

Uniclass	L411+L413+L2228:P5
CI/SIB	(31.4)+(31.5) Xi

9/13

2014/15 CATALOGUE

HOWARTH TIMBER WINDOWS & DOORS

FOR SUPERIOR QUALITY,
PERFORMANCE AND FLEXIBILITY
THE SUSTAINABLE TIMBER OPTION



The definitive catalogue for specifiers and installers, featuring windows, doors and conservatories, combining the traditions of sustainable wood with all the higher specification demands of the twenty-first century.

- Window energy ratings A to C.
- European Conformity.
- Improved thermal performance.
- Quality laminated Redwood Nordic Pine construction.
- **NEW** - Upgraded STORVIK^{SKD} double glazed and STORVIK^{SKT} triple glazed timber window range.
- Developed, researched, designed and manufactured in the UK by Howarth Timber Windows & Doors.
- Extensive guarantees for long lasting peace of mind.
- BRE Green Guide A+ Rated.



- **NEW** - the high security Secured by Design locking system now available as an option on all our windows except the Storvik range where it is fitted as standard.
- **NEW** design - **MAXIVIEW** Sliding Folding Doors.
- **NEW** - improved Conservatory range.
- All window ranges incorporate the Swisspacer **ULTIMATE**, the leading warm edge spacer fitted where appropriate.



SWISSPACER
SAINT-GOBAIN



HOWARTH
WINDOWS & DOORS

INNOVATIVE PRODUCTS. SUSTAINABLE SOLUTIONS

A WORTHY PEDIGREE

Our origins date from the 1840s when the company began trading under the name of Hudson & Co. Since that time we have grown from a small regional business to a respected organisation employing more than 1,000 people.

Today the Howarth name brings together a comprehensive group of companies comprising 28 Timber & Building Supplies branches and Timber Engineered

Solutions. The group represents an unparalleled resource of knowledge and expertise in the sourcing, development, usage, design and manufacture of timber products. Our comprehensive windows and doors manufacturing facility is based at a purpose-built factory in New Holland, North Lincolnshire

(Below left) One of the firm's early petrol-driven lorries, seen here in East Street, Leeds, shortly after the first world war and in contrast, (below) a modern Howarth delivery vehicle.



MAKING THE MOST OF A NATURAL RESOURCE



TAKING OUR RESPONSIBILITIES SERIOUSLY

At Howarth Windows & Doors we are very much aware that, as timber manufacturers, we are working with one of the world's most valuable renewable resources. Continuous support for the environment is a prime concern to us, which is why we ensure that all timber used in our windows and door sets, in addition to any other wood fibre-based products, is obtained from well-managed, sustainable sources. We achieved full chain of custody status during 2006. This mechanism allows tracking of certified material from the forest to the final product to ensure that the wood, wood fibre or non-wood forest produce can be traced back to certified forests.

Wood is one of the most traditional and trusted resources available today. Over the years, Howarth Windows & Doors has worked hard to refine, improve and develop the possibilities of this most versatile of natural materials.

We use European Redwood as the cornerstone of all our products. New techniques of laminating timber, combined with modern construction methods, place Howarth among the leading UK manufacturers of high performance windows and doors. Our extensive range is the preferred choice of architects, specifiers, housing developers, contractors and merchants throughout the country.



WHY WOOD IS SO GOOD

In order to combat the threat from global warming, today's well-managed, modern forestry practitioners replant with new trees to ensure the continuous regeneration of forests. This maintains the crucial carbon sink environmental benefit produced by growing forests which means that wood is the only truly renewable material used by the building industry. As an added environmental benefit, it should be noted that the energy required to process and convert raw timber into frames is less than 17% of that used in plastic frames.

Today, more than ever before, sustainability is the core factor in the choice of timber as the prime material for windows and doors, and Howarth is a leading exponent in maximising the usage of timber for building purposes.



wood. for good.



(Photographs: front cover and this page main image) Courtesy of Linden Homes, Saint Nicholasgate, Beverley, East Yorkshire. (Above small photograph) Courtesy of McIntosh Homes Ltd, Church Farm, Henstridge, Somerset.

TIMBER WINDOWS - A LIFETIME PRODUCT

The study, commissioned by the Wood Window Alliance, was undertaken in accordance with the BS ISO 15686-8 (2006). 'Buildings and constructed assets - Service life planning Part 8: Reference service life and service life estimation'; and builds on earlier work conducted by Imperial College, London (2003/4) on behalf of Akzo Nobel Ltd.



A member of
The Wood Window Alliance
 Setting standards for high performance windows and doors

The work uses BS ISO 15686-8 methodology to account for the effect on wood window service life of factors such as timber substrate, 'best practice' window design, factory-applied paint systems and factory glazing techniques. The impact of

other factors, such as building design, location, and maintenance frequency, was also explored.

The conclusions show that timber windows, manufactured to the design, materials, quality and process procedures required by the Wood Window Alliance, will achieve a minimum estimated service life of 60 years. With attention to the location of the building, the position of the windows, and by adhering to recommended maintenance cycles, estimated service life can be increased significantly; with up to 87 years predicted in sheltered locations with average maintenance levels.

NEW UPGRADED STORVIK^{SKD} DOUBLE GLAZED RANGE

Refer to **page 13** for
further details.



NEW SECURE BY DESIGN HARDWARE

All the STORVIK range fitted with
Secured by Design hardware.

Refer to **page 124** for further details.



NEW RANGE OF PRODUCTS DRIVING STANDARDS FORWARD

NEW UPGRADED STORVIK RANGE

Developed, designed and manufactured
in the UK, the upgraded STORVIK
double and triple glazed
window range drives
standards to expected
future parameters.



With U-Values reduced to around
1.2W/m²K for the Double Glazed, or
down to 0.80 W/m²K for the Triple
Glazed, the timber frames meet all
Building Regulations and Secured by
Design standards. Refer to **page 11**
for further details.

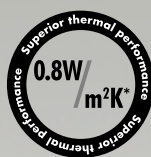
NEW SWISSPACER ULTIMATE

All window ranges incorporate the
sgc SWISSPACER[®] ULTIMATE, the
leading warm edge spacer fitted where
appropriate. Refer to **page 131**
for further details.

SWISSPACER
SAINT-GOBAIN

NEW UPGRADED STORVIK^{SKT} TRIPLE GLAZED RANGE

Refer to **page 25** for further details.





NEW DESIGN MAXVIEW SLIDING FOLDING DOORS

A high quality range of fully finished sliding folding doors to complement any style of home, traditional or modern.

Supplied fully factory finished in paint or stain with a choice of handles, plus all other fittings in place - MAXVIEW saves both time and money compared with traditional site-finished products. The MAXVIEW sliding folding door range can now be supplied to PAS24:2012 Secured by Design.

Refer to **page 95** for further details.

NEW IMPROVED RANGE OF CONSERVATORIES

Offered in a range of design styles and finish options, including the very latest in glazing technology, to meet modern performance standards.

The conservatories complement new build and older properties alike. Our experienced fitters will ensure that all work is carried out to the highest standards.

Refer to **page 103** for further details.



NEW PRODUCTS

CONTENTS

Description	Page
HOWARTH AND THE ENVIRONMENT	6
COMMITTED TO QUALITY	8
TRADE ASSOCIATIONS	9
WINDOW ENERGY RATINGS	10
TIMBER WINDOW RANGE	
STORVIK RANGE	11
STORVIK DOUBLE GLAZED Product Range Contents	13 17
STORVIK TRIPLE GLAZED Product Range Contents	25 29
STORMPROOF SIDE & TOP HUNG CASEMENT Product Range Contents	35 39
SLIDING SASH Product Range Contents	61 65
FEATURE WINDOWS Product Range Contents	73 74
TIMBER DOOR RANGE	
HIGH PERFORMANCE DOOR SETS Product Range Contents	79 85
MAXIVIEW SLIDING FOLDING DOORS Product Range Contents	95 99
TIMBER CONSERVATORIES	
CONSERVATORIES Product Range Contents	103 105
CUSTOMISATION	
FINISHING OPTIONS	110
LEAD AND BAR OPTIONS	112
GLASS OPTIONS	113
IRONMONGERY	114
CAVITY CLOSERS	117
QUOTATION GUIDANCE	122
ESSENTIAL INFORMATION	
SECURED BY DESIGN	124
SAFETY GLAZING	125
FIRE ESCAPE WINDOWS	126
VENTILATION	128
WINDOW ENERGY RATINGS	130
CE MARKING COMPLIANCE	134
STANDARDS OF CONSTRUCTION	136
GLAZING STANDARDS COMPLIANCE	137
HANDLING AND SITE CARE	138
TERMS AND CONDITIONS	
TERMS AND CONDITIONS OF SALE	139

WORKING TOWARDS A GREENER FUTURE

Howarth Windows & Doors is committed to pursuing sound environmental practices in all parts of its production processes and has been awarded the highest category under the Forests Forever Campaign.

Companies applying for registration under the Campaign are assessed on their level of commitment to an industry-recognised policy. Companies are then graded from levels A to E on compliance with the policy - where 'A' signifies a high level of activity in working towards policy objectives and 'E' signifies a level where major progress has yet to be achieved. At Howarth we pursue the following practices during the production of our windows and doors products.

RAW TIMBER

Howarth is dedicated to preserving the environment and uses only Redwood Nordic Pine from well-managed sources for its windows.

HEATING AND HOT WATER SYSTEM

All rejected components are used for heating and supplying the factory with hot water via a new biomass boiler.

ENVIRONMENTAL PERFORMANCE

Howarth timber windows have been awarded an A+ Rating by the Building Research Establishment (BRE) Green Guide. The Green Guide rating is a measure of a product's overall environmental impact during production, and considers such factors as climate change, fossil fuel depletion, waste disposal and other issues.



WORKING WITH OTHERS TO SAFEGUARD FORESTS

It is important that we work with other organisations to ensure an integrated approach. We are members of the Timber Trade Federation, and subscribe to the industry's main initiatives: Forests Forever and Wood for Good.

TIMBER TRADE FEDERATION (TTF)

This organisation encourages responsible forest management and timber purchasing, working with a wide cross section of stakeholders including the private sector, inter-governmental processes and NGOs.

WOOD FOR GOOD

This high profile campaign aims to make wood the leading solution wherever possible for construction and internal use. All members are committed to sustainable forest management, and to providing information, education, trade marketing and other initiatives.



wood. for good.

FORESTS FOREVER

Forests Forever is the environmental voice of the timber industry and aims to promote the use of timber and encourage environmentally responsible trading practices. It advises governments and members on how to source timber and timber products responsibly, and has developed a Responsible Purchasing Policy (RPP) from legal and well-managed forests.



MEETING ISO 14001 REQUIREMENTS

Howarth Windows & Doors have been assessed to meet ISO 14001 requirements.



HOWARTH ENVIRONMENTAL POLICY

The Directors of Howarth Timber (Windows & Doors) Ltd (The Company) recognise that The Company has a responsibility to the environment, customers, suppliers and staff to base its commercial activities on well-managed and sustainable forests.

The Company is committed to purchasing all timber from legal sources and seeks evidence of compliance from suppliers that they are operating in accordance with the laws of their country. The Company unreservedly condemns illegal logging practices and keeps informed of processes and changes in international legislation.

As a signatory to the Timber Trade Federation's (TTF) Responsible Purchasing Policy (RPP) The Company assesses suppliers for evidence of sustainable forest management and is subject to an annual independent audit. The UK Government has recognised the RPP as an excellent example of industry good practice in helping to source legal and sustainable timber.

The Company performs a risk assessment on all suppliers and seeks the clearest practicable information regarding the sources of raw materials. It recognises that the independent certification of the forests and the process chain is the best means of providing assurance that timber comes from legal and well-managed forests and will purchase certified material wherever possible.

The Company has implemented Chain of Custody (CoC) procedures to ensure these materials meet the Government and CPET (Central Point of Expertise in Timber) policy and guidelines on sustainable forest management practices and are obtained from legal and sustainable forest sources.

As part of this system, it is the policy of The Company to ensure compliance with the Forest Stewardship Council (FSC®) and Programme for the Endorsement of Forest Certification (PEFC) criteria. As part of this system it is the policy of The Company to avoid using timber harvested from forest areas where traditional or civil rights are violated, timber harvested from non FSC-certified forest areas having high conservation values which are threatened, timber from genetically modified (GM) trees, illegally harvested timber and natural forests that have been converted to plantations or non-forest use.

Management shall be responsible for implementing this policy and the day-to-day responsibility that this statement is carried out and that The Company Chain of Custody certification scheme is maintained in line with the certification body requirements and the Government and CPET policy.

If it is established that The Company has received materials from illegal sources, it will promptly take the appropriate action(s), including ceasing purchasing from such sources for products covered by this policy.

The Company will work closely with all its suppliers to encourage greater use of certified timber and timber products so that our continual improvement programme of introducing more certified products can be sustained. In order to achieve this, all timber and engineered timber products, where possible, are sourced and procured from a list of Approved Suppliers that is maintained and updated in accordance with The Company's Chain of Custody scheme requirements. These suppliers have already achieved Chain of Custody certification through a licensed and approved independent third party certification body.

On some product lines where certified material is as yet unavailable, The Company will continue to seek alternative sources or work with the supplying company to implement their own Chain of Custody scheme within agreed timescales.

The Company will work with its certification body to ensure that all criteria required by the FSC, PEFC, TTF, RPP, the UK Government and CPET are met and that any non-conformances are corrected without delay.



COMMITTED TO QUALITY



Howarth has continually supported worldwide environmental policies and was a founder member of the Forests Forever campaign to encourage the use of sustainable timber resources. We can now provide a full chain of custody certification, including FSC® and PEFC, on all our product ranges, assuring our customers that the materials we purchase are from environmentally reliable sources.

CHAIN OF CUSTODY

Howarth is able to provide full chain of custody certification on all our product ranges, when requested at quotation stage, using timber certified by either the PEFC or FSC. This is an assurance to our customers that they are buying products from forests that are managed to meet the social, economic and ecological needs of present and future generations.

PEFC

The PEFC (Programme for the Endorsement of Forest Certification schemes) is an independent, non-profit, non-governmental organisation that promotes sustainably managed forests through independent third party certification.



FSC®

The FSC® (Forest Stewardship Council) is an independent, non-profit, non-governmental organisation, established to promote the responsible management of the world's forests. It provides standard setting, trademark assurance and accreditation services for companies like Howarth that believe in responsible forestry.



GUARANTEES*

Howarth products carry performance guarantees where applicable and these can be identified in this brochure as:



*All guarantees given in this catalogue are subject to limitations and are strictly dependent upon compliance with manufacturers' usage and maintenance instructions. These are available upon request.

NOTE: Guarantees on paint and stain finishes may be affected by location if the property is in an exposed location and/or in close proximity to a marine environment.

CE MARKING

CE Marking is now used in all EU official documents. The letters CE are the abbreviation of French phrase *Conformité Européenne* which literally means European Conformity.

CE Marking on a product is a manufacturer's declaration that the product complies with the essential requirements of the relevant European health, safety and environmental protection legislation.

BSI KITEMARK

All Howarth windows are inspected by the BSI team to ensure that they comply with standards laid down by the TWA scheme. They are subject to stringent, independent inspection of both random products and systems to ensure that they meet quality control requirements, as well as operational and weather tightness tests. Two rigorous annual inspections are also carried out to satisfy the strict technical criteria.



BS644:2012

TRADE ASSOCIATIONS

The company was a founder member of the British Woodworking Federation's Timber Window Accreditation Scheme and all our windows are manufactured within the Scheme's guidelines, incorporating third party inspection by BSI and product guarantees.

For our customers this means assurance of the highest levels of product performance, durability and manufacturing standards. We are also a founder member of the Wood Window Alliance, an organisation that promotes the sustainability and suitability of timber windows for the modern world.

Our ethos is to promote the use of timber as the definitive sustainable building material for now and the future. Our objective is to maintain our position at the forefront of the market and to continue to be the preferred choice of our customers. The pursuit of this objective means we must constantly assess and improve our performance and development. As part of this process, we have enhanced the efficiency of our production, reduced delivery lead times and improved reliability and quality. An essential element of this ongoing improvement is our programme of new product research and development, representing innovation at its very best.



BWF

The BWF (British Woodworking Federation) is the trade association for the woodworking and joinery manufacturing industry in the UK. The Federation strives to provide the best possible service to its members, reflected by its success in recruiting and retaining members. Being a member of the Federation is an assurance to Howarth customers that we are fully supported in the development of woodworking and joinery product standards, applicable to every facet of our product range.



BWF TWA SCHEME

Howarth was a founder member of the TWA (Timber Window Accreditation Scheme), established to combat the misinformation spread by suppliers of competing materials and to improve the standard of high performance wood windows in the market place. All Howarth windows are manufactured to exceed the guidelines which, for our customers, means assurance of the highest levels of product performance, durability and manufacturing methods.



THE WOOD WINDOW ALLIANCE

Howarth was one of 40 of the UK's biggest names in timber manufacture that came together to form the Wood Window Alliance, dedicated to the development and promotion of high quality, high performance, sustainable wood windows. This is the customer's guarantee that a window meets independently audited quality and performance criteria, both of which add to the claim that nothing looks or feels as good as wood.



WOOD FOR GOOD

Wood for Good is the biggest generic timber industry campaign ever undertaken in the UK. Its objective is to increase the value of wood sold in the UK by promoting the material's role in sustainable construction and helping to mitigate climate change. No other material has the character, warmth



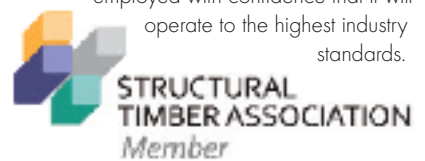
and individuality of wood, a product that grows naturally and helps to make homes more comfortable places

wood. for good. in which to live.

STRUCTURAL TIMBER ASSOCIATION

The Structural Timber Association (STA) promotes the use of structural timber products and systems within the UK construction industry. Formerly known as the UK Timber Frame Association, the enlarged Association now includes suppliers of integrated hybrid solutions, including SIPs, Glulam and CLT products, as well as traditional timber frame kits. The Association leads the industry in terms of quality, health and safety, education, technical knowledge and customer service, through activities including seminars, factory tours, research, networking, advocacy and debate.

The STA have strict criteria about who can join the Association and their strict audit process ensures that industry best practice is followed. This means an STA member can be employed with confidence that it will operate to the highest industry standards.



INVESTORS IN PEOPLE

Howarth is proud to have earned the IIP (Investors in People) accreditation. As a well-established national initiative, it helps us to improve performance and realise our objectives through the management and development of our people. It is designed to improve earnings, productivity and profitability, recruitment and retention of staff, to increase customer satisfaction and competitive advantage.



INVESTOR IN PEOPLE

EUROPEAN STANDARDS

The demands of legislation and standards impose ever-increasing requirements on the window manufacturing industry in terms of energy efficiency, ventilation and security while requiring our products to maintain the aesthetic demands of architects and homeowners. Windows must provide light and ventilation, offer a means of emergency escape, be easy to clean and maintain, and not least must provide a reasonable level of security to the property in which they are fitted. These various and sometimes opposing requirements must be met in order to answer all the demands expected of a window in the 21st century.

The requirements are a challenge that Howarth Window & Doors has taken on through the years and which have led to the introduction of the STORVIK range of windows.

WHY U-VALUES MUST BE DRIVEN LOWER

Energy consumption is at the forefront of universal concern from government through to individuals. In many cases the energy we use comes from natural sources which must be conserved safeguard resources and the planet for ensuing generations.

Within the window industry this results in the need to design and supply product that is as thermally efficient as current technologies can provide. We at Howarth have worked in partnership with our glazing supplier to ensure that the latest glazing technology has been utilised in the manufacture of our upgraded STORVIK range of windows. Windows that are thermally efficient not only help reduce energy consumption and offer associated cost benefits to the homeowner, provide environmentally advantages reducing demands on the world's natural resources and decreasing greenhouse gas emissions.

MEETING AND BEATING FUTURE STANDARDS



WINDOW ENERGY RATINGS (WER)

During recent years, increased environmental awareness has led to improvements in the energy efficiency requirements of buildings. Choosing the correct window specification minimises energy loss which in turn can save on heating costs and reduce the impact on the environment.

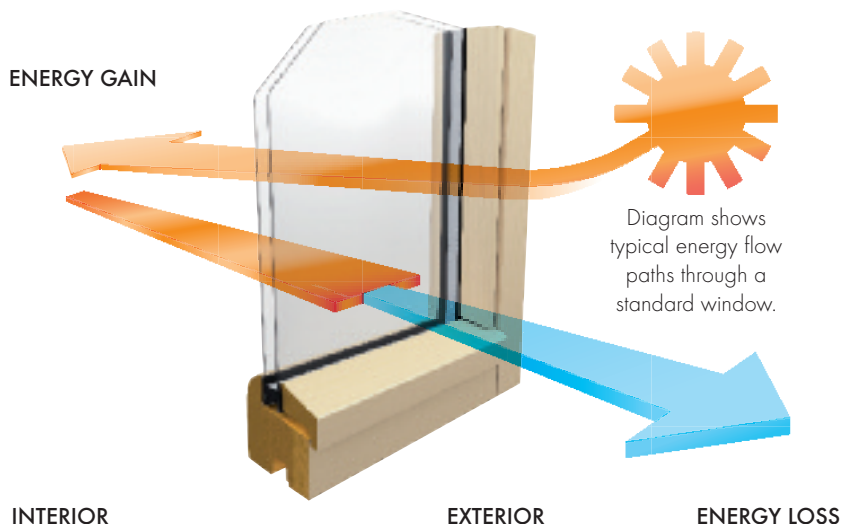
WER was launched in March 2004 by the British Fenestration Rating Council (BFRC),

an independent government-supported body established to develop and administer a system of Window Energy Ratings in the UK. The idea was to develop a consumer-friendly method of illustrating which windows performed well in terms of energy efficiency, using the same type of labels already seen on white goods. Full details relating to Window Energy Ratings can be found on the BFRC website - www.bfrc.org - In late 2006, the BFRC became part of the Glass and Glazing Federation.

HOW DO WINDOW ENERGY RATINGS IMPROVE?

The overall performance of a window depends on upon the combined effect of the frame and glazing components together with the air tightness of the finished window.

Each frame style is then a fixed element, and ratings within each style are then altered by calculating the decreasing thermal losses and/or increasing solar gains that vary according to the glazing specification.



NEW UPGRADED

SLIM PROFILE ULTRA LOW U-VALUE

STORVIK DOUBLE AND TRIPLE GLAZED RANGE

THE SUSTAINABLE WINDOW OPTION



A NEW UPGRADED RANGE OF TIMBER WINDOWS MEETING THE MOST EXACTING SPECIFICATIONS



- Improved thermal performance.

- Window energy ratings A to C.

- Efficient 24mm double glazed unit with Ultra Low STORVIK^{SKD} U-Values to 1.2 Wm²K.



- Efficient 44mm triple glazed unit with Ultra Low STORVIK^{SKT} U-Values to 0.8 Wm²K.



- Quality laminated Redwood Nordic Pine construction.

- Manufactured from the finest FSC® accredited timber on request.

- Slim profile, flush fit styling enables window furniture to be concealed.

- BRE Green Guide A+ Rated.

- High security Secured by Design locking system fitted as standard.

- European Conformity.



- Supplied fully finished in our extended range of paints and stains.

- Extensive guarantees for long-lasting peace of mind.

- Incorporating Swisspacer ULTIMATE, the leading warm edge spacer fitted where appropriate.

SWISSPACER
SAINT-GOBAIN

NEW UPGRADED STORVIK RANGE

HOWARTH
WINDOWS & DOORS

11

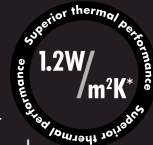
MEETING AND BEATING THE CHALLENGES OF HIGHER STANDARDS

Developed, designed and manufactured in the UK by Howarth specifically for the UK market, the upgraded STORVIK range was developed after extensive research into the latest in timber, glazing and weather seal products. The result is a window design that outperforms current standards to meet those expected of windows in the future.



UPGRADED STORVIK^{SKD} DOUBLE GLAZED WINDOWS

The STORVIK^{SKD} Double Glazed window range is one of our latest developments. It is designed to provide the ultimate in energy performance while maintaining the aesthetics of our Flush Fit range and incorporating a 24mm sealed unit. These frames are manufactured using the very latest glazing advances to achieve a WER A rating, dependent upon requirements and, with the right combination of materials, U-Values can be reduced to around 1.2 W/m²K. The frames meet all Building Regulations and Secured by Design standards.



UPGRADED STORVIK^{SKT} TRIPLE GLAZED WINDOWS

The STORVIK^{SKT} range of timber windows has been developed in response to increasing market demand for improved energy performance. Using the combination of high-spec materials the upgraded STORVIK^{SKT} range provides U-Values down to 0.8 W/m²K. The frames meet all Building Regulations and Secured by Design standards.



ULTRA LOW U-VALUES

Glazing is the prime driver in reducing U-Values, and the STORVIK design offers a wide range of glazing options. Argon filled units with warm edge spacer bars and the latest in low E coatings can drive down actual U-Values as low as 0.7w/m²K dependent upon the design of window required.



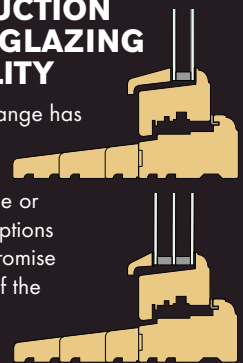
SECURED BY DESIGN FITTED AS STANDARD

All windows in the STORVIK range are manufactured complete with Secured by Design hardware as standard, providing peace of mind for the consumer. Security for homeowners was a prime consideration in the design of the STORVIK range. The only exceptions are fire escape windows where ease of escape mechanism is necessary.



LOGICAL CONSTRUCTION OFFERS GLAZING FLEXIBILITY

The STORVIK range has been designed so that choosing double or triple glazing options does not compromise the aesthetics of the window frame appearance.



EFFICIENT HIGH PERFORMANCE GLAZING UNITS

The STORVIK range offers a full choice of glazing options to meet customer specifications regarding security, safety and thermal efficiency.



NEW UPGRADED STORVIK^{SKD} DOUBLE GLAZED RANGE

A RANGE OF DOUBLE GLAZED TIMBER WINDOWS MEETING THE MOST EXACTING SPECIFICATIONS

- Improved thermal performance.
- Window energy ratings A to C.
- Efficient 24mm double glazed unit with Ultra Low STORVIK^{SKD} U-Values to 1.2 W/m²K.
- Quality laminated Redwood Nordic Pine construction.
- Manufactured from the finest FSC[®] accredited timber on request.
- Slim profile, flush fit styling enables window furniture to be concealed.
- BRE Green Guide A+ Rated.
- High security Secured by Design locking system fitted as standard.
- European Conformity.
- Supplied fully finished in our extended range of paints and stains.
- Extensive guarantees for long-lasting peace of mind.
- Incorporating Swisspacer ULTIMATE, the leading warm edge spacer fitted where appropriate.



SWISSPACER
SAINT GOBAIN

THE ULTRA LOW U-VALUE **STORVIK^{SKD}** DOUBLE GLAZED RANGE

Designed to meet the growing need for a traditionally styled flush fit casement window, particularly in conservation and inner city re-development areas, the Howarth **STORVIK^{SKD}** range provides the solution and then goes even further.

The upgraded Howarth **STORVIK^{SKD}** range can reach as low as 1.2 W/m²K for thermal performance. This reduces energy demand for heating, thus lessening the environmental impact.

In addition the Howarth **STORVIK^{SKD}** range earns an A+ rating from the BRE Green Guide for environmental performance.

In order to improve the overall aesthetic quality, and to offer enhanced strength and stability, all main frame and sash components are made from clear-faced laminated timber. This timber is sourced

sustainably so that it also provides an environmentally friendly solution. Plant-on components, such as sills, bay coupling posts and head drips are manufactured using non-laminated European Redwood.

This enables us to offer extensive guarantees on the frame, paint system, glazing units and ironmongery, giving everyone - from the specifier to the end-user - total peace of mind. The **STORVIK^{SKD}** range is available fully finished in any of our extended range of standard finishes, please refer to page 110.



FINISHING OPTIONS

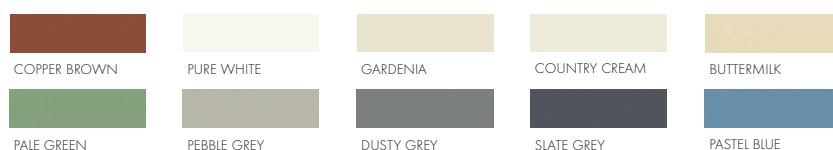
Choose from a range of paint and stain finishes with built-in high performance, endurance and quality, see page 110 for further details.

NOTE: Frames are generally available in standard RAL colours except black. For availability of other darker shades please contact the Sales Office on 01469 530577.

Standard Stain Finishes



Standard Paint Finishes



NOTE: All Howarth paint/stain finishes are silk and not high gloss.

GUARANTEES

As a result of the improved stability of laminated timber construction we are able to provide guarantees for ten years on our paint finish and six years on our stain finish.

NOTE: All guarantees given in this catalogue are subject to limitations and are strictly dependent upon compliance with manufacturers' usage and maintenance instructions. These are available upon request.





SECURED BY DESIGN

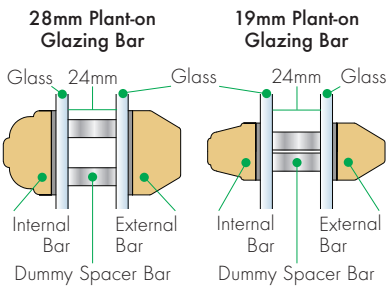
The range is supplied to Secured by Design standard, dependent on size and configuration. Contact our Sales Office for further details on 01469 530577.

As with all Howarth timber windows and doors, the STORVIK^{SKD} range is manufactured under the strict guidelines set out by the British Woodworking Federation's Timber Window Accreditation Scheme,

which is now inspected under the BSI Kitemark Scheme, ensuring the best quality products and the highest levels of performance.



LEAD AND BAR OPTIONS



Dummy spacer bar with 19mm plant-on timber bars.

Leading Options

Leading is available in either 9mm or 12mm thicknesses applied to both sides of the external pane.

Square and Diamond patterns (illustrated below) are available as standard.

For further details of alternative configurations please contact the Sales Office on 01469 530577.

Plant-on Bar

All our windows are priced as standard with the plant-on bar method to both internal and external faces of the glass.



19mm Plant-on Bar

For the full range of pattern options please refer to page 21.

19mm and 28mm Plant-on Bar Options

Plant-on bars are available in widths of either 19mm or 28mm at the same price.

Dummy Spacer Bar

Dummy spacer bars are available as an extra cost option on all plant-on bar ranges, giving the appearance of individual panes (shown above).

Glazing Options

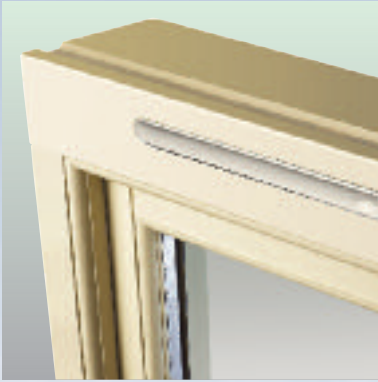
Meeting and exceeding current requirements. Please refer to page 113 for further details.



9mm Diamond Lead

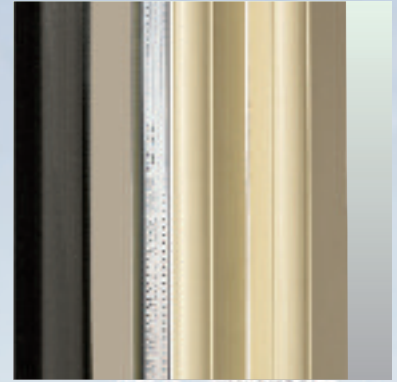


9mm Square Lead



(Above) The STORVIK^{SKD} Double Glazed window range features a built in vent, shown in an closed position and the design utilises a thicker head section providing increased plaster line clearance.

(Right) The STORVIK^{SKD} Double Glazed range features a stylish profile to enhance the internal appearance.



Timber. All timber used is laminated Redwood Nordic Pine from well managed yield sources.



(Above) The upgraded STORVIK^{SKD} Double Glazed window range features S.B.D. shootbolt locking for optimal security. Face-fixed handles are available in White or Black as standard or in a choice of other colours as an optional extra. See page 114 for further details.

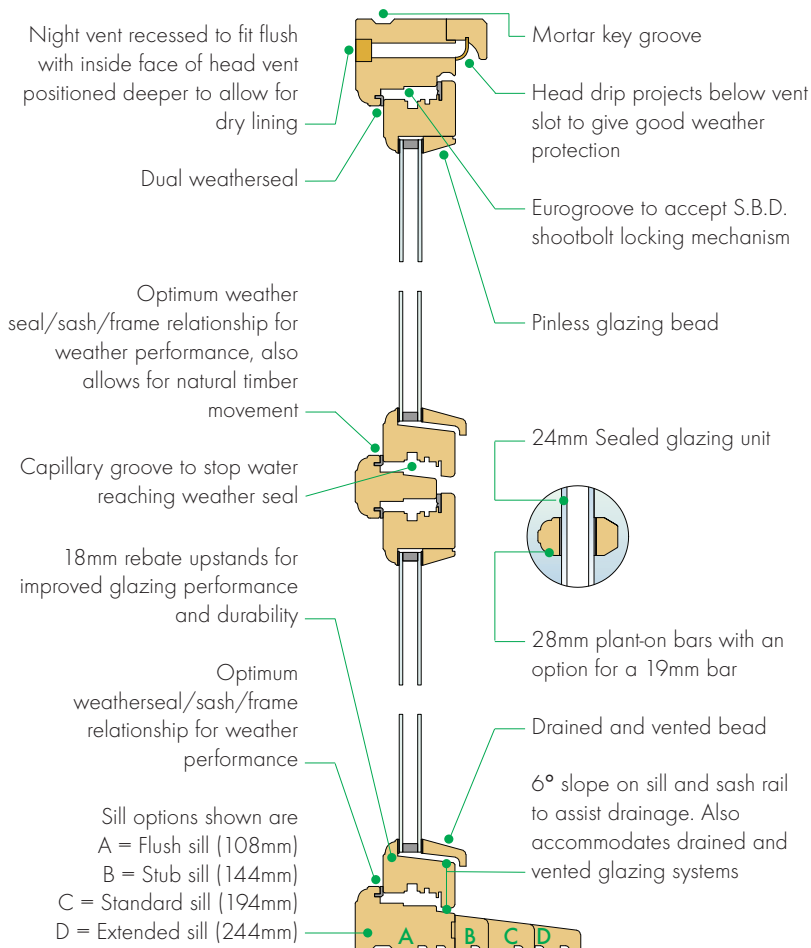
(Below) The STORVIK^{SKD} Double Glazed window range features reflex hinges for ease of use.



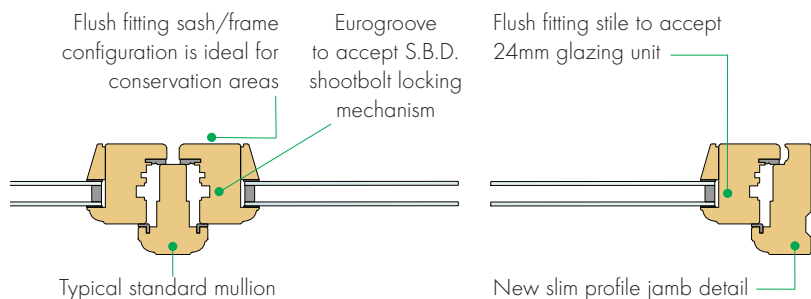
PRODUCT RANGE

Page

01	STORVIK ^{SKD} DOUBLE GLAZED SIDE HUNG (STANDARD MODULE)	18
02	STORVIK ^{SKD} DOUBLE GLAZED SIDE HUNG (NARROW MODULE)	18
03	STORVIK ^{SKD} DOUBLE GLAZED TOP HUNG (STANDARD MODULE)	18
04	STORVIK ^{SKD} DOUBLE GLAZED TOP HUNG (NARROW MODULE)	19
05	STORVIK ^{SKD} DOUBLE GLAZED STANDARD VENT (STANDARD MODULE)	19
06	STORVIK ^{SKD} DOUBLE GLAZED STANDARD VENT (STANDARD MODULE) CONT'	19
07	STORVIK ^{SKD} DOUBLE GLAZED STANDARD VENT (NARROW MODULE)	20
08	STORVIK ^{SKD} DOUBLE GLAZED STANDARD VENT (NARROW MODULE) CONT'	20
09	STORVIK ^{SKD} DOUBLE GLAZED DEEP VENT (STANDARD MODULE)	20
10	STORVIK ^{SKD} DOUBLE GLAZED DEEP VENT (NARROW MODULE)	21
11	STORVIK ^{SKD} DOUBLE GLAZED NARROW MODULE ESCAPE WINDOW	21
12	STORVIK ^{SKD} BAR OPTIONS	21
13	STORVIK ^{SKD} SQUARE BAYS	22
14	STORVIK ^{SKD} 60° SPLAYED BAYS	22
15	STORVIK ^{SKD} 45° SQUARE BAYS	22
16	STORVIK ^{SKD} 30° SQUARE BAYS	22
17	STORVIK ^{SKD} WINDOW OPTIONS	24



CROSS SECTION THROUGH HORIZONTAL



CE MARKING



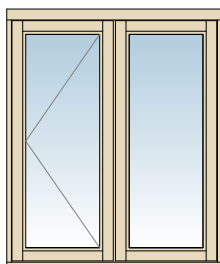
THERMAL PERFORMANCE

Benchmark Window
 1230mm wide
 x
 1480mm high

EUROPEAN CONFORMITY

For further details of CE (European Conformity) Marking please refer to page 134.

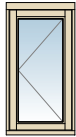
	Benchmark U-Value	W.E.R. Rating
Energy Ultra	1.3	A
Energy Plus	1.3	B
Energy	1.5	C
Energy Ultra U	1.2	C



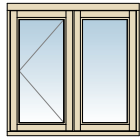
NOTE: Results generated by Howarth to determine energy ratings are conducted using the rules and procedures used by the BFRC and are based upon the BFRC standard specification and frame sizes for such calculations.



