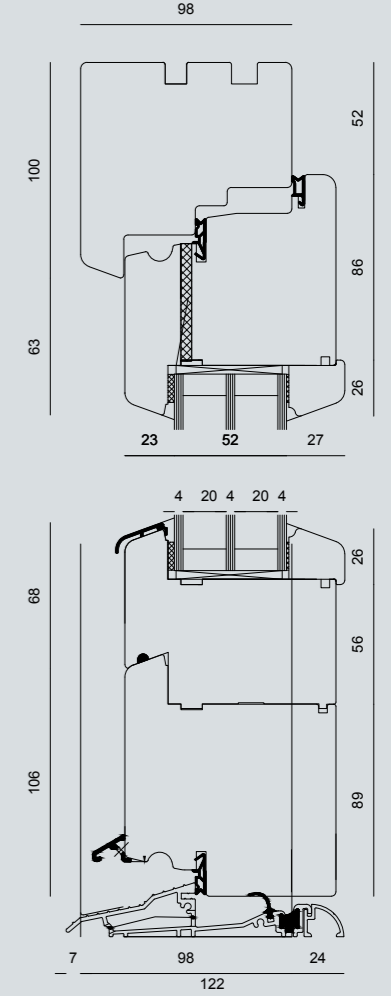
#### Single fully panelled door

Whole door U<sub>D</sub>:  
 0.56 W/m<sup>2</sup>K Redwood (VIP panel)  
 0.67 W/m<sup>2</sup>K Oak (VIP panel)

CAD section



CAD section





### Technical data

Typical maximum sizes  
Maximum individual door leaf size up to 2500 mm x 2500 mm

\*U values calculated for standard doorset 2000 x 2180

**PERFORMANCE**  
78mm profile  
Cost-effective option  
U<sub>D</sub>: as low as 1.0 W/m<sup>2</sup>K

Glazing & U values  
**PERFORMANCE** Glazed door  
Whole door U<sub>D</sub>:  
1.0 W/m<sup>2</sup>K Redwood  
1.1 W/m<sup>2</sup>K Oak  
Glazing U value: U<sub>g</sub>: 0.58 W/m<sup>2</sup>K  
Triple unit: Argon fill 44 mm  
Light transmission value: 74.1%

**ULTRA**  
98mm profile  
For Passivhaus and higher-specification projects.  
U<sub>D</sub>: as low as 0.84 W/m<sup>2</sup>K

Glazing & U values  
**ULTRA** Glazed door  
Whole door U<sub>D</sub>:  
0.84 W/m<sup>2</sup>K Redwood  
0.98 W/m<sup>2</sup>K Oak  
Glazing U value: U<sub>g</sub>: 0.52 W/m<sup>2</sup>K  
ULTRA Triple unit: Argon fill 52 mm  
Light transmission value: 74.1%



One of the most **energy efficient** lift & slide doors available in the UK, with high thermal and **airtightness** performance.

## Lift & slide doors

To see videos showing the door mechanisms in operation, go to [www.greenbuildingstore.co.uk](http://www.greenbuildingstore.co.uk)

# Other door types





Green Building Store also offers a range of other door types including **French (double) doors** for both newbuild and retrofit projects. **Bi-fold** and **tilt & slide doors** are also available, suitable for retrofit projects. For technical data and more information, go to [www.greenbuildingstore.co.uk](http://www.greenbuildingstore.co.uk).


