

# Tilt & Turn Windows





**Tilt & turn windows have long been the standard on the continent due to their excellent weather-proofing and security features. The functionality of a tilting vent position is also very attractive.**

At George Barnsdale, we adopted this product very early on and have developed it to meet our quality standards and maximised its performance (it is partly from doing this that our casement window range performs so well). We can specify it as a traditional window, to tie in with the period features of your property, and also as part of our contemporary range allowing it to fit seamlessly into modern designs.

We offer a wide range of options and can accommodate nearly any design. Choose from different configurations, fittings, glazing units and/or insulated timber panels and a wide range of profiles. There is also a matching door profile allowing you to maintain the design across the whole property.

All of our tilt & turn windows provide:

- A premium product manufactured from the finest material.
- Exceptional thermal performance as standard with an A rated option.
- Engineered timber providing excellent durability, all from certified, sustainable sources.
- Market leading warranties with a 10 year paint guarantee as standard.
- Double rebated design provides excellent weather performance with third party test validation.
- Multipoint all round locking and high quality fittings providing excellent security.

This brochure provides you with information on the window features and the main options that we offer. If you have any requirements outside of these, we have a wealth of experience in customising our products, whilst maintaining the performance characteristics.

Our company brochure also provides further detail on the products, materials, processes and performance of the George Barnsdale range.

## All Round Multipoint Locking



The multipoint locking system provides locking points around all four sides of the sash. In addition to excellent security performance, these fixing points prevent the timber from moving contributing to the long life of the window.

## Astragal Bars



Attention to detail is no clearer than on our astragal bars which through precise manufacturing methods and high quality craftsmanship accurately counterprofile to the sash giving an unparalleled finish. External bars are manufactured from Accoya and dowelled into the sash for exceptional performance.

## Hinges



Advanced tilt & turn hinges allow the sash to pivot around both its bottom rail (tilt) and its side rail (turn). The system is capable of holding very large weights for large sashes and heavy glazing systems.

## Weatherbar



With the inward opening design profile, a weatherbar is required to deflect the water and provide good weather performance. This is available in a range of colours and can also be powder coated to match any paint colours.

## Opening Methods



### Closed

In the closed position the all round, multipoint locking system engages around the sash providing excellent security and supporting the timber preventing movement. As well as ensuring the hardware functions smoothly, it also prevents stress on the paint system, providing long life performance with little maintenance.



### Tilt

Rotating the handle by 90 degrees allows the window to tilt open providing a secure ventilation position. The handle can be locked in this position for security.



### Turn

Rotating the handle a further 90 degrees allows the window to turn inwards for a larger opening and simple cleaning of the outside glass and frame.



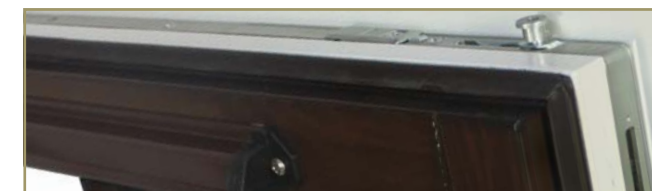
*Window as shown: Tilt and turn sash with dual colour paint (white on the inside and teak stain on the outside) and an Affinity polished chrome handle.*

## Sash & Frame Vents



We offer a wide range of vent options, both in the sash and the frame. Options include canopy vents and flush vents in a range of colours and styles. It is also possible to colour match if required.

## Draught Seals



This window design features a double rebate providing excellent weather performance. This coupled with advanced draught seals gives outstanding results. Draught seals are available in white and brown and as standard we will select the one that suits the chosen paint colour.

## Internally Beaded Sashes



All sashes are glazed from the inside providing enhanced security and improved weather performance as well as protecting the bead resulting in longer life. The sashes are also drained and vented to ensure the glazing system is protected allowing it to provide long term performance.

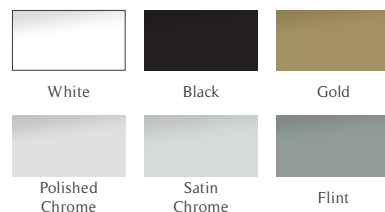
## Handle Options

The specialist range of tilt and turn window furniture provides three main options. An antique range, a high quality mid range and a range which can be fitted to match in with George Barnsdale door furniture.