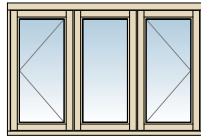
01 STORVIK^{SKD} DOUBLE GLAZED SIDE HUNG (STANDARD MODULE)



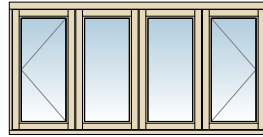
630



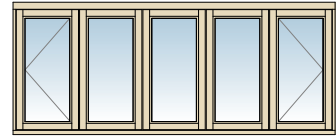
1200



1770



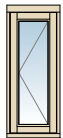
2340



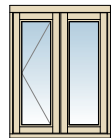
2913

HEIGHT	CODE	CODE	CODE	CODE	CODE
750	SKD107C	SKD207CF	SKD307CFC	SKD407CFFC	SKD507CFFFC
900	SKD109C	SKD209CF	SKD309CFC	SKD409CFFC	SKD509CFFFC
1050	SKD110C	SKD210CF	SKD310CFC	SKD410CFFC	SKD510CFFFC
1200	SKD112C	SKD212CF	SKD312CFC	SKD412CFFC	SKD512CFFFC
1350	SKD113C	SKD213CF	SKD313CFC	SKD413CFFC	SKD513CFFFC
1500	SKD115C	SKD215CF	SKD315CFC	SKD415CFFC	SKD515CFFFC

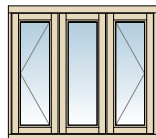
02 STORVIK^{SKD} SKD DOUBLE GLAZED SIDE HUNG (NARROW MODULE)



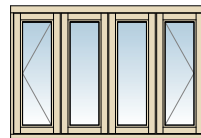
488



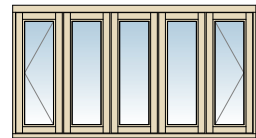
915



1344



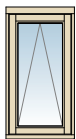
1770



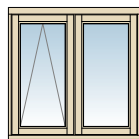
2198

HEIGHT	CODE	CODE	CODE	CODE	CODE
750	SKDN07C	SKD2N07CF	SKD3N07CFC	SKD4N07CFFC	SKD5N07CFFFC
900	SKDN09C	SKD2N09CF	SKD3N09CFC	SKD4N09CFFC	SKD5N09CFFFC
1050	SKDN10C	SKD2N10CF	SKD3N10CFC	SKD4N10CFFC	SKD5N10CFFFC
1200	SKDN12C	SKD2N12CF	SKD3N12CFC	SKD4N12CFFC	SKD5N12CFFFC
1350	SKDN13C	SKD2N13CF	SKD3N13CFC	SKD4N13CFFC	SKD5N13CFFFC
1500	SKDN15C	SKD2N15CF	SKD3N15CFC	SKD4N15CFFC	SKD5N15CFFFC

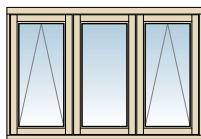
03 STORVIK^{SKD} DOUBLE GLAZED TOP HUNG (STANDARD MODULE)



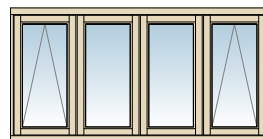
630



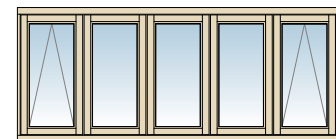
1200



1770



2340



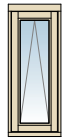
2913

HEIGHT	CODE	CODE	CODE	CODE	CODE
600	SKD106A	SKD206AF	SKD306AFA	SKD406AFFA	SKD506AFFFA
750	SKD107A	SKD207AF	SKD307AFA	SKD407AFFA	SKD507AFFFA
900	SKD109A	SKD209AF	SKD309AFA	SKD409AFFA	SKD509AFFFA
1050	SKD110A	SKD210AF	SKD310AFA	SKD410AFFA	SKD510AFFFA
1200	SKD112A	SKD212AF	SKD312AFA	SKD412AFFA	SKD512AFFFA
1350	SKD113A	SKD213AF	SKD313AFA	SKD413AFFA	SKD513AFFFA

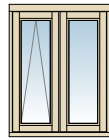
NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass. Window sizes shown are nominal and are approx 5mm to 10mm less than the size shown depending on sash configuration to allow for building in. All illustrations above tables show exterior views.

Fire Escape Windows will be fitted with Fire Escape Hinges. For further details please refer to page 126.

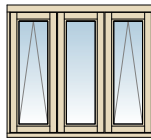
04 STORVIK^{SKD} DOUBLE GLAZED TOP HUNG (NARROW MODULE)



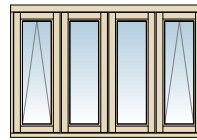
488



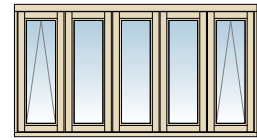
915



1344



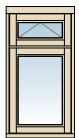
1770



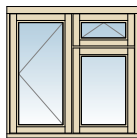
2198

HEIGHT	CODE	CODE	CODE	CODE	CODE
600	SKDN06A	SKD2N06AF	SKD3N06AFA	SKD4N06AFFA	SKD5N06AFFFA
750	SKDN07A	SKD2N07AF	SKD3N07AFA	SKD4N07AFFA	SKD5N07AFFFA
900	SKDN09A	SKD2N09AF	SKD3N09AFA	SKD4N09AFFA	SKD5N09AFFFA
1050	SKDN10A	SKD2N10AF	SKD3N10AFA	SKD4N10AFFA	SKD5N10AFFFA
1200	SKDN12A	SKD2N12AF	SKD3N12AFA	SKD4N12AFFA	SKD5N12AFFFA
1350	SKDN13A	SKD2N13AF	SKD3N13AFA	SKD4N13AFFA	SKD5N13AFFFA

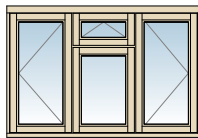
05 STORVIK^{SKD} DOUBLE GLAZED STANDARD VENT (STANDARD MODULE)



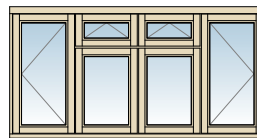
630



1200



1770



2340



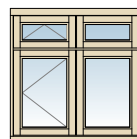
2913

HEIGHT	CODE	CODE	CODE	CODE	CODE
1050	SKD110V	SKD210CV	SKD310CVC	SKD410CWC	SKD510CVVWC
1200	SKD112V	SKD212CV	SKD312CVC	SKD412CWC	SKD512CVVWC
1350	SKD113V	SKD213CV	SKD313CVC	SKD413CWC	SKD513CVVWC
1500	SKD115V	SKD215CV	SKD315CVC	SKD415CWC	SKD515CVVWC

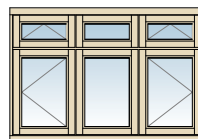
06 STORVIK^{SKD} DOUBLE GLAZED STANDARD VENT (STANDARD MODULE) CONT'



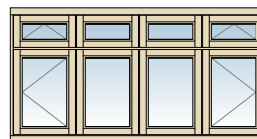
630



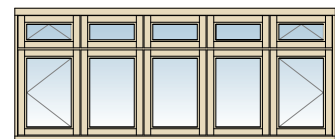
1200



1770



2340



2913

HEIGHT	CODE	CODE	CODE	CODE	CODE
1050	SKD110T	SKD210TX	SKD310TXT	SKD410TXXT	SKD510TXXXT
1200	SKD112T	SKD212TX	SKD312TXT	SKD412TXXT	SKD512TXXXT
1350	SKD113T	SKD213TX	SKD313TXT	SKD413TXXT	SKD513TXXXT
1500	SKD115T	SKD215TX	SKD315TXT	SKD415TXXT	SKD515TXXXT

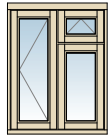
NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass. Window sizes shown are nominal and are approx 5mm to 10mm less than the size shown depending on sash configuration to allow for building in. All illustrations above tables show exterior views.

Fire Escape Windows will be fitted with Fire Escape Hinges. For further details please refer to page 126.

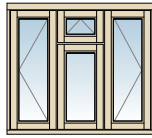
07 STORVIK^{SKD} DOUBLE GLAZED STANDARD VENT (NARROW MODULE)



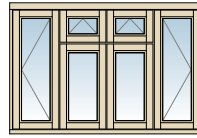
488



915



1344



1770



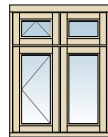
2198

HEIGHT	CODE	CODE	CODE	CODE	CODE
1050	SKDN12V	SKD2N12CV	SKD3N12CVC	SKD4N12CWC	SKD5N12CVWC
1200	SKDN15V	SKD2N15CV	SKD3N15CVC	SKD4N15CWC	SKD5N15CVWC
1350	SKDN13V	SKD2N13CV	SKD3N13CVC	SKD4N13CWC	SKD5N13CVWC
1500	SKDN15V	SKD2N15CV	SKD3N15CVC	SKD4N15CWC	SKD5N15CVWC

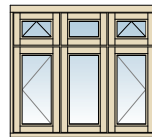
08 STORVIK^{SKD} DOUBLE GLAZED STANDARD VENT (NARROW MODULE) CONT'



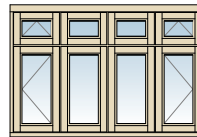
488



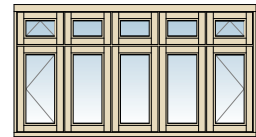
915



1344



1770



2198

HEIGHT	CODE	CODE	CODE	CODE	CODE
1050	SKDN10T	SKD2N10TX	SKD3N10TXT	SKD4N10TXXT	SKD5N10TXXXT
1200	SKDN12T	SKD2N12TX	SKD3N12TXT	SKD4N12TXXT	SKD5N12TXXXT
1350	SKDN13T	SKD2N13TX	SKD3N13TXT	SKD4N13TXXT	SKD5N13TXXXT
1500	SKDN15T	SKD2N15TX	SKD3N15TXT	SKD4N15TXXT	SKD5N15TXXXT

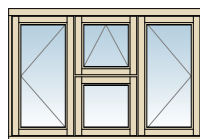
09 STORVIK^{SKD} DOUBLE GLAZED DEEP VENT (STANDARD MODULE)



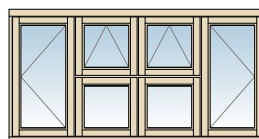
630



1200



1770



2340



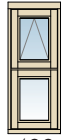
2913

HEIGHT	CODE	CODE	CODE	CODE	CODE
900	SKD109D	SKD209CD	SKD309CDC	SKD409CDDC	SKD509CDDDC
1050	SKD110D	SKD210CD	SKD310CDC	SKD410CDDC	SKD510CDDDC
1200	SKD112D	SKD212CD	SKD312CDC	SKD412CDDC	SKD512CDDDC
1350	SKD113D	SKD213CD	SKD313CDC	SKD413CDDC	SKD513CDDDC
1500	SKD115D	SKD215CD	SKD315CDC	SKD415CDDC	SKD515CDDDC

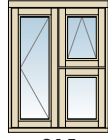
NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass. Window sizes shown are nominal and are approx 5mm to 10mm less than the size shown depending on sash configuration to allow for building in. All illustrations above tables show exterior views.

Fire Escape Windows will be fitted with Fire Escape Hinges. For further details please refer to page 126.

10 STORVIK^{SKD} DOUBLE GLAZED DEEP VENT (NARROW MODULE)



488



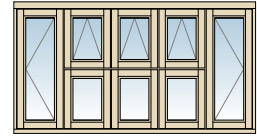
915



1344



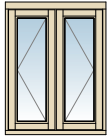
1770



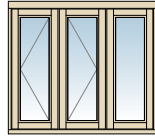
2198

HEIGHT	CODE	CODE	CODE	CODE	CODE
900	SKDN09D	SKD2N09CD	SKD3N09CDC	SKD4N09CDDC	SKD5N09CDDDC
1050	SKDN10D	SKD2N10CD	SKD3N10CDC	SKD4N10CDDC	SKD5N10CDDDC
1200	SKDN12D	SKD2N12CD	SKD3N12CDC	SKD4N12CDDC	SKD5N12CDDDC
1350	SKDN13D	SKD2N13CD	SKD3N13CDC	SKD4N13CDDC	SKD5N13CDDDC
1500	SKDN15D	SKD2N15CD	SKD3N15CDC	SKD4N15CDDC	SKD5N15CDDDC

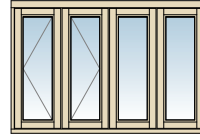
11 STORVIK^{SKD} DOUBLE GLAZED (NARROW MODULE) ESCAPE WINDOW



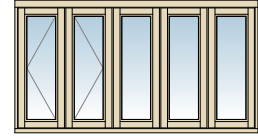
915



1344



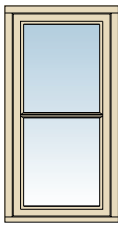
1770



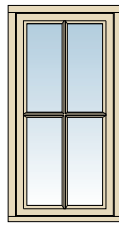
2198

HEIGHT	CODE	CODE	CODE	CODE
900	ESKD2N09CC	ESKD3N09CCF	ESKD4N09CCFF	ESKD5N09CCFFF
1050	ESKD2N10CC	ESKD3N10CCF	ESKD4N10CCFF	ESKD5N10CCFFF
1200	ESKD2N12CC	ESKD3N12CCF	ESKD4N12CCFF	ESKD5N12CCFFF
1350	ESKD2N13CC	ESKD3N13CCF	ESKD4N13CCFF	ESKD5N13CCFFF
1500	ESKD2N15CC	ESKD3N15CCF	ESKD4N15CCFF	ESKD5N15CCFFF

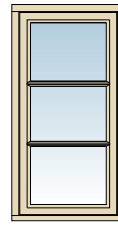
12 STORVIK^{SKD} BAR OPTIONS



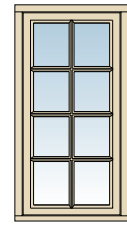
HORIZONTAL BAR
SKDH



COTTAGE BAR
SKDC



TWO BAR
SKD2B



GEORGIAN BAR
SKDDB

NOTE: For further details on bar options please refer to page 112.

NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass. Window sizes shown are nominal and are approx 5mm to 10mm less than the size shown depending on sash configuration to allow for building in. All illustrations above tables show exterior views.

Fire Escape Windows will be fitted with Fire Escape Hinges. For further details please refer to page 126.

STORVIK BAY WINDOWS

13 SQUARE BAYS

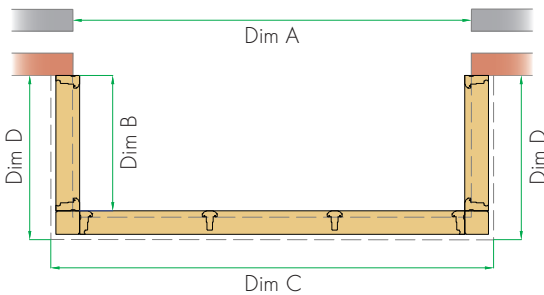
Standard Module

CODE	DIMENSION			
	A	B	C	D
SQSK1	680	620	884	752
SQSK2	1252	620	1456	752
SQSK3	1824	620	2028	752
SQSK4	2396	620	2600	752
SQSK5	2968	620	3172	752

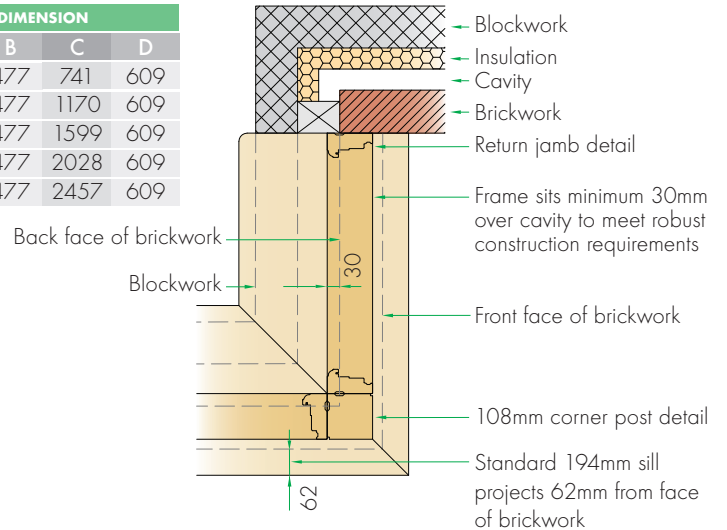
Narrow Module

CODE	DIMENSION			
	A	B	C	D
SQSK1N	537	477	741	609
SQSK2N	966	477	1170	609
SQSK3N	1395	477	1599	609
SQSK4N	1824	477	2028	609
SQSK5N	2253	477	2457	609

Dimensions



NOTE: Dashed line represents brickwork



14 60° SPLAYED BAYS

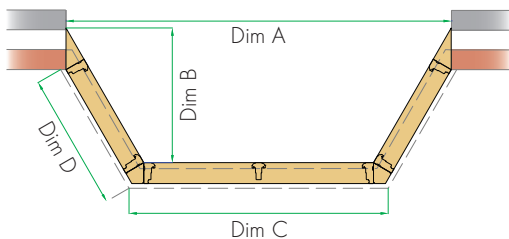
60° Standard Module

CODE	DIMENSION			
	A	B	C	D
SPSK1/60	1427	699	772	710
SPSK2/60	1999	699	1344	710
SPSK3/60	2571	699	1916	710
SPSK4/60	3143	699	2488	710
SPSK5/60	3715	699	3060	710

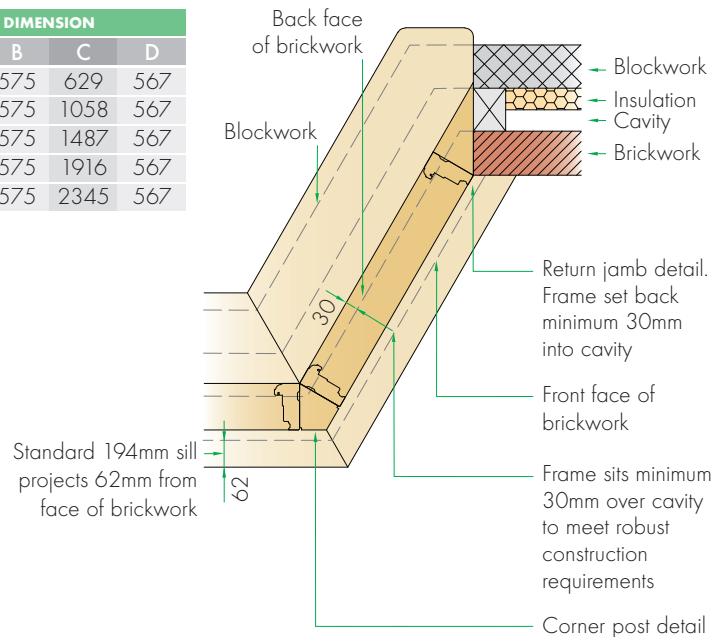
60° Narrow Module

CODE	DIMENSION			
	A	B	C	D
SPSK1N/60	1141	575	629	567
SPSK2N/60	1570	575	1058	567
SPSK3N/60	1999	575	1487	567
SPSK4N/60	2428	575	1916	567
SPSK5N/60	2857	575	2345	567

Dimensions



NOTE: Dashed line represents brickwork



NOTE: To comply with manual handling regulations, pre-glazed bays or combinations will be supplied in sections for final site assembly.



15 45° SPLAYED BAYS

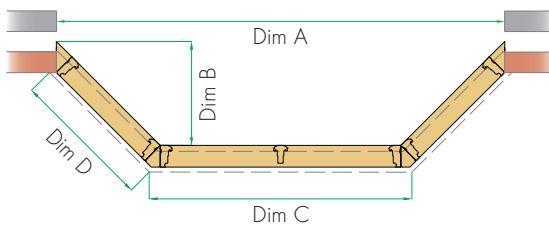
45° Standard Module

CODE	DIMENSION			
	A	B	C	D
SPSK1/45	1650	515	729	699
SPSK2/45	2222	515	1301	699
SPSK3/45	2794	515	1873	699
SPSK4/45	3366	515	2445	699
SPSK5/45	3938	515	3017	699

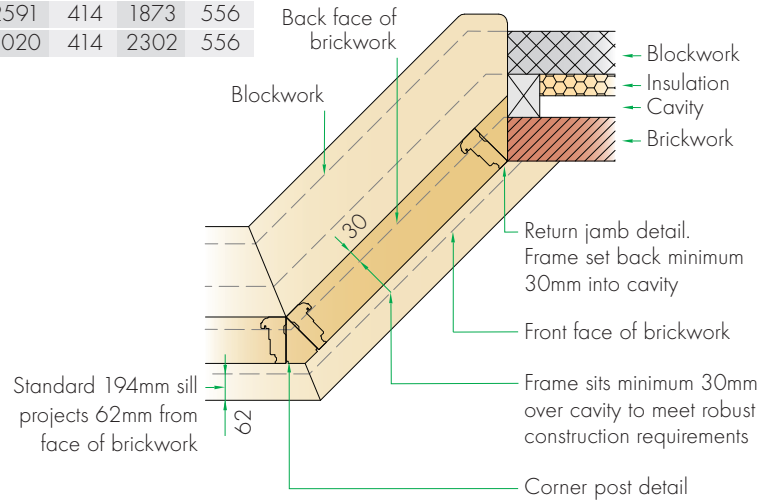
45° Narrow Module

CODE	DIMENSION			
	A	B	C	D
SPSK1N/45	1304	414	586	556
SPSK2N/45	1733	414	1015	556
SPSK3N/45	2162	414	1444	556
SPSK4N/45	2591	414	1873	556
SPSK5N/45	3020	414	2302	556

Dimensions



NOTE: Dashed line represents brickwork



16 30° SPLAYED BAYS

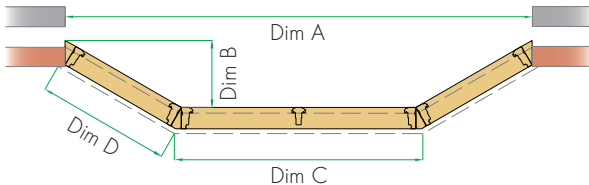
30° Standard Module

CODE	DIMENSION			
	A	B	C	D
SPSK1/30	1802	341	691	682
SPSK2/30	2374	341	1263	682
SPSK3/30	2946	341	1835	682
SPSK4/30	3518	341	2407	682
SPSK5/30	4090	341	2979	682

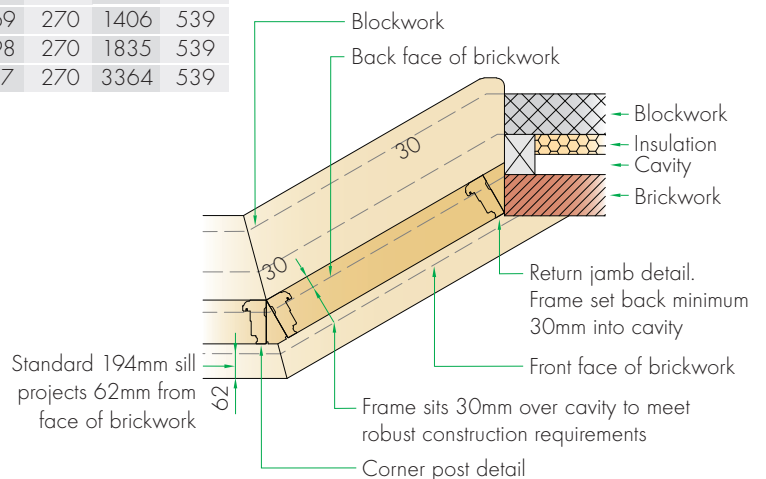
30° Narrow Module

CODE	DIMENSION			
	A	B	C	D
SPSK1N/30	1411	270	548	539
SPSK2N/30	1840	270	977	539
SPSK3N/30	2269	270	1406	539
SPSK4N/30	2698	270	1835	539
SPSK5N/30	3127	270	3364	539

Dimensions



NOTE: Dashed line represents brickwork



NOTE: To comply with manual handling regulations, pre-glazed bays or combinations will be supplied in sections for final site assembly.

17 STORVIK^{SKD} WINDOW OPTIONS

1. Night ventilators

All windows between 488mm and 914mm include 4600mm² equivalent area of ventilation. All windows 915mm wide and over include 9200mm² equivalent area of ventilation. Please specify if you require only 4600mm² or no ventilation.

2. Sills

The standard sill width is 194mm to allow the frame to be set back into the cavity to meet Part L Robust Construction Detail requirements. Other available sill width options are 108mm flush sills and 144mm stub sills, or 244mm extended sills.

Larger sills have a tendency to cup, twist or split. These risks are greater on south facing elevations or if decorated with a dark top coat. Where a frame needs to be set back into the wall to avoid cold bridging, we recommend that a flush or a stub sill is used in conjunction with a stone or canted brick sill. **Consequently, we do not guarantee extended sills.**

3. Finishing options

Frames are available in any of our standard finishes shown on page 110. Frames are also generally available in standard RAL colours except black. For availability of other darker shades please contact the Sales Office on 01469 530577.

4. Combination door and window frames are available

5. Bay Windows

Bays are available in the Storvik range excluding shallow and deep circular.

6. Repair kits for fully finished windows

Includes paint or stain, brush, sandpaper, tube of filler and instructions. Will cover 0.5m².

7. Cavity closers in loose lengths are available

8. Window furniture and locking mechanisms

A range of furniture options is available. Please see page 114.

Available in a range of colour options. White and Black in one price group. Polished Chrome effect, Satin Chrome effect and Gold effect are available at an extra cost.

Windows are fitted with S.B.D. shootbolt locking systems and reflex hinges.

Shootbolt locking

Locking mechanisms are user adjustable by the purchaser to allow for slight movement which can occur naturally within timber profiles, or any alignment change which may have occurred to the sash during the transport or installation of the frame.

9. Secured by Design

STORVIK^{SKD} windows are supplied to achieve PAS24:1012 Secured by Design requirements and are audited to ensure continuing compliance as part of our BSI Kitemark Scheme. Some sizes may exceed tested dimensions. For full details on which frames meet S.B.D., please contact our Sales Office on 01469 530577.

10. Restrictor stays

Concealed restrictor stays are available.

11. Cambered heads

One per window produced in non-laminated Redwood are available. One will be supplied per frame unless otherwise requested.

12. Perimeter pinch battens

For installing frames into timber frame buildings. These are available made from non-laminated Redwood. They are fitted to the jambs and heads of the frame unless otherwise requested.

13. Shrink wrapping

Frames are wrapped as standard in a clear cling film which permits visual inspection of the frame upon delivery.

14. Tolerances

On the STORVIK^{SKD} range the 'brick work' tolerances vary between 5 and 10mm allowing for consistent sash widths.

15. Quotation prices

Quotation prices do not include VAT which will be charged at the rate applicable at the time of delivery. Prices quoted are subject to Howarth's Standard Terms and Conditions of Sale.

(See page 139 or contact the Sales Office on 01469 530577).

16. Deliveries

All ancillary purchases are subject to a post and packing charge. Orders of £1,000 or less will be subject to a delivery charge.

NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass.





NEW UPGRADED **STORVIK^{SKT}** TRIPLE GLAZED RANGE

A RANGE OF TRIPLE GLAZED TIMBER WINDOWS MEETING THE MOST EXACTING SPECIFICATIONS

- Improved thermal performance.
- Window energy ratings A to C.
- Efficient 44mm triple glazed unit with Ultra Low **STORVIK^{SKT}** U-Values to 0.8 W/m²K.
- Quality laminated Redwood Nordic Pine construction.
- Manufactured from the finest FSC® accredited timber on request.
- Slim profile, flush fit styling enables window furniture to be concealed.
- BRE Green Guide A+ Rated.
- High security Secured by Design locking system fitted as standard.
- European Conformity.
- Supplied fully finished in our extended range of paints and stains.
- Extensive guarantees for long-lasting peace of mind.
- Incorporating Swisspacer ULTIMATE, the leading warm edge spacer fitted where appropriate.



SWISSPACER
SAINT GOBAIN

NEW UPGRADED **STORVIK^{SKT}** TRIPLE GLAZED

HOWARTH
WINDOWS & DOORS

25

THE ULTRA LOW U-VALUE **STORVIK^{SKT}** TRIPLE GLAZED RANGE

Designed to meet the expanding requirements for enhanced thermal performance, the Howarth **STORVIK^{SKT}** Triple Glazed range uses the very best materials and techniques to ensure that every product meets the U-Values increasingly demanded by growing sectors of the market.

These low U-Values are achieved by using a 44mm triple glazed unit that increases the frames thermal capabilities, meaning it can reach as low as 0.8 W/m²K for thermal performance.

In addition, the Howarth **STORVIK^{SKT}** Triple Glazed range also earns an A+ Rating from the BRE Green Guide for environmental performance.

Based on our popular flush fit styling, the Triple Glazed **STORVIK^{SKT}** window will fit into any traditional or contemporary development.

All main frame components and sashes are manufactured using clear-faced

laminated Redwood for enhanced strength and durability, as well as providing a clear knot-free finish. It should be noted though, that all plant-on sections, sill and head drips are made from non-laminated Redwood which may contain knots.

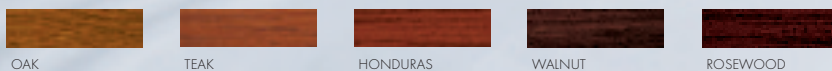
The upgraded Howarth **STORVIK^{SKT}** window is environmental advantages too. Improved thermal performance means that less energy is needed to heat buildings, thus reducing the environmental impact. Frames can also be manufactured from FSC[®] accredited timber with full chain of custody for sustainability.



FINISHING OPTIONS

Choose from a range of paint and stain finishes with built-in high performance, endurance and quality, see page 110 for further details.

Standard Stain Finishes



Standard Paint Finishes



NOTE: All Howarth paint/stain finishes are silk and not high gloss.

NOTE: Frames are generally available in standard RAL colours except black. For availability of other darker shades please contact the Sales Office on 01469 530577.

GUARANTEES

As a result of the improved stability of laminated timber construction we are able to provide guarantees for ten years on our paint finish and six years on our stain finish.



Rot and Fungal Attack



Stain Finish



Paint Finish



Sealed Units



Ironmongery

NOTE: All guarantees given in this catalogue are subject to limitations and are strictly dependent upon compliance with manufacturers' usage and maintenance instructions. These are available upon request.



(Left) The STORVIK^{SKT} Triple Glazed range incorporates 44mm triple glazed units to improve thermal performance.

(Below left) The STORVIK^{SKT} Triple Glazed range design incorporates an improved deeper drip head design.

(Right) The STORVIK^{SKT} Triple Glazed range design incorporates a slim modern and clean profile.



NOTE:

Lead and bar options are not available on STORVIK^{SKT} due to parallax limitations.



SECURED BY DESIGN

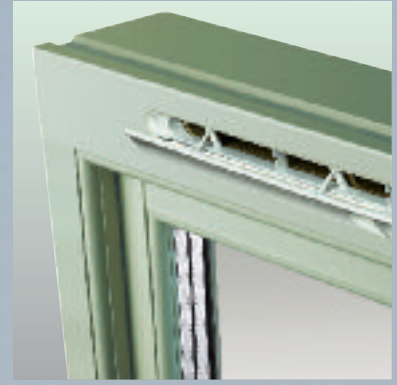
The upgraded STORVIK^{SKT} windows are manufactured to the demanding standards of Secured by Design, dependent on the size and configuration of the window frame. For full details on which frames comply with S.B.D, please contact the Sales Office on 01469 530577.



As with all Howarth windows, the STORVIK^{SKT} window range is manufactured to strict guidelines set out by the British Woodworking Federation's Timber Window Accreditation Scheme, ensuring the best quality products and the highest levels of performance.



(Left) The upgraded STORVIK^{SKT} Triple Glazed range features S.B.D. shootbolt locking for optimal security. Face-Fixed handles are available in White or Black as standard or a choice of other colours as an optional extra. See page 114 for further details



(Above) The STORVIK^{SKT} Triple Glazed range features a built in vent, shown in an open position and the new design utilises a thicker head section providing increased plaster line clearance.

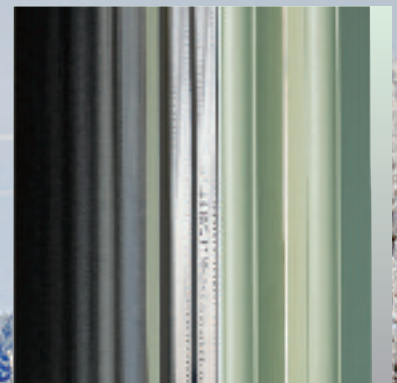


Timber. All timber used is laminated Redwood Nordic Pine from well managed yield sources.



(Below) The STORVIK^{SKT} Triple Glazed range features a stylish profile to enhance the internal appearance.

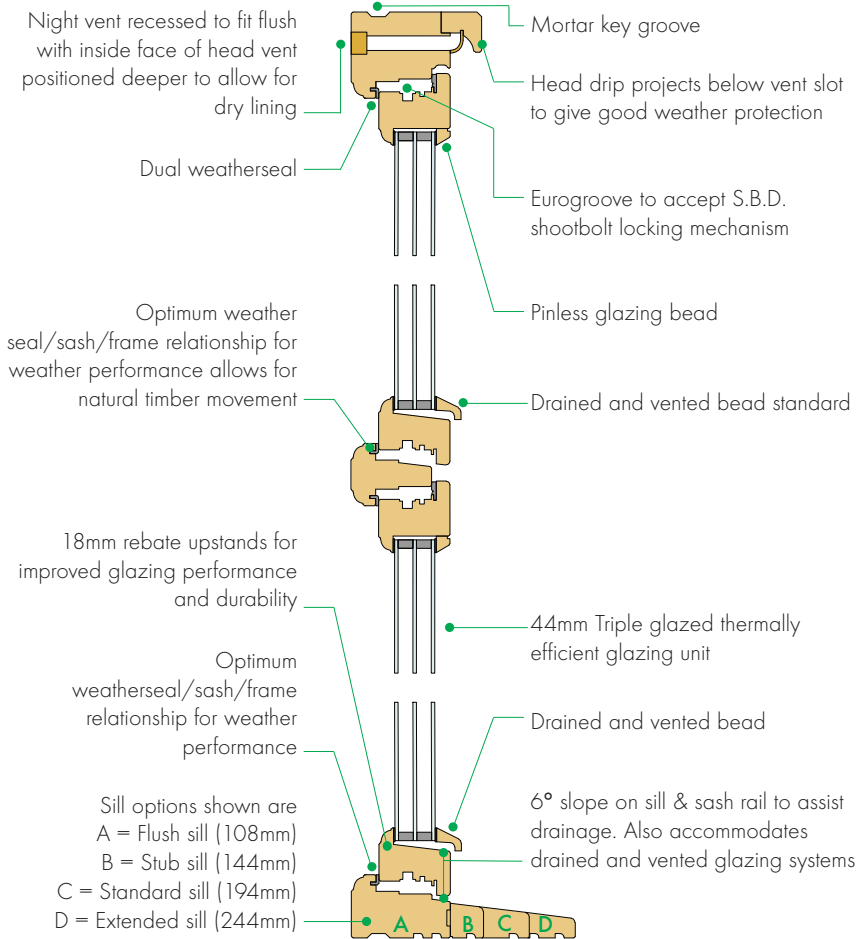
(Bottom) The STORVIK^{SKT} Triple Glazed window range features reflex hinges for ease of use.



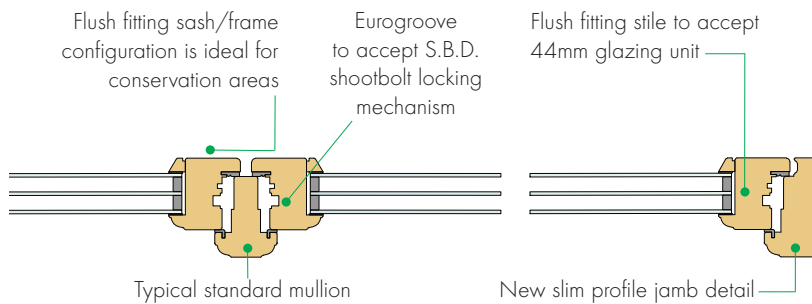
PRODUCT RANGE

Page

18	STORVIK ^{SKT} TRIPLE GLAZED SIDE HUNG (STANDARD MODULE)	30
19	STORVIK ^{SKT} TRIPLE GLAZED SIDE HUNG (NARROW MODULE)	30
20	STORVIK ^{SKT} TRIPLE GLAZED TOP HUNG (STANDARD MODULE)	30
21	STORVIK ^{SKT} TRIPLE GLAZED TOP HUNG (NARROW MODULE)	31
22	STORVIK ^{SKT} TRIPLE GLAZED STANDARD VENT (STANDARD MODULE)	31
23	STORVIK ^{SKT} TRIPLE GLAZED STANDARD VENT (STANDARD MODULE) CONT'	31
24	STORVIK ^{SKT} TRIPLE GLAZED STANDARD VENT (NARROW MODULE)	32
25	STORVIK ^{SKT} TRIPLE GLAZED STANDARD VENT (NARROW MODULE) CONT'	32
26	STORVIK ^{SKT} TRIPLE GLAZED DEEP VENT (STANDARD MODULE)	32
27	STORVIK ^{SKT} TRIPLE GLAZED DEEP VENT (NARROW MODULE)	33
28	STORVIK ^{SKT} TRIPLE GLAZED NARROW MODULE ESCAPE WINDOW	33
29	STORVIK ^{SKT} WINDOW OPTIONS	34



CROSS SECTION THROUGH HORIZONTAL



CE MARKING



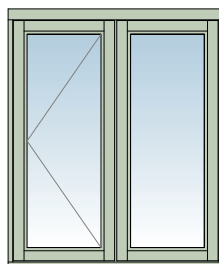
EUROPEAN CONFORMITY

For further details of CE (European Conformity) Marking please refer to page 134.

THERMAL PERFORMANCE

	Benchmark U-Value	W.E.R. Rating
Energy Ultra	1.1	A
Energy Plus	1.1	A
Energy	1.3	B
Energy Ultra U	0.8	B

Benchmark Window
1230mm wide
x
1480mm high

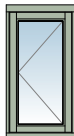


NOTE: Results generated by Howarth to determine energy ratings are conducted using the rules and procedures used by the BFRG and are based upon the BFRG standard specification and frame sizes for such calculations.