[www.greenbuildingstore.co.uk](http://www.greenbuildingstore.co.uk)

# options colours/hardware

**frame finishes**

Standard RAL colours  Timber stains:


**Oak** 

**Redwood** 

Other colour options available

**hardware**

Outward opening handles available in:




White F9016    Black F9714    Chrome F49    Silver matt F1    Gold matt F3

**hardware**

Door handles available in:




White F9016    Black F9714    Chrome F49



Silver matt F1    Gold matt F3    Polished brass F77


**hardware**

Inward opening handles available in:

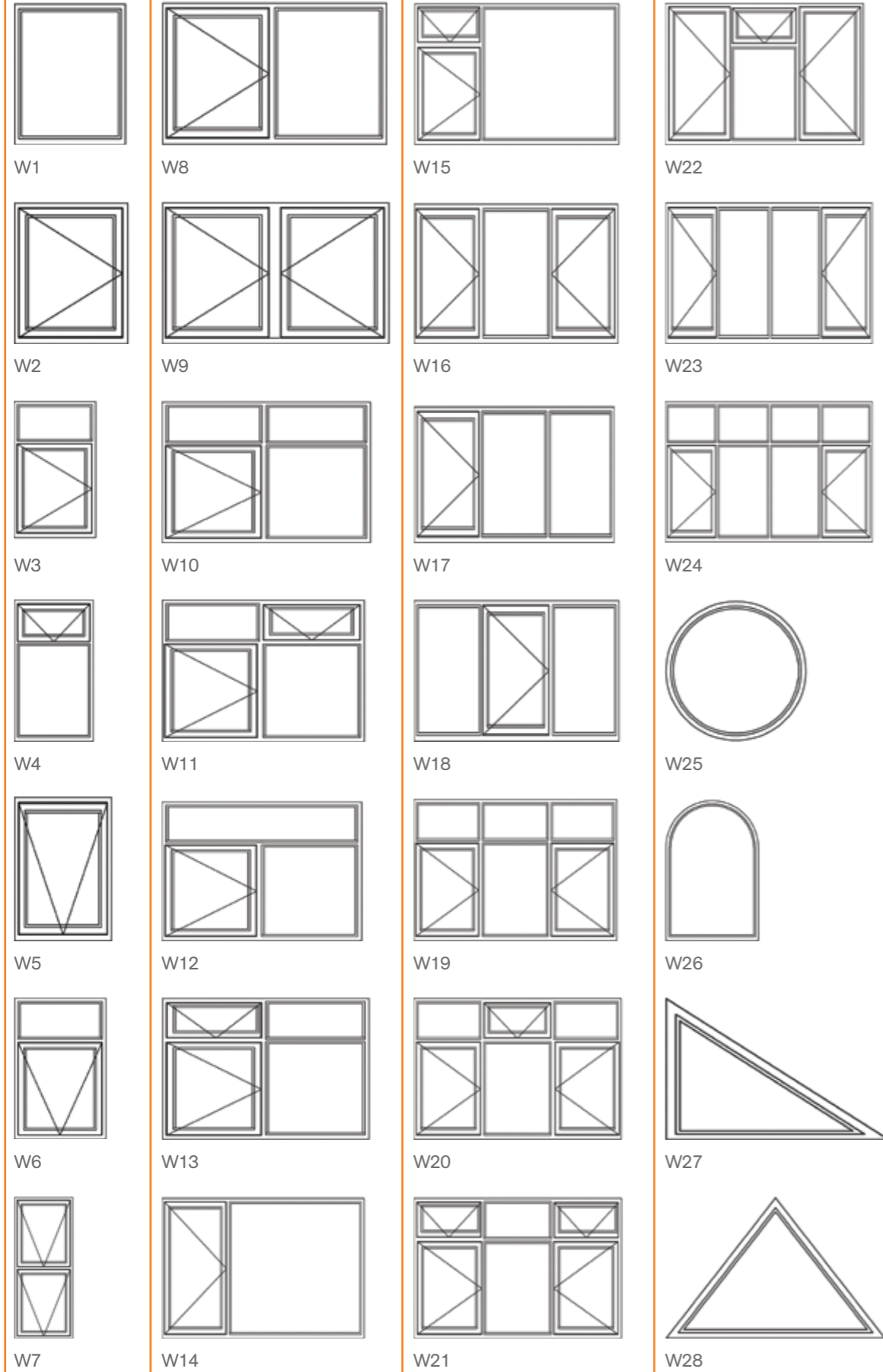


White F9016    Black F9714    Silver matt F1    Gold matt F3

**aluminium drip rail**

Colour matched to any RAL colour 

# options window styles

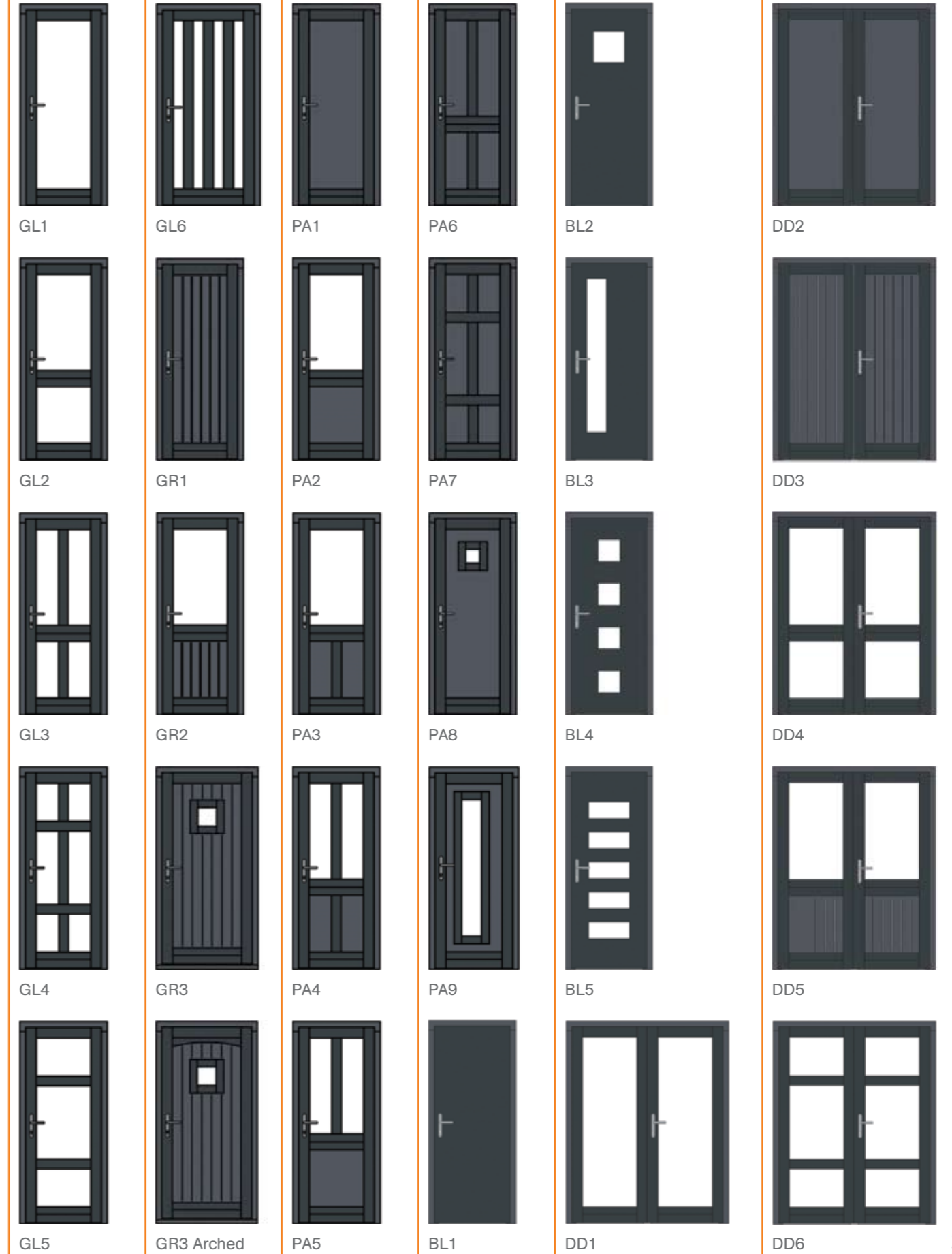


GBS window images are shown as the European notation, so viewed from the inside with 'V' notation indicating the handle side. This is different from the standard UK notation.