### Standard

Our standard handle provides a traditional ergonomic design with push button locking and a range of colour options. This is an excellent option for a wide range of property styles. Matching fittings available across our window and door ranges.



### Handle Opening Positions



The handles have three positions allowing the window to be closed, tilted (ventilation) or turned (usually for external cleaning).

### Allart - 0350

Premium quality Frank Allart design based on original period designs. Available in a range of colours with locking as standard. Matching fittings are available across our window and door range.



### Allart - 0352

Premium quality Frank Allart design based on original period designs. Available in a range of colours with locking as standard. Matching fittings are available across our window and door range.



### Monkey Tail

An antique ironwork design giving a rustic appearance ideally suited to traditional cottages and farmhouses. It is available in matt black or antique pewter. Complimentary fittings are available on many of our other products including our door ranges.



### Bulb End

An antique ironwork design giving a rustic appearance ideally suited to traditional cottages and farmhouses. It is available in matt black or antique pewter. Complimentary fittings are available on many of our other products including our door ranges.

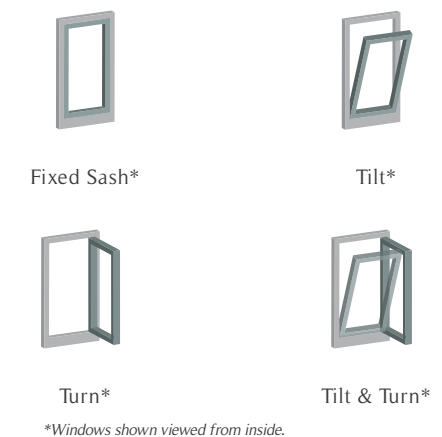


## Layout/Opening Options

We make all windows to your specification, meaning that we can supply any layout of window that is required. This can include:

### Sash Opening:

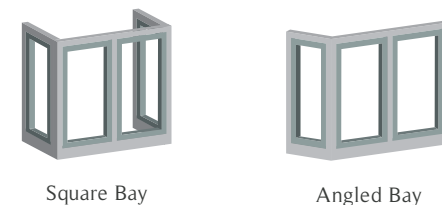
Sashes can either be side hung, bottom hung, or fixed. A French window or false mullion option can also be specified to provide a large opening with two sashes (can allow an opening large enough for a fire escape window, whilst maintaining the original window designs). The French option has the two sash rails meeting together, whereas the false mullion option has the frame mullion attached to the second sash to visually replicate a standard window.



\*Windows shown viewed from inside.

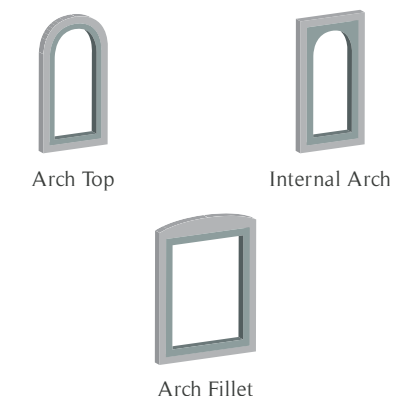
### Bay Windows:

We are able to supply the windows as a bay in either a square or angled form. Our bay windows are provided with internal and external trims, ensuring a high quality finish when installed.



### Round Work/Arches:

We can provide a wide range of curved work designs, including arch top, internal sash arches (to top and bottom rails) as well as simple arch linings.



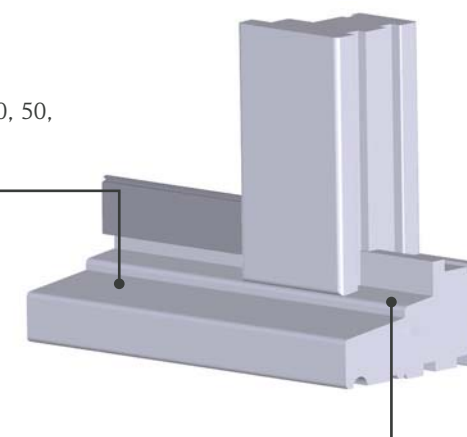
## Frame Options

### Cill Extension:

Allows the cill to extend over the brickwork. As standard we offer 30, 50, 70, 90 & 110mm extensions.

### Cill Side Extensions (CSE):

Many replacement windows require cill side extensions. As standard we offer 25, 50, 75 and 100mm extensions.