18

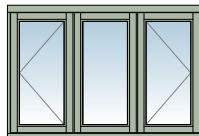
STORVIK^{SKT} TRIPLE GLAZED SIDE HUNG (STANDARD MODULE)



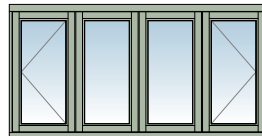
630



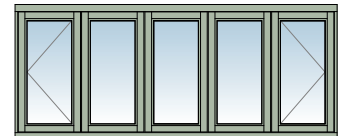
1200



1770



2340

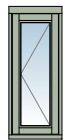


2913

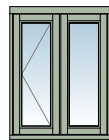
HEIGHT	CODE	CODE	CODE	CODE	CODE
750	SKT107C	SKT207CF	SKT307CFC	SKT407CFFC	SKT507CFFFC
900	SKT109C	SKT209CF	SKT309CFC	SKT409CFFC	SKT509CFFFC
1050	SKT110C	SKT210CF	SKT310CFC	SKT410CFFC	SKT510CFFFC
1200	SKT112C	SKT212CF	SKT312CFC	SKT412CFFC	SKT512CFFFC
1350	SKT113C	SKT213CF	SKT313CFC	SKT413CFFC	SKT513CFFFC

19

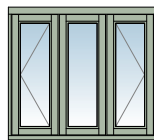
STORVIK^{SKT} TRIPLE GLAZED SIDE HUNG (NARROW MODULE)



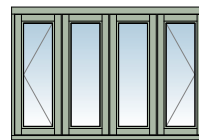
488



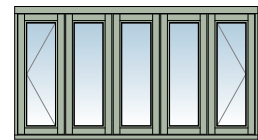
915



1344



1770

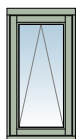


2198

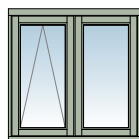
HEIGHT	CODE	CODE	CODE	CODE	CODE
750	SKTN07C	SKT2N07CF	SKT3N07CFC	SKT4N07CFFC	SKT5N07CFFFC
900	SKTN09C	SKT2N09CF	SKT3N09CFC	SKT4N09CFFC	SKT5N09CFFFC
1050	SKTN10C	SKT2N10CF	SKT3N10CFC	SKT4N10CFFC	SKT5N10CFFFC
1200	SKTN12C	SKT2N12CF	SKT3N12CFC	SKT4N12CFFC	SKT5N12CFFFC
1350	SKTN13C	SKT2N13CF	SKT3N13CFC	SKT4N13CFFC	SKT5N13CFFFC

20

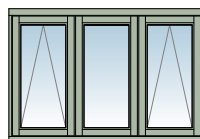
STORVIK^{SKT} TRIPLE GLAZED TOP HUNG (STANDARD MODULE)



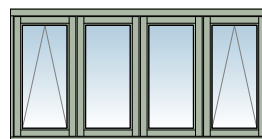
630



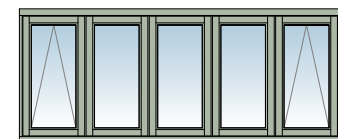
1200



1770



2340



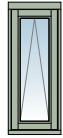
2913

HEIGHT	CODE	CODE	CODE	CODE	CODE
600	SKT106A	SKT206AF	SKT306AFA	SKT406AFFA	SKT506AFFFA
750	SKT107A	SKT207AF	SKT307AFA	SKT407AFFA	SKT507AFFFA
900	SKT109A	SKT209AF	SKT309AFA	SKT409AFFA	SKT509AFFFA
1050	SKT110A	SKT210AF	SKT310AFA	SKT410AFFA	SKT510AFFFA
1200	SKT112A	SKT212AF	SKT312AFA	SKT412AFFA	SKT512AFFFA

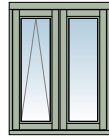
NOTE: All triple glazed frames now include low-E 44mm glazing. Window sizes shown are nominal and are approx 5mm to 10mm less than the size shown depending on sash configuration to allow for building in. All illustrations above tables show exterior views.

Fire Escape Windows will be fitted with Fire Escape Hinges. For further details please refer to page 126.

21 STORVIK^{SKT} TRIPLE GLAZED TOP HUNG (NARROW MODULE)



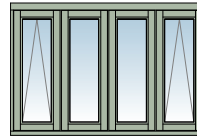
488



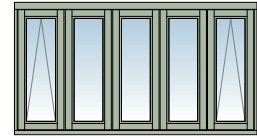
915



1344



1770



2198

HEIGHT	CODE	CODE	CODE	CODE	CODE
600	SKTN06A	SKT2N06AF	SKT3N06AFA	SKT4N06AFFA	SKT5N06AFFFA
750	SKTN07A	SKT2N07AF	SKT3N07AFA	SKT4N07AFFA	SKT5N07AFFFA
900	SKTN09A	SKT2N09AF	SKT3N09AFA	SKT4N09AFFA	SKT5N09AFFFA
1050	SKTN10A	SKT2N10AF	SKT3N10AFA	SKT4N10AFFA	SKT5N10AFFFA
1200	SKTN12A	SKT2N12AF	SKT3N12AFA	SKT4N12AFFA	SKT5N12AFFFA

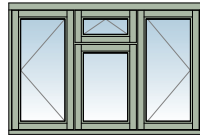
22 STORVIK^{SKT} TRIPLE GLAZED STANDARD VENT (STANDARD MODULE)



630



1200



1770



2340



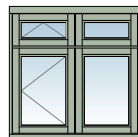
2913

HEIGHT	CODE	CODE	CODE	CODE	CODE
1050	SKT110V	SKT210CV	SKT310CVC	SKT410CWC	SKT510CWWC
1200	SKT112V	SKT212CV	SKT312CVC	SKT412CWC	SKT512CWWC
1350	SKT113V	SKT213CV	SKT313CVC	SKT413CWC	SKT513CWWC

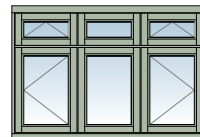
23 STORVIK^{SKT} TRIPLE GLAZED STANDARD VENT (STANDARD MODULE) CONT'



630



1200



1770



2340



2913

HEIGHT	CODE	CODE	CODE	CODE	CODE
1050	SKT110T	SKT210TX	SKT310TXT	SKT410TXXT	SKT510TXXXT
1200	SKT112T	SKT212TX	SKT312TXXT	SKT412TXXT	SKT512TXXXT
1350	SKT113T	SKT213TX	SKT313TXXT	SKT413TXXT	SKT513TXXXT

NOTE: All triple glazed frames now include low-E 44mm glazing. Window sizes shown are nominal and are approx 5mm to 10mm less than the size shown depending on sash configuration to allow for building in. All illustrations above tables show exterior views.

Fire Escape Windows will be fitted with Fire Escape Hinges. For further details please refer to page 126.

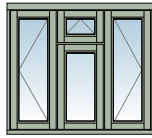
24 STORVIK^{SKT} TRIPLE GLAZED STANDARD VENT (NARROW MODULE)



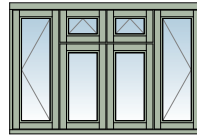
488



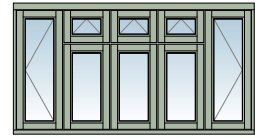
915



1344



1770



2198

HEIGHT	CODE	CODE	CODE	CODE	CODE
1050	SKTN10V	SKT2N10CV	SKT3N10CVC	SKT4N10CWC	SKT5N10CVWC
1200	SKTN12V	SKT2N12CV	SKT3N12CVC	SKT4N12CWC	SKT5N12CVWC
1350	SKTN13V	SKT2N13CV	SKT3N13CVC	SKT4N13CWC	SKT5N13CVWC

25 STORVIK^{SKT} TRIPLE GLAZED STANDARD VENT (NARROW MODULE) CONT'



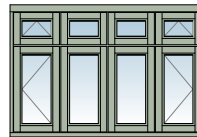
488



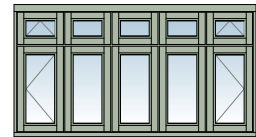
915



1344



1770



2198

HEIGHT	CODE	CODE	CODE	CODE	CODE
1050	SKTN10T	SKT2N10TX	SKT3N10TXT	SKT4N10TXXT	SKT5N10TXXXT
1200	SKTN12T	SKT2N12TX	SKT3N12TXT	SKT4N12TXXT	SKT5N12TXXXT
1350	SKTN13T	SKT2N13TX	SKT3N13TXT	SKT4N13TXXT	SKT5N13TXXXT

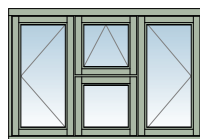
26 STORVIK^{SKT} TRIPLE GLAZED DEEP VENT (STANDARD MODULE)



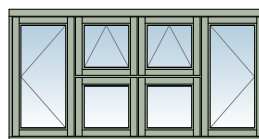
630



1200



1770



2340



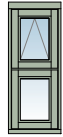
2913

HEIGHT	CODE	CODE	CODE	CODE	CODE
900	SKT109D	SKT209CD	SKT309CDC	SKT409CDDC	SKT509CDDDC
1050	SKT110D	SKT210CD	SKT310CDC	SKT410CDDC	SKT510CDDDC
1200	SKT112D	SKT212CD	SKT312CDC	SKT412CDDC	SKT512CDDDC
1350	SKT113D	SKT213CD	SKT313CDC	SKT413CDDC	SKT513CDDDC

NOTE: All triple glazed frames now include low-E 44mm glazing. Window sizes shown are nominal and are approx 5mm to 10mm less than the size shown depending on sash configuration to allow for building in. All illustrations above tables show exterior views.

Fire Escape Windows will be fitted with Fire Escape Hinges. For further details please refer to page 126.

27 STORVIK^{SKT} TRIPLE GLAZED DEEP VENT (NARROW MODULE)



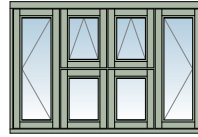
488



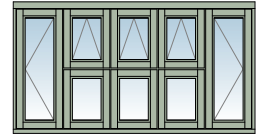
915



1344



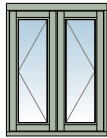
1770



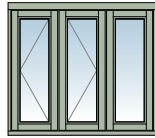
2198

HEIGHT	CODE	CODE	CODE	CODE	CODE
900	SKTN09D	SKT2N09CD	SKT3N09CDC	SKT4N09CDDC	SKT5N09CDDDC
1050	SKTN10D	SKT2N10CD	SKT3N10CDC	SKT4N10CDDC	SKT5N10CDDDC
1200	SKTN12D	SKT2N12CD	SKT3N12CDC	SKT4N12CDDC	SKT5N12CDDDC
1350	SKTN13D	SKT2N13CD	SKT3N13CDC	SKT4N13CDDC	SKT5N13CDDDC

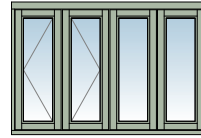
28 STORVIK^{SKT} TRIPLE GLAZED (NARROW MODULE) ESCAPE WINDOW



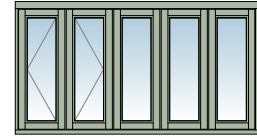
915



1344



1770



2198

HEIGHT	CODE	CODE	CODE	CODE
900	ESKT2N09CC	ESKT3N09CCF	ESKT4N09CCFF	ESKT5N09CCFFF
1050	ESKT2N10CC	ESKT3N10CCF	ESKT4N10CCFF	ESKT5N10CCFFF
1200	ESKT2N12CC	ESKT3N12CCF	ESKT4N12CCFF	ESKT5N12CCFFF
1350	ESKT2N13CC	ESKT3N13CCF	ESKT4N13CCFF	ESKT5N13CCFFF



NOTE: All triple glazed frames now include low-E 44mm glazing. Window sizes shown are nominal and are approx 5mm to 10mm less than the size shown depending on sash configuration to allow for building in. All illustrations above tables show exterior views.

Fire Escape Windows will be fitted with Fire Escape Hinges. For further details please refer to page 126.

1. Night ventilators

All windows between 488mm and 914mm include 4600mm² equivalent area of ventilation. All windows 915mm wide and over include 9200mm² equivalent area of ventilation. Please specify if only 4600mm² equivalent area of ventilation, or no ventilation, is needed.

2. Sills

The standard sill width is 194mm to allow the frame to be set back into the cavity to meet Part L Robust Construction Detail requirements. Other available sill width options are 108mm flush sills, 144mm stub sills and 244mm extended sills.

Larger sills have a tendency to cup, twist or split. These risks are greater on south facing elevations or if decorated with a dark top coat. Where a frame needs to be set back into the wall to avoid cold bridging, we recommend that a flush or a stub sill is used in conjunction with a stone or canted brick sill. Consequently, we do not guarantee extended sills.

3. Finishing options

Frames are available in any of our standard finishes shown on page 110. Frames are also generally available in standard RAL colours except black. For availability of other darker shades please contact the Sales Office on 01469 530577.

4. Combination door and window frames are available

5. Bay Windows

Bays are available in the Storvik range excluding shallow and deep circular.

6. Repair kits for fully finished windows

Includes paint or stain, brush, sandpaper, tube of filler and instructions. Will cover 0.5m².

7. Cavity closers in loose lengths are available

8. Window furniture and locking mechanisms

A range of furniture options is available, please see page 114.

Available in a range of colour options. White and Black in one price group. Polished Chrome effect, Satin Chrome effect and Gold effect are available at an extra cost.

Windows are fitted with S.B.D. shootbolt locking systems and reflex hinges.

Shootbolt locking

Locking mechanisms are user adjustable by the purchaser to allow for slight movement which can occur naturally within timber profiles, or any alignment change which may have occurred to the sash during the transport or installation of the frame.

9. Secured by Design

STORVIK^{SKT} windows are supplied to achieve PAS24:2012 Secured by Design requirements and are audited to ensure continuing compliance as part of our BSI Kitemark Scheme. Some sizes may exceed tested dimensions. For full details on which frames meet S.B.D, please contact our Sales Office on 01469 530577.

10. Restrictor stays

Concealed restrictor stays are available.

11. Cambered heads

One per window produced in non-laminated Redwood are available. One will be supplied per frame unless otherwise requested.

12. Perimeter pinch battens

For installing frames into timber frame buildings. These are available made from non-laminated Redwood. They are fitted to the jambs and heads of the frame unless otherwise requested.

13. Shrink wrapping

Frames are wrapped as standard in a clear cling film which permits visual inspection of the frame upon delivery.

14. Tolerances

On the STORVIK^{SKT} frames this varies between 5mm and 10mm to allow for consistent sash widths.

15. Quotation prices

Quotation prices do not include VAT which will be charged at the rate applicable at the time of delivery. Prices quoted are subject to Howarth's Standard Terms and Conditions of Sale.

(See page 139 or contact the Sales Office on 01469 530577).

16. Deliveries

All ancillary purchases are subject to a post and packing charge. Orders of £1,000 or less will be subject to a delivery charge.



NOTE: All triple glazed frames now include low-E 44mm glazing.

QUALITY VERSATILE

STORMPROOF SIDE AND TOP HUNG CASEMENT

DEVELOPED AND BUILT TO ENDURE
TYPICAL BRITISH WEATHER



A TRIED AND TESTED COST EFFECTIVE WINDOW SOLUTION



- Window energy ratings A to C.
- Efficient 24mm double glazed unit with Stormproof U-Values to 1.3 W/m²K.
- Quality laminated Redwood Nordic Pine construction.
- Manufactured from FSC® accredited timber on request.
- Available in various design and size options.
- BRE Green Guide A+ Rated.
- Secured by Design locking system available.



- Supplied fully finished in our extended range of paints and stains.
- European Conformity.
- Extensive guarantees for long-lasting peace of mind.
- Modern mechanism allows for easy cleaning and maintenance.
- Incorporating Swisspacer ULTIMATE, the leading warm edge spacer fitted where appropriate.



SWISSPACER
SAINT-GOBAIN

The Stormproof Side and Top Hung Casement range offers a tried and tested cost-effective window solution. Versatile in both style and appearance, the Stormproof Side and Top Hung range is suited to almost any development.

This range can now be supplied with a WER 'A' Rating for energy efficiency, this reduces energy demand for heating, thus lessening the environmental impact.

In addition, the Howarth Stormproof Side and Top Hung Range earns an A+ Rating from the BRE Green Guide for environmental performance.

In order to improve the overall aesthetic quality, all main frame and sash components are now made from clear-faced laminated timber from sustainable

sources. This offers enhanced strength and stability, as well as providing an environmentally friendly solution. Plant-on components such as sills, bay coupling posts and head drips are manufactured using non-laminated European Redwood.

This enables us to offer extensive guarantees on the frame, paint system, glazing units and ironmongery, giving everyone - from the specifier to the end-user - total peace of mind. The Stormproof Side and Top Hung range is available fully finished in any of our standard paint and stain finishes shown on page 110. Frames are generally available in standard RAL colours except black. For availability of other darker shades please contact the Sales Office on 01469 530577.

(Below) Both vertical glazing beads and vertical external plant-on bars have an anti-capillary gap reducing the likelihood of degradation to both timber and paint finish. See page 136 for further details.

For **obscure glazing options**, please refer to page 113 for further details.

For information on **safety glazing** please refer to page 125.



(Above) For **leading and bar options**, please refer to page 112 for further details.

THE STORMPROOF RANGE TRIED AND TESTED FOR THE UK MARKET



SECURED BY DESIGN

The Stormproof Side and Top Hung range can also be manufactured to the demanding standards of Secured by Design, dependent on size and configuration of the window frame.



For further details on which frames comply with S.B.D. please contact our Sales Office for further details on 01469 530577.

As with all Howarth timber windows and doors, the Stormproof Side and Top Hung range is manufactured and inspected to BS644:2012 under the strict guidelines set out by the British Woodworking Federation's Timber Window Accreditation Scheme, which is now inspected under the BSI Kitemark Scheme, ensuring that clients receive the best quality products and the highest levels of performance.



(Above) The Stormproof incorporates an improved deeper head drip design.



NOTE: Frames are generally available in standard RAL colours except black. For availability of other darker shades please contact the Sales Office on 01469 530577.

NOTE: All Howarth paint/stain finishes are silk and not high gloss.

FINISHING OPTIONS

Choose from a range of paint and stain finishes with built-in high performance, endurance and quality, see page 110 for further details.

Standard Stain Finishes	Standard Paint Finishes	
OAK	COPPER BROWN	PALE GREEN
TEAK	PURE WHITE	PEBBLE GREY
HONDURAS	GARDENIA	DUSTY GREY
WALNUT	COUNTRY CREAM	SLATE GREY
ROSEWOOD	BUTTERMILK	PASTEL BLUE

GUARANTEES

As a result of the improved stability of laminated timber construction we are able to provide guarantees for ten years on our paint finish and six years on our stain finish.

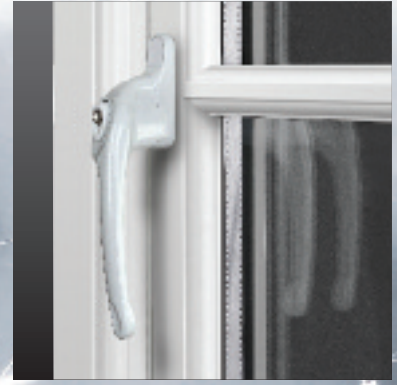


NOTE: All guarantees given in this catalogue are subject to limitations and are strictly dependent upon compliance with manufacturers' usage and maintenance instructions. These are available upon request.

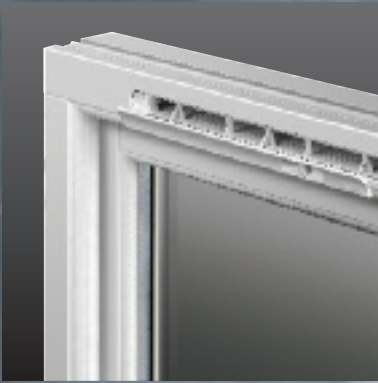


(Right) The Stormproof window range features modern catches for extra security. Face-fixed handles are available in White or Black as standard or a choice of other colours as an optional extra.

See page 114 for further details.



The Stormproof window range features a built in vent, shown in an closed position (above) and open position (shown below). See page 128 for further details. Night vents fitted where required. If mechanical extraction with heat recovery is present these should be omitted.



For **leading and bar options**, See page 112 for further details.

Materials, construction and workmanship requirements. See page 136 for further details.

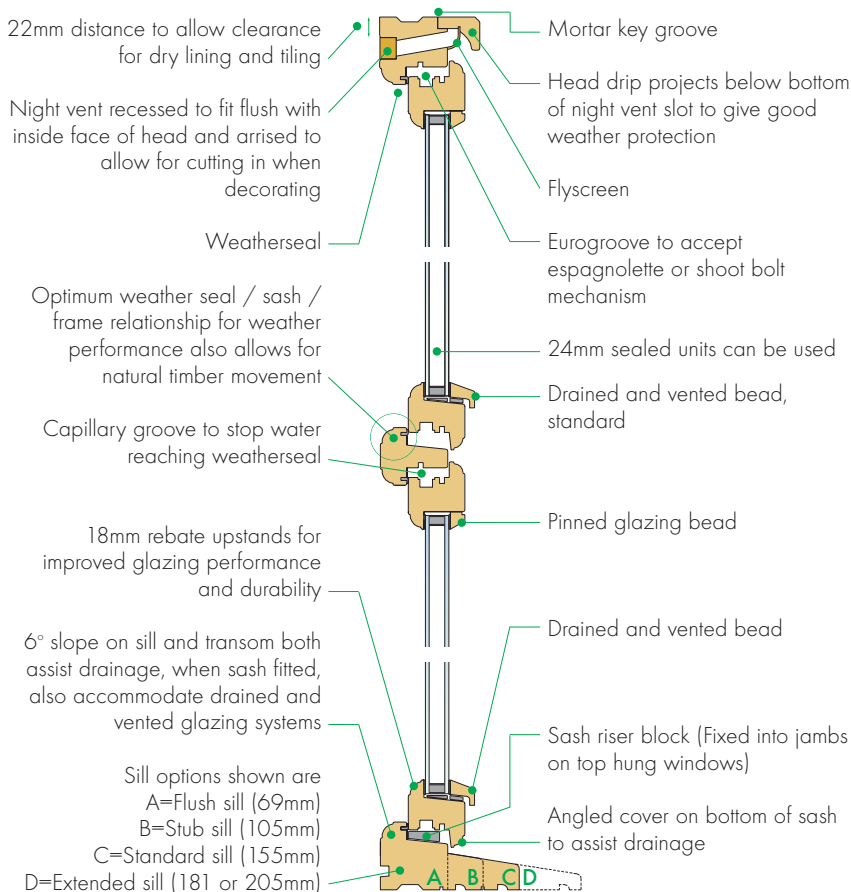
Timber. All timber used is laminated Redwood Nordic Pine from well managed yield sources.

See page 6 for further details.



(Below) The Stormproof window range features reflex hinges for ease of use.





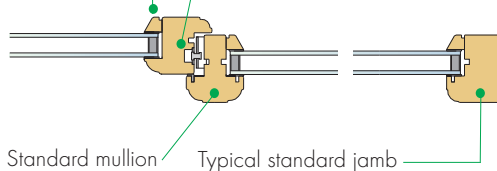
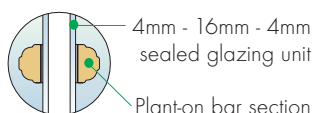
SECTION SHOWING DIRECT GLAZING INTO FRAME

The Stormproof range now incorporates a plant-on bar system.

The plant-on bar is fitted to both sides of the glass with security tape, to emulate the Cottage, Horizontal Bar and All Bar styles and is available in 19mm or 28mm width options allowing it to fit easily into conservation environments.

Standard side hung sash stile with 18 x 42mm rebate for 24mm double glazing

Capillary groove to stop water bridging across locking mechanism in Eurogroove



CE MARKING



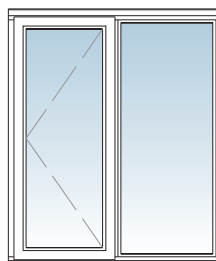
EUROPEAN CONFORMITY

For further details of CE (European Conformity) Marking please refer to page 134.

THERMAL PERFORMANCE

	Benchmark U Value	W.E.R. Rating
Energy Ultra	1.4	A*
Energy Plus	1.4	B
Energy	1.6	C
Energy Ultra U	1.3	D

Benchmark Window
1230mm wide
x
1480mm high

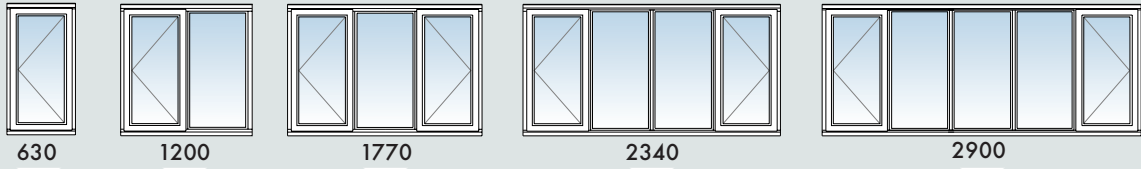


NOTE: * Results based on energy rating calculations ratified by the BFRC.

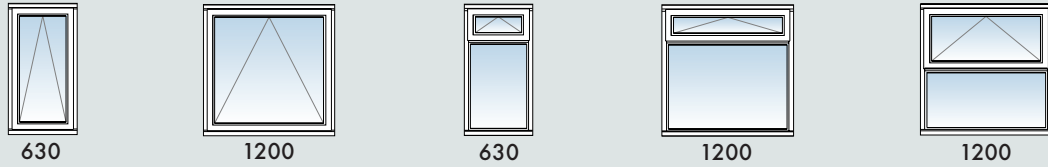
NOTE: All other results generated by Howarth to determine energy ratings are conducted using the rules and procedures used by the BFRC and are based upon the BFRC standard specification and frame sizes for such calculations.

PRODUCT RANGE Page

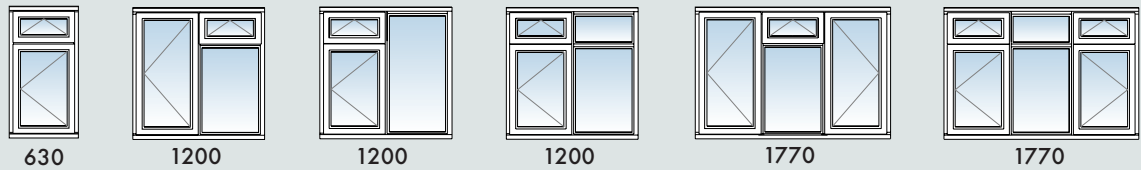
30	SIDE AND TOP HUNG CASEMENT	40
31	SIDE AND TOP HUNG CASEMENT NARROW	41
32	HORIZONTAL BAR	42
33	HORIZONTAL BAR DIVIDED SASH	42
34	HORIZONTAL BAR NARROW	43
35	COTTAGE BAR	43
36	COTTAGE BAR DIVIDED SASH	44
37	COTTAGE BAR NARROW CASEMENT	44
38	TWO BAR	45
39	TWO BAR NARROW	45
40	GEORGIAN BAR	46
41	GEORGIAN BAR NARROW	46
	GEORGIAN WINDOW BAR OPTIONS	47
	STAIN AND PAINT FINISHING OPTIONS	47
42	COLONIAL	48
43	COLONIAL COTTAGE	49
44	COLONIAL MODERN	50
45	COLONIAL MODERN COTTAGE	50
46	REGENCY	51
47	REGENCY COTTAGE	52
48	REGENCY MARGINAL BAR	54
49	REGENCY ALL BAR	55
50	SQUARE BAYS WITH 69MM POSTS	56
51	SQUARE BAYS WITH 96MM POSTS	56
52	45° SPLAYED BAYS	57
53	30° SPLAYED BAYS	57
54	60° SPLAYED BAYS	58
55	ORIEL BAYS	58
56	DEEP CIRCULAR BAYS	59
57	SHALLOW CIRCULAR BAYS	59
58	STORMPROOF CASEMENT WINDOW OPTIONS	60



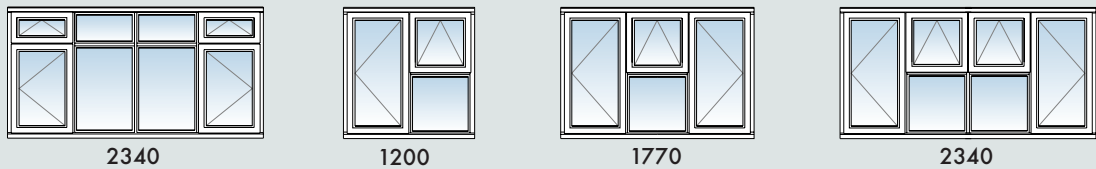
HEIGHT	CODE	CODE	CODE	CODE	CODE
750	107C	207C	307CC	407CMC	507CMMC
900	109C	209C	309CC	409CMC	509CMMC
1050	110C	210C	310CC	410CMC	510CMMC
1200	112C	212C	312CC	412CMC	512CMMC
1350	113C	213C	313CC	413CMC	513CMMC
1500	115C	215C	315CC	415CMC	515CMMC



HEIGHT	CODE	CODE	CODE	CODE	CODE
450	104A	204A			
600	106A	206A			
750	107A	207A	107V	207W	207D
900	109A	209A	109V	209W	209D
1050	110A	210A	110V	210W	210D
1200	112A	212A	112V	212W	212D
1350	113A	213A	113V	213W	213D
1500			115V	215W	215D



HEIGHT	CODE	CODE	CODE	CODE	CODE	CODE
750	107T	207CV	207T	207TX	307CVC	307TXT
900	109T	209CV	209T	209TX	309CVC	309TXT
1050	110T	210CV	210T	210TX	310CVC	310TXT
1200	112T	212CV	212T	212TX	312CVC	312TXT
1350	113T	213CV	213T	213TX	313CVC	313TXT
1500	115T	215CV	215T	215TX	315CVC	315TXT



HEIGHT	CODE	CODE	CODE	CODE
750	407TXXT	207CD	307CDC	407CDDC
900	409TXXT	209CD	309CDC	409CDDC
1050	410TXXT	210CD	310CDC	410CDDC
1200	412TXXT	212CD	312CDC	412CDDC
1350	413TXXT	213CD	313CDC	413CDDC
1500	415TXXT	215CD	315CDC	415CDDC

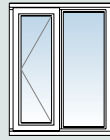
NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass. Window sizes shown are nominal and are approx 5mm less than the size shown to allow for building in. All illustrations above tables show exterior views.

Fire Escape Windows will be fitted with Fire Escape Hinges. For further details please refer to page 126.

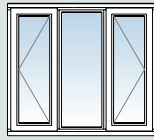
31 SIDE AND TOP HUNG CASEMENT NARROW



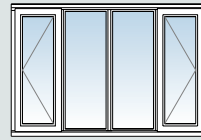
488



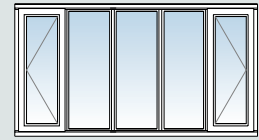
915



1344



1770

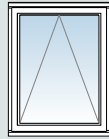


2190

HEIGHT	CODE	CODE	CODE	CODE	CODE
750	N07C	2N07C	3N07CC	4N07CMC	5N07CMMC
900	N09C	2N09C	3N09CC	4N09CMC	5N09CMMC
1050	N10C	2N10C	3N10CC	4N10CMC	5N10CMMC
1200	N12C	2N12C	3N12CC	4N12CMC	5N12CMMC
1350	N13C	2N13C	3N13CC	4N13CMC	5N13CMMC
1500	N15C	2N15C	3N15CC	4N15CMC	5N15CMMC



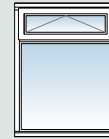
488



915



488



915

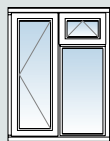


915

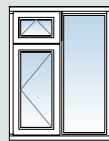
HEIGHT	CODE	CODE	CODE	CODE	CODE
450	N04A	2N04A			
600	N06A	2N06A			
750	N07A	2N07A	N07V	2N07W	2N07D
900	N09A	2N09A	N09V	2N09W	2N09D
1050	N10A	2N10A	N10V	2N10W	2N10D
1200	N12A	2N12A	N12V	2N12W	2N12D
1350	N13A	2N13A	N13V	2N13W	2N13D
1500			N15V	2N15W	2N15D



488



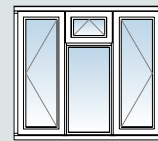
915



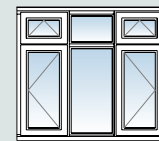
915



915

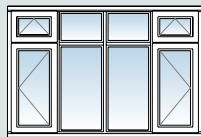


1344

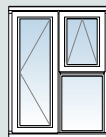


1344

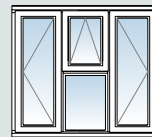
HEIGHT	CODE	CODE	CODE	CODE	CODE	CODE
750	N07T	2N07CV	2N07T	2N07TX	3N07CVC	3N07TXT
900	N09T	2N09CV	2N09T	2N09TX	3N09CVC	3N09TXT
1050	N10T	2N10CV	2N10T	2N10TX	3N10CVC	3N10TXT
1200	N12T	2N12CV	2N12T	2N12TX	3N12CVC	3N12TXT
1350	N13T	2N13CV	2N13T	2N13TX	3N13CVC	3N13TXT
1500	N15T	2N15CV	2N15T	2N15TX	3N15CVC	3N15TXT



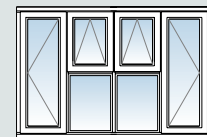
1770



915



1344

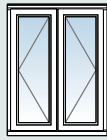


1770

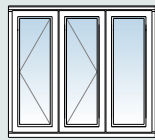
HEIGHT	CODE	CODE	CODE	CODE
750	4N07TXXT	2N07CD	3N07CDC	4N07CDDC
900	4N09TXXT	2N09CD	3N09CDC	4N09CDDC
1050	4N10TXXT	2N10CD	3N10CDC	4N10CDDC
1200	4N12TXXT	2N12CD	3N12CDC	4N12CDDC
1350	4N13TXXT	2N13CD	3N13CDC	4N13CDDC
1500	4N15TXXT	2N15CD	3N15CDC	4N15CDDC

NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass.
Window sizes shown are nominal and are approx 5mm less than the size shown to allow for building in.
All illustrations above tables show exterior views.

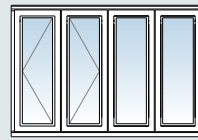
SIDE AND TOP HUNG CASEMENT NARROW (CONTINUED)



915




1344


















1770



FIRE ESCAPE:

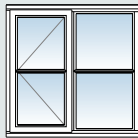
Windows marked with  will meet fire escape requirements.

HEIGHT	CODE	CODE	CODE
900	E2N09CC 	E3N09CCF 	E4N09CCFF 
1050	E2N10CC 	E3N10CCF 	E4N10CCFF 
1200	E2N12CC 	E3N12CCF 	E4N12CCFF 
1350	E2N13CC 	E3N13CCF 	E4N13CCFF 
1500	E2N15CC 	E3N15CCF 	E4N15CCFF 

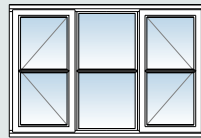
32 HORIZONTAL BAR



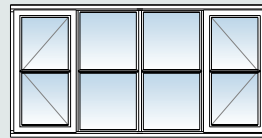
630



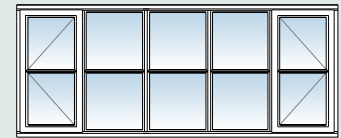
1200




























1770



2340



2900

HEIGHT	CODE	CODE	CODE	CODE	CODE
750	H107C	H207C	H307CC	H407CMC	H507CMMC
900	H109C 	H209C 	H309CC 	H409CMC 	H509CMMC 
1050	H110C 	H210C 	H310CC 	H410CMC 	H510CMMC 
1200	H112C 	H212C 	H312CC 	H412CMC 	H512CMMC 
1350	H113C 	H213C 	H313CC 	H413CMC 	H513CMMC 
1500	H115C 	H215C 	H315CC 	H415CMC 	H515CMMC 

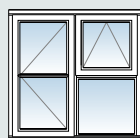
33 HORIZONTAL BAR DIVIDED SASH



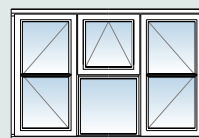
488



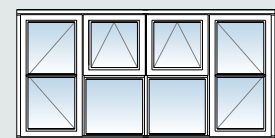
630

















1200




1770



2340

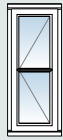
HEIGHT	CODE	CODE	CODE	CODE	CODE
750	HN07D	H107D	H207CD	H307CDC	H407CDDC
900	HN09D	H109D	H209CD 	H309CDC 	H409CDDC 
1050	HN10D	H110D	H210CD 	H310CDC 	H410CDDC 
1200	HN12D	H112D	H212CD 	H312CDC 	H412CDDC 
1350	HN13D	H113D	H213CD 	H313CDC 	H413CDDC 
1500	HN15D	H115D	H215CD 	H315CDC 	H415CDDC 

NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass. Window sizes shown are nominal and are approx 5mm less than the size shown to allow for building in. All illustrations above tables show exterior views.

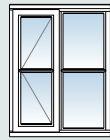
 Fire Escape Windows will be fitted with Fire Escape Hinges. For further details please refer to page 126.

34

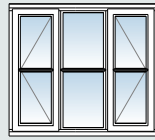
HORIZONTAL BAR NARROW



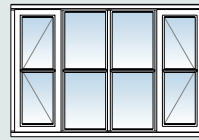
488



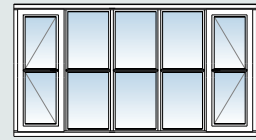
915



1344

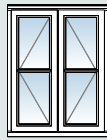


1770

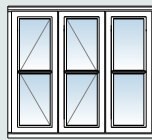


2190

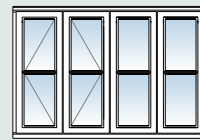
HEIGHT	CODE	CODE	CODE	CODE	CODE
750	HN07C	H2N07C	H3N07CC	H4N07CMC	H5N07CMMC
900	HN09C	H2N09C	H3N09CC	H4N09CMC	H5N09CMMC
1050	HN10C	H2N10C	H3N10CC	H4N10CMC	H5N10CMMC
1200	HN12C	H2N12C	H3N12CC	H4N12CMC	H5N12CMMC
1350	HN13C	H2N13C	H3N13CC	H4N13CMC	H5N13CMMC
1500	HN15C	H2N15C	H3N15CC	H4N15CMC	H5N15CMMC



915



1344



1770

Horizontal Bar
Narrow Module
'Lookalike'
Escape Window

HEIGHT	CODE	CODE	CODE
900	EH2N09CC	EH3N09CCF	EH4N09CCFF
1050	EH2N10CC	EH3N10CCF	EH4N10CCFF
1200	EH2N12CC	EH3N12CCF	EH4N12CCFF
1350	EH2N13CC	EH3N13CCF	EH4N13CCFF
1500	EH2N15CC	EH3N15CCF	EH4N15CCFF

35

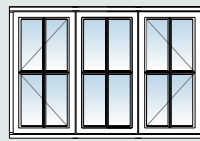
COTTAGE BAR



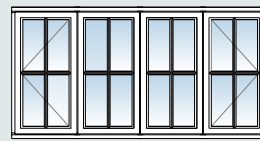
630



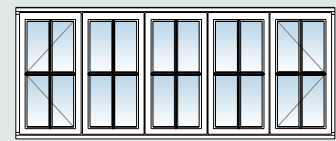
1200



1770



2340



2900

HEIGHT	CODE	CODE	CODE	CODE	CODE
750	C107C	C207C	C307CC	C407CMC	C507CMMC
900	C109C	C209C	C309CC	C409CMC	C509CMMC
1050	C110C	C210C	C310CC	C410CMC	C510CMMC
1200	C112C	C212C	C312CC	C412CMC	C512CMMC
1350	C113C	C213C	C313CC	C413CMC	C513CMMC
1500	C115C	C215C	C315CC	C415CMC	C515CMMC

NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass. Window sizes shown are nominal and are approx 5mm less than the size shown to allow for building in. All illustrations above tables show exterior views.