[www.greenbuildingstore.co.uk](http://www.greenbuildingstore.co.uk)

# options door styles

Many more window and door styles available, please ring us on 01484 463336 to discuss



# options glazing



**Solar control glazing** to reduce the risk of over-heating



**Acoustic glazing** to reduce sound levels from external environment



**Toughened or laminated safety glass** to meet building regulation safety requirements



**Self-cleaning glass** ideal for large facades where cleaning is difficult

## obscure glazing samples



Althdeutch



Chinchilla



Crepi



Flutes



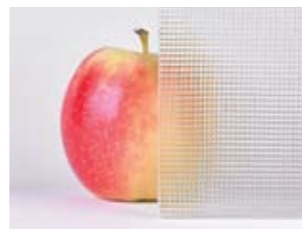
Flutes Mat



Kathedral



Kura



ListralD



Mastercarre



Puntaedo



Screen



Simple obscure

## trickle vents



28 Conventional trickle vent

For more colour, hardware and glazing options, go to [www.greenbuildingstore.co.uk](http://www.greenbuildingstore.co.uk)

## sills

**Extension sills protect & maintain windows by directing water away from the window frame**

**Stone bed connector** to connect to a stone sill. Available in anodised silver or brown, or any standard RAL colour



**Aluminium extension sills** available in anodised silver or brown, or any standard RAL colour. Available in projections up to 360 mm for deep recessing into highly insulated walls



**Timber sills** for windows & doors, available in oak or Accoya



## safety

'Egress hinges', allowing means of escape for outward opening windows



Integrated child restrictor



## security

### What is Part Q?

Approved Document Q (Part Q) of the Building Regulations for England became mandatory for all new dwellings on 1 October 2016. This means that windows and doors in new dwellings, where Part Q is applicable, will need to be security tested to PAS 24, or equivalent standard.

### Where does it apply?

Part Q is only applicable in England. It does not currently apply in Wales except on 'excepted energy buildings', although this is under consideration by the Welsh Assembly. It does not apply in Scotland which has separate requirements for security covered by Building Standard 4.13. It does not apply in Northern Ireland. In England it applies only to new dwellings, which includes existing buildings with material change of use to new dwelling. It applies only to 'easily accessible doors and windows'.

### What does 'easily accessible' include?

Either a window or doorway, any part of which is within 2 m vertically of an accessible level surface such as the ground or basement level, or an access balcony, or a window within 2 m vertically of a flat or sloping roof (with a pitch of less than 30°) that is within 3.5 m of ground level.

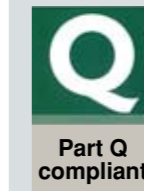
### Secured by Design

Secured by Design (SBD) is a police initiative to increase building security. Windows and doors must be tested, have third party quality assurance and be registered. An SBD certified unit also provides compliance for Part Q.

### Green Building Store ranges

Windows and doors in the brochure marked SBD or Part Q have a compliant option available, which should be specified where necessary. Please enquire where not marked in the brochure.

This information is given as general guidance only and is not a definitive guide to the regulation. For full information please consult Approved Document Q of the Building Regulations which is free to download. Please consult us for more information.



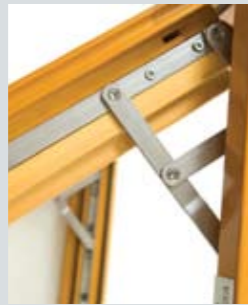
## warranties\*



Frames: 10 years



Glazing: 10 years



Hardware: up to 10 years



Finishes:  
Paint: 10 years  
Stains: 6 years  
Clear: 3 years

\*Subject to conditions & exclusions

Please note: we reserve the right to make changes to design and specifications of all products at any time without notice.

## technical summary

www.greenbuildingstore.co.uk

### Timber

Green Building Store windows and doors are made from FSC® redwood or fair-faced oak, laminated and finger jointed to EN 204 D4.