### Window Board Groove (WBG):


Our windows can be specified with a window board groove. We have the option of no groove, as well as offering a range of window boards.




# Glazing Bead & Sash Bar Options

**Beading:**

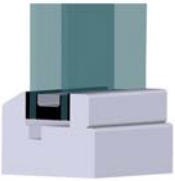
Our beads are available as Standard, Ovolo and Pencil Round. All sashes in the traditional range are beaded internally to improve security and weather performance and result in a window with longer life.



a. Standard



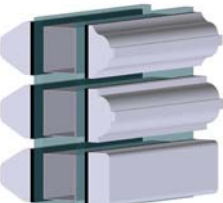
b. Ovolo



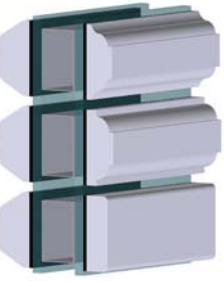
c. Pencil Round

**Astragal Bars:**


These are matched with the outside sash profile and internal glazing bead. They come with an internal glazing bar as standard.



21mm Astragal Bar



30mm Astragal Bar



Solid Glazing Bar


**Solid Glazing Bars:**

These are available in any layout and are specified at 43mm wide as standard. This can be increased if required.


## Glass

We have a wide range of options to suit any special requirements you may have including:


- Toughened Safety Glass:** Toughening process increases strength and safety.
- Laminated Security Glass:** Laminate provides additional security over a toughened unit.
- Acoustic Glass:** Increases already high level of sound insulation using specialist laminates and thicker glass.
- Solar Control Glass:** Allows heat gain from the sun to be matched to the requirements of a building.
- Obscure Glass:** Available in a wide range of patterns, with a sample shown below (the number in brackets indicates the obscurity on a 5 point scale with 5 being the highest). Additional patterns include sandblasted, Oriel and Oriel Textured (a sandblasted pattern on each float of textured glass). Glass can also be painted and tinted. For the full range please visit our website at [www.georgebarnsdale.co.uk](http://www.georgebarnsdale.co.uk).
 




Arctic (4)




Autumn (3)




Cotswold (5)



Flemish (2)



Stippolyte (4)



Sycamore (2)
- Lead:** We offer a wide range of options including widths (6, 9 and 12mm), colours (bright and antique) and styles (including square and diamond patterns).
- Stained Glass:** We can provide coloured glass to your requirements (a photo of an existing design or a drawing is sufficient). These can be supplied with or without lead outlines.
- Other Options:** We can install all available glazing systems, so please enquire if you have any special requirements. These may include integral blinds or sandblasted/coloured glass to a specific design (for example, your house number or name).

# Timber

Our tilt and turn windows are manufactured from engineered timber from sustainable sources as standard. The timber is approved by either FSC or PEFC bodies and is selected for its outstanding performance and environmental credentials. As standard we use:

- Frames & Sashes:** PEFC Redwood WoodHeart® (timber from the central heartwood of the tree, engineered to be free from knots whilst providing excellent stability and durability).
- Cill Extension:** FSC Hardwood for enhanced durability (the cill extension gets the most weathering).



Coupled with our advanced coating system, this results in a window that retains the characteristics of the timber and will last indefinitely with minimal maintenance.

We can also offer the window in the following timbers if required (see our company brochure for more information):



## Paint

Our advanced coating system has been developed to provide maximum protection, allow the timber to breathe and let the characteristics of the timber show through. This allows us to give a 10 year guarantee on paint finish (a 25 year guarantee may also be available - please contact us for more information).

- Colour:** We can provide almost any opaque or translucent colour. All we require is a RAL Standard, RAL Design, Natural Colour System (NCS) or British Standard (BS 4800) colour or an actual sample.



### George Barnsdale Standard Colours:

Opaque*				Translucent*			
White RAL 9016	Off White RAL 9001	Cream RAL 1015	Pebble Grey RAL 7032	Light Oak (on WoodHeart®)	Teak (on WoodHeart®)	Mahogany (on WoodHeart®)	Walnut (on WoodHeart®)
Cement Grey RAL 7033	Moss Green RAL 6005	Pastel Blue RAL 5024	Night Blue RAL 5022	Light Oak (on Red Grandis)	Teak (on Red Grandis)	Mahogany (on Red Grandis)	Walnut (on Red Grandis)
Ruby Red RAL 3003	Jet Black RAL 9005			Light Oak (on Sapele)	Teak (on Sapele)	Light Oak (on Oak)	Teak (on Oak)

- Dual Colour:** We can provide dual colour windows with a different colour inside to out or frame to sash. This also allows for the frame and sash to have a different dual colour specification if required.