Fire Escape Windows will be fitted with Fire Escape Hinges. For further details please refer to page 126.

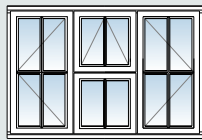
36 COTTAGE BAR DIVIDED SASH



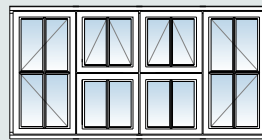
630



1200



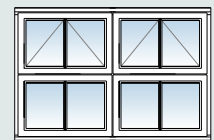
1770



2340



915



1770

HEIGHT	CODE	CODE	CODE	CODE	CODE	CODE
750	C107D	C207CD	C307CDC	C407CDDC	C2N07D	C4N07DD
900	C109D	C209CD	C309CDC	C409CDDC	C2N09D	C4N09DD
1050	C110D	C210CD	C310CDC	C410CDDC	C2N10D	C4N10DD
1200	C112D	C212CD	C312CDC	C412CDDC	C2N12D	C4N12DD
1350	C113D	C213CD	C313CDC	C413CDDC	C2N13D	C4N13DD
1500	C115D	C215CD	C315CDC	C415CDDC	C2N15D	C4N15DD

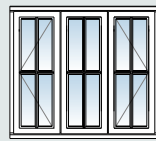
37 COTTAGE BAR NARROW CASEMENT



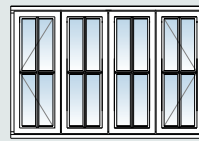
488



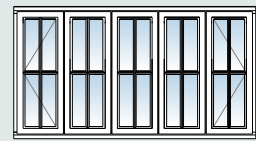
915



1344

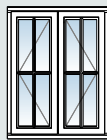


1770

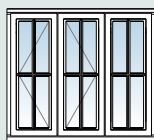


2190

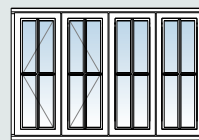
HEIGHT	CODE	CODE	CODE	CODE	CODE
750	CN07C	C2N07C	C3N07CC	C4N07CMC	C5N07CMMC
900	CN09C	C2N09C	C3N09CC	C4N09CMC	C5N09CMMC
1050	CN10C	C2N10C	C3N10CC	C4N10CMC	C5N10CMMC
1200	CN12C	C2N12C	C3N12CC	C4N12CMC	C5N12CMMC
1350	CN13C	C2N13C	C3N13CC	C4N13CMC	C5N13CMMC
1500	CN15C	C2N15C	C3N15CC	C4N15CMC	C5N15CMMC



915



1344



1770

Cottage Bar
Narrow Module
'Lookalike'
Escape Window

HEIGHT	CODE	CODE	CODE
900	EC2N09CC	EC3N09CCF	EC4N09CCFF
1050	EC2N10CC	EC3N10CCF	EC4N10CCFF
1200	EC2N12CC	EC3N12CCF	EC4N12CCFF
1350	EC2N13CC	EC3N13CCF	EC4N13CCFF
1500	EC2N15CC	EC3N15CCF	EC4N15CCFF

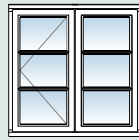
NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass. Window sizes shown are nominal and are approx 5mm less than the size shown to allow for building in. All illustrations above tables show exterior views.

Fire Escape Windows will be fitted with Fire Escape Hinges. For further details please refer to page 126.

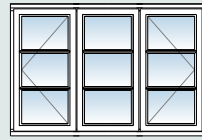
38 TWO BAR



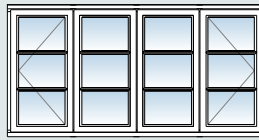
630



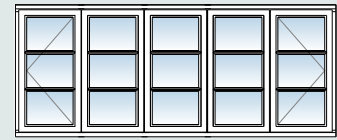
1200



1770



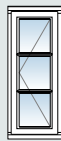
2340



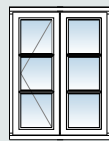
2900

HEIGHT	CODE	CODE	CODE	CODE	CODE
750	2B107C	2B207C	2B307CC	2B407CMC	2B507CMMC
900	2B109C	2B209C	2B309CC	2B409CMC	2B509CMMC
1050	2B110C	2B210C	2B310CC	2B410CMC	2B510CMMC
1200	2B112C	2B212C	2B312CC	2B412CMC	2B512CMMC
1350	2B113C	2B213C	2B313CC	2B413CMC	2B513CMMC
1500	2B115C	2B215C	2B315CC	2B415CMC	2B515CMMC

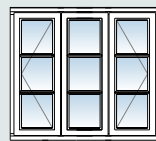
39 TWO BAR NARROW



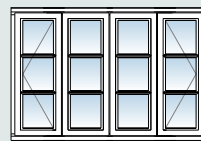
488



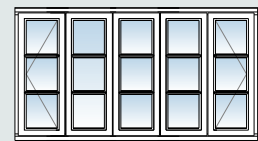
915



1344



1770



2190

HEIGHT	CODE	CODE	CODE	CODE	CODE
750	2BN07C	2B2N07C	2B3N07CC	2B4N07CMC	2B5N07CMMC
900	2BN09C	2B2N09C	2B3N09CC	2B4N09CMC	2B5N09CMMC
1050	2BN10C	2B2N10C	2B3N10CC	2B4N10CMC	2B5N10CMMC
1200	2BN12C	2B2N12C	2B3N12CC	2B4N12CMC	2B5N12CMMC
1350	2BN13C	2B2N13C	2B3N13CC	2B4N13CMC	2B5N13CMMC
1500	2BN15C	2B2N15C	2B3N15CC	2B4N15CMC	2B5N15CMMC



(Left) Gibbs Court, Crewkerne, Somerset.
Photograph courtesy of ROK Build.



FIRE ESCAPE:
Windows marked with will meet fire escape requirements.

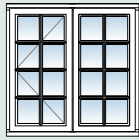
NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass. Window sizes shown are nominal and are approx 5mm less than the size shown to allow for building in. All illustrations above tables show exterior views.

Fire Escape Windows will be fitted with Fire Escape Hinges. For further details please refer to page 126.

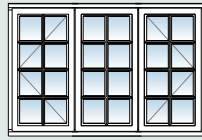
40 GEORGIAN BAR



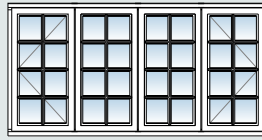
630



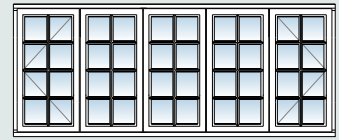
1200



1770



2340

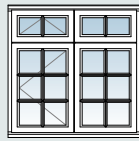


2900

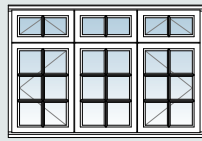
HEIGHT	CODE	CODE	CODE	CODE	CODE
750	DB107C	DB207C	DB307CC	DB407CMC	DB507CMMC
900	DB109C	DB209C	DB309CC	DB409CMC	DB509CMMC
1050	DB110C	DB210C	DB310CC	DB410CMC	DB510CMMC
1200	DB112C	DB212C	DB312CC	DB412CMC	DB512CMMC
1350	DB113C	DB213C	DB313CC	DB413CMC	DB513CMMC
1500	DB115C	DB215C	DB315CC	DB415CMC	DB515CMMC



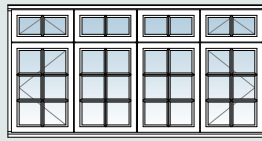
630



1200



1770



2340

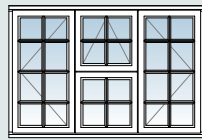
HEIGHT	CODE	CODE	CODE	CODE
1050	DB110T	DB210TX	DB310TXT	DB410TXXT
1200	DB112T	DB212TX	DB312TXT	DB412TXXT
1350	DB113T	DB213TX	DB313TXT	DB413TXXT
1500	DB115T	DB215TX	DB315TXT	DB415TXXT



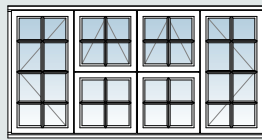
630



1200



1770

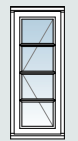


2340

HEIGHT	CODE	CODE	CODE	CODE
1200	DB112D	DB212CD	DB312CDC	DB412CDDC
1350	DB113D	DB213CD	DB313CDC	DB413CDDC

NOTE: Style only available in 1200mm and 1350mm heights to allow bars to line through.

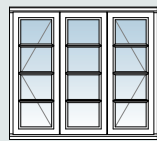
41 GEORGIAN BAR NARROW



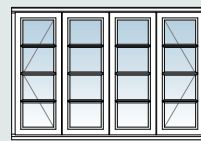
488



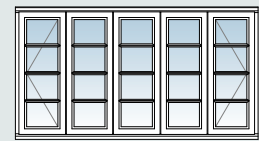
915



1344



1770



2190

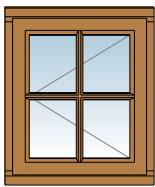
HEIGHT	CODE	CODE	CODE	CODE	CODE
750	DBN07C	DB2N07C	DB3N07CC	DB4N07CMC	DB5N07CMMC
900	DBN09C	DB2N09C	DB3N09CC	DB4N09CMC	DB5N09CMMC
1050	DBN10C	DB2N10C	DB3N10CC	DB4N10CMC	DB5N10CMMC
1200	DBN12C	DB2N12C	DB3N12CC	DB4N12CMC	DB5N12CMMC
1350	DBN13C	DB2N13C	DB3N13CC	DB4N13CMC	DB5N13CMMC
1500	DBN15C	DB2N15C	DB3N15CC	DB4N15CMC	DB5N15CMMC

NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass. Window sizes shown are nominal and are approx 5mm less than the size shown to allow for building in. All illustrations above tables show exterior views.

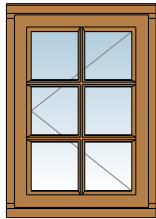
Fire Escape Windows will be fitted with Fire Escape Hinges. For further details please refer to page 126.

GEORGIAN WINDOW BAR OPTIONS

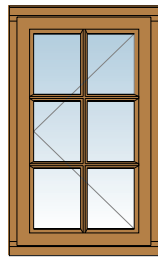
The following examples show the number of vertical and horizontal bars in the respective window heights and widths for Georgian Bar windows. (Please note: illustrations not to scale with the rest of this section).



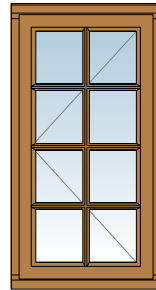
750mm high
1 horizontal bar



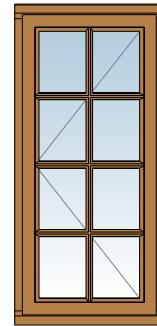
900mm high
2 horizontal bars



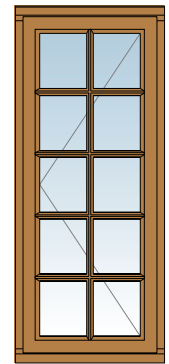
1050mm high
2 horizontal bars



1200mm high
3 horizontal bars



1350mm high
3 horizontal bars

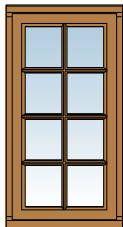


1500mm high
4 horizontal bars

STAIN AND PAINT FINISHING OPTIONS

Choose from a range of paint and stain finishes with built-in high performance, endurance and quality, see page 110 for further details.

Standard Stain Finishes



Oak



Teak



Honduras



Walnut

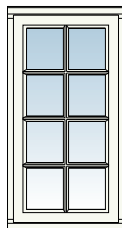


Rosewood

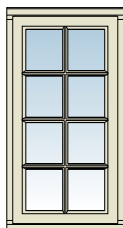
Standard Paint Finishes



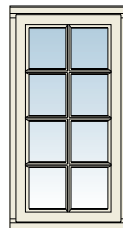
Copper Brown
RAL 8004



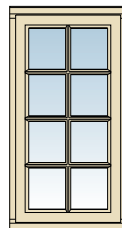
Pure White
RAL 9010



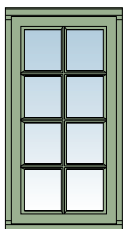
Gardenia
RAL 1013



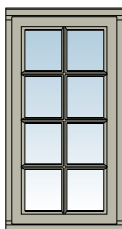
Country Cream
RAL 9001



Buttermilk
RAL 1015



Pale Green
RAL 6021



Pebble Grey
RAL 7032



Dusty Grey
RAL 7037



Slate Grey
RAL 7015



Pastel Blue
RAL 5024



NOTE: Frames are generally available in standard RAL colours except black. For availability of other darker shades please contact the Sales Office on 01469 530577.

NOTE: All Howarth paint/stain finishes are silk and not high gloss. Colours shown are for guidance only and due to printing processes may not be accurate.



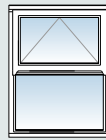
42 COLONIAL



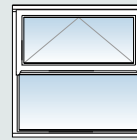
488



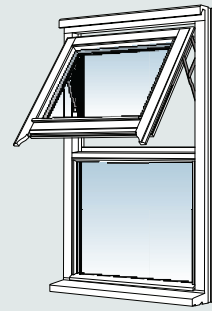
630



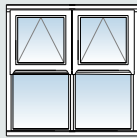
915



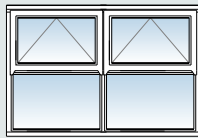
1200



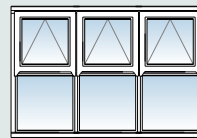
HEIGHT	CODE	CODE	CODE	CODE
750	CLN07T	CL107T	CL2N07T	CL207T
900	CLN09T	CL109T	CL2N09T	CL209T
1050	CLN10T	CL110T	CL2N10T	CL210T
1200	CLN12T	CL112T	CL2N12T	CL212T
1350	CLN13T	CL113T	CL2N13T	CL213T
1500	CLN15T	CL115T	CL2N15T	CL215T
1650	CLN16T	CL116T	CL2N16T	CL216T



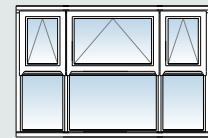
1200



1770

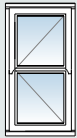


1770

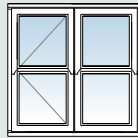


1770

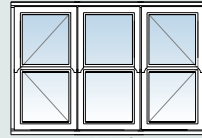
HEIGHT	CODE	CODE	CODE	CODE
750	CL207TT	CL307TT	CL307TTT	CL307VVV
900	CL209TT	CL309TT	CL309TTT	CL309VVV
1050	CL210TT	CL310TT	CL310TTT	CL310VVV
1200	CL212TT	CL312TT	CL312TTT	CL312VVV
1350	CL213TT	CL313TT	CL313TTT	CL313VVV
1500	CL215TT	CL315TT	CL315TTT	CL315VVV
1650	CL216TT	CL316TT	CL316TTT	CL316VVV



630



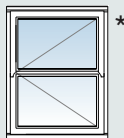
1200



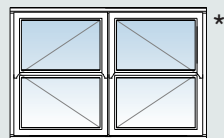
1770

HEIGHT	CODE	CODE	CODE
900	ECL109C	ECL209CF	ECL309CFC
1050	ECL110C	ECL210CF	ECL310CFC
1200	ECL112C	ECL212CF	ECL312CFC
1350	ECL113C	ECL213CF	ECL313CFC

Colonial Side Hung
'Lookalike'
Escape Window



915



1770

HEIGHT	CODE	CODE
900	ECL2N09C	ECL309CC
1050	ECL2N10C	ECL310CC
1200	ECL2N12C	ECL312CC
1350	ECL2N13C	ECL313CC

NOTE: The frames marked with an asterisk must be hung on special heavy duty reflex hinges to support the weight of the sashes. However, the opening of the sashes when fitted with these hinges still meet fire regulations.

Colonial
Narrow Module
'Lookalike'
Escape Window

NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass. Window sizes shown are nominal and are approx 5mm less than the size shown to allow for building in. All illustrations above tables show exterior views.

Fire Escape Windows will be fitted with Fire Escape Hinges. For further details please refer to page 126.

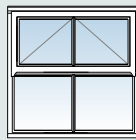
43 COLONIAL COTTAGE



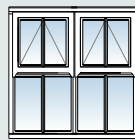
630



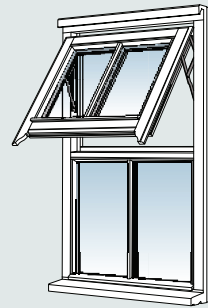
915



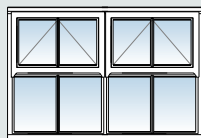
1200



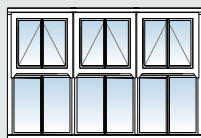
1200



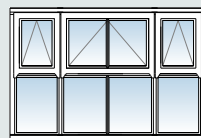
HEIGHT	CODE	CODE	CODE	CODE
750	CLC107T	CLC2N07T	CLC207T	CLC207TT
900	CLC109T	CLC2N09T	CLC209T	CLC209TT
1050	CLC110T	CLC2N10T	CLC210T	CLC210TT
1200	CLC112T	CLC2N12T	CLC212T	CLC212TT
1350	CLC113T	CLC2N13T	CLC213T	CLC213TT
1500	CLC115T	CLC2N15T	CLC215T	CLC215TT
1650	CLC116T	CLC2N16T	CLC216T	CLC216TT



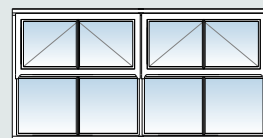
1770



1770



1770

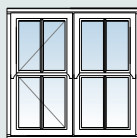


2340

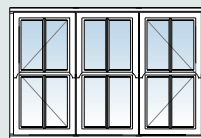
HEIGHT	CODE	CODE	CODE	CODE
750	CLC307TT	CLC307TTT	CLC307VWV	CLC407TT
900	CLC309TT	CLC309TTT	CLC309VWV	CLC409TT
1050	CLC310TT	CLC310TTT	CLC310VWV	CLC410TT
1200	CLC312TT	CLC312TTT	CLC312VWV	CLC412TT
1350	CLC313TT	CLC313TTT	CLC313VWV	CLC413TT
1500	CLC315TT	CLC315TTT	CLC315VWV	CLC415TT
1650	CLC316TT	CLC316TTT	CLC316VWV	CLC416TT



630



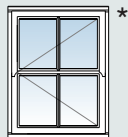
1200



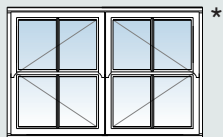
1770

Colonial Cottage
Side Hung
'Lookalike'
Escape Window

HEIGHT	CODE	CODE	CODE
900	ECLC109C	ECLC209CF	ECLC309CFC
1050	ECLC110C	ECLC210CF	ECLC310CFC
1200	ECLC112C	ECLC212CF	ECLC312CFC
1350	ECLC113C	ECLC213CF	ECLC313CFC



915



1770

NOTE: The frames marked with an asterisk must be hung on special heavy duty reflex hinges to support the weight of the sashes. However, the opening of the sashes when fitted with these hinges still meet fire regulations.

Colonial Cottage
Narrow Module
'Lookalike'
Escape Window

HEIGHT	CODE	CODE
900	ECLC2N09C	ECLC309CC
1050	ECLC2N10C	ECLC310CC
1200	ECLC2N12C	ECLC312CC
1350	ECLC2N13C	ECLC313CC

NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass. Window sizes shown are nominal and are approx 5mm less than the size shown to allow for building in. All illustrations above tables show exterior views.

Fire Escape Windows will be fitted with Fire Escape Hinges. For further details please refer to page 126.

44 COLONIAL MODERN



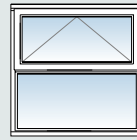
488



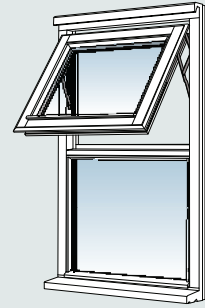
630



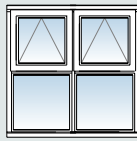
915



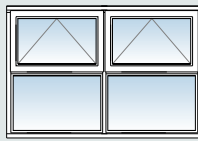
1200



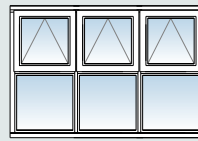
HEIGHT	CODE	CODE	CODE	CODE
750	CLMN07T	CLM107T	CLM2N07T	CLM207T
900	CLMN09T	CLM109T	CLM2N09T	CLM209T
1050	CLMN10T	CLM110T	CLM2N10T	CLM210T
1200	CLMN12T	CLM112T	CLM2N12T	CLM212T
1350	CLMN13T	CLM113T	CLM2N13T	CLM213T
1500	CLMN15T	CLM115T	CLM2N15T	CLM215T
1650	CLMN16T	CLM116T	CLM2N16T	CLM216T



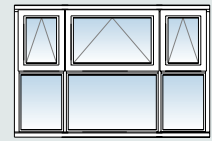
1200



1770



1770



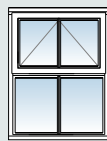
1770

HEIGHT	CODE	CODE	CODE	CODE
750	CLM207TT	CLM307TT	CLM307TTT	CLM307VWV
900	CLM209TT	CLM309TT	CLM309TTT	CLM309VWV
1050	CLM210TT	CLM310TT	CLM310TTT	CLM310VWV
1200	CLM212TT	CLM312TT	CLM312TTT	CLM312VWV
1350	CLM213TT	CLM313TT	CLM313TTT	CLM313VWV
1500	CLM215TT	CLM315TT	CLM315TTT	CLM315VWV
1650	CLM216TT	CLM316TT	CLM316TTT	CLM316VWV

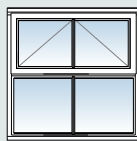
45 COLONIAL MODERN COTTAGE



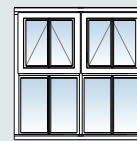
630



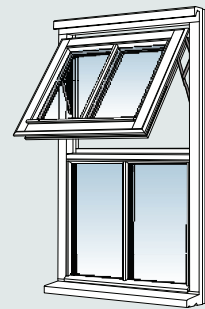
915



1200



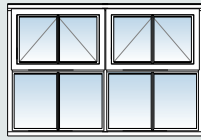
1200



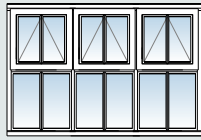
HEIGHT	CODE	CODE	CODE	CODE
750	CLMC107T	CLMC2N07T	CLMC207T	CLMC207TT
900	CLMC109T	CLMC2N09T	CLMC209T	CLMC209TT
1050	CLMC110T	CLMC2N10T	CLMC210T	CLMC210TT
1200	CLMC112T	CLMC2N12T	CLMC212T	CLMC212TT
1350	CLMC113T	CLMC2N13T	CLMC213T	CLMC213TT
1500	CLMC115T	CLMC2N15T	CLMC215T	CLMC215TT
1650	CLMC116T	CLMC2N16T	CLMC216T	CLMC216TT

NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass.
Window sizes shown are nominal and are approx 5mm less than the size shown to allow for building in.
All illustrations above tables show exterior views.

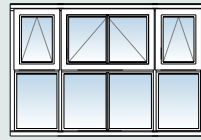
COLONIAL MODERN COTTAGE (CONTINUED)



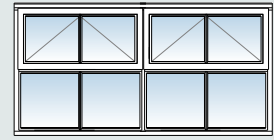
1770



1770



1770



2340

HEIGHT	CODE	CODE	CODE	CODE
750	CLMC307TT	CLMC307TTT	CLMC307VVV	CLMC407TT
900	CLMC309TT	CLMC309TTT	CLMC309VVV	CLMC409TT
1050	CLMC310TT	CLMC310TTT	CLMC310VVV	CLMC410TT
1200	CLMC312TT	CLMC312TTT	CLMC312VVV	CLMC412TT
1350	CLMC313TT	CLMC313TTT	CLMC313VVV	CLMC413TT
1500	CLMC315TT	CLMC315TTT	CLMC315VVV	CLMC415TT
1650	CLMC316TT	CLMC316TTT	CLMC316VVV	CLMC416TT

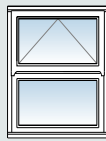
46 REGENCY



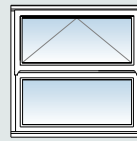
488



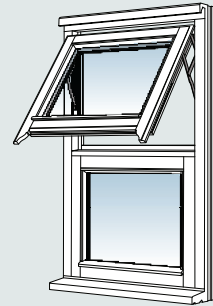
630



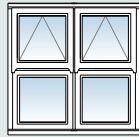
915



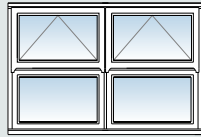
1200



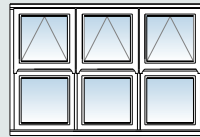
HEIGHT	CODE	CODE	CODE	CODE
750	RN07T	R107T	R2N07T	R207T
900	RN09T	R109T	R2N09T	R209T
1050	RN10T	R110T	R2N10T	R210T
1200	RN12T	R112T	R2N12T	R212T
1350	RN13T	R113T	R2N13T	R213T
1500	RN15T	R115T	R2N15T	R215T
1650	RN16T	R116T	R2N16T	R216T



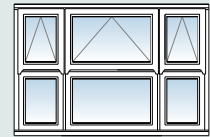
1200



1770



1770



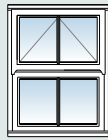
1770

HEIGHT	CODE	CODE	CODE	CODE
750	R207TT	R307TT	R307TTT	R307VVV
900	R209TT	R309TT	R309TTT	R309VVV
1050	R210TT	R310TT	R310TTT	R310VVV
1200	R212TT	R312TT	R312TTT	R312VVV
1350	R213TT	R313TT	R313TTT	R313VVV
1500	R215TT	R315TT	R315TTT	R315VVV
1650	R216TT	R316TT	R316TTT	R316VVV

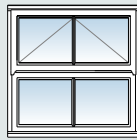
NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass. Window sizes shown are nominal and are approx 5mm less than the size shown to allow for building in. All illustrations above tables show exterior views.



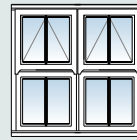
630



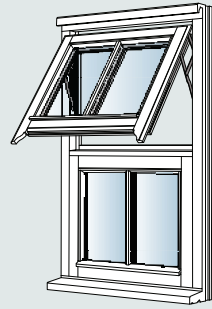
915



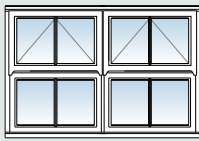
1200



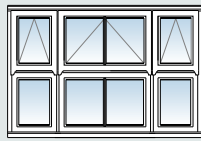
1200



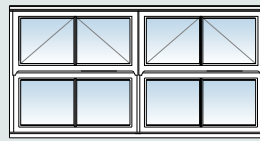
HEIGHT	CODE	CODE	CODE	CODE
750	RC107T	RC2N07T	RC207T	RC207TT
900	RC109T	RC2N09T	RC209T	RC209TT
1050	RC110T	RC2N10T	RC210T	RC210TT
1200	RC112T	RC2N12T	RC212T	RC212TT
1350	RC113T	RC2N13T	RC213T	RC213TT
1500	RC115T	RC2N15T	RC215T	RC215TT
1650	RC116T	RC2N16T	RC216T	RC216TT



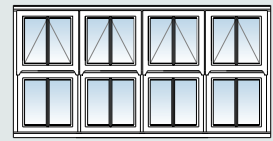
1770



1770



2340



2340

HEIGHT	CODE	CODE	CODE	CODE
750	RC307TT	RC307VVV	RC407TT	RC407TTTT
900	RC309TT	RC309VVV	RC409TT	RC409TTTT
1050	RC310TT	RC310VVV	RC410TT	RC410TTTT
1200	RC312TT	RC312VVV	RC412TT	RC412TTTT
1350	RC313TT	RC313VVV	RC413TT	RC413TTTT
1500	RC315TT	RC315VVV	RC415TT	RC415TTTT
1650	RC316TT	RC316VVV	RC416TT	RC416TTTT



(Left) Grange Lane, Utterby, Lincolnshire.
Photograph courtesy of
Howarth Timber (Grimsby) Ltd.

NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass.
Window sizes shown are nominal and are approx 5mm less than the size shown to allow for building in.
All illustrations above tables show exterior views.



The Stormproof Regency Cottage window range features modern catches for extra security.

Face-fixed handles are available in White or Black as standard or a choice of other colours as an optional extra.

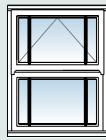
See page 114 for further details.



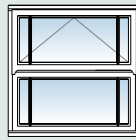
48 REGENCY MARGINAL BAR



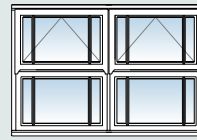
630



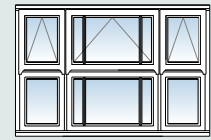
915



1200



1770

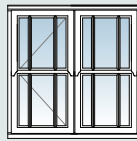


1770

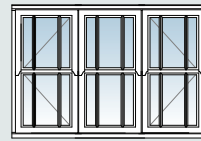
HEIGHT	CODE	CODE	CODE	CODE	CODE
750	RMB107T	RMB2N07T	RMB207T	RMB307TT	RMB307VVV
900	RMB109T	RMB2N09T	RMB209T	RMB309TT	RMB309VVV
1050	RMB110T	RMB2N10T	RMB210T	RMB310TT	RMB310VVV
1200	RMB112T	RMB2N12T	RMB212T	RMB312TT	RMB312VVV
1350	RMB113T	RMB2N13T	RMB213T	RMB313TT	RMB313VVV
1500	RMB115T	RMB2N15T	RMB215T	RMB315TT	RMB315VVV
1650	RMB116T	RMB2N16T	RMB216T	RMB316TT	RMB316VVV



630



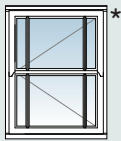
1200



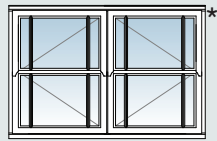
1770

HEIGHT	CODE	CODE	CODE
900	ERMB109C	ERMB209CF	ERMB309CFC
1050	ERMB110C	ERMB210CF	ERMB310CFC
1200	ERMB112C	ERMB212CF	ERMB312CFC
1350	ERMB113C	ERMB213CF	ERMB313CFC

Regency Marginal Bar
Side Hung
'Lookalike'
Escape Window



915



1770

HEIGHT	CODE	CODE
900	ERMB2N09C	ERMB309CC
1050	ERMB2N10C	ERMB310CC
1200	ERMB2N12C	ERMB312CC
1350	ERMB2N13C	ERMB313CC

NOTE: The frames marked with an asterisk must be hung on special heavy duty reflex hinges to support the weight of the sashes. However, the opening of the sashes when fitted with these hinges still meet fire regulations.

Regency Marginal Bar
Narrow Module
'Lookalike'
Escape Window

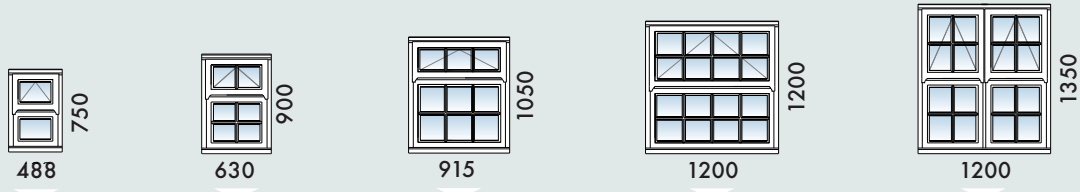
(Right) Regency All Bar timber windows installed by Linden Homes at the Saint Nicholasgate development, Beverley, East Yorkshire. Further details on top of opposite page.



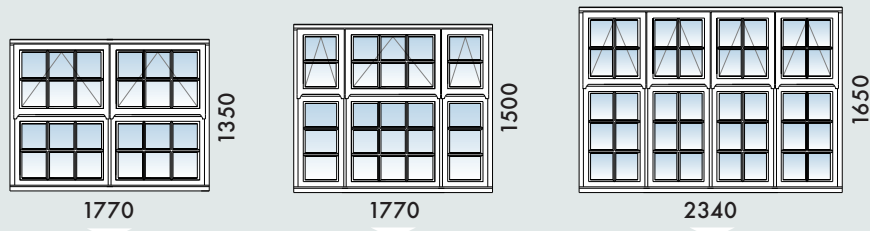
NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass. Window sizes shown are nominal and are approx 5mm less than the size shown to allow for building in. All illustrations above tables show exterior views.

Fire Escape Windows will be fitted with Fire Escape Hinges. For further details please refer to page 126.

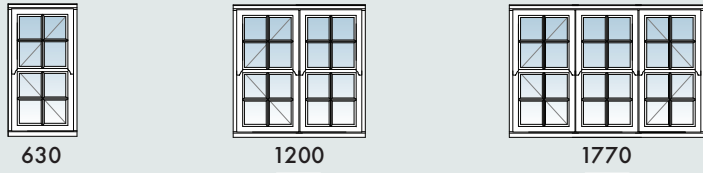
49 REGENCY ALL BAR



HEIGHT	CODE	CODE	CODE	CODE	CODE
750	RDBN07T	RDB107T	RDB2N07T	RDB207T	RDB207TT
900	RDBN09T	RDB109T	RDB2N09T	RDB209T	RDB209TT
1050	RDBN10T	RDB110T	RDB2N10T	RDB210T	RDB210TT
1200	RDBN12T	RDB112T	RDB2N12T	RDB212T	RDB212TT
1350	RDBN13T	RDB113T	RDB2N13T	RDB213T	RDB213TT
1500	RDBN15T	RDB115T	RDB2N15T	RDB215T	RDB215TT
1650	RDBN16T	RDB116T	RDB2N16T	RDB216T	RDB216TT

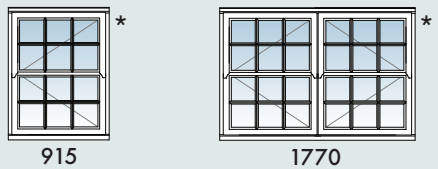


HEIGHT	CODE	CODE	CODE
750	RDB307TT	RDB307VVV	RDB407TTTT
900	RDB309TT	RDB309VVV	RDB409TTTT
1050	RDB310TT	RDB310VVV	RDB410TTTT
1200	RDB312TT	RDB312VVV	RDB412TTTT
1350	RDB313TT	RDB313VVV	RDB413TTTT
1500	RDB315TT	RDB315VVV	RDB415TTTT
1650	RDB316TT	RDB316VVV	RDB416TTTT



HEIGHT	CODE	CODE	CODE
900	ERDB109C	ERDB209CF	ERDB309CFC
1050	ERDB110C	ERDB210CF	ERDB310CFC
1200	ERDB112C	ERDB212CF	ERDB312CFC
1350	ERDB113C	ERDB213CF	ERDB313CFC

Regency All Bar
Side Hung
'Lookalike'
Escape Window



HEIGHT	CODE	CODE
900	ERDB2N09C	ERDB309CC
1050	ERDB2N10C	ERDB310CC
1200	ERDB2N12C	ERDB312CC
1350	ERDB2N13C	ERDB313CC

NOTE: The frames marked with an asterisk must be hung on special heavy duty reflex hinges to support the weight of the sashes. However, the opening of the sashes when fitted with these hinges still meet fire regulations.

Regency All Bar
Narrow Module
'Lookalike'
Escape Window

NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass. Window sizes shown are nominal and are approx 5mm less than the size shown to allow for building in. All illustrations above tables show exterior views.

Fire Escape Windows will be fitted with Fire Escape Hinges. For further details please refer to page 126.

50 SQUARE BAYS with 69mm x 69mm POSTS

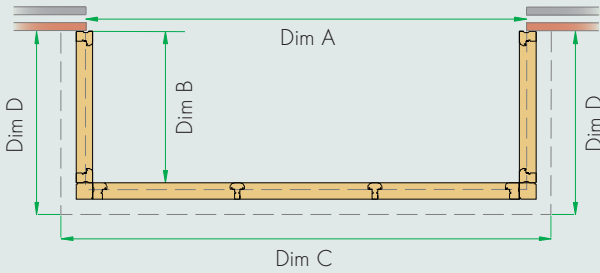
Standard Module

CODE	DIMENSION			
	A	B	C	D
SQ1	686	626	890	758
SQ2	1255	626	1459	758
SQ3	1824	626	2028	758
SQ4	2393	626	2597	758
SQ5	2955	626	3159	758

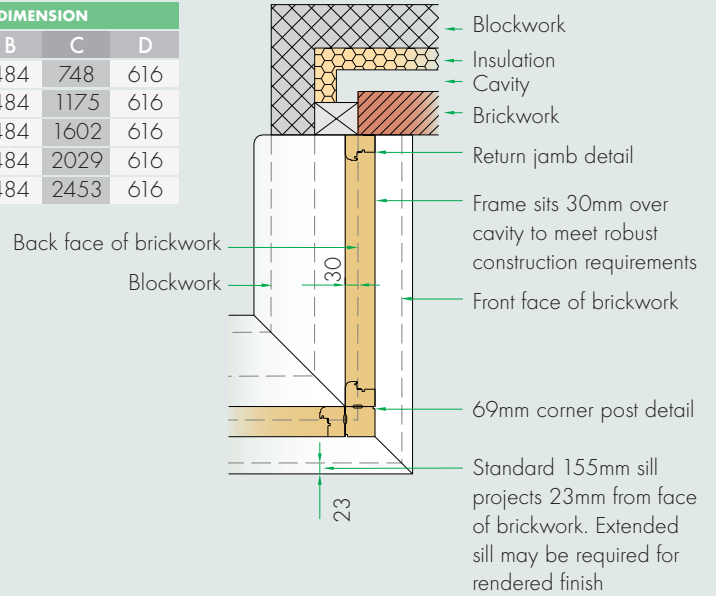
Narrow Module

CODE	DIMENSION			
	A	B	C	D
SQ1N	544	484	748	616
SQ2N	971	484	1175	616
SQ3N	1398	484	1602	616
SQ4N	1825	484	2029	616
SQ5N	2249	484	2453	616

Dimensions



NOTE: Dashed line represents brickwork



51 SQUARE BAYS with 96mm x 96mm POSTS

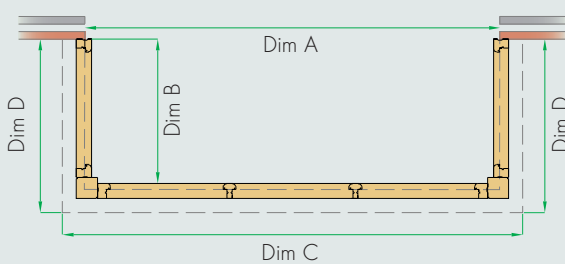
Standard Module

CODE	DIMENSION			
	A	B	C	D
SQ1-100	740	653	944	785
SQ2-100	1309	653	1513	785
SQ3-100	1878	653	2082	785
SQ4-100	2447	653	2651	785
SQ5-100	3009	653	3213	785

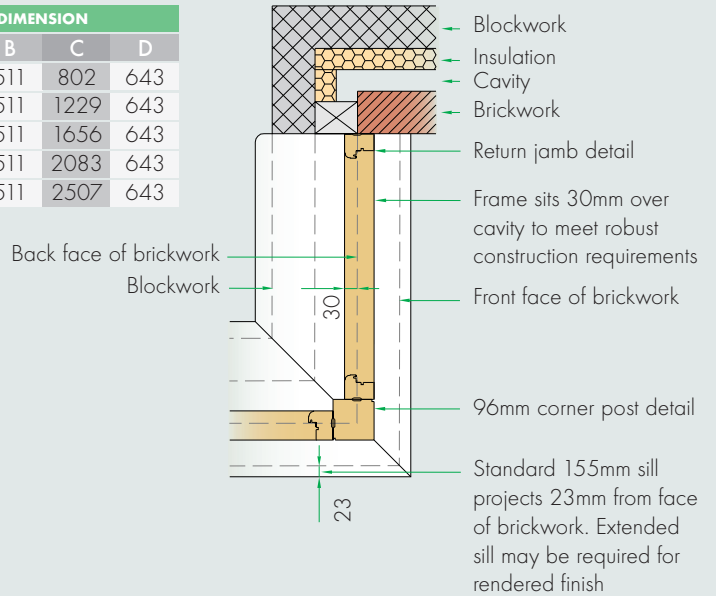
Narrow Module

CODE	DIMENSION			
	A	B	C	D
SQ1N-100	598	511	802	643
SQ2N-100	1025	511	1229	643
SQ3N-100	1452	511	1656	643
SQ4N-100	1879	511	2083	643
SQ5N-100	2303	511	2507	643

Dimensions



NOTE: Dashed line represents brickwork



NOTE: To comply with manual handling regulations, pre-glazed bays or combinations will be supplied in sections for final site assembly.