### Construction

- Door sashes – comb-jointed
- Frames – mortice and tenon jointed in compliance with BS EN 942
- Adhesive – modified PVA, D4 grade

### Finishes

Low maintenance microporous water-based finishes

### Design

- Aluminium drip rail to enhance durability and reduce maintenance
- Dual weather seals
- Extension sill groove option
- Window board groove option
- Internal beading, allows reglazing from inside and enhances security

### Glazing

- Factory glazing
- Warm edge spacer to minimise heat lost and condensation at the edge of the unit

### Fitting service



The correct installation of windows and doors is essential to ensure their optimal performance. We recommend Green Building Store's own in-house FENSA-accredited fitting service, which is available for most areas of the UK.

### Members of:



### window/door

#### PERFORMANCE

window/door	U value, redwood (whole window/ door)	U value, oak (whole window/door)	U <sub>w</sub> value, redwood + insulated frame (whole window door) – ULTRA only	Secured By Design option	air permeability BS EN 12207: Achieved 600 Pa Class 4	water tightness BS EN 12208	wind load BS EN 12210	exposure category BS 6375-1
Window Outward Top hung	0.85	0.93	n/a	✓	✓	750 Pa Class E750	2400 Pa Class E2400	2400
Window Outward Side hung	0.85	0.93	n/a	✓	✓	900 Pa Class E900	2400 Pa Class E2400	2400
Window Inward Tilt & Turn	0.85	0.94	n/a	✓	✓	600 Pa Class 9A	2400 Pa Class E2400	2400
Single entrance door	0.95	1.1	n/a	✓	✓	200 Pa Class 5A	1200 Pa Class C3	1200
Lift & slide doorset	1.0	1.1	n/a	✓	✓	100 Pa Class A3	1600 Pa Class C4	800

#### ULTRA

Window Outward Top hung	0.75	0.83	0.68	✓	✓	1500 Pa Class E1500	1600 Pa Class C4	1600
Window Outward Side hung	0.75	0.83	0.68	✓	✓	600 Pa Class 9A	2400 Pa Class CE2400	2400
Window Inward Tilt & Turn	0.75	0.83	0.68	✓	✓	600 Pa Class 9A	2400 Pa Class CE2400	2400
Single entrance door	0.79	0.89	n/a	✓	✓	200 Pa Class 5A	1200 Pa Class C3	1200
Lift & slide doorset	0.84	0.98	n/a	✓	✓	100 Pa Class A3	1600 Pa Class C4	800

For more information on warranties, please call the windows department on 01484 463336 or go to: [www.greenbuildingstore.co.uk](http://www.greenbuildingstore.co.uk)





## Get in touch



At Green Building Store we pride ourselves on our personal, friendly and non-pushy customer service.

Our windows team are happy to help with your enquiries and quotation requests.

Tel: 01484 463336

Email: [info@greenbuildingstore.co.uk](mailto:info@greenbuildingstore.co.uk)



### Free Passivhaus technical resources

Free online resources on Passivhaus newbuild and retrofit projects are available in the **FREE RESOURCES** section of our website.

### Warmer Homes

We have also developed some useful free resources on using **Passivhaus** principles to retrofitting your home, which can be found in the Warmer Homes section of our website.

### Insulation & airtightness

Make your windows and doors work at their optimum with our specialist insulation and airtightness products. We can advise on the detailing around your window and door installation to ensure thermal bridging is minimised and airtightness is maximised.

**Discounts available on insulation and airtightness products when you buy our windows and doors** – ask us for more details.

### MVHR

Mechanical ventilation with heat recovery (MVHR) ensures high air quality whilst conserving energy in buildings by recovering heat from extracted air and transferring it to the incoming air. Green Building Store is widely recognised as one of the leading technical experts in the UK on MVHR systems for Passivhaus and low energy projects.



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A trading division of Environmental Construction Products Ltd