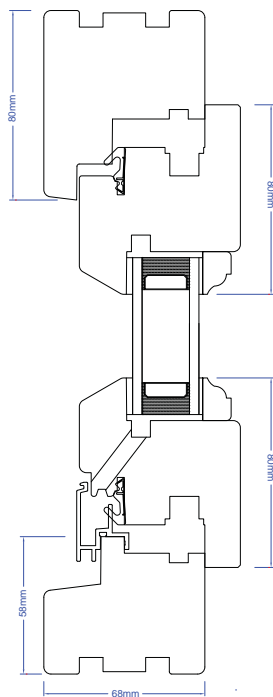
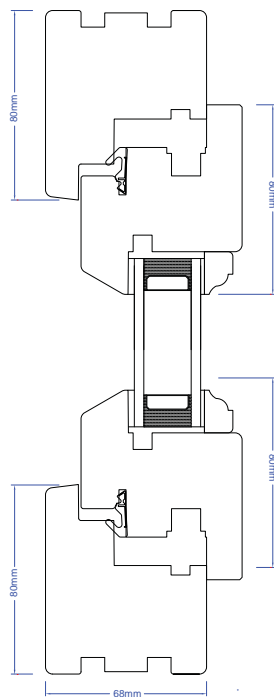
\*please note that actual colours may vary due to the print process

## Guarantees

Our industry leading manufacturer backed guarantees:



Sectional Details/Performance

DESIGN		
	Vertical Section	Horizontal Section
Section Profile		
THERMAL		
U <sub>w</sub> (Standard)	1.5 W/m²K	
U <sub>w</sub> (Best)	up to 1.0 W/m²K	
Energy Rating	up to A	
WEATHER		
Air Permeability	Class 4	
Wind Resistance	Pass	
Water Tightness	Pass	
ACOUSTIC		
Noise Reduction	up to 38dB	
SECURITY		
Can conform to	BS 7950	

Contemporary Range

With its modern square edged rebated design, large sash widths (easily accomodating large double and triple glazed units) and advanced ironmongery, the product, with the use of pencil round beading has a very contemporary appearance. This alongside our contemporary handle options, the right paint colour and a contemporary layout (very commonly a large single opening sash) gives a range of options to match into any modern building design.

In addition to product design, timber itself can have a very modern contemporary appearance and is undergoing a renaissance in modern architectural design. Our paint system allows for the features of the timber to remain visible ensuring that it contributes to the design and feel of the building.

See our Contemporary Range brochure for more information.

Chestnut, Newport Road, London

This £500,000 new build residential house is located on an extremely tight site of former garages in Barnes, West London.

Project Details

- Product:** Inward opening tilt and turn windows, flush casement windows, outward opening doors and sliding doorsets.
- Timber:** Redwood WoodHeart® for the windows and door frames. Red Grandis for the doors.
- Finishes:** Fully finished in Moss Grey (RAL 7003).
- Architect:** David Long Architects.
- Contractors:** Mane Developments - with windows installed by George Barnsdale installation team.
- Client:** Private residential client.



Project

The house is conceived as two separate blocks, each of two storeys, linked via a glazed stair core and arranged around two sides of a sunken garden. The house is entered via the glazed stairwell which commands the changes in level to the sunken garden with upper levels wrapped in horizontal timber cladding. The sunken courtyard provides light to the lower levels at the rear.

Environmental credentials include high thermal insulation, rain water buffering and long service life, as well as providing a habitat for flora and fauna, earning the design a place in the finals of the 2010 Grand Designs Awards.

George Barnsdale manufactured both windows and doors, consisting of inward opening tilt and turn windows, flush casement windows, outward opening entrance doors and large sliding doorsets for the project.

The large openings required high performance products that gave excellent thermal insulation and weather resistance, matching the low carbon credentials of the building. For the exceptionally large door openings, George Barnsdale supplied three leaf sliding doors, each on their own tracks that could open back to leave the spacious openings visually free.



The windows and door frames were manufactured from Redwood WoodHeart® and the doors were manufactured from Red Grandis and all were finished in Moss Grey (RAL 7003).