52 45° SPLAYED BAYS

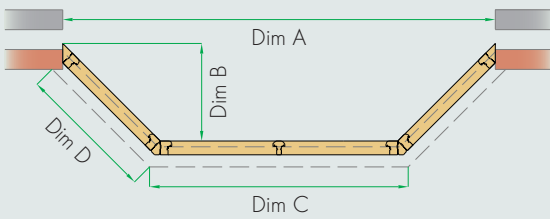
45° Standard Module

CODE	DIMENSION			
	A	B	C	D
SP1/45	1609	491	735	695
SP2/45	2178	491	1304	695
SP3/45	2747	491	1873	695
SP4/45	3316	491	2442	695
SP5/45	3878	491	3004	695

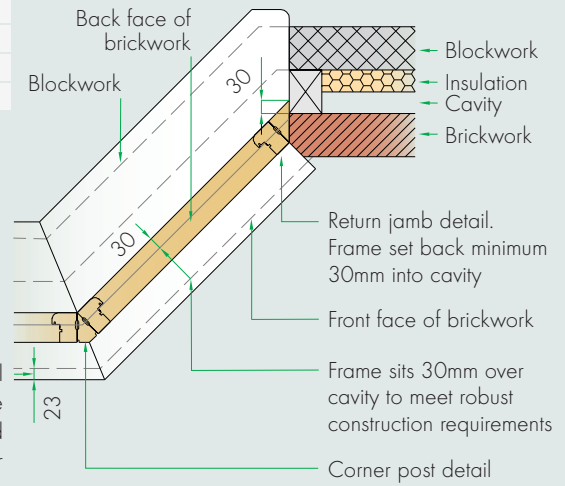
45° Narrow Module

CODE	DIMENSION			
	A	B	C	D
SP1N/45	1266	391	593	553
SP2N/45	1693	391	1020	553
SP3N/45	2120	391	1447	553
SP4N/45	2547	391	1874	553
SP5N/45	2971	391	2298	553

Dimensions



NOTE: Dashed line represents brickwork



Standard 155mm sill projects 23mm from face of brickwork. Extended sill may be required for rendered finish

53 30° SPLAYED BAYS

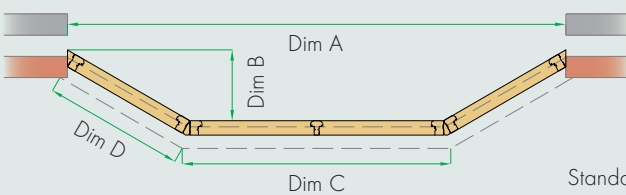
30° Standard Module

CODE	DIMENSION			
	A	B	C	D
SP1/30	1779	333	697	666
SP2/30	2348	333	1266	666
SP3/30	2917	333	1835	666
SP4/30	3486	333	2404	666
SP5/30	4048	333	2966	666

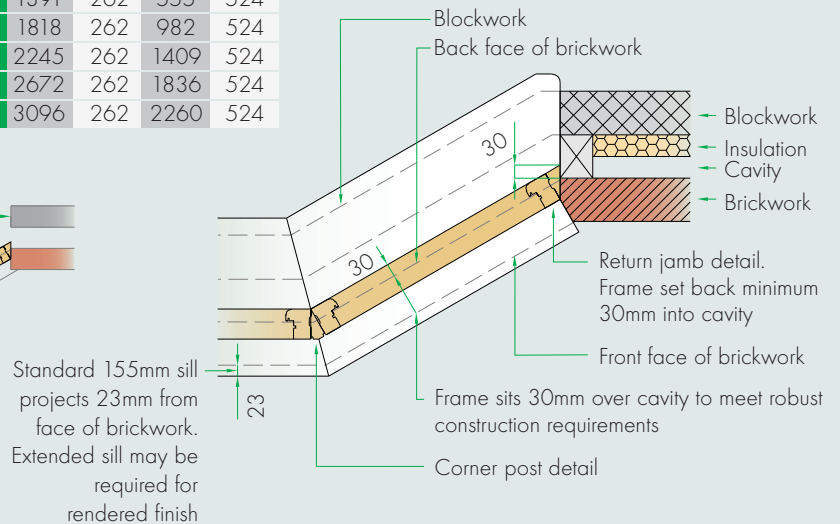
30° Narrow Module

CODE	DIMENSION			
	A	B	C	D
SP1N/30	1391	262	555	524
SP2N/30	1818	262	982	524
SP3N/30	2245	262	1409	524
SP4N/30	2672	262	1836	524
SP5N/30	3096	262	2260	524

Dimensions



NOTE: Dashed line represents brickwork



Standard 155mm sill projects 23mm from face of brickwork. Extended sill may be required for rendered finish

NOTE: To comply with manual handling regulations, pre-glazed bays or combinations will be supplied in sections for final site assembly.

54 60° SPLAYED BAYS

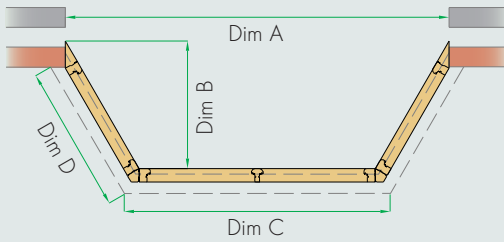
60° Standard Module

CODE	DIMENSION			
	A	B	C	D
SP1/60	1372	646	778	739
SP2/60	1941	646	1347	739
SP3/60	2510	646	1916	739
SP4/60	3079	646	2485	739
SP5/60	3641	646	3047	739

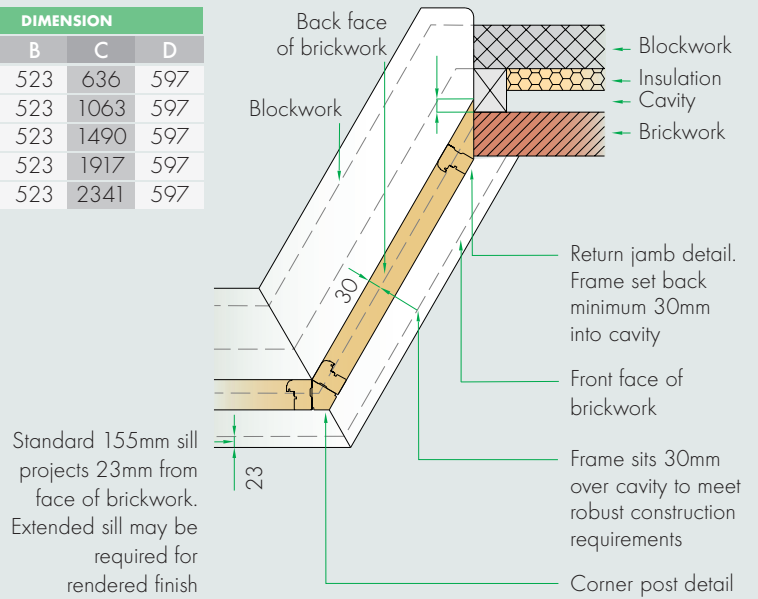
60° Narrow Module

CODE	DIMENSION			
	A	B	C	D
SP1N/60	1088	523	636	597
SP2N/60	1515	523	1063	597
SP3N/60	1942	523	1490	597
SP4N/60	2369	523	1917	597
SP5N/60	2793	523	2341	597

Dimensions



NOTE: Dashed line represents brickwork



55 ORIEL BAYS

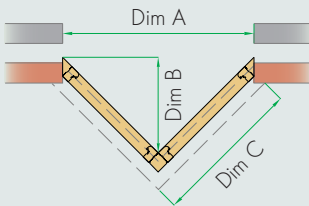
Standard Module

CODE	DIMENSION		
	A	B	C
Standard	983	491	772

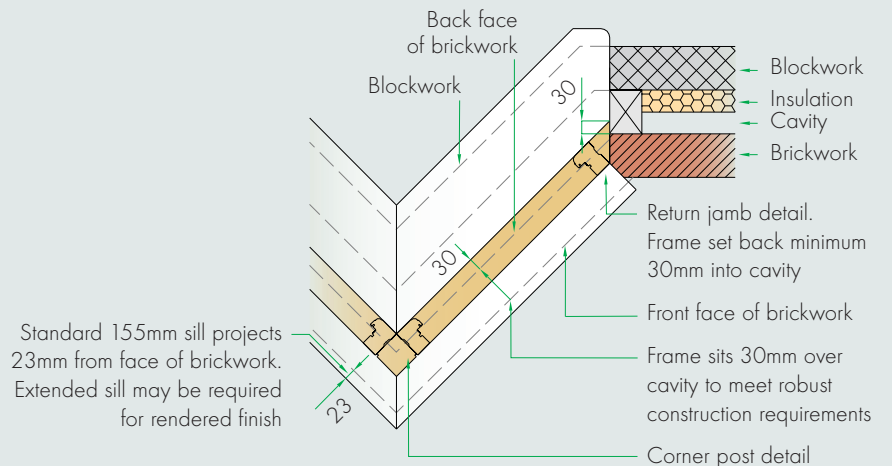
Narrow Module

CODE	DIMENSION		
	A	B	C
Narrow	782	391	630

Dimensions



NOTE: Dashed line represents brickwork



NOTE: To comply with manual handling regulations, pre-glazed bays or combinations will be supplied in sections for final site assembly.

56 DEEP CIRCULAR BAYS

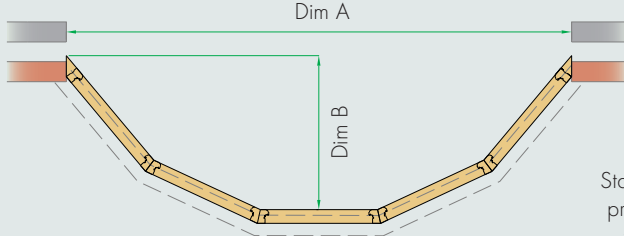
Standard Module

CODE	DIMENSION	
	A	B
CR4D	2216	533
CR5D	2565	782
CR6D	2794	1151
CR7D	2890	1413

Narrow Module

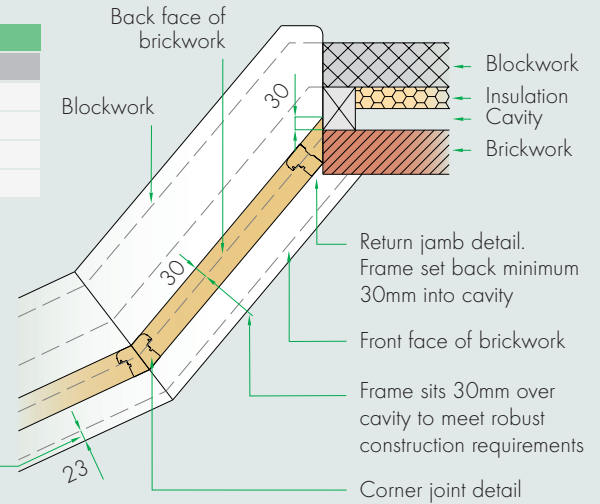
CODE	DIMENSION	
	A	B
CR4DN	1713	416
CR5DN	1984	614
CR6DN	2160	907
CR7DN	2234	1107

Dimensions



NOTE: Dashed line represents brickwork

Standard 155mm sill projects 23mm from face of brickwork. Extended sill may be required for rendered finish



57 SHALLOW CIRCULAR BAYS

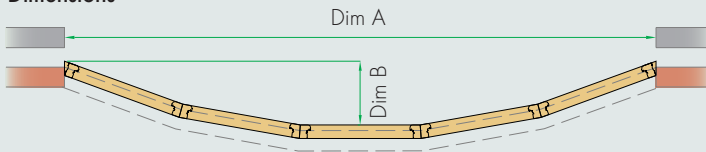
Standard Module

CODE	DIMENSION	
	A	B
CR3S	1848	137
CR4S	2430	273
CR5S	2983	407
CR6S	3500	605

Narrow Module

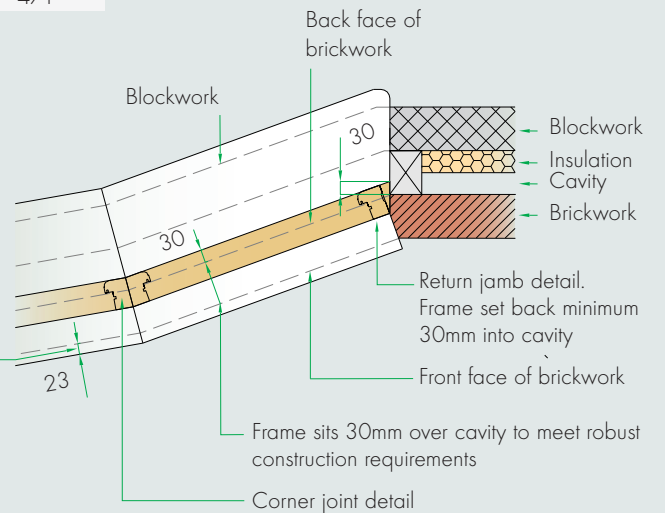
CODE	DIMENSION	
	A	B
CR3SN	1429	106
CR4SN	1879	212
CR5SN	2306	316
CR6SN	2706	471

Dimensions



NOTE: Dashed line represents brickwork

Standard 155mm sill projects 23mm from face of brickwork. Extended sill may be required for rendered finish



NOTE: To comply with manual handling regulations, pre-glazed bays or combinations will be supplied in sections for final site assembly.

1. **Night ventilators**

All windows between 488mm and 914mm wide include 4600mm² equivalent area of ventilation. All windows 915mm wide and over include 9200mm² equivalent area of ventilation. Please specify only 4600mm² equivalent area of ventilation, or no ventilation.

2. **Reflex hinges**

Frames come with reflex hinges as standard to opening sashes.

- Side hung windows over 1350mm high require heavy duty reflex hinges.
- We do not manufacture Side Hung sashes over 1500mm high.
- Heavy duty reflex hinges may be required on Single Sash Side Hung windows over 630mm wide dependent upon the height of the sash.
- We do not manufacture Side Hung Single Sash windows over 915mm wide.
- Heavy duty reflex hinges are required on the following Regency, Colonial and full height Top Hung window sizes:

REGENCY AND COLONIAL	
915 x 1350	1200 x 1350
915 x 1500	1200 x 1500
915 x 1650	1200 x 1650

FULL HEIGHT TOP HUNG		
488 x 1050	915 x 1050	1200 x 750
488 x 1200	915 x 1200	1200 x 900
630 x 1050		1200 x 1050
630 x 1200		1200 x 1200

All measurements in millimetres

Fire escape reflex hinges are available; please see fire escape windows on page 126.

Standard reflex hinges are not sold as easy-clean hinges. Please contact Sales Office for information on easy-clean window options on 01469 530577.

3. **Sills**

The standard sill width is 155mm to allow the frame to be set back into the cavity to meet Part L Robust Construction Detail requirements. Other available sill width options are 69mm flush sills and 105mm stub sills (at no extra cost), or 181mm and 205mm extended sills (at extra cost).

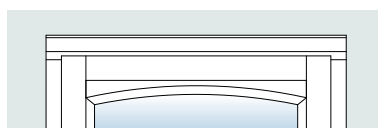
Larger sills have a tendency to cup, twist or split. These risks are greater on south facing elevations or if decorated with a dark top

coat. Where a frame needs to be set back into the wall to avoid cold bridging, we recommend that a flush or a stub sill is used in conjunction with a stone or canted brick sill. **Consequently, we do not guarantee extended sills.**

4. **Finishing options**

Frames are available in any of our standard finishes shown on page 110. Frames are also generally available in standard RAL colours except black. For availability of other darker shades please contact the Sales Office on 01469 530577.

5. **Combination door and window frames are available**



6. **Factory fitted Swept Head** (shown above) For information on availability of Swept Heads please contact the Sales Office on 01469 530577.

7. **Additional sash are available**

8. **Additional vent**

Additional shallow or deep vents are available.

9. **Repair kits for fully finished windows**

Includes paint or stain, brush, sandpaper, tube of filler and instructions. Will cover 0.5m².

10. **Cavity closers in loose lengths are available**

11. **Window furniture and locking mechanisms**

A range of furniture options is available, please see page 114.

Available in a range of colour options. White and Black in one price group. Polished Chrome effect, Satin Chrome effect and Gold effect are available at an extra cost.

Windows fitted with shootbolt or espagnolette locking systems must be fitted with reflex hinges.

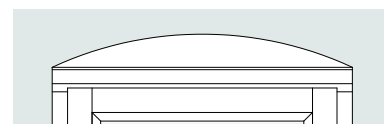
Cam adjustments on espagnolette and shootbolt locking. Both locking mechanisms are user adjustable by the purchaser to allow for slight movement which can occur naturally within timber profiles, or any alignment change which may have occurred to the sash during the transport or installation of the frame.

12. **Restrictor stays**

Face fixing restrictor stays in white or brown colours are available. Reflex hinges with built-in restrictors are also available.

13. **Secured by Design**

Stormproof casement windows are supplied to achieve PAS24:2012 Secured by Design requirements and are audited to ensure continuing compliance as part of our BSI Kitemark Scheme. Some sizes may exceed tested dimensions. For full details on which frames meet S.B.D, please contact our Sales Office on 01469 530577.



14. **Cambered heads** (shown above)

One per window produced in non-laminated Redwood are available. One will be supplied per frame unless otherwise requested.

15. **Perimeter pinch battens**

For installing frames into timber frame buildings. These are available made from non-laminated Redwood. They are fitted to the jambs and heads of the frame unless otherwise requested.

16. **Window surrounds (WSA)**

Available in 82mm and 98mm widths for rendering or timber cladding and 135mm width for tile hanging. Please specify whether window surrounds need to be fitted to window jambs only, or the jambs and head.

17. **Shrink wrapping**

Frames are wrapped as standard in a clear cling film which permits visual inspection of the frame upon delivery.

18. **Quotation prices**

Quotation prices do not include VAT which will be charged at the rate applicable at the time of delivery. Prices quoted are subject to Howarth's Standard Terms and Conditions of Sale.

(See page 139 or contact the Sales Office on 01469 530577).

19. **Deliveries**

All ancillary purchases are subject to a post and packing charge. Orders of £1,000 or less will be subject to a delivery charge.

TRADITIONALLY ELEGANT

SLIDING SASH WINDOW RANGE

SUPERIOR QUALITY AND TRADITIONAL DESIGN WITH BUILT-IN MODERN THERMAL PERFORMANCE

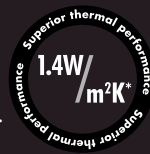


A COMPREHENSIVE RANGE OF SLIDING SASH WINDOWS MEETING THE MOST EXACTING SPECIFICATIONS



● Window energy ratings A to C.

● Efficient 24mm double glazed unit with Sliding Sash U-Values to 1.4 W/m²K.



● Quality laminated Redwood Nordic Pine construction.

● Manufactured from FSC® accredited timber on request.

● Dual-sprung balances for ease of operation.

● BRE Green Guide A+ Rated.

● Secured by Design locking system available.

● Supplied fully finished in our extended range of paints and stains.

● European Conformity.



● Extensive guarantees for long-lasting peace of mind.

● Special tilt in sash mechanism allows for easy cleaning and maintenance.

● Incorporating Swisspacer ULTIMATE, the leading warm edge spacer fitted where appropriate.

SWISSPACER
SAINT-GOBAIN

Howarth has combined traditional styles with modern production techniques to produce a superior quality sliding sash window incorporating a tilt facility on both sashes for easy cleaning.

The Howarth Sliding Sash range can now be supplied with up to a WER 'A' rating for energy efficiency. This range can reach as low as 1.4 W/m²K for thermal performance. This reduces the amount of energy used for heating, thus lessening the environmental impact. In addition the Howarth Sliding Sash range earns an A+ rating from the BRE Green Guide for environmental performance.

Visually co-ordinating with the doorframe and other Howarth window ranges, Howarth's Sliding Sash window

is a popular choice where public planning requirements call for new windows to match local architectural style. The window incorporates a dual spring balance operating mechanism for ease of operation. This system requires less effort to lift the sashes compared to other traditional cord or spiral balance systems.

Tests independently verified by the British Woodworking Federation assess the window as achieving compliance with British and European Standards.

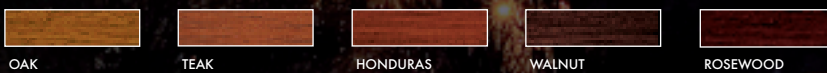


THE SLIDING SASH RANGE TRADITIONAL STYLING WITH MODERN PERFORMANCE

FINISHING OPTIONS

Choose from a range of paint and stain finishes with built-in high performance, endurance and quality, see page 110 for further details.

Standard Stain Finishes



Standard Paint Finishes



NOTE: All Howarth paint/stain finishes are silk and not high gloss.

NOTE: Frames are generally available in standard RAL colours except black. For availability of other darker shades please contact the Sales Office on 01469 530577.

GUARANTEES

As a result of the improved stability of laminated timber construction we are able to provide guarantees for ten years on our paint finish and six years on our stain finish.



NOTE: All guarantees given in this catalogue are subject to limitations and are strictly dependent upon compliance with manufacturers' usage and maintenance instructions. These are available upon request.

As with all Howarth timber windows, the Sliding Sash range is manufactured and inspected to BS644:2012 under the strict guidelines set out by the British Woodworking Federation's Timber Window Accreditation Scheme, which is now inspected under the BSI Kitemark scheme, ensuring that clients receive the best quality products and the highest levels of performance.



SECURED BY DESIGN

The Sliding Sash range can also be supplied to Secured by Design standard, dependent on size and configuration. Contact our Sales Office for further details on 01469 530577.

NOTE: Although the sliding sash is a 'high performance' window, in some exposed locations such as coastal, hillside and south westerly areas, there may be minor ingress of a small amount of water during severe weather conditions.



(Above) Both vertical glazing beads and vertical external plant-on bars have an anti-capillary gap reducing the likelihood of degradation to both timber and paint finish. See page 136 for further details.

(Below) The Sliding Sash range features an internal latches enabling both top and bottom sashes to be tilted inwards for easy and safe cleaning. Please refer to the following page for further details (page 64).





(Above) By releasing the internal latches shown above, both top and bottom sashes to be tilted inwards.

(Below) The Sliding Sash window range features ironmongery available in Chrome or Brass as standard. White fittings are available at an extra cost. See page 115 for further details.



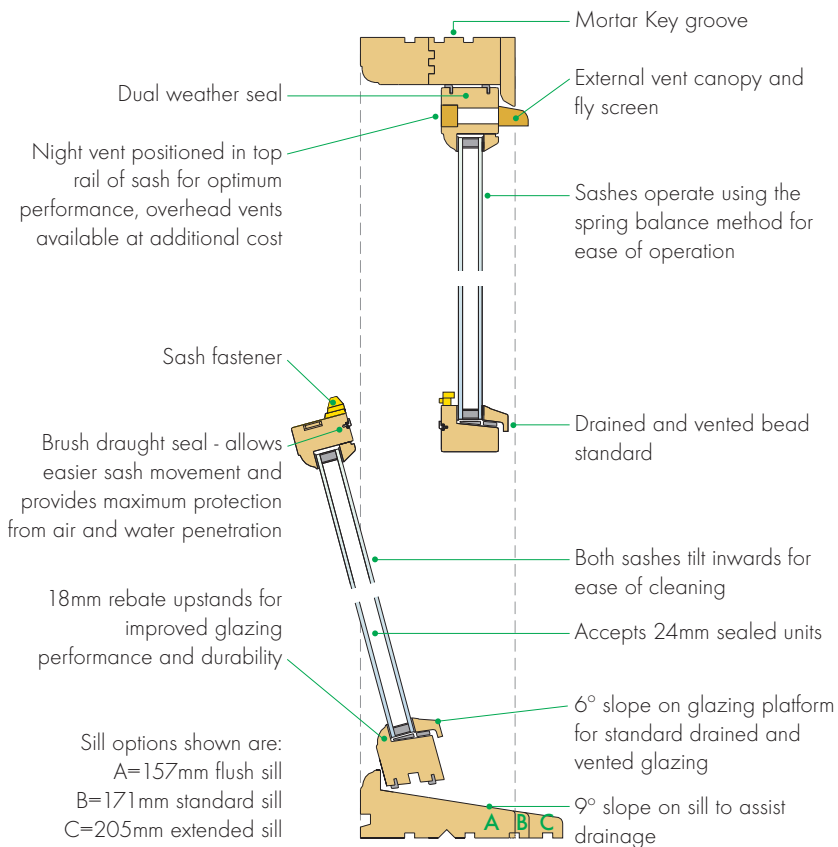
For materials, construction and workmanship requirements, see page 136 for further details.

For leading and bar options, see page 112 for further details.

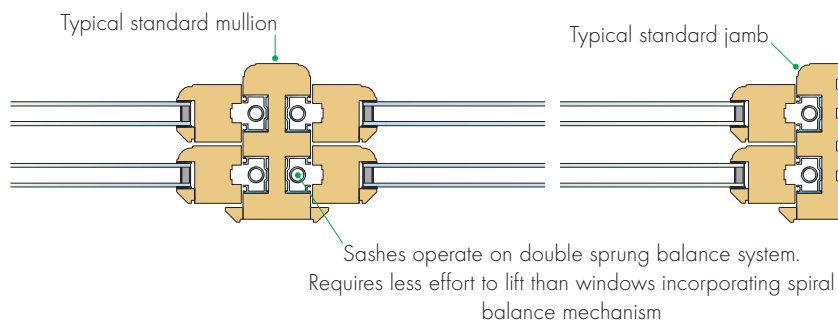
Timber. All timber used is laminated Redwood Nordic Pine from well managed yield sources.

See page 6 for further details.





CROSS SECTION THROUGH HORIZONTAL



CE MARKING



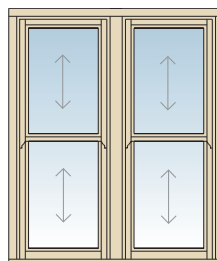
EUROPEAN CONFORMITY

For further details of CE (European Conformity) Marking please refer to page 134.

THERMAL PERFORMANCE

	Benchmark U Value	W.E.R. Rating
Energy Ultra	1.4	A
Energy Plus	1.4	B*
Energy	1.6	C

Benchmark Window
 1230mm wide
 x
 1480mm high



NOTE: * Results based on energy rating calculations ratified by the BFRC

NOTE: All other results generated by Howarth to determine energy ratings are conducted using the rules and procedures used by the BFRC and are based upon the BFRC standard specification and frame sizes for such calculations.

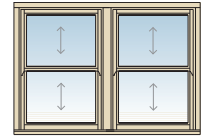
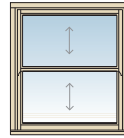
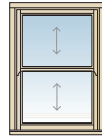
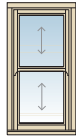
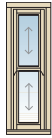
PRODUCT RANGE

Page

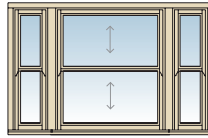
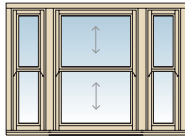
59	SLIDING SASH IMPERIAL NON BAR	66
60	SLIDING SASH IMPERIAL WIDTH VERTICAL BAR	66
61	SLIDING SASH IMPERIAL WIDTH ALL BAR	67
62	SLIDING SASH IMPERIAL WIDTH MARGINAL BAR	68
63	SLIDING SASH METRIC NON BAR	68
64	SLIDING SASH METRIC VERTICAL BAR	68
65	SLIDING SASH METRIC ALL BAR	69
66	SLIDING SASH METRIC MARGINAL BAR	69
67	SQUARE 90° BAY	70
68	SPLAY 45° BAY	70
69	SPLAY 30° BAY	71
70	SPLAY 60° BAY	71
71	SLIDING SASH WINDOW OPTIONS	72



59 SLIDING SASH IMPERIAL WIDTH NON BAR



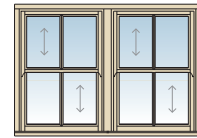
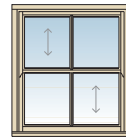
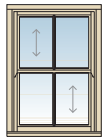
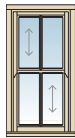
HEIGHT	CODE	CODE	CODE	CODE	CODE
1050	VS0410	VS0610	VS0810	VS1010	VSSS1710
1200	VS0412	VS0612	VS0812	VS1012	VSSS1712
1350	VS0413	VS0613	VS0813	VS1013	VSSS1713
1500	VS0415	VS0615	VS0815	VS1015	VSSS1715
1650	VS0416	VS0616	VS0816	VS1016	VSSS1716



HEIGHT	CODE	CODE
1050	VSFSF1610	VSFSF1810
1200	VSFSF1612	VSFSF1812
1350	VSFSF1613	VSFSF1813
1500	VSFSF1615	VSFSF1815
1650	VSFSF1616	VSFSF1816

FIRE ESCAPE:
Windows marked with will meet fire escape requirements.

60 SLIDING SASH IMPERIAL WIDTH VERTICAL BAR



HEIGHT	CODE	CODE	CODE	CODE
1050	VS0610VB	VS0810VB	VS1010VB	VSSS1710VB
1200	VS0612VB	VS0812VB	VS1012VB	VSSS1712VB
1350	VS0613VB	VS0813VB	VS1013VB	VSSS1713VB
1500	VS0615VB	VS0815VB	VS1015VB	VSSS1715VB
1650	VS0616VB	VS0816VB	VS1016VB	VSSS1716VB

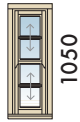
NIGHT 410 width - no vent, 635 and 860 width - 4600mm² vent,
VENTS: 1085 width and over - 9200mm² vent.

NOTE: 1630 width frame can only accommodate 4600mm² night vent.

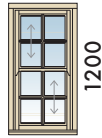
NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass. Window sizes shown are nominal and are approx 5mm less than the size shown to allow for building in. All illustrations above tables show exterior views.

Fire Escape windows will be fitted with fire escape furniture. For further details please refer to page 126.

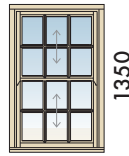
61 SLIDING SASH IMPERIAL WIDTH ALL BAR



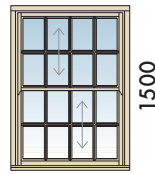
410 *



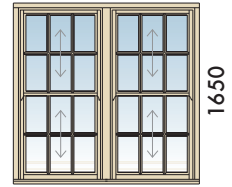
635



860

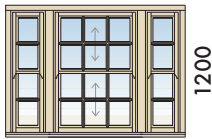


1085 *

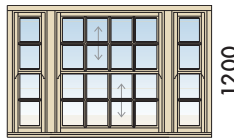


1695 *

HEIGHT	CODE	CODE	CODE	CODE	CODE
1050	VSO410AB50	VSO610AB50	VS0810AB50	VS1010AB50	VSSS1710AB50
1200	VSO412AB50	VSO612AB50	VS0812AB50	VS1012AB50	VSSS1712AB50
1350	VSO413AB50	VSO613AB50	VS0813AB50	VS1013AB50	VSSS1713AB50
1500	VSO415AB50	VSO615AB50	VS0815AB50	VS1015AB50	VSSS1715AB50
1650	VSO416AB50	VSO616AB50	VS0816AB50	VS1016AB50	VSSS1716AB50



1630



1855

HEIGHT	CODE	CODE
1050	VSFSF1610AB50	VSFSF1810AB50
1200	VSFSF1612AB50	VSFSF1812AB50
1350	VSFSF1613AB50	VSFSF1813AB50
1500	VSFSF1615AB50	VSFSF1815AB50
1650	VSFSF1616AB50	VSFSF1816AB50

NOTE: All Sliding Sash All Bar shown with an asterisk* are a 50/50 split, these windows are also available as 1/3 and 2/3 splits.

NOTE: Limited availability of Secured by Design on Sliding Sash All Bar.

NOTE: The above examples show the number of vertical and horizontal bars in the respective window heights and widths for Sliding Sash Imperial Width All Bar windows.



(Far left) Church Farm, Henstridge, Somerset. Photograph courtesy of McIntosh Homes Ltd.

(Left) Gibbs Court, Crewkerne, Somerset. Photograph courtesy of ROK Build.

NIGHT 410 width - no vent, 635 and 860 width - 4600mm² vent,
VENTS: 1085 width and over - 9200mm² vent.

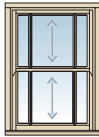
NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass. Window sizes shown are nominal and are approx 5mm less than the size shown to allow for building in. All illustrations above tables show exterior views.

NOTE: 1630 width frame can only accommodate 4600mm² night vent.

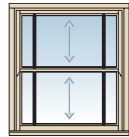
Fire Escape windows will be fitted with fire escape furniture. For further details please refer to page 126.

62

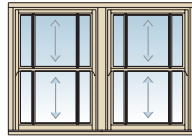
SLIDING SASH IMPERIAL WIDTH MARGINAL BAR



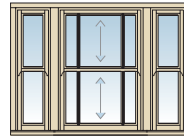
860



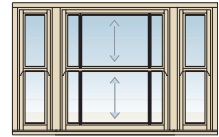
1085



1695



1630



1855

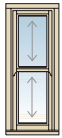
HEIGHT	CODE	CODE	CODE	CODE	CODE
1050	VS0810MB	VS1010MB	VSSS1710MB	VSFSF1610MB	VSFSF1810MB
1200	VS0812MB	VS1012MB	VSSS1712MB	VSFSF1612MB	VSFSF1812MB
1350	VS0813MB	VS1013MB	VSSS1713MB	VSFSF1613MB	VSFSF1813MB
1500	VS0815MB	VS1015MB	VSSS1715MB	VSFSF1615MB	VSFSF1815MB
1650	VS0816MB	VS1016MB	VSSS1716MB	VSFSF1616MB	VSFSF1816MB

NIGHT 410 width - no vent, 635 and 860 width - 4600mm² vent,
VENTS: 1085 width and over - 9200mm² vent.

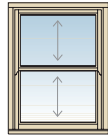
NOTE: 1630 width frame can only accommodate 4600mm² night vent.

63

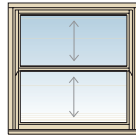
SLIDING SASH METRIC NON BAR



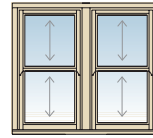
488



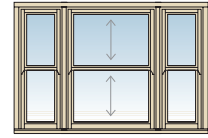
915



1200



1344

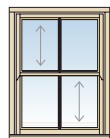


1770

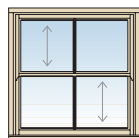
HEIGHT	CODE	CODE	CODE	CODE	CODE
1050	VSN10	VS2N10	VS210	VSSS3N10	VSFSF310
1200	VSN12	VS2N12	VS212	VSSS3N12	VSFSF312
1350	VSN13	VS2N13	VS213	VSSS3N13	VSFSF313
1500	VSN15	VS2N15	VS215	VSSS3N15	VSFSF315
1650	VSN16	VS2N16	VS216	VSSS3N16	VSFSF316

64

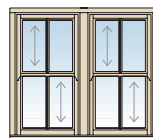
SLIDING SASH METRIC VERTICAL BAR



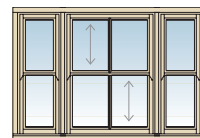
915



1200




1344



1770

HEIGHT	CODE	CODE	CODE	CODE
1050	VS2N10VB	VS210VB	VSSS3N10VB	VSFSF310VB
1200	VS2N12VB	VS212VB	VSSS3N12VB	VSFSF312VB
1350	VS2N13VB	VS213VB	VSSS3N13VB	VSFSF313VB
1500	VS2N15VB	VS215VB	VSSS3N15VB	VSFSF315VB
1650	VS2N16VB	VS216VB	VSSS3N16VB	VSFSF316VB




FIRE ESCAPE:
 Windows marked with  will meet fire escape requirements.

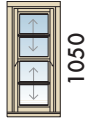
NIGHT Unless stated otherwise, 488 width - no vent, 915 width - 4600mm² vent,
VENTS: 1200 width and over - 9200mm² vent.

NOTE: 1770 width frame can only accommodate 4600mm² night vent.

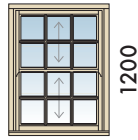
NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass. Window sizes shown are nominal and are approx 5mm less than the size shown to allow for building in. All illustrations above tables show exterior views.

 Fire Escape windows will be fitted with fire escape furniture. For further details please refer to page 126.