# Winthrop Hall, Staplehurst, Kent

Multi-functional designs were incorporated into this modern building, offering an appearance not normally achieved with timber.

## Project Details

Product:	Tilt & turn windows.
Timber:	Redwood WoodHeart®.
Finishes:	Fully finished in Squirrel Grey (RAL 7000).
Architect:	Househam Henderson Architects.
Client:	Winthrop Hall.



## Project

Winthrop Hall is a residential rehabilitation clinic set in the rolling Kent countryside. The clinic is surrounded by fields and woodland and it is the perfect environment in which to retreat and relax. Clients are encouraged to use the grounds for exercise and contemplation, and to enjoy the calm and tranquility.

The main requirements of this project were to provide windows that could aid natural airflow and reduce heat gain. George Barnsdale manufactured a number of tilt and turn windows which incorporated thermal glass, external louvres and both high and low level openings. This resulted in the achievement of the desired requirements.

At 2008's prestigious "Building Better Healthcare Awards," Green Register Architect Caroline Martin of Househam Henderson Architects, beat stiff competition to win the coveted award for Best Sustainable Building for Winthrop Hall.

This project resulted in the use of multi-functional designs, offering an appearance not normally achieved with timber. The client's requirements in terms of controlling the internal environment of the building by using correctly designed joinery were met.



For more case studies on projects like yours please visit [www.georgebarnsdale.co.uk](http://www.georgebarnsdale.co.uk).

# About Us

At George Barnsdale, we have been making premium quality timber windows and doors since 1884. Every window and door is designed, engineered and hand finished in the UK by our team of skilled craftsmen using the finest materials and state of the art robotic machinery. Our technical team provide expert support and advice to ensure our products meet your aesthetic and performance requirements, enhance UK building regulations and reflect the character of your building. Investment in research, development and testing has enabled us to achieve the very highest levels in thermal, weatherproof, security and acoustic performance, in a range of products that have been sourced and manufactured in a sustainable way.

# Credentials for Lasting Performance

Design:	Internally beaded for security and long life; Double and triple gaskets for class leading weather performance; Traditional designs matching period features with a specialist range for listed buildings (historic range) and modern buildings (contemporary range); Designs fully tested by UKAS approved third party test houses.
Timber:	Use of high quality engineered timber providing excellent durability and stability characteristics; Range of redwoods and hardwoods available; All timber sourced sustainably through either FSC or PEFC certification schemes.
Paint:	Cutting edge robotic paint facility allowing precise control of paint application; advanced coating system providing excellent protection, whilst allowing the characteristics of the timber to remain visible; 10 year guarantee with no redecorating required available on most products (7 years for stain finish).
Glass:	High performance glazing with Saint Gobain Planitherm Total+, argon fill and warm edge spacer as standard; Many options including security, safety, acoustic, thermal, solar gain/reduction, obscure patterns, triple glazed unites, slim units (including Pilkington Legacy and Histoglass); Internally beaded, drained and vented glazing systems for improved performance and life; All units tested to BS EN 1279 and supplied with a 10 year warranty (except some slim unit options). Our glazing systems are supplied to a higher specification than the industry standard - see our website technical area for more information.
Fittings:	High quality fittings used as standard; Wide range of colour and style options; Products meet BS 7950 / PAS 23/24 requirements where applicable; All fittings covered by 5 year guarantee.
Thermal:	Optimised designs through thermal modelling by in-house BFRC simulator; Products can meet an A rating; First A rated timber window in UK; Window U-value and Window Energy Rating displayed on all quotations; Window U values less than 1 W/m²K available on most products; Passivhaus window option now available.
Wind/Water:	Double/triple seals around the window provide excellent sealing from weather; Investment in research, development and testing have optimised designs and extensive test data is available to validate performance.
Acoustic:	Draught seals and advanced glazing provides excellent noise reduction as standard. Our acoustic glass range can provide further improvements if required (a range of test data in accordance with BS EN ISO 717-1 is available).
Security:	High security fittings supplied as standard; Increased security specification is available if required; Windows can be manufactured to achieve BS EN ISO 7950 (requirement for Secure by Design) if required; Doors can be manufactured to PAS 23/24 if required.

# Certifications & Standards





# GEORGE BARNSDALE

ESTABLISHED 1884

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