65 SLIDING SASH METRIC ALL BAR



488 *



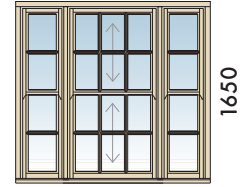
915



1200



1344 *



1770 *

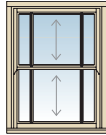
HEIGHT	CODE	CODE	CODE	CODE	CODE
1050	VSN10AB50	VS2N10AB50	VS210AB50	VSSS3N10AB50	VSFSF310AB50
1200	VSN12AB50	VS2N12AB50	VS212AB50	VSSS3N12AB50	VSFSF312AB50
1350	VSN13AB50	VS2N13AB50	VS213AB50	VSSS3N13AB50	VSFSF313AB50
1500	VSN15AB50	VS2N15AB50	VS215AB50	VSSS3N15AB50	VSFSF315AB50
1650	VSN16AB50	VS2N16AB50	VS216AB50	VSSS3N16AB50	VSFSF316AB50

NOTE: All Sliding Sash All Bar shown with an asterisk* are a 50/50 split, these windows are also available as 1/3 and 2/3 splits.

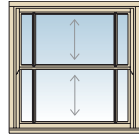
NOTE: Limited availability of Secured by Design on Sliding Sash All Bar.

NOTE: The above examples show the number of vertical and horizontal bars in the respective window heights and widths for Sliding Sash Imperial Width All Bar windows

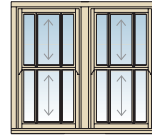
66 SLIDING SASH METRIC MARGINAL BAR



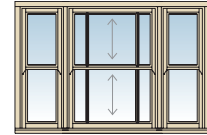
915



1200



1344



1770

HEIGHT	CODE	CODE	CODE	CODE
1050	VS2N10MB	VS210MB	VSSS3N10MB	VSFSF310MB
1200	VS2N12MB	VS212MB	VSSS3N12MB	VSFSF312MB
1350	VS2N13MB	VS213MB	VSSS3N13MB	VSFSF313MB
1500	VS2N15MB	VS215MB	VSSS3N15MB	VSFSF315MB
1650	VS2N16MB	VS216MB	VSSS3N16MB	VSFSF316MB



(Far left) Church Farm, Henstridge, Somerset. Photograph courtesy of McIntosh Homes Ltd.

(Left) Staplegrove Road, Taunton, Somerset. Photograph courtesy of Strongvox Ltd.

NIGHT Unless stated otherwise, 488 width - no vent, 915 width - 4600mm² vent,
VENTS: 1200 width and over - 9200mm² vent.

NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass. Window sizes shown are nominal and are approx 5mm less than the size shown to allow for building in. All illustrations above tables show exterior views.

NOTE: 1770 width frame can only accommodate 4600mm² night vent.

Fire Escape windows will be fitted with fire escape furniture. For further details please refer to page 126.

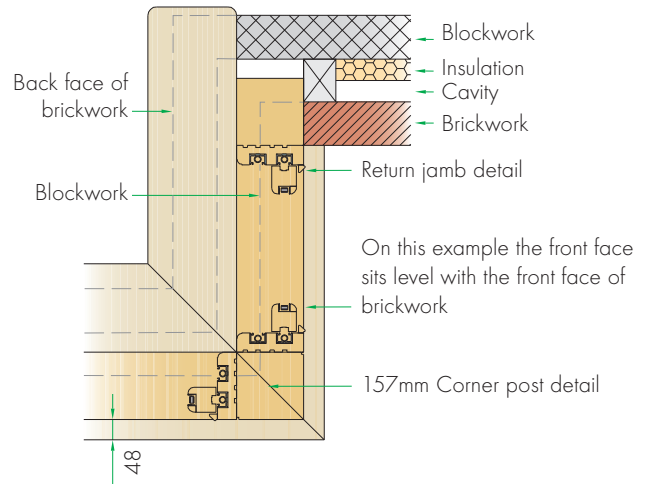
67 SQUARE 90° BAY

Imperial

CODE	FRONT	RETURNS	DIMENSION		
			A	B	C
SQVS08	855	630	855	787	1169
SQVS10	1080	630	1080	787	1394
SQVS16	1625	630	1625	787	1939
SQVS17	1690	630	1690	787	2004
SQVS18	1850	630	1850	787	2164
SQVS08 NR	855	405	855	562	1169
SQVS10 NR	1080	405	1080	562	1394
SQVS16 NR	1625	405	1625	562	1939
SQVS17 NR	1690	405	1690	562	2004
SQVS18 NR	1850	405	1850	562	2164

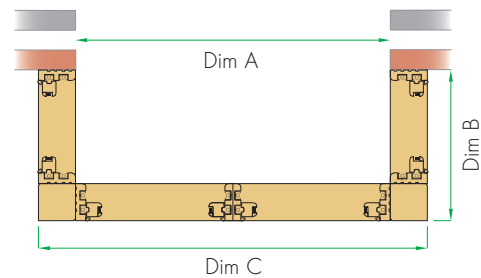
Metric

CODE	FRONT	RETURNS	DIMENSION		
			A	B	C
SQVS2N	911	626	911	783	1225
SQVS2	1195	626	1195	783	1509
SQVS3N	1338	626	1338	783	1652
SQVS3	1764	626	1764	783	2078
SQVS2N NR	911	484	911	641	1225
SQVS2 NR	1195	484	1195	641	1509
SQVS3N NR	1338	484	1338	641	1652
SQVS3 NR	1764	484	1764	641	2078



Extended 205mm sill projects 48mm from face of brickwork. Flush 157mm or Standard 171mm sills may be required for stone sills

Dimensions



NOTE: Dashed line represents brickwork

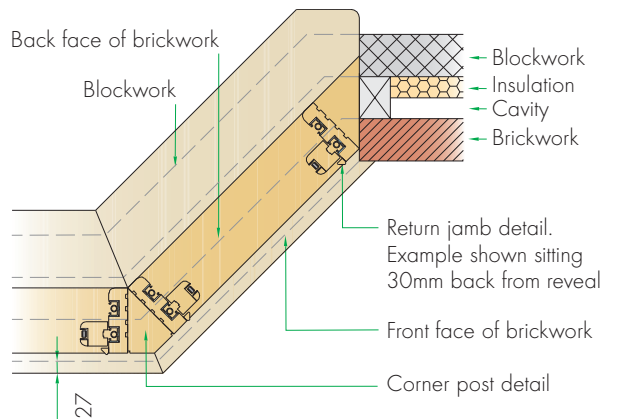
68 SPLAY 45° BAY

Imperial

CODE	FRONT	RETURNS	DIMENSION		
			A	B	C
SPVS08/45	855	630	1746	445	491
SPVS10/45	1080	630	1971	445	491
SPVS16/45	1625	630	2516	445	491
SPVS17/45	1690	630	2581	445	491
SPVS18/45	1850	630	2741	445	491
SPVS08/45NR	855	405	1428	286	332
SPVS10/45NR	1080	405	1653	286	332
SPVS16/45NR	1625	405	2198	286	332
SPVS17/45NR	1690	405	2263	286	332
SPVS18/45NR	1850	405	2423	286	332

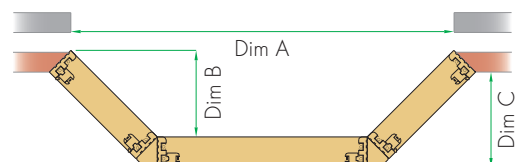
Metric

CODE	FRONT	RETURNS	DIMENSION		
			A	B	C
SPVS2N/45	911	626	1796	443	489
SPVS2/45	1195	626	2080	443	489
SPVS3N/45	1338	626	2223	443	489
SPVS3/45	1764	626	2649	443	489
SPVS2N/45NR	911	484	1595	342	388
SPVS2/45NR	1195	484	1879	342	388
SPVS3N/45NR	1338	484	2022	342	388
SPVS3/45NR	1764	484	2448	342	388



Extended 205mm sill projects 27mm from face of brickwork when set back 30mm from reveal. Flush 157mm or Standard 171mm sills may be required for stone sills.

Dimensions



NOTE: Dashed line represents brickwork

NOTE: To comply with manual handling regulations, pre-glazed bays or combinations are supplied in sections for final site assembly. Howarth do not supply fillet pieces for sliding sash bays.

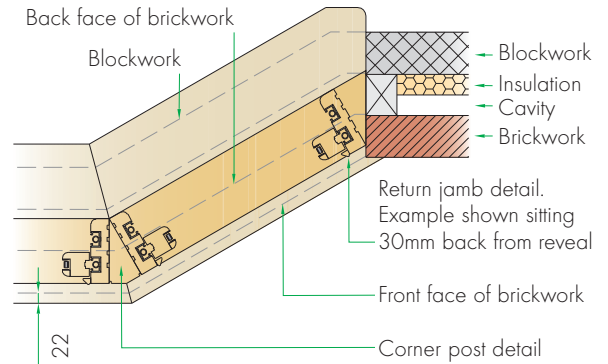
69 SPLAY 30° BAY

Imperial

CODE	FRONT	RETURNS	DIMENSION		
			A	B	C
SPVS08/30	855	630	1946	315	336
SPVS10/30	1080	630	2171	315	336
SPVS16/30	1625	630	2716	315	336
SPVS17/30	1690	630	2781	315	336
SPVS18/30	1850	630	2941	315	336
SPVS08/30NR	855	405	1556	202	224
SPVS10/30NR	1080	405	1781	202	224
SPVS16/30NR	1625	405	2326	202	224
SPVS17/30NR	1690	405	2391	202	224
SPVS18/30NR	1850	405	2551	202	224

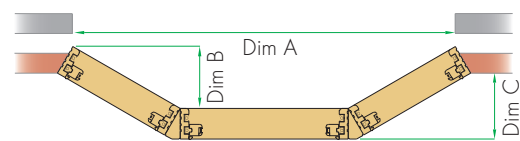
Metric

CODE	FRONT	RETURNS	DIMENSION		
			A	B	C
SPVS2N/30	911	626	1995	313	334
SPVS2/30	1195	626	2279	313	334
SPVS3N/30	1338	626	2422	313	334
SPVS3/30	1764	626	2848	313	334
SPVS2N/30NR	911	484	1749	242	263
SPVS2/30NR	1195	484	2033	242	263
SPVS3N/30NR	1338	484	2176	242	263
SPVS3/30NR	1764	484	2602	242	263



Extended 205mm sill projects 22mm from face of brickwork when set back 30mm from reveal. Flush 157mm or Standard 171mm sills may be required for stone sills.

Dimensions



NOTE: Dashed line represents brickwork

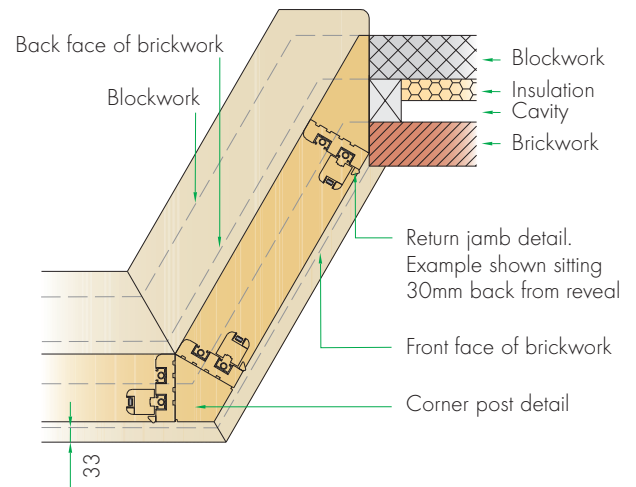
70 SPLAY 60° BAY

Imperial

CODE	FRONT	RETURNS	DIMENSION		
			A	B	C
SPVS08/60	855	630	1485	546	624
SPVS10/60	1080	630	1710	546	624
SPVS16/60	1625	630	2255	546	624
SPVS17/60	1690	630	2320	546	624
SPVS18/60	1850	630	2480	546	624
SPVS08/60NR	855	405	1260	351	429
SPVS10/60NR	1080	405	1485	351	429
SPVS16/60NR	1625	405	2030	351	429
SPVS17/60NR	1690	405	2095	351	429
SPVS18/60NR	1850	405	2255	351	429

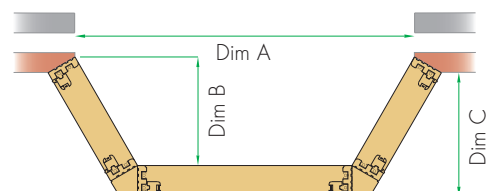
Metric

CODE	FRONT	RETURNS	DIMENSION		
			A	B	C
SPVS2N/60	911	626	1537	542	621
SPVS2/60	1195	626	1821	542	621
SPVS3N/60	1338	626	1964	542	621
SPVS3/60	1764	626	2390	542	621
SPVS2N/60NR	911	484	1395	419	498
SPVS2/60NR	1195	484	1679	419	498
SPVS3N/60NR	1338	484	1822	419	498
SPVS3/60NR	1764	484	2248	419	498



Extended 205mm sill projects 33mm from face of brickwork when set back 30mm from reveal. Flush 157mm or Standard 171mm sills may be required for stone sills

Dimensions



NOTE: Dashed line represents brickwork

NOTE: To comply with manual handling regulations, pre-glazed bays or combinations are supplied in sections for final site assembly. Howarth do not supply fillet pieces for sliding sash bays.

1. Night ventilators

Windows up to 635mm wide have no ventilators fitted. From 635mm wide to 1084mm will have 4600mm² equivalent area of ventilation and 1085mm and over will have 9200mm² equivalent area of ventilation.

NOTE: 1630 and 1770 width frames can only accommodate 4600mm² night vent.

Please specify if you require only 4600mm² equivalent area of ventilation or no ventilation.

Overhead night vents are available at a small extra cost.

2. Sills

The standard sill is 171mm to allow the frame to be set back into the cavity to meet Part L robust construction detail requirements. Other available sill width options are: 157mm flush, 205mm extended (at extra cost).

Larger sills have a tendency to cup, twist or split. These risks are greater on south facing elevations or if decorated with a dark top coat. Where a frame needs to be set back into the wall to avoid cold bridging, we recommend that a flush or a stub sill is used in conjunction with a stone or canted brick sill. Consequently, we do not guarantee extended sills.

3. Finishing options

Frames are available in any of our standard finishes shown on page 110. Frames are also generally available in standard RAL colours except black. For availability of other darker shades please contact the Sales Office on 01469 530577.

4. Combination door and window frames are available

5. Repair kits for fully finished windows

Include paint or stain, brush, sandpaper, tube of filler and instructions. Will cover 0.5m².

6. Cavity closers

Cavity closers in loose lengths are available.

7. Window furniture and locking mechanisms

Fitch catches are available in Polished Chrome effect or Polished Brass effect. White is also available at extra cost, see page 115.

8. Restrictor stays

Concealed restrictors are available in Polished Chrome effect, Polished Brass effect and White. They will be fitted as standard to all sliding sash frames of 1350mm high or above.

9. Secured by Design

Sliding Sash casement windows are supplied to achieve PAS24:2012 Secured by Design requirements and are audited to ensure continuing compliance as part of our BSI Kitemark Scheme. Some sizes may exceed tested dimensions.

NOTE: Limited availability of Secured by Design on Sliding Sash All Bar frames. For full details please contact our Sales Office on 01469 530577.

10. Cambered heads

One per window produced in Non-Laminated Redwood are available. One will be supplied per frame unless otherwise requested.

11. Perimeter pinch battens

For installing frames into timber frame buildings. These are available made from 46 x 46mm non-laminated Redwood. They are fitted to the jambs and heads of the frame unless otherwise requested.

12. Shrink wrapping

Frames are wrapped as standard in a clear cling film which permits visual inspection of the frame upon delivery.

13. Quotation prices

Quotation prices do not include VAT which will be charged at the rate applicable at the time of delivery. Prices quoted are subject to Howarth's Standard Terms and Conditions of Sale.

(See page 139 or contact our Sales Office on 01469 530577).

12. Deliveries

All ancillary purchases are subject to a post and packing charge. Orders of £1,000 or less will be subject to a delivery charge.

NOTE: All frames 1500mm high and over include clear toughened glass.

All prices quoted for frames incorporate 24mm Low E clear glazing unless otherwise stated. To achieve Document L, 24mm low-E glazing must be used. To comply with manual handling regulations, pre-glazed bays will be supplied unassembled for final on-site fixing.

Window sizes shown are nominal and are approx 5mm less than the size shown to allow for building in.



VERSATILE DESIGNS

FEATURE WINDOWS

IN A RANGE OF STYLES ADDING CHARACTER AND AN INDIVIDUALISTIC TOUCH TO NEW BUILD AND OLDER PROPERTIES



A RANGE OF FEATURE FRAMES TO ADD THAT EXTRA DIMENSION TO SPECIAL PROJECTS



- Quality laminated Redwood Nordic Pine construction.
- Manufactured from FSC® accredited timber on request.
- Ideal for refurbishing properties and for adding character to new build.
- Available in a wide range of design and size options.
- Choose from a range of arched, gothic, bullseye and church style windows.
- BRE Green Guide A+ rated.
- European Conformity.
- Full chain of custody available.
- Supplied fully finished in our extended range of paints and stains.
- Extensive guarantees for long lasting peace of mind.
- Incorporating Swisspacer ULTIMATE, the leading warm edge spacer fitted where appropriate.

SWISSPACER
SAINT-GOBAIN



A range of semi-circular, circular, gothic and church type windows are available, together with a wide variety of triangular windows which can be manufactured to individual specifications.

Manufactured from laminated Redwood Nordic Pine, these windows incorporate all the design features of our Hi-Spec range, including 24mm sealed units, 18mm upstands and plant-on bar options, to ensure that they blend easily with the rest of the property. (Some windows may be direct glazed only).

Howarth now offers a new range of fully operational Sliding Sash Arched frames incorporating all the design features of our Sliding Sash range.

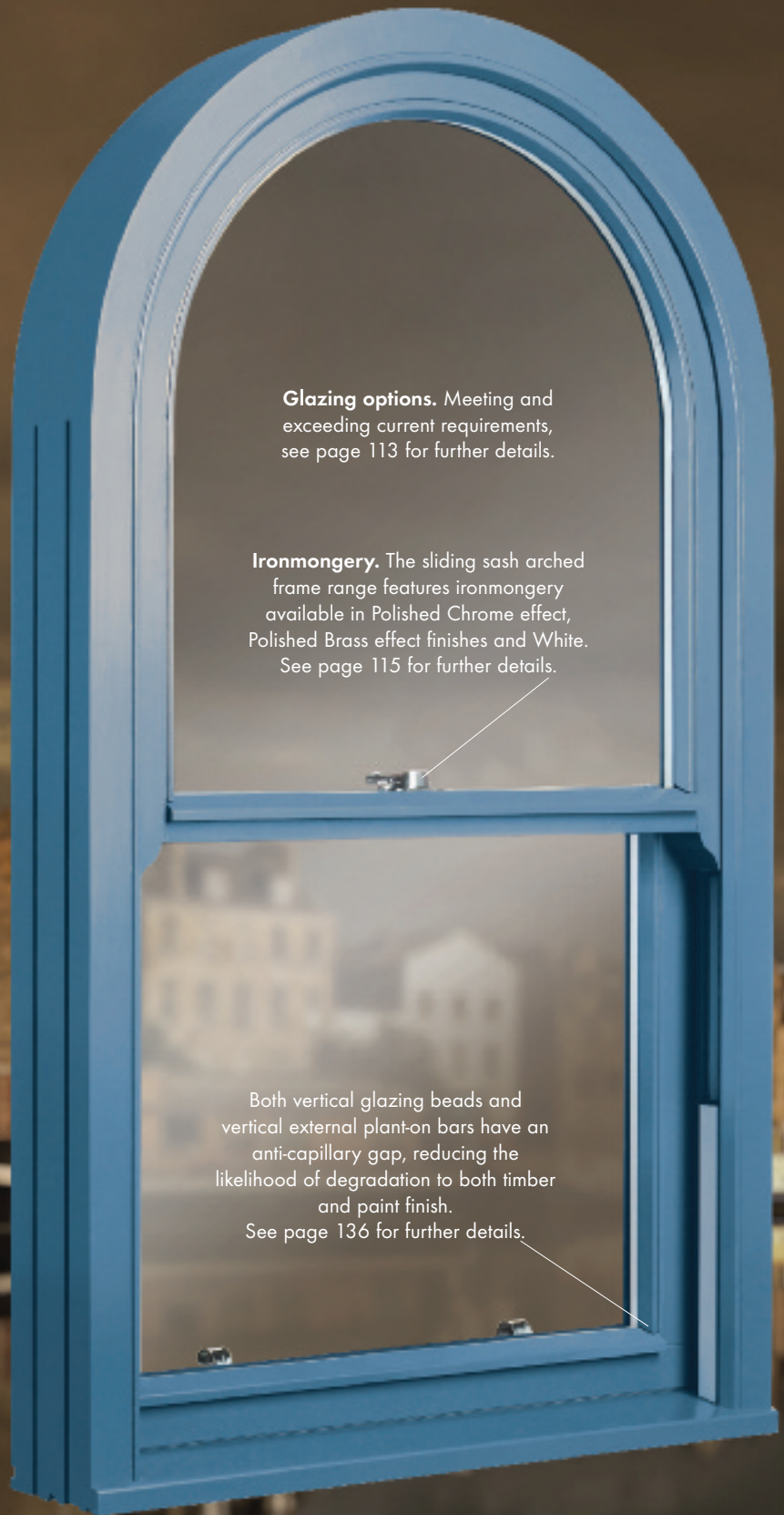
As with all Howarth timber windows and doors, the Feature range is manufactured under the strict guidelines set out by the British Woodworking Federation's Timber Window Accreditation Scheme, which is now inspected under the BSI Kitemark Scheme, ensuring the best quality products and the highest levels of performance.



GUARANTEES

As a result of the improved stability of laminated timber construction we are able to provide guarantees for ten years on our paint finish and six years on our stain finish.

NOTE: All guarantees given in this catalogue are subject to limitations and are strictly dependent upon compliance with manufacturers' usage and maintenance instructions. These are available upon request.



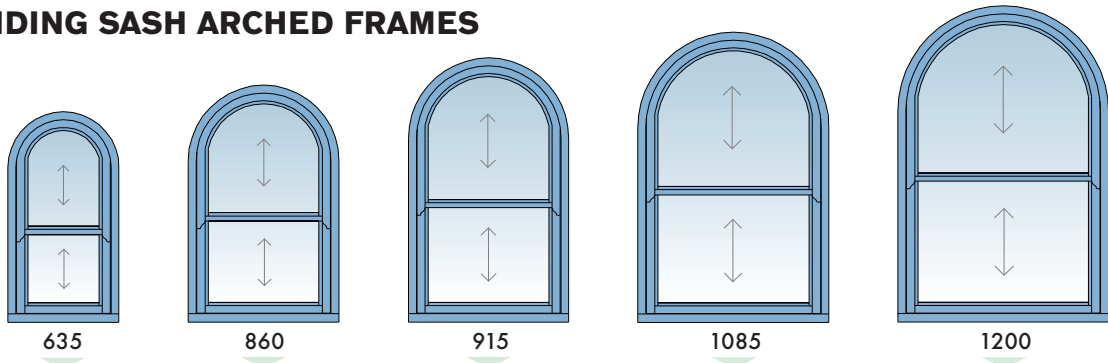
Glazing options. Meeting and exceeding current requirements, see page 113 for further details.

Ironmongery. The sliding sash arched frame range features ironmongery available in Polished Chrome effect, Polished Brass effect finishes and White. See page 115 for further details.

Both vertical glazing beads and vertical external plant-on bars have an anti-capillary gap, reducing the likelihood of degradation to both timber and paint finish. See page 136 for further details.

PRODUCT RANGE

	Page		Page
72 SLIDING SASH ARCHED FRAMES	75	75 BULLSEYE WINDOWS	77
73 GOTHIC WINDOWS	76	76 CHURCH WINDOWS	78
74 ARCHED WINDOWS	77	77 FEATURE WINDOW OPTIONS	78



HEIGHT	CODE	CODE	CODE	CODE	CODE
1200	VSA0612P				
1350	VSA0613P	VSA0813P	VSA2N13P		
1500	VSA0615P	VSA0815P	VSA2N15P	VSA1015P	VSA215P
1650	VSA0616P	VSA0816P	VSA2N16P	VSA1016P	VSA216P
1800	VSA0618P	VSA0818P	VSA2N18P	VSA1018P	VSA218P

NOTE: Although the Sliding Sash is a 'high performance' window, in some exposed locations such as coastal, hillside and south westerly, there may be minor ingress of a small volume of water during severe weather conditions.

NOTE: Travel of bottom sash may be limited in some of the sizes (shown above). Sliding sash arched frames windows are available in all bespoke widths between 635mm and 1200mm. All illustrations above tables show exterior views.

NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass. Window sizes shown are nominal and are approx 5mm less than the size shown, to allow for building in.

ADD CHARACTER WITH COLOUR, BAR AND LEAD OPTIONS



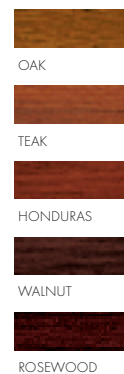
FINISHING OPTIONS

Choose from a range of paint and stain finishes, see page 110 for further details.

NOTE: Frames are generally available in standard RAL colours except black. For availability of other darker shades please contact the Sales Office on 01469 530577.

NOTE: All Howarth paint/stain finishes are silk and not high gloss.

Standard Stain Finishes



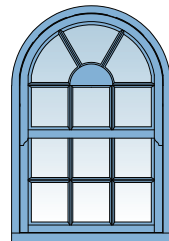
Standard Paint Finishes



PLANT-ON BAR AND LEAD OPTIONS

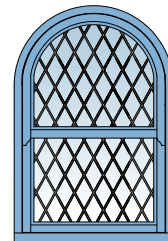
Timber. All timber used is laminated Redwood Nordic Pine from well managed yield sources.

See page 6 for further details.

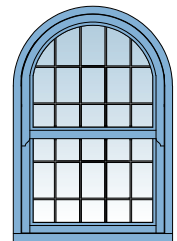


19mm Plant-on Bar

For **plant-on bar** and **leading options**, see page 112 for further details.

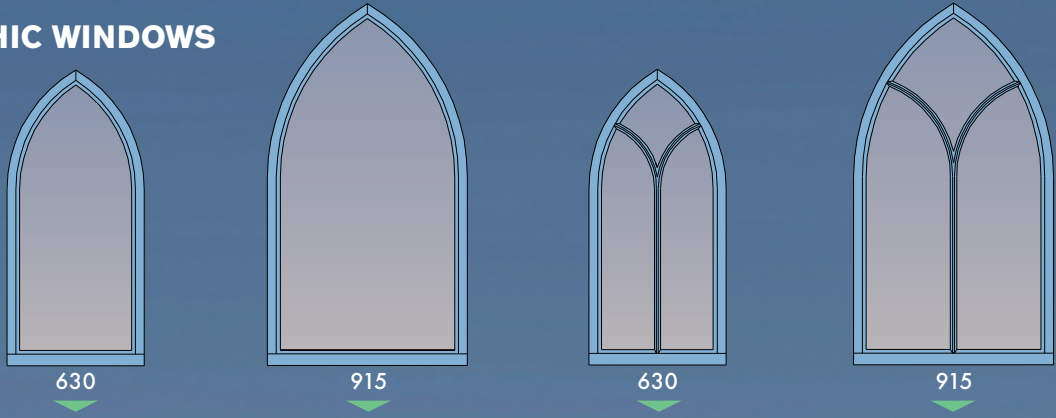


9mm Diamond Lead



9mm Square Lead

73 GOTHIC WINDOWS



HEIGHT	CODE	CODE	CODE	CODE
1050	GA110P	GA2N10P	GA110B	GA2N10B
1200	GA112P	GA2N12P	GA112B	GA2N12B
1350	GA113P	GA2N13P	GA113B	GA2N13B
1500	GA115P	GA2N15P	GA115B	GA2N15B
1650	GA116P	GA2N16P	GA116B	GA2N16B
1800	GA118P	GA2N18P	GA118B	GA2N18B

NOTE: Gothic window frames are available in all bespoke widths between 630mm and 915mm. All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass.

Window sizes shown are nominal and are approx 5mm less than the size shown to allow for building in. All illustrations above tables show exterior views.



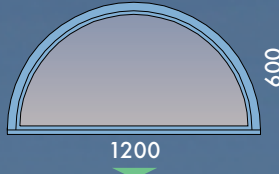
74 ARCHED WINDOWS



CODE
SEM1



CODE
SEM2N



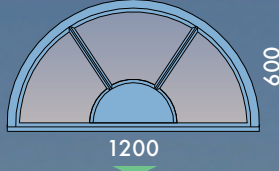
CODE
SEM2



CODE
SEM1B



CODE
SEM2NB



CODE
SEM2B

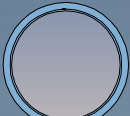
NOTE: Howarth's arched windows are true semi-circles as standard.

All arched windows come complete with a coupling sill (for on-site coupling to standard windows). Alternative sills are available at extra cost. Prices on application.

Arched windows are available in all bespoke sizes between 630mm and 1200mm.

All illustrations above tables show exterior views.

75 BULLSEYE WINDOWS



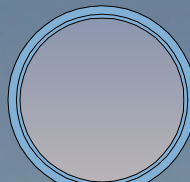
600mm diameter
without sash

CODE
E6



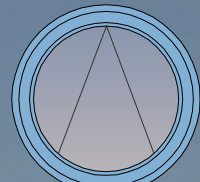
600mm diameter
with sash

CODE
E6P



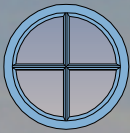
900mm diameter
without sash

CODE
E9



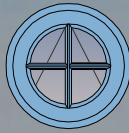
900mm diameter
with sash

CODE
E9P



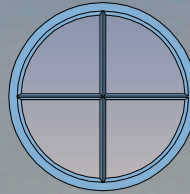
600mm diameter
without sash

CODE
E6B



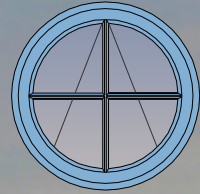
600mm diameter
with sash

CODE
E6BP



900mm diameter
without sash

CODE
E9B



900mm diameter
with sash

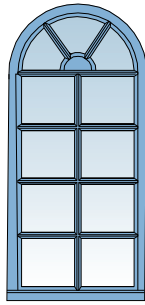
CODE
E9BP

NOTE: Alternative weather-seal may be supplied on certain circular and non-standard frames. Non-locking fasteners are supplied with opening sashes. Bullseye windows are available in all bespoke sizes between 600mm and 1200mm. All illustrations above tables show exterior views.

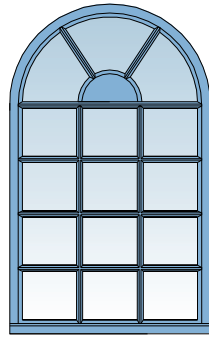
NOTE: Bullseye windows are only available with white furniture.

CHOOSE FROM GOTHIC, ARCHED AND BULLSEYE WINDOWS

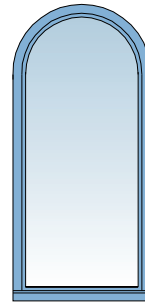
76 CHURCH WINDOWS



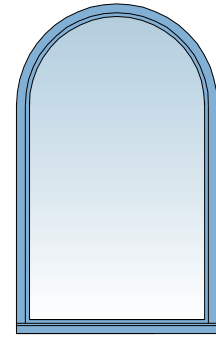
630
All Bar



915
All Bar



630
Plain



915
Plain

HEIGHT	CODE	CODE	CODE	CODE
1050	110CH	2N10CH	110P	2N10P
1200	112CH	2N12CH	112P	2N12P
1350	113CH	2N13CH	113P	2N13P
1500	115CH	2N15CH	115P	2N15P
1650	116CH	2N16CH	116P	2N16P
1800	118CH	2N18CH	118P	2N18P

NOTE: Church window frames are available in all bespoke widths between 630mm and 915mm. All illustrations above tables show exterior views.

77 FEATURE WINDOW OPTIONS

1. Night ventilators

Night ventilators are not available in the Feature window range. Alternative means of ventilation should be used.

2. Sills (Arched, Gothic, Church)

The standard sill width is 155mm to allow the frame to be set back into the cavity to meet Part L robust construction detail requirements. Other available sill width options are 69mm flush sills and 105mm stub sills (at no extra cost), or 181mm and 205mm extended sills (at extra cost).

3. Sills (Sliding Sash Arched Frame)

The standard sill width is 171mm to allow the frame to be set back into the cavity to meet Part L robust construction detail requirements. Other available sill width options are; 157mm flush, 205mm extended (at extra cost).

Larger sills have a tendency to cup, twist or split. These risks are greater on south facing elevations or if decorated with a dark top coat. Where a frame needs to be set back into the wall to avoid cold bridging, we recommend that a flush or a stub sill is used in conjunction with a stone or canted brick sill. Consequently, we do not guarantee extended sills.

4. Finishing options

Frames are available in any of our standard finishes shown on page 110. Frames are also generally available in standard RAL colours except black. For availability of other darker shades please contact the Sales Office on 01469 530577.

5. Repair kits for fully finished windows

Includes paint or stain, brush, sandpaper, tube of filler and instructions. Will cover 0.5m². (For repairs only).

6. Cavity closers in loose lengths are available

7. Shrink wrapping

Frames are wrapped as standard in a clear cling film which permits visual inspection of the frame upon delivery.

NOTE: All glazed frames now include low-E 24mm glazing. Frames 1500mm high or above, include low-E toughened glass.

Window sizes shown are nominal and are approx 5mm less than the size shown, to allow for building in.

8. Quotation prices

Quotation prices do not include VAT which will be charged at the rate applicable at the time of delivery. Prices quoted are subject to Howarth's Standard Terms and Conditions of Sale.

(See page 139 or contact our Sales Office on 01469 530577).

9. Deliveries

All ancillary purchases are subject to a post and packing charge. Orders of £1,000 or less will be subject to a delivery charge.



QUALITY, DURABILITY

HIGH PERFORMANCE DOOR SETS

IMPROVED CONSTRUCTION, SECURITY AND RANGE OF STYLES



CONTINENTAL STYLE, BRITISH WINTER PERFORMANCE



- Improved thermal performance.
- Quality laminated Redwood Nordic Pine construction.
- Hardwood sills for greater durability.
- Supplied fully finished in our extended range of paints and stains.
- Secured by Design locking system fitted as standard to all single and double door sets.
- Available in various design and size configurations.
- Manufactured from the finest PEFC accredited timber on request.

- Extended guarantees for long-lasting peace of mind.

- European Conformity.



- Incorporating Swisspacer ULTIMATE, the leading warm edge spacer fitted where appropriate.

SWISSPACER
SAINT-GOBAIN

THE HIGH PERFORMANCE DOOR SET RANGE WITH CONTINENTAL STYLING BUILT TO TAKE ON THE BRITISH WINTER



We have improved our extensive range of door sets with the introduction of a revolutionary range of laminated Redwood Nordic Pine panel and French Casement doors.

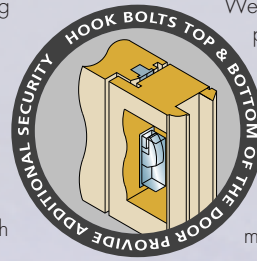


Designed to meet the rigorous standards of Document L and to provide improved performance and security, this range incorporates 58mm thick doors, The doors mirror the 24mm low-E drained and

ventilated glazing system and 6° sloped glazing platforms, as currently used on Howarth window ranges and, together with matching beads and glazing bars, can be used to form a complimentary suite.

The use of hook bolts top and bottom, deadlocking locks fitted centrally on both single and French door sets together with security hinges, afford a high level of security. Both single and double door sets achieved PAS24:2012 at an accredited UKAS testing house.

French doors also incorporate a concealed deadbolt top and bottom in the slave door.



Weatherproofing is essential to protect the home - keeping warmth in and rain out. All Howarth's High Performance Door Sets include full weather stripping around the doors and for French doors, a double strip between the meeting stiles.



THE HIGHEST STANDARDS OF CONSTRUCTION, FEATURES AND FINISHING OPTIONS



SECURED BY DESIGN

For extra security and peace of mind, single and double door sets in the High Performance range are fitted with Secured by Design (S.B.D.) locking systems as standard.



NOTE: If glass is required in the door design, only door sets fitted with laminated glazing will be sold as meeting Secured by Design standards. For further details on how to ensure compliance with S.B.D. please contact our Sales Office on 01469 530577.



(Above) Handles are available in a range of colours and Polished Chrome effect and Polished Brass effect finishes. See page 116 for further details.



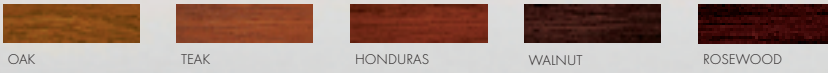
For **Glazing Options** meeting and exceeding current Document L requirements, see page 130 for further details.

Choose from a range of **Ironmongery Options** from Letter Plates, Knockers to Security Chains, see page 116 for further details.

Insulated Timber Panels meet Document L requirements for thermal efficiency.

For **Threshold and Mobility** options, see page 86 for further details.

Standard **Stain Finishes**



Standard **Paint Finishes**



NOTE: All Howarth paint/stain finishes are silk and not high gloss.

FINISHING OPTIONS

Choose from a range of paint and stain finishes with built-in high performance, endurance and quality, see page 110 for further details.

NOTE: Frames are generally available in standard RAL colours except black. For availability of other darker shades please contact our Sales Office on 01469 530577.



Materials, Construction and Workmanship requirements, see page 136 for further details.

For a choice of **Timber Door Styles**, see page 90 for further details.

Timber. All timber used is laminated Redwood Nordic Pine from well managed yield sources, see page 6 for further details.



Hardwood Sill. For increased durability.

NOTE: HARDWOOD DOOR SILL SHOULD NOT BE PAINTED OR STAINED.

Both vertical glazing beads and vertical external plant-on bars have an anti-capillary gap reducing the likelihood of degradation to both timber and paint finish. See page 136 for further details.

GUARANTEES

As a result of the improved stability of laminated timber construction we are able to provide guarantees for ten years on our paint finish and six years on our stain finish.

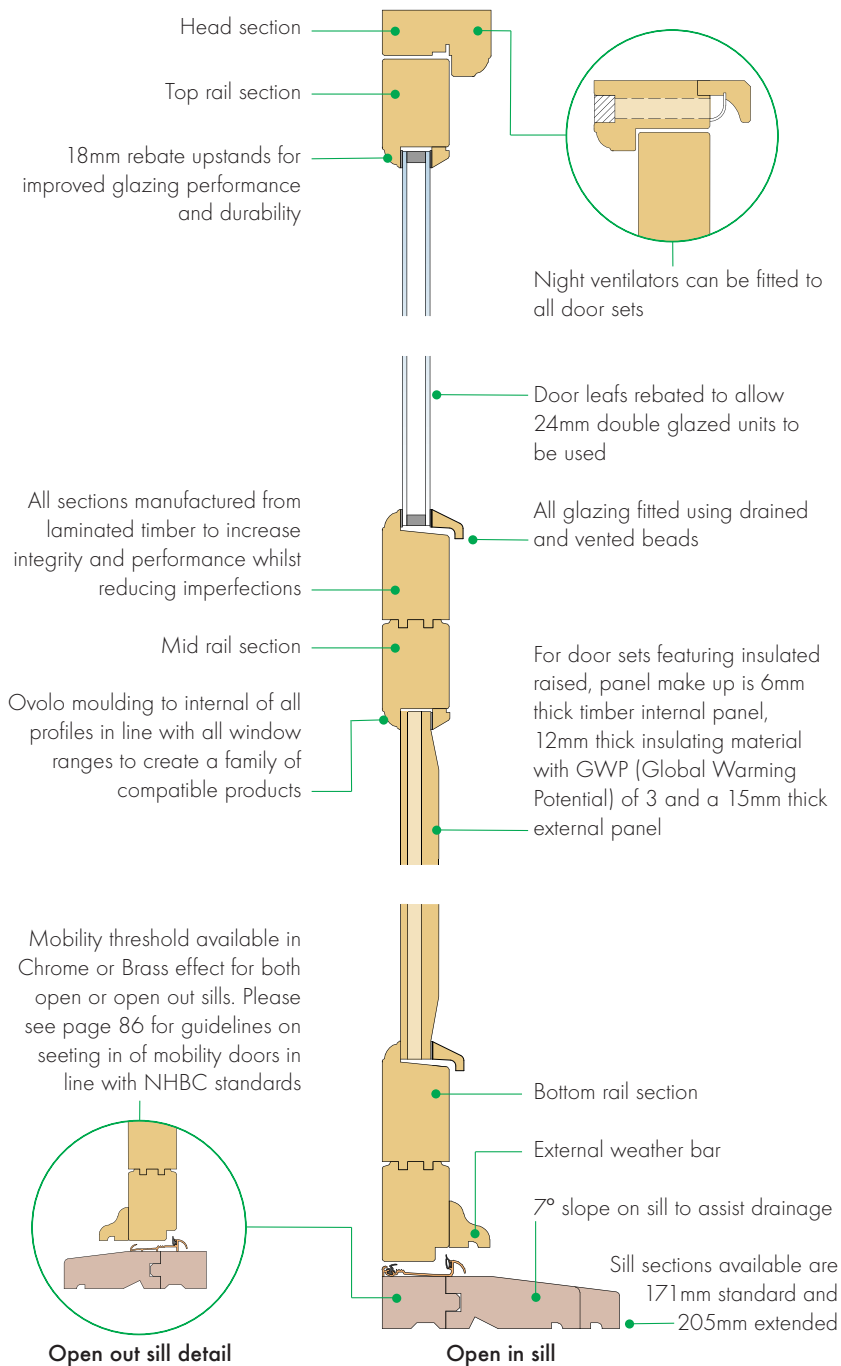


NOTE: All guarantees given in this catalogue are subject to limitations and are strictly dependent upon compliance with manufacturers' usage and maintenance instructions. These are available upon request.

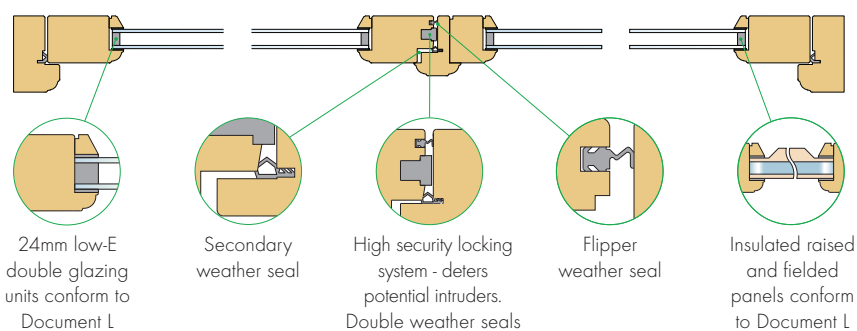
The Howarth High Performance Door Set range is manufactured and inspected to BS644:2012 under the strict guidelines set out by the British Woodworking Federation's Timber Window Accreditation Scheme, which is now inspected under the BSI Kitemark Scheme, ensuring that clients receive the best quality products and the highest levels of performance.



CROSS SECTION THROUGH THE VERTICAL



CROSS SECTION THROUGH THE HORIZONTAL

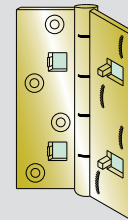


DOOR SET SECURITY

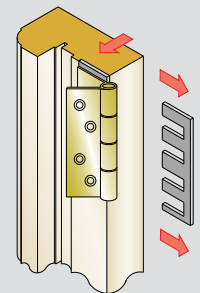
For extra security and peace of mind, the High Performance range of single and double door sets are fitted with Secured by Design (S.B.D.) locking system as standard.



NOTE: If glass is required in the door design, only door sets fitted with laminated glazing will be sold as meeting Secured by Design standards. For further details on how to ensure compliance with S.B.D. please contact our Sales Office on 01469 530577.



Security hinges stop potential intruders from lifting the hinge to gain access.



Hinge packers allow the hinges to be moved in or out from the jamb to allow for swelling or shrinkage.

To help deal with the problems associated with moisture movement, we have adjusted the tolerances and changed to the hook lock, which is much more tolerant of small movements in timber. It also incorporates hinge packers, which can be removed by loosening the screws, providing a tolerance at the closing edge, and adding extra tolerance to the meeting stiles. (The packers can be replaced if shrinkage does occur).

The best way to avoid excess movement in timber doors is to follow the guidelines in the British Woodworking Federation's Guide No.11 'Care of Timber Doors On-Site' (available from the Sales Office on 01469 530577).

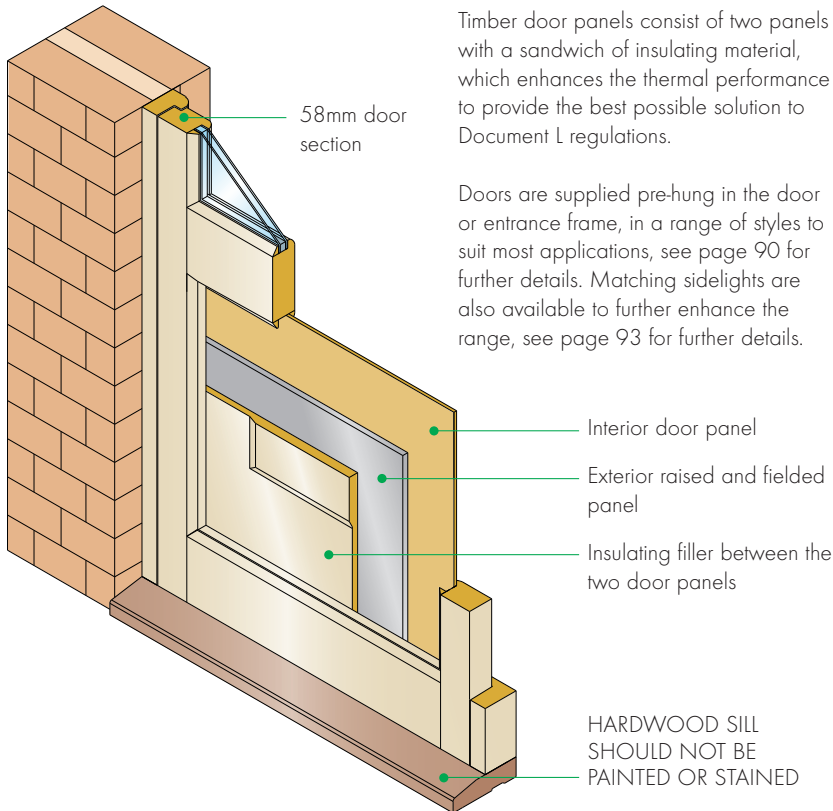
CE MARKING



EUROPEAN CONFORMITY

For further details of CE (European Conformity) Marking please refer to page 134.

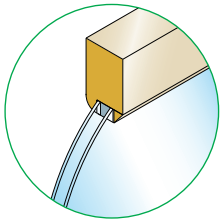
STRUCTURAL AND INTERNAL FEATURES OF THE HIGH PERFORMANCE DOOR SET



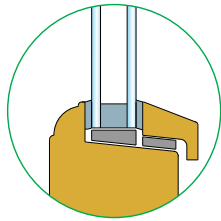
Timber door panels consist of two panels with a sandwich of insulating material, which enhances the thermal performance to provide the best possible solution to Document L regulations.

Doors are supplied pre-hung in the door or entrance frame, in a range of styles to suit most applications, see page 90 for further details. Matching sidelights are also available to further enhance the range, see page 93 for further details.

GLAZING SYSTEM DETAIL



24mm low-E double glazed units now fitted as standard, help to meet Document L regulations.

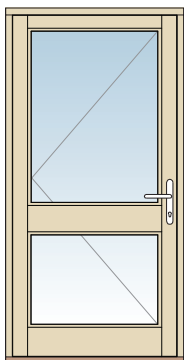


Drained and vented glazing system helps prolong the life of the sealed unit enabling us to offer a 10-year guarantee on the glazing unit.

CALCULATED BENCHMARK U-VALUES (W/m²K)

Door set U-values with 24mm (4mm-16mm-4mm) low-E

Benchmark A



1.6 W/m²K
1.4 W/m²K

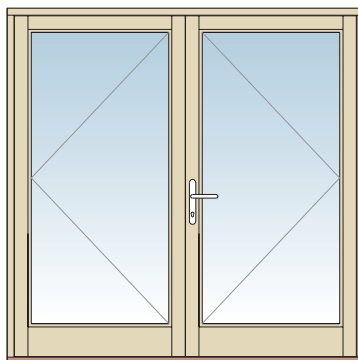
Benchmark A
1230mm wide x
2180mm high

Benchmark B
2000mm wide x
2180mm high

Argon-filled low-E
Benchmark 1.6 W/m²K

Warm edge spacer
Benchmark 1.4 W/m²K

Benchmark B



1.5 W/m²K
1.4 W/m²K

PRODUCT RANGE

Page

78	SECURITHERM™ HIGH PERFORMANCE MOBILITY DOOR SETS	86
79	SECURITHERM™ HIGH PERFORMANCE SINGLE DOOR SETS	88
80	SECURITHERM™ HIGH PERFORMANCE SINGLE DOOR SETS WITH SIDELIGHTS	88
81	SECURITHERM™ HIGH PERFORMANCE DOUBLE DOOR SETS	89
82	SECURITHERM™ HIGH PERFORMANCE DOUBLE DOOR SETS WITH SIDELIGHTS	89
83	TIMBER DOORS	90
84	FRENCH DOORS	92
85	TIMBER SIDELIGHTS	93
86	DOOR SET OPTIONS	94



SECURITHERM™ HIGH PERFORMANCE DOOR SETS

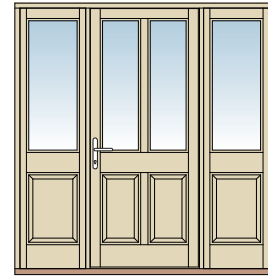
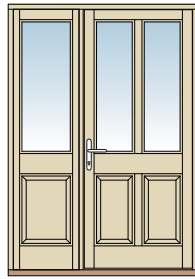


Securitherm High Performance Door Sets offer a high quality, durable option. Security is paramount with all door sets engineered to meet Secured by Design as standard.

Securitherm High Performance Mobility Door Sets also comply with The Building Regulations 2004 Part M; Access and Facilities for Disabled People (Amended 2010 & 2013) which state that all new dwellings should have at least one accessible entrance for disabled people.

- Compliance with Part M requirements where required.
- Compliance with PAS24:2012 as standard.
- Mobility thresholds can be used for both inward and outward opening doors (please state which is required when ordering).
- Heavy duty, long life construction.

78 SECURITHERM™ HIGH PERFORMANCE MOBILITY DOOR SETS



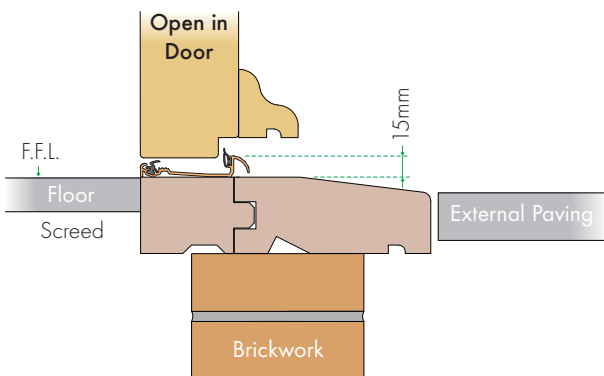
WIDTH	IMPERIAL	METRIC	IMPERIAL	METRIC	IMPERIAL
950	FNS21MB				
1002	FNS30MB				
1272		FE127MB			
1347		FE135MB			
1378			FE1321MB		
1422		FE142MB			
1494		FE150MB			
1528			FE1521MB		
1650		FE165MB		FED165MB	
1800		FE180MB		FED180MB	
1831			FE1821MB		FED1821MB
1950				FED195MB	
2100				FED210MB	

NOTE: All illustrations above tables show exterior views.

SETTING IN MOBILITY DOOR SETS

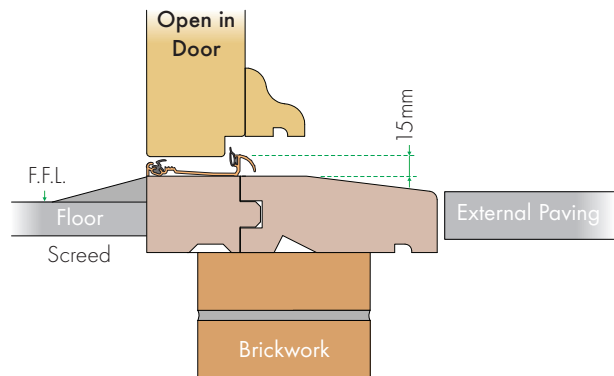
Option 1

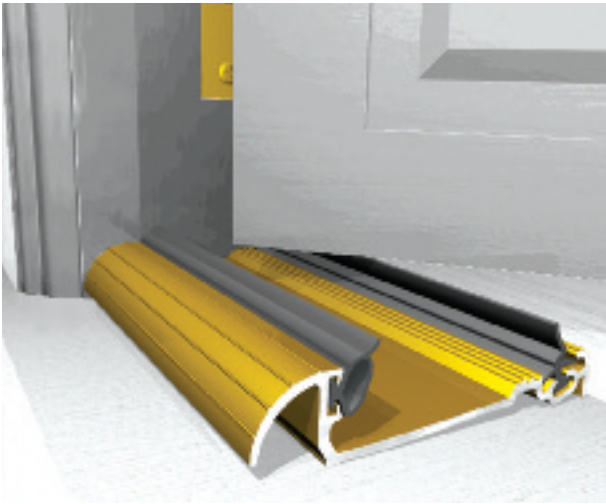
Surface of finished internal flooring level with top of sill section. Aluminium threshold provides maximum 15mm upstand.



Option 2

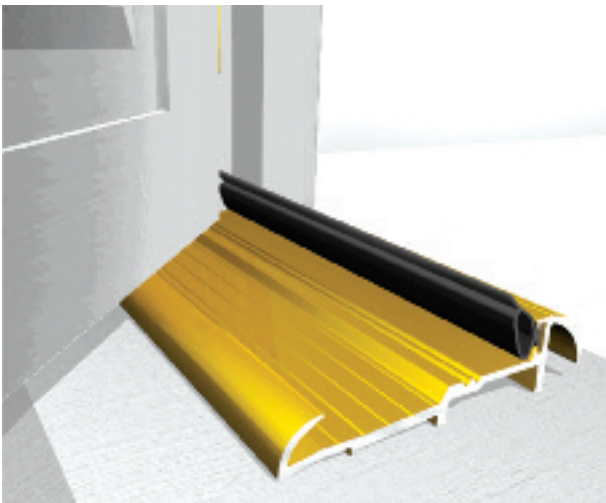
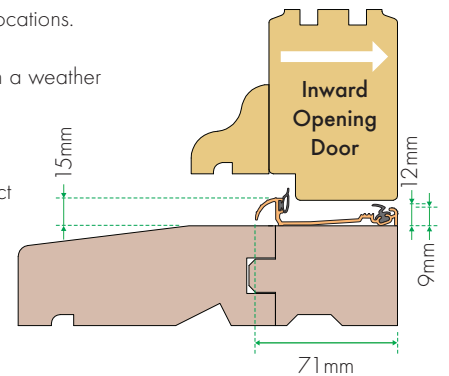
Surface of finished internal flooring below top of sill section so internal transition ramp at maximum 15° slope provided by contractor. Aluminium threshold provides maximum 15mm upstand.





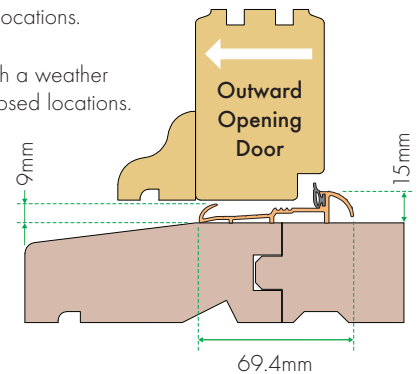
OPEN IN THRESHOLD

- Designed for 58mm thick doors.
- Ideal for single and double doors.
- Suitable for exposed locations.
- Use in conjunction with a weather deflector for very exposed locations.
- Available in Brass effect or Chrome effect finish.



OPEN OUT THRESHOLD

- Designed for 58mm thick doors.
- Ideal for single and double doors.
- Suitable for exposed locations.
- Use in conjunction with a weather deflector for very exposed locations.
- Available in Brass effect or Chrome effect finish.



NOTE: Door/Entrance Frames are delivered to site with threshold supplied loose, for on-site fixing. Actual threshold may differ from one shown. Door Frame sizes shown are nominal and are approx 5mm less than the size shown to allow for building in.

NOTE: Frames with Side Screen remain the same overall width regardless of door size. Door opening width is adjusted to suit.

NOTE: In order to comply with Document L, insulated, raised and fielded panels are available in doors, sidelights and entrance frames.

NOTE: Howarth's Mobility entrance door sets are designed to take a 2'10" door from Howarth's own range of High Performance timber doors which are 58mm thick.

Our timber doors will not meet the required opening if smaller than 2'10" wide.

We will automatically quote for 2'10" width if timber Mobility door sets are requested, unless otherwise stated.

NOTE: Mobility door sets must be fitted with 3'00" door to meet Lifetime Homes specification.



All Mobility frames are 2093mm high.

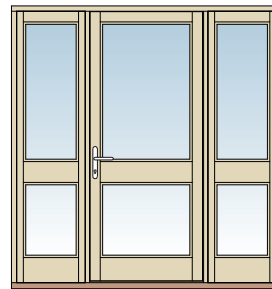
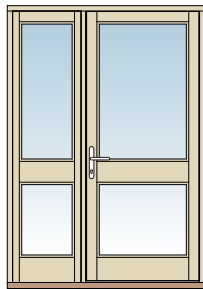
NOTE: Mobility Thresholds are available individually - please contact the Sales Office on 01469 530577.

79 SECURITHERM™ HIGH PERFORMANCE SINGLE DOOR SETS



WIDTH	METRIC	IMPERIAL	METRIC	IMPERIAL	METRIC	IMPERIAL
850		FE26		FNS26		FNX26
894	FN90		FNS90		FNX90	
900		FE28		FNS28		FNX28
925		FE29		FNS29		FNX29
950		FE21		FNS21		FNX21
1002		FE30		FNS30		FNX30

80 SECURITHERM™ HIGH PERFORMANCE SINGLE DOOR SETS WITH SIDELIGHTS



WIDTH	METRIC	IMPERIAL	METRIC	IMPERIAL
1194	FE120			
1228		FE1229		
1272	FE127			
1347	FE135			
1378		FE1329		
1422	FE142			
1494	FE150		FED150	
1528		FE1529		FED1529
1650	FE165		FED165	
1800	FE180		FED180	
1831		FE1829		FED1829
1950			FED195	
2100			FED210	

NOTE:

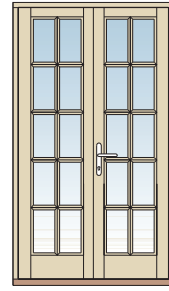
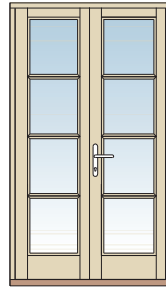
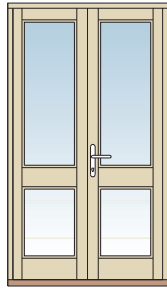
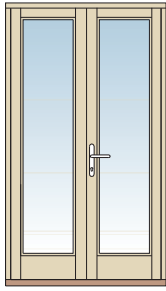
Please specify if OPEN IN or OPEN OUT is required.

Door and sidelight rebates accept 24mm (4-16-4) sealed units only.

In order to comply with Document L, insulated, raised and fielded panels are available in doors, sidelights and entrance frames.

NOTE: Door Frame sizes shown are nominal and are approx 5mm less than the size shown to allow for building in. All illustrations above tables show exterior views.

81 SECURITHERM™ HIGH PERFORMANCE DOUBLE DOOR SETS



	CODE	CODE	CODE	CODE
	20 (handed)	2XGG (handed)	70 (handed)	GTP (handed)

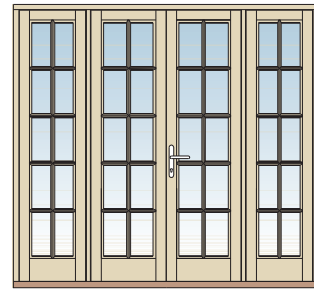
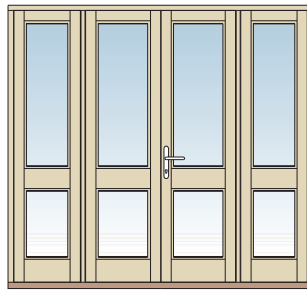
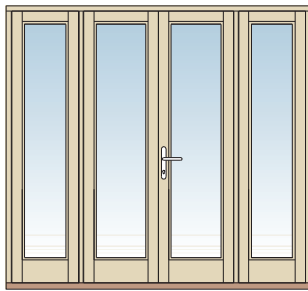
Open Out Door Sets

WIDTH	DOOR SIZE	CODE
1194 M	1106 x 2000 x 58mm	FCP120
1494 M	1409 x 2000 x 58mm	FCP150
1255 M	3' 10" x 6' 6" x 2 1/4"	FC310

Open In Door Sets

WIDTH	DOOR SIZE	CODE
1194 M	1106 x 2000 x 58mm	FNS120
1494 M	1409 x 2000 x 58mm	FNS150
1255 M	3' 10" x 6' 6" x 2 1/4"	FNS310

82 SECURITHERM™ HIGH PERFORMANCE DOOR SETS WITH SIDELIGHTS



	CODE	CODE	CODE
	PATTERN 20 (handed)	PATTERN 2XGG (handed)	PATTERN GTP (handed)

Open Out Door Sets

WIDTH	DOOR SIZE	CODE
1800	1106 x 2000 x 58mm	FCP180
1950	1106 x 2000 x 58mm	FCP195
2100	1106 x 2000 x 58mm	FCP210
2250	1106 x 2000 x 58mm	FCP225
2400	1106 x 2000 x 58mm	FCP240

Open In Door Sets

WIDTH	DOOR SIZE	CODE
1800	1106 x 2000 x 58mm	FNS180
1950	1106 x 2000 x 58mm	FNS195
2100	1106 x 2000 x 58mm	FNS210
2250	1106 x 2000 x 58mm	FNS225
2400	1106 x 2000 x 58mm	FNS240

CHOICE OF DOOR STYLES

At Howarth we pride ourselves on offering a comprehensive range of styles to choose from, to make matching any existing property style so much easier. For French door styles refer to page 92 and for matching sidelights refer to page 93.

NOTE: Door and sidelight rebates accept 24mm (4-16-4) sealed units only. All Howarth door sets are 2093mm high.

NOTE: In order to comply with Document L, insulated, raised and fielded panels are available in doors, sidelights and entrance frames.

NOTE: Door Frame sizes shown are nominal and are approx 5mm less than the size shown to allow for building in. All illustrations above tables show exterior views.

83 TIMBER DOORS

These doors are traditional in style and appeal, but technically up-to-the-minute, with specifications to meet the most demanding requirements of Part L. Howarth timber door sets incorporate 58mm thick doors, are fitted with 24mm low-E sealed units with drained and ventilated glazing beads and plant-on bars. Our timber doors are manufactured to meet the exacting

standards of Secured by Design (S.B.D.) thanks to the introduction of multipoint locking mechanisms, 'dog bolt' security hinges and the integral strength of timber. (Other restrictions apply - see S.B.D. section on page 124)

Timber doors are no longer synonymous with high maintenance. All our timber

doors can be fully finished to the highest specification at our factory, offering a ten year decorative guarantee on painted Endurance frames (six years on Endurance stained frames), and a ten year guarantee on glazing units.

TIMBER FULL HEIGHT GLAZED DOORS



CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE
2XGG	PATTERN 10	WETHERBY	PATTERN GTP	BEVERLEY	PATTERN SA	PATTERN 50	

TIMBER ONE PANEL DOORS



CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE
2XG (1P)	MALTON (1P)	MALTON HB (1P)	NEWBALD (1P)	BEVERLEY (1P)	RIPON (1P)	THIRSK (1P)	

TIMBER TWO PANEL DOORS



CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE
2XG (2P)	MALTON (2P)	MALTON HB (2P)	NEWBALD (2P)	BEVERLEY (2P)	RIPON (2P)	THIRSK (2P)	

NOTE: All fully finished door and entrance frames must be fitted using cleat fixing (see installation manual). All the above frames can be supplied in imperial sizes - prices on application. Door Frame sizes shown are nominal and are approx 5mm less than the size shown to allow for building in. All illustrations above tables show exterior views.

TIMBER DOORS (CONTINUED)

(Near right) Photograph courtesy of Strongvox Ltd, Staplegrove Road, Taunton, Somerset.

(Far right) Waterstones Homes Ltd, Church Road, Pentyrch, Cardiff, Wales.



TIMBER THREE PANEL DOORS



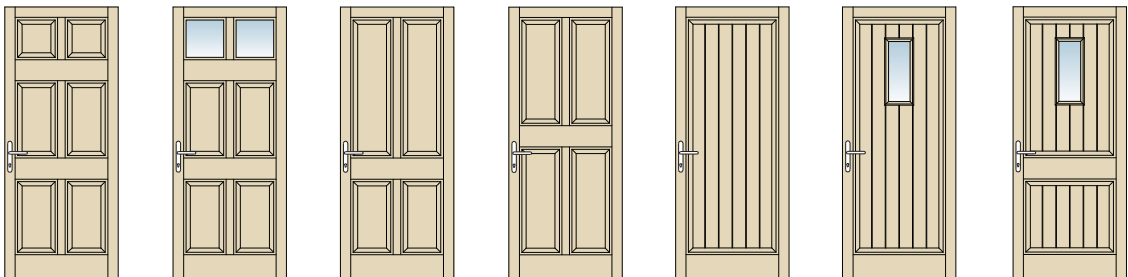
CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE
2XG (3P)	MALTON (3P)	MALTON HP (3P)	NEWBALD (3P)	BEVERLEY (3P)	RIPON (3P)	THIRSK (3P)	

TIMBER SHORT PANEL DOORS



CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE
2XG (SP)	MALTON (SP)	MALTON HB (SP)	NEWBALD (SP)	BEVERLEY (SP)	RIPON (SP)	THIRSK (SP)	

TIMBER FULL HEIGHT PANEL DOORS



CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE
COLONIAL	COLONIAL TOP LIGHT	MALTON (4P)	MALHAM	PATTERN 10 RFV	COTTAGE	COTTAGE MIDRAIL	

NOTE: All fully finished door and entrance frames must be fitted using cleat fixing (see installation manual). All the above frames can be supplied in imperial sizes - prices on application. Door Frame sizes shown are nominal and are approx 5mm less than the size shown to allow for building in. All illustrations above tables show exterior views.

84 FRENCH DOORS

Howarth French doors are designed to complement our Timber door range and incorporate the same styling and design. Manufactured using the same methods as our Timber doors, our French doors are designed to comply with Part L.

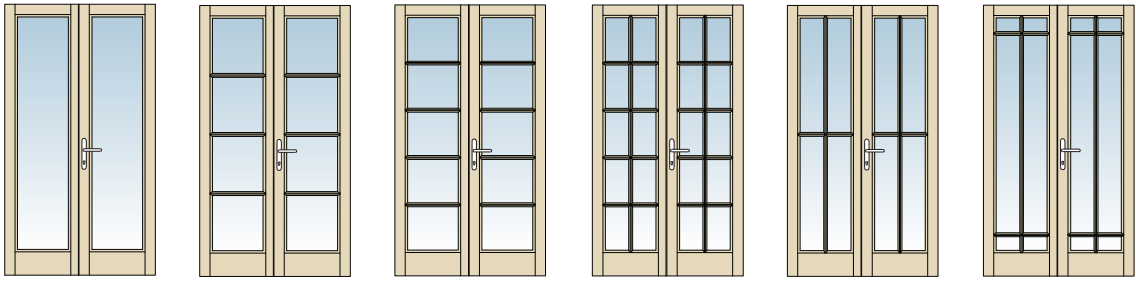
Howarth French doors offer an extended range of finishes (shown on page 110).

Improved manufacturing methods also allow us to offer extended guarantees of ten years on the paint finish and six years on the stain finish.

(Right) Photograph courtesy of Strongvox Ltd, Staplegrove Road, Taunton, Somerset.



TIMBER FULL HEIGHT GLAZED FRENCH DOORS



CODE	CODE	CODE	CODE	CODE	CODE
PATTERN 20 PR	PATTERN 70 PR	WEATHERBY PR	PATTERN GTP PR	COTTAGE PR	BEVERLEY PR

TIMBER FRENCH DOORS with RAISED and FIELDDED PANELS



CODE	CODE	CODE	CODE	CODE	CODE
2XGG PR	2XG (1P) PR	PATTERN 70 (1P) PR	THIRSK (1P) PR	NEWBALD (1P) PR	BEVERLEY (1P) PR

TIMBER FRENCH DOORS with SHORT RAISED and FIELDDED PANELS



CODE	CODE	CODE	CODE	CODE	CODE
2XGG (SP) PR	2XG (SP) PR	PATTERN 70 (SP) PR	THIRSK (SP) PR	NEWBALD (SP) PR	BEVERLEY (SP) PR

NOTE: All fully finished door and entrance frames must be fitted using cleat fixing (see installation manual). All the above frames can be supplied in imperial sizes - prices on application. Door Frame sizes shown are nominal and are approx 5mm less than the size shown to allow for building in. All illustrations above tables show exterior views.

85 TIMBER SIDELIGHTS

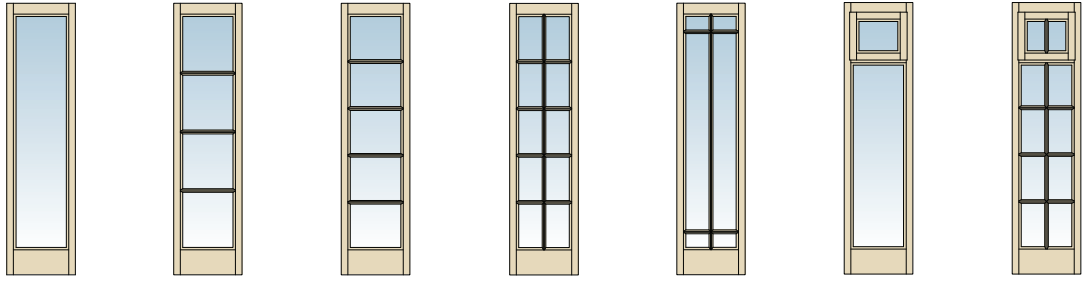
To complement our range of Timber doors and French doors, Howarth also manufactures a range of suited timber sidelights. Manufactured using the same techniques implemented in our Timber doors, these sidelights are designed to comply with Part L.

Howarth sidelights offer the same wide range of finish colours as our Timber doors (shown on page 90) and French doors (shown opposite page) as well as extended guarantees.

(Right) Photograph courtesy of Ian and Karen Taylor, Hessle, East Yorkshire, self build project

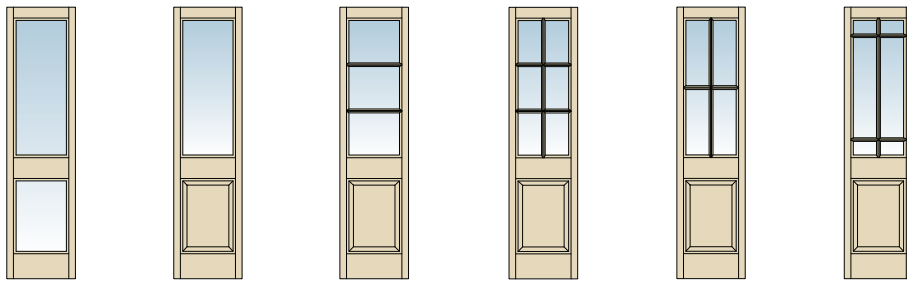


TIMBER FULL HEIGHT TIMBER SIDELIGHTS



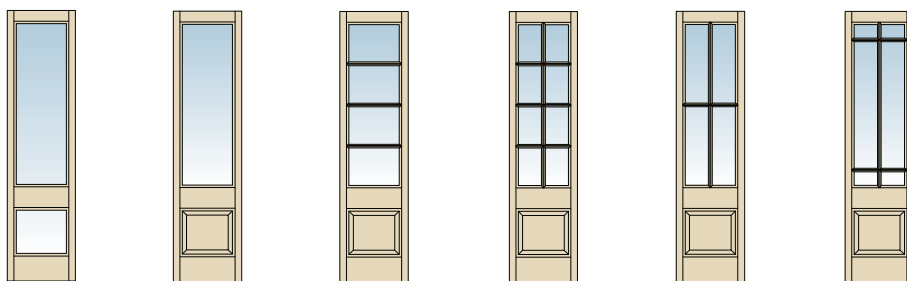
CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE
PATTERN 20 SL	PATTERN 70 SL	WEATHERBY SL	PATTERN GTP SL	BEVERLEY SL	PATTERN 20 FP SL	PATTERN GTP FP SL	

TIMBER SIDELIGHTS with RAISED and FIELDLED PANELS



CODE	CODE	CODE	CODE	CODE	CODE
2XGG (1P) SL	2XG (1P) SL	PATTERN 70 (1P) SL	THIRSK (1P) SL	NEWBALD (1P) SL	BEVERLEY (1P) SL

TIMBER SIDELIGHTS with SHORT RAISED and FIELDLED PANELS



CODE	CODE	CODE	CODE	CODE	CODE
2XGG (SP) SL	2XG (SP) SL	PATTERN 70 (SP) SL	THIRSK (SP) SL	NEWBALD (SP) SL	BEVERLEY (SP) SL

NOTE: All illustrations above tables show exterior views.

1. Night Ventilators

Door frames, entrance frames and door sets do not have night ventilation fitted as standard. Please specify if door frames, entrance frames or door sets require ventilation.

2. Sills

The standard sill width is 171mm to allow the frame to be set back into the cavity to meet Part L Robust Construction Detail requirements. Other sill width options are 205mm extended sills (available at extra cost).

Howarth does not recommend extended door or entrance frame sills, as the extended width of the timber may make it unstable or liable to split. Therefore we do not guarantee extended sills.

NOTE: *All sills for Howarth door sets are manufactured from Keruing and are designed to be left in a natural condition and should not be decorated as Keruing is not suitable for painting or varnishing.*

3. Finishing options

Frames are available with the Endurance fully finished option, see page 110.

NOTE: Frames are generally available in standard RAL colours except black. For availability of other darker shades, please contact the Sales Office on 01469 530577.

4. Combination Door and Window Frames are available

5. Cavity Closers

Available from 75mm up to 150mm in width and are supplied in loose lengths. Brick ties are also available.

6. Door furniture and locking mechanisms

A range of furniture options is available, please see page 116. To give a high standard of intruder resistance, the fitting tolerances between the mushroom bolts and the keeps are tight. Movement of the door leaves during transport and installation or as a consequence of natural timber movement, may require adjustment of the mushroom bolts. The mushroom bolts have cam adjustment to allow for purchaser on-site compensations.

7. Repair Kits for Fully Finished Doors

Includes paint or stain, brush, sandpaper, tube of filler and instructions. Will cover 0.5m². (For repairs only)

8. Opening Restrictor

Opening restrictors are available to prevent doors from opening too far. These are particularly useful in areas of high exposure where doors may otherwise be caught in high winds and damaged.

9. Secured by Design

Securitherm high performance door sets are supplied to achieve PAS24:2012 Secured by Design requirements and are audited to ensure continuing compliance as part of our BSI Kitemark Scheme. Some sizes may exceed tested dimensions. For full details on which door sets meet S.B.D, please contact our Sales Office on 01469 530577.

10. Cambered Heads

Produced from 25mm thick, non-laminated Redwood, cambered heads are available on request and will be supplied one per frame unless otherwise stated.

11. Perimeter Pinch Battens

For installing frames into timber frame buildings. These will be made from 46mm x 46mm non-laminated Redwood and will be fitted to the head and jambs of the frame unless otherwise stated.

12. Protective Wrapping

Frames are wrapped as standard in a clear cling film which permits visual inspection of the frame upon delivery.

13. Exitex Mobility Threshold

These are supplied as standard for single and double leaf door sets and are supplied taped to door jamb for site fixing.

14. Quotation prices

Quotation prices do not include VAT which will be charged at the rate applicable at the time of delivery. Prices quoted are subject Howarth's Standard Terms and Conditions of Sale.

(See page 139 or contact our Sales Office on 01469 530577).

15. Deliveries

All ancillary purchases are subject to a post and packing charge. Orders of £1,000 or less will be subject to a delivery charge.



(Above) Photograph courtesy of Ian and Karen Taylor, Hessle, East Yorkshire, self build project.

QUALITY AND SECURITY

NEW DESIGN MAXVIEW SLIDING FOLDING DOORS

IMPROVED CONSTRUCTION, DURABILITY
AND FINISHING



MAXVIEW FULLY FINISHED SLIDING FOLDING DOORS



- Quality laminated Redwood Nordic Pine construction.
- Hardwood sills for greater durability.
- Supplied fully finished in our extended range of paints and stains.
- High security locking system.
- Available in various design and size options.
- Manufactured from the finest PEFC - accredited timber.
- Extensive guarantees for long-lasting peace of mind.

- European Conformity.
- **NEW** Secured by Design locking system option now available.
- Incorporating Swisspacer ULTIMATE, the leading warm edge spacer fitted where appropriate.

CE



SWISSPACER
SAINT-GOBAIN

NEW DESIGN MAXVIEW SLIDING FOLDING DOORS

 **HOWARTH**
WINDOWS & DOORS

95

INSTALLING **MAXVIEW** SLIDING FOLDING DOORS OPENS UP THE LIVING AREA TO THE OUTDOOR SPACE



MAXVIEW is a high quality range of fully finished sliding folding doors to complement any situation. Supplied fully factory-finished in paint or stain and complete with locks, handles and all other fittings in place - saving both time and money compared with traditional site-finished products.

OUR COMMITMENT TO THE ENVIRONMENT

Howarth Windows & Doors is part of the Howarth Timber Group which has been established for more than 170 years. The company has built a reputation for providing quality products and high service levels gained from years of industry experience.

Howarth is committed to worldwide environmental policies and is a founder member of the Forests Forever Campaign, encouraging the use of sustainable resources.

WE USE ONLY THE FINEST TIMBER

The Howarth **MAXVIEW** Sliding Folding Door range is manufactured by skilled and experienced craftsmen using the very latest machining technology, ensuring quality of surface finish and accuracy of assembly. We select only the very best laminated Redwood Nordic Pine in accordance with PEFC (Programme for the Endorsement of Forests Certification) accreditation standards. These standards are internationally recognised and confirms

that the timber originates from well-managed, sustainable sources.



FOR SECURITY AND RELIABILITY

All **MAXIVIEW** Sliding Folding Door frames are manufactured from laminated Redwood Nordic Pine timber sections. Doors utilise laminated Redwood Nordic Pine sections and sills are Keruing, one of the most durable hardwoods and ideal for this application.



The end result is a fully weather resistant, structurally stable product that will last for years.

To help keep heating costs to a minimum and to comply with the latest Building Regulations the **MAXIVIEW** Sliding Folding Door range incorporates a 24mm double glazed unit complete with a 10-year manufacturer's guarantee* as standard. The 24mm argon filled units boast a U-Value range from 1.6 W/m²K using Low E units with standard spacers to as low as 1.3 W/m²K using high spec Low E units with warm edge spacers.

To provide a high security locking system, all **MAXIVIEW** Sliding Folding Doors utilise a multi-point locking system on the main door unit, with sturdy slave locks on the

remaining units - complete with a 5-year manufacturer's guarantee.

All **MAXIVIEW** Sliding Folding Doors utilise a master door for ease of access.

A wide range of glazing options is available, including 19mm or 28mm plant-on bars in various designs, diamond or square lead. Please refer to page 112 for further details.

Please contact our Sales Office for further details on 01469 530577.



FOR QUALITY AND HIGH PERFORMANCE

The Howarth **MAXIVIEW** Sliding Folding Doors are manufactured and inspected to BS644:2012 under the strict guidelines set out by the British Woodworking Federation's Timber Window Accreditation Scheme, which is now inspected under the BSI Kitemark Scheme, ensuring that clients receive the best quality products and the highest levels of performance.



DEDICATED SUPPORT

Howarth Windows & Doors provides comprehensive support throughout every stage, from quotation to delivery.

Please contact our Sales Office for further details on 01469 530577.

NOTE: *Guarantees are subject to limitations and are strictly dependent upon compliance with manufacturers' usage and maintenance instructions, available upon request.



(Images this page and opposite) Photographs courtesy of Linden Homes, Saint Nicholasgate, Beverley, East Yorkshire.

CUSTOMISATION OPTIONS

THE ONLY LIMIT IS IMAGINATION

Available in a wide selection of designs, colours, finishes and sizes there is a Sliding Folding Door to bring out the best in any situation.

Various ironmongery options are offered including Silver effect, Gold effect, White, Black, Satin effect, Polished Chrome effect and Polished Brass effect. Supplied as standard with a choice of ten attractive paint finishes or one of five contemporary stain finishes, the range can also be specified from the RAL colour range**. All RAL finishes are guaranteed for ten years*, stain finishes for six years*. All MAXIVIEW sliding folding doors have a 30-year* guarantee against fungal and insect attack.

With such a wide choice of sill details, door sizes and design options it is possible to specify a door to meet the user's exact requirements.



SAVING TIME AND MONEY

The MAXIVIEW Sliding Folding Door range is a fully-factory finished product.

Supplied securely packed with pre-fitted glazing, locks, handles, and fittings and either painted or stained, installation time is kept to an absolute minimum.



DOOR FURNITURE RANGE

Ironmongery options are available from Howarth. Standard Door Handles are available in the following standard colours: White, Black, Polished Brass effect, Polished Chrome effect and Satin Chrome effect. Please refer to page 116 for further details.



FINISHING OPTIONS

Choose from a range of factory applied standard paint and stain finishes with built-in high performance, endurance and quality, see page 110 for further details.

NOTE: Frames are generally available in standard RAL colours except black. For availability of other darker shades please contact our Sales Office on 01469 530577.



NOTE: All Howarth paint/stain finishes are silk and not high gloss.

Standard Stain Finishes	Standard Paint Finishes	
OAK	COPPER BROWN	PALE GREEN
TEAK	PURE WHITE	PEBBLE GREY
HONDURAS	GARDENIA	DUSTY GREY
WALNUT	COUNTRY CREAM	SLATE GREY
ROSEWOOD	BUTTERMILK	PASTEL BLUE

GUARANTEES

As a result of the improved stability of laminated timber construction mentioned above we are able to provide guarantees for 10 years on our paint finish and 6 years on our stain finish.



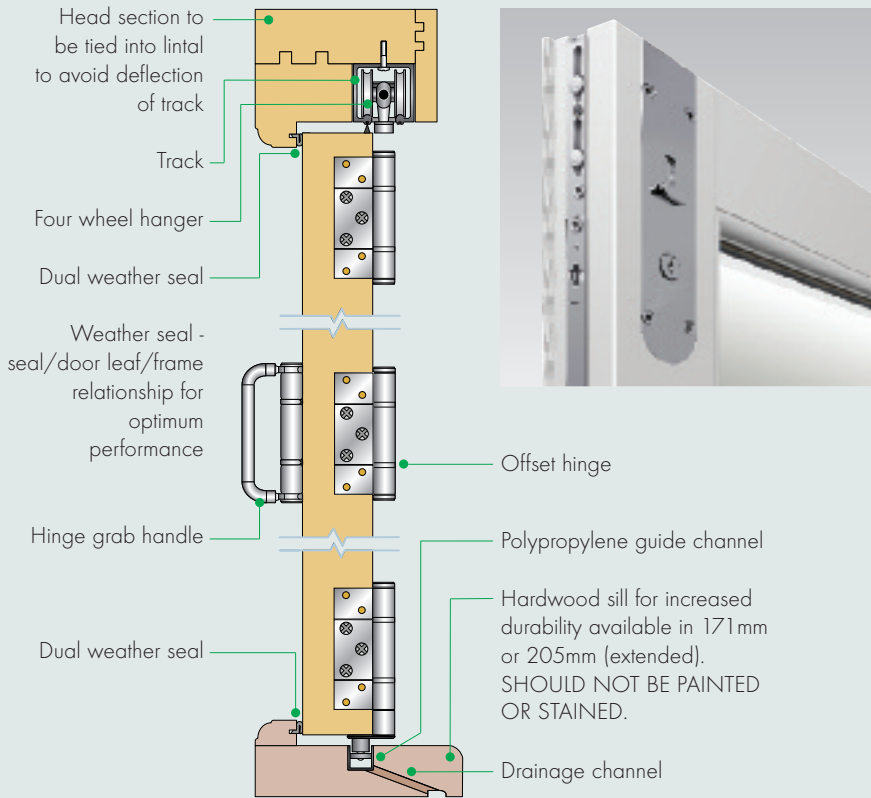
NOTE: All guarantees given in this catalogue are subject to limitations and are strictly dependent upon compliance with manufacturers' usage and maintenance instructions. These are available upon request.

CE MARKING EUROPEAN CONFORMITY

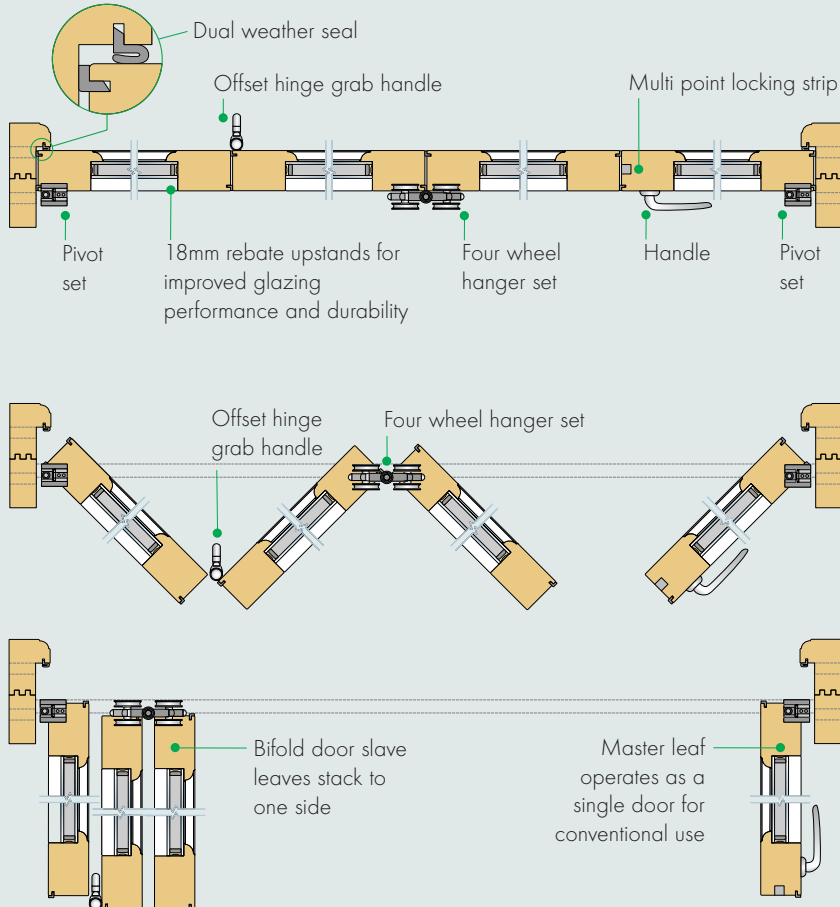


For further details of CE (European Conformity) Marking please refer to page 134.

CROSS SECTION THROUGH VERTICAL



CROSS SECTION THROUGH HORIZONTAL



SECURED BY DESIGN



For extra security and peace of mind, the **MAXIVIEW** Sliding Folding Door range can be manufactured to the demanding standards of Secured by Design dependent on size and configuration. For further details please contact our Sales Office on 01469 530577.



PRODUCT RANGE

Product ID	Product Name	Page
87	MAXIVIEW FULL HEIGHT TIMBER DOORS	100
88	MAXIVIEW SLIDING FOLDING 3-DOOR CONFIGURATION	101
89	MAXIVIEW SLIDING FOLDING 4-DOOR CONFIGURATION	101
90	MAXIVIEW SLIDING FOLDING 5-DOOR CONFIGURATION	101
91	MAXIVIEW SLIDING FOLDING 6-DOOR CONFIGURATION	101
92	MAXIVIEW SLIDING FOLDING DOOR OPTIONS	102

CHOOSE FROM A WIDE RANGE OF DOOR DESIGNS AND CONFIGURATIONS

MAXVIEW Sliding Folding Doors are made to order by Howarth. Please note, doors open inwards or outwards, as required.

MAXVIEW Sliding Folding Doors are available in a wide range of standard configurations and illustrated are the **MAXVIEW** full height timber door design options.

If an alternative configuration is required, please phone our Sales Office on 01469 530577 detailing the exact requirements. Howarth provides a fully comprehensive support service throughout every stage of the project.



As with all sliding folding doors, this product is suitable for weather conditions up to and including 'moderate exposure'.

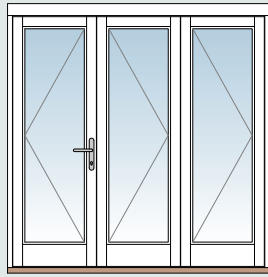
87 **MAXVIEW** FULL HEIGHT TIMBER DOORS



CODE	CODE	CODE	CODE	CODE	CODE	CODE	CODE
2XGG	PATTERN 10	WETHERBY	PATTERN GTP	BEVERLEY	PATTERN SA	PATTERN 50	

NOTE: **MAXVIEW** products are supplied fully finished and glazed for direct installation. As a result the products are relatively heavy and large. All illustrations above tables show exterior views.

88 MAXVIEW SLIDING FOLDING 3-DOOR CONFIGURATION



Configuration A - open left to right

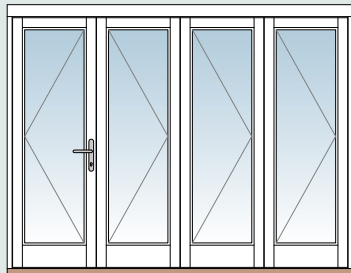


Configuration B - open right to left

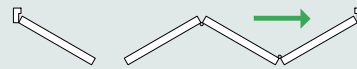


Can be made to fit opening of 1893mm to 2643mm wide, 1900mm to 2400mm high.

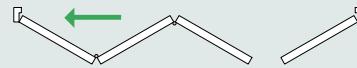
89 MAXVIEW SLIDING FOLDING 4-DOOR CONFIGURATION



Configuration A - open left to right

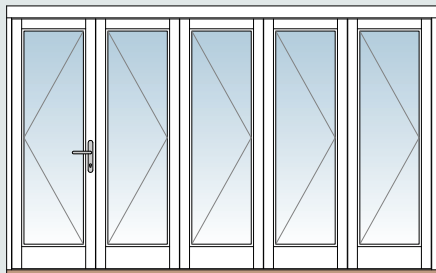


Configuration B - open right to left

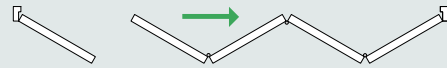


Can be made to fit opening of 2496mm to 3496mm wide, 1900mm to 2400mm high.

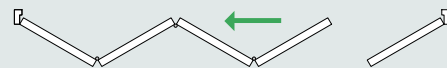
90 MAXVIEW SLIDING FOLDING 5-DOOR CONFIGURATION



Configuration A - open left to right

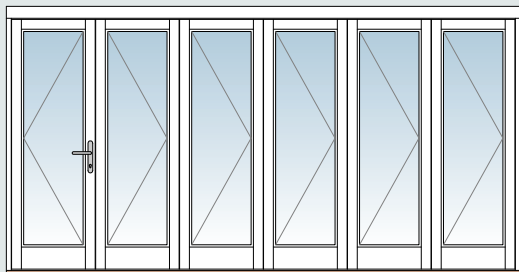


Configuration B - open right to left

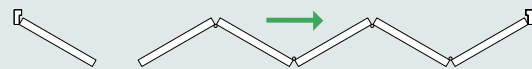


Can be made to fit opening of 3099mm to 4000mm wide, 1900mm to 2400mm high.

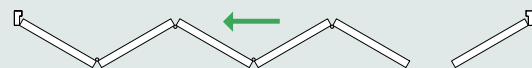
91 MAXVIEW SLIDING FOLDING 6-DOOR CONFIGURATION



Configuration A - open left to right



Configuration B - open right to left



Can be made to fit opening of 3702mm to 4000mm wide, 1900mm to 2400mm high.

NOTE: MAXVIEW products are supplied fully finished and glazed for direct installation. As a result the products are relatively heavy and large. All illustrations show exterior and plan views.

1. Night ventilators

Night ventilators are not available on **MAXVIEW** Sliding Folding Doors. Where ventilation is required, alternative means of ventilation should be used.

2. Sills

The standard sill width is 171mm to allow the frame to be set back into the cavity to meet Part L Robust Construction Detail requirements. Other available sill width options are 205mm extended sills (at extra cost).

The frame sill is manufactured from hardwood for increased durability. The sills feature drainage channels to allow any trapped water to drain away through the sill.

NOTE: *All sills for Howarth door sets are manufactured from Keruing and are designed to be left in a natural condition and should not be decorated as Keruing is not suitable for painting or staining.*

3. Finishing options

The **MAXVIEW** Sliding Folding Door range is available in a wide range of factory-applied paint or stain finishes.

NOTE: Frames are generally available in standard RAL colours except black. For availability of other darker shades, please contact the Sales Office on 01469 530577.

4. Combination door and window frames are NOT available

5. Repair kits for fully finished doors

Includes paint or stain, brush, sandpaper, tube of filler and instructions. Will cover 0.5m². (For repairs only).

6. Cavity closers

Available from 75mm up to 150mm in width and are supplied in loose lengths. Brick ties are also available.

7. Furniture and locking mechanisms

A range of furniture options is available. (Please see page 116). Handles are available in White, Black, Polished Brass effect, Polished Chrome effect and Satin Chrome effect.

Rollers and hinges are available in either Black, Polished Brass effect, Polished Chrome effect or Satin Chrome effect finishes.

Master door leaf is locked using a high security locking mechanism. Slave doors are locked with double shootbolts to the head and sill.

8. Secured by Design

The **MAXVIEW** Sliding Folding Door range can be manufactured to meet PAS24:2012 Secured by Design requirements dependent on size and configuration. For full details please contact our Sales Office on 01469 530577.

9. Cambered heads are not available

10. Perimeter pinch battens are not available

11. Window surrounds are not available

12. Shrink wrapping

Frames are wrapped as standard in a clear cling film which permits visual inspection of the frame upon delivery.

13. Quotation prices

Quotation prices do not include VAT which will be charged at the rate applicable at the time of delivery. Prices quoted are subject to Howarth's Standard terms and conditions of sale.

(See page 139 or contact our Sales Office on 01469 530577).

14. Deliveries

All ancillary purchases are subject to a post and packing charge. Orders of £1,000 or less will be subject to a delivery charge.

NOTE: **MAXVIEW** products are supplied fully finished and glazed for direct installation. As a result the products are relatively heavy and large.

It is the customer's responsibility to:

Ensure the products are off loaded safely, mechanical assistance and a number of workers will be required.

Ensure there is sufficient access to the room to allow these products to be moved into position.



SUPERB QUALITY CONSERVATORIES WITH STYLE AND CHARACTER

ADDING LIGHT, SPACE AND VALUE
TO YOUR HOME



**CHOOSE FROM AN
IMPRESSIVE RANGE
OF DESIGNS,
INCORPORATING OUR
THERMALLY EFFICIENT
TIMBER WINDOWS**



- A range to complement all house styles
Design styles include Victorian,
Edwardian or lean-to.
- Incorporating our extensive range of
timber window sizes and styles.
- Full CAD design service.
- Detailed plans supplied for dwarf
walling.
- Guaranteed to meet all NHBC
regulations.
- Carefully made to the highest
standards.
- Fitting service available.

- European Conformity.



- Extensive guarantees for long term
peace of mind.
- Incorporating Swisspacer ULTIMATE,
the leading warm edge spacer fitted
where appropriate.

SWISSPACER
SAINT-GOBAIN

NEW IMPROVED CONSERVATORIES

HOWARTH
WINDOWS & DOORS

103

OUR ENHANCED CONSERVATORY RANGE DESIGNED TO MATCH THE LIFESTYLE OF TODAY'S HOMEOWNERS



In today's crowded world, light and space are valuable commodities – and this applies too in our own homes.

Conservatories are an ideal way of gaining extra living space – for developers they add extra value to new build projects, for homeowners they enhance existing properties.

The conservatory concept is versatile: it can be a peaceful haven for relaxing, a lively family room, a working environment, an entertaining area where guests can enjoy a panoramic view,

a garden room where outdoors and indoors merge, an extra dimension to a kitchen... the options are endless.

AN INTEGRAL PART OF THE HOME

The important thing to remember is that however it is used, a conservatory must complement and integrate with the home. The Howarth range, and the options within it, will enable you to do just that, whether your property is newly built or period piece, cottage style or town house. It means that the new living space will become truly part of the home rather than appearing as an awkward afterthought. That's the Howarth difference.



IN HARMONY WITH HOMES

Before you decide on your conservatory, first take a fresh look at the outside appearance of your home. The aesthetics of your conservatory are just as important as the practicalities, and the design needs to fit in with the age, architectural style and scale of your home, the garden space around it, and with the type of windows and doors you already have.

In putting together our designs and finish options, and in incorporating the very latest in glazing technology, we have ensured that the range offers the flexibility to create

conservatories which will appear in keeping with most property styles, and which offer energy efficient light, warmth and space.

A VALUABLE ASSET

Carefully planned and chosen, your conservatory is an investment which not only can enhance your lifestyle, but also has the potential to add value to your home. Making the wrong choice, in materials and styles which are out of keeping with the property can make your home difficult to sell and detract from its value.



THOROUGH PLANNING AND ATTENTION TO DETAIL

In many cases, planning permission is not required, but it is wise to check first of all with your local authority's planning department to ensure compliance, particularly if the location is an architecturally sensitive area. We offer a full CAD design service, and our range meets all NHBC regulations. In addition, we offer a full fitting service so that everything can be taken care of, from the design through to installation at your home.



PRODUCT RANGE

	Page
93 VICTORIAN STYLE CONSERVATORIES	106
94 EDWARDIAN STYLE CONSERVATORIES	106
95 LEAN-TO STYLE CONSERVATORIES	106
96 ROOF OPTIONS	108
97 GLAZING OPTIONS	108
98 INSTALLATION OPTIONS	108

CREATE A LIGHT, AIRY AND SPACIOUS EXTRA ROOM

Historically, conservatories date back to the 16th century when wealthy landowners wanted a light-filled sheltered environment to cultivate exotic fruits and plants newly introduced to this country by plant collectors and explorers.

Today, though conservatories can still be used to show off your favourite plants and blooms, they play an important role in giving more living space to our homes. At Howarth we offer three general styles - Victorian, Edwardian and Lean-To.

Within these three styles, by choosing from our wide range of windows, timber finishes, glazing options and details such as hinges, handles and openers, there is additional

flexibility for creating a highly individual conservatory which marries perfectly to your existing property.

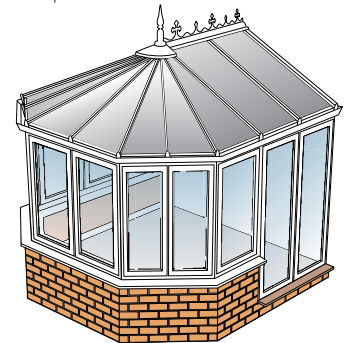
Think about the overall appearance and age of your home and whether the more ornate design of the Victorian would best suit it, or the simpler looks of the Edwardian. If you have a suitable wall, then a Lean-To style with its plain roof style could complement.



109 VICTORIAN STYLE CONSERVATORIES

Inspired by the great conservatory builders of the Victorian era, this popular style features the typical pitched roof and impressive lines, complete with trims and detailing characteristic of the time. Victorian Conservatories are available in the following dimensions:

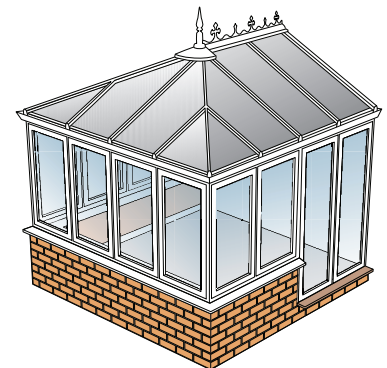
Width	2500	3000	3500	4000	4500	5000
Depth	2500	3000	3500	4000	4500	5000



110 EDWARDIAN STYLE CONSERVATORIES

More angular in style, the Edwardian features graceful aesthetics on a simpler scale. Traditional in theme, with pitched roof, its understated appeal can complement both period and more modern homes. Edwardian Conservatories are available in the following dimensions:

Width	2500	3000	3500	4000	4500	5000
Depth	2500	3000	3500	4000	4500	5000



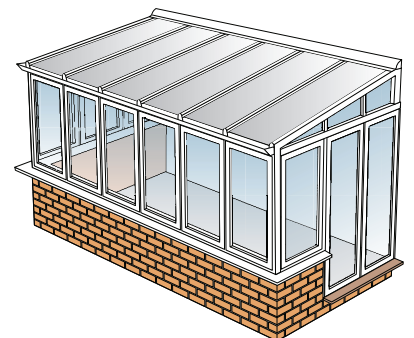
NOTE: Edwardian roof conservatories are available with a Gable style (above left photograph), or as shown in the illustration (above right).



111 LEAN-TO STYLE CONSERVATORIES

A very versatile design, with shallow pitched roof and clean lines. The Lean-To gives all the advantages of a conservatory while integrating fully by utilising an existing wall or walls of the property. Lean-To Conservatories are available in the following dimensions:

Width	2000	2500	3000	3500	4000	4500	5000
Depth	1500	2000	2500	3000	3500		





CHOOSING THE RIGHT POSITION

Conservatories, by their very nature, make the most of natural light, but this also means you need to carefully consider the aspect of your conservatory. East facing means that the room will have morning sun, creating an ideal breakfast room which will not be overly hot in midday or evening. West facing will get the sun from afternoon onwards and it could be a great location for evening meals in summer. South facing conservatories can become very hot without carefully positioned ventilation and shading. North facing conservatories get angled sun at the start and end of the day, but may not be suitable for year round use without additional heating.

There are practicalities and safety considerations to take account of too. Remember that you will need access to clean and maintain first floor windows if any are located above a conservatory. If these first floor windows are a fire exit route, then you may have to rethink safety issues, as they may not be able to be used as such with a conservatory immediately below them.

NEW BUILD PROPERTIES

Conservatories are a fast-growing part of the new-build market. If you are a developer, we can offer a high quality package to add value to your property portfolio. We can offer high specification designs to suit your plans, and support you throughout with quotations, CAD drawings, base and brick plans, installation guides and even field support.

INSIDE AND OUT

Your next consideration should be the internal flow of your rooms. If you are planning to use the conservatory as an extra eating area, how far is it from the kitchen? If it is to be a study or quiet room, is it too close to a room where music or TV is the norm? Consider the exterior too. Perhaps there is a particular aspect of the garden you want to look out on. Additionally, how will the conservatory look from your first floor windows or from other parts of the house?

CHOOSE YOUR STYLE

Our three styles of conservatory: Victorian, Edwardian and Lean-To, give you an overall look and starting point for your design. Within those styles, we offer a wide choice of timber windows and doors which can individualise your choice. Add to that the options of different handles, openers, hinges, paint and varnish finish and you will see that there is the opportunity to create a highly customised conservatory to suit your property.



Timber. All timber used is laminated Redwood Nordic Pine from well managed yield sources.



For further details please refer to page 6.

wood. for good.
NORDIC

A CHOICE OF PAINT AND STAIN FINISHES



Choose from a range of paint and stain finishes with built-in high performance, endurance and quality, see page 110 for further details.

NOTE: Frames are generally available in standard RAL colours except black. For availability of other darker shades please contact the Sales Office on 01469 530577.

NOTE: All Howarth paint/stain finishes are silk and not high gloss.

GUARANTEES

As a result of the improved stability of laminated timber construction we are able to provide guarantees for ten years on our paint finish and six years on our stain finish.



Stain Finish



Paint Finish



Rot and Fungal Attack



Sealed Units



Ironmongery

NOTE: All guarantees given in this catalogue are subject to limitations and are strictly dependent upon compliance with manufacturers' usage and maintenance instructions. These are available upon request.

CONSERVATORY OPTIONS

96 ROOF OPTIONS

Aluminium conservatory roofs are a high quality alternative to traditional hardwood roof construction. They are manufactured and supplied in lightweight aluminium allowing excellent flexibility in roof design and configuration, combined with strength, integrity and lifetime performance.

Aluminium frames can be manufactured in white as standard or with a choice of three woodgrain colours (far right). Frames can also be supplied powder coated in any RAL colour at additional cost, please contact the Sales Office for further details on 01469 530577.

LEAD FLASHING



Time-saving pre-formed PVC flashing system (above), engineered to deliver professional results every time.

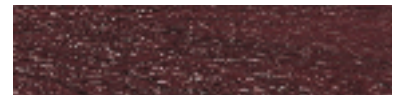
FINISHING OPTIONS*



Light Oak finish



Mahogany finish



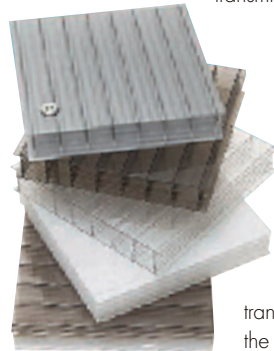
Rosewood finish

*These are aluminium finishing options.

97 GLAZING OPTIONS

When designing a conservatory, the choice of a glass or polycarbonate roof is an important one. To enable the use of a conservatory all year round, a glazing material is needed that deflects heat from the sun in the summer and retains the warmth from heating appliances in the winter. A material that allows maximum light into the home may be required.

Polycarbonate is a lower cost alternative to glass and it can be treated to offer excellent solar protection and thermal properties. In the past, this has been at the cost of light transmission but revolutionary new

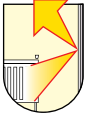






polycarbonates now have better thermal control together with excellent light transmission.

Self-cleaning solar control glass represents a new generation of glazing options.

In addition to deflecting the sun's heat in summer and keeping the interior warm in winter, it stays cleaner for longer than conventional glass. The transparent coating bonded into the external surface of the glass utilises the power of ultra-violet rays and the rain to break down dirt deposits so that grime is simply washed away.

SELF-CLEANING SOLAR CONTROL GLASS - Helps protect furnishings minimises condensation

- Retains more warmth in winter 
- Prevents overheating in summer 
- Special easyclean outer surface 
- Reduces condensation 
- Helps protect furnishings from UV Light 

98 INSTALLATION OPTIONS

OPTION A - Supply only

As shown on Page 106, simply choose the style, choose the size and add any options or ancillaries. This is the supply-only price.

- Choose the design
- Self-build a base
- Install the conservatory

OPTION B - Supply and fit onto a prepared base

If you require us to install the conservatory on to an existing base, or a base which is to be built, our fitting service will be happy to provide a price for this service. With options A and B, base plans will be supplied on receipt of order.

- Choose the design
- Self-build a base
- Our specialists install the side frames and roof

FINISHING TOUCHES

FINISHING, GLAZING AND IRONMONGERY OPTIONS

PLUS ALL ITEMS REQUIRED TO FINISH
THE JOB



**ADD THE FINISHING
TOUCH TO YOUR CHOICE
OF TIMBER WINDOWS
AND DOORS WITH OUR
EXTENSIVE RANGE OF
OPTIONS**



- Extended guarantee to 10 years on Paint Finish, 6 years on Stain Finish and 30 years on Fungal and Insect Attack.
- Choice of Traditional Patterned and Acoustic Glass offering a greater range of customisation possibilities.
- Choice of Plant-on Bars and Diamond and Square Leading options.
- Extensive range of Standard Locking, Push To Unlock and Fire Escape window handles and Sliding Sash window furniture.
- Revised and improved range of door furniture available in a range of finishes.
- Extensive range of Standard and Narrow Module Cavity Closers.
- Enquiries are processed quickly and efficiently to provide an accurate quotation including all associated options.



A RANGE OF PAINT AND STAIN FINISH OPTIONS

HIGH PERFORMANCE, ENDURANCE AND QUALITY

Howarth offers a co-ordinated suite of fully finished windows providing the discerning builder with the superior looks and performance obtainable only from timber. The windows are fully decorated, glazed and cling film wrapped within a purpose-built, quality controlled factory environment at New Holland.

Windows are manufactured using specially selected laminated components and fully



decorated, using the very latest vapour permeable paint and stains.

A choice of silk finish paint and stain colours is available (see right and next page). Colours are spray applied in factory controlled conditions, providing a smooth, brush-free finish which cannot be achieved under site conditions. This finish is durable and guaranteed for ten years (opaque finish) and six years (translucent finish).*

FINISHING OPTIONS

Fully finished, fully glazed frames are available in five stain colours and our new extended range of ten opaque colours as standard. Other RAL colours can be matched and are available at extra cost.

The use of laminated Redwood Nordic Pine in the construction of all our main frame and sash components reduces the likelihood of resin stains, which allows us to offer extended guarantees on both our opaque and translucent finishes.

We use stainless steel corrugated sash and frame clips in the assembly process. This eliminates all pinholes in the window frame and sash, and provides a smoother appearance on the finished products. Glazing beads are pinned to the sash using a 21-gauge galvanised micro brad, reducing the appearance of pinholes on the glazing bead.

NOTE: Colours shown are for guidance only and due to printing processes may not be accurate. Standard colour samples are available on timber swatches. Should non standard colours be required, RAL numbers should be supplied.

STANDARD STAIN FINISHES



Oak



Teak



Honduras



Walnut



Rosewood



A Stormproof Side Hung Casement finished in Pale Green, RAL 7073.

STANDARD PAINT FINISHES



Copper Brown RAL 8004



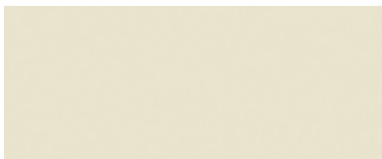
Slate Grey RAL 7015



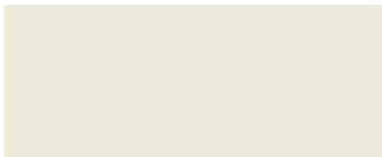
Pure White RAL 9010



Pastel Blue RAL 5024



Gardenia RAL 1013



Country Cream RAL 9001



Buttermilk RAL 1015



Pale Green RAL 6021



Pebble Grey RAL 7032



Dusty Grey RAL 7037

OPTIONS

Frames are generally available in standard RAL colours except black. For availability of other darker shades please contact the Sales Office on 01469 530577.

NOTE: All Howarth paint/stain finishes are silk and not high gloss.



NOTE: Colours shown are for guidance only and due to printing processes may not be accurate. Standard colour samples are available on timber swatches. Should non standard colours be required, RAL numbers should be supplied.



Stain Finish



Paint Finish

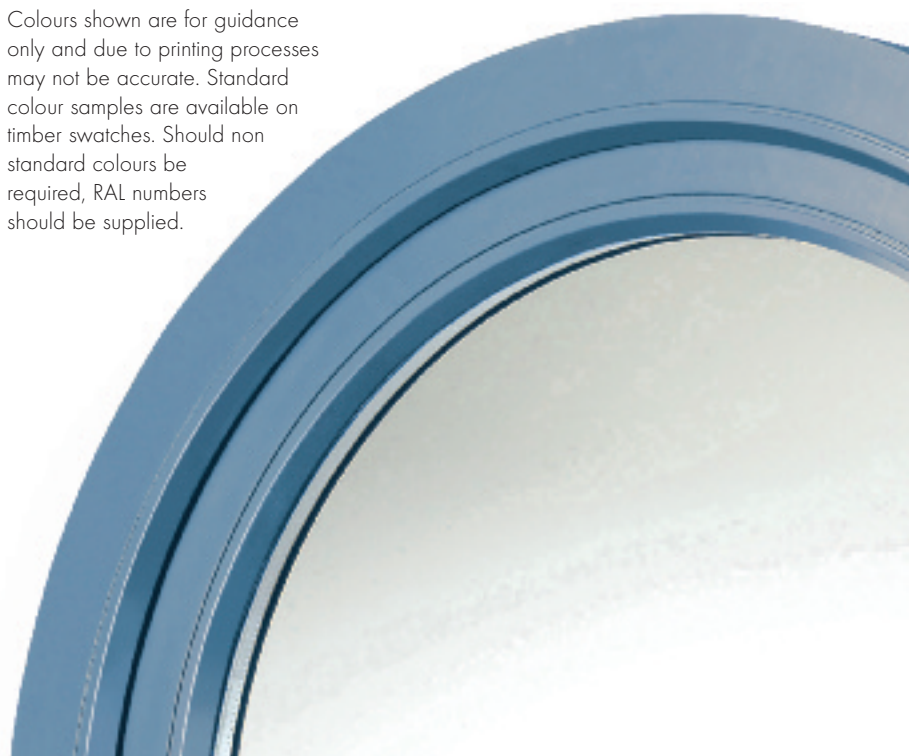


Rot and Fungal Attack

EXTENDED GUARANTEES

As a result of the laminated timber construction we are able to extend the guarantee to ten years on our paint finish and six years on our stain finish.

NOTE: All guarantees given in this catalogue are subject to limitations and are strictly dependent upon compliance with manufacturers' usage and maintenance instructions. These are available upon request.



PLANT-ON BARS AND LEADING OPTIONS



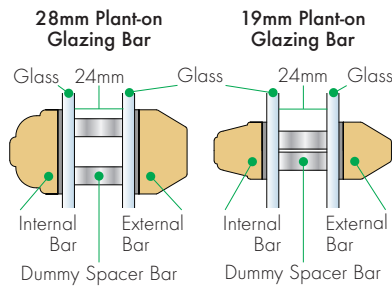
19mm Plant-on bar

PLANT-ON BAR

All our windows are priced as standard with the Plant-on Bar method to both internal and external faces of the glass.

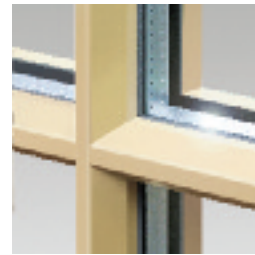
19mm AND 28mm PLANT-ON BAR OPTIONS

Plant-on Bars are available in widths of either 19mm or 28mm at the same price.

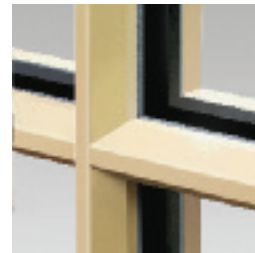


DUMMY SPACER BAR

Dummy spacer bars are available as an extra cost option on all Plant-on Bar ranges, giving the appearance of individual panes (shown above right).



(Top left) Detail of 19mm plain plant-on timber bars (available on the Storvik range only) shown with Dummy Spacer Bars clearly demonstrating the enhanced visual appeal of this option.



(Left) Shown without Dummy Spacer Bars.



(Left) 19mm Ovolo plant-on bars shown with Dummy Spacer Bars available on all our ranges of windows and doors excluding the Storvik range.



9mm Diamond Lead



9mm Square Lead

LEADING OPTIONS

Leading is available in either 9mm or 12mm thicknesses applied to both sides of the external pane.

Square and Diamond patterns (shown left) are available as standard.

For further details of alternative configurations please contact the Sales Office on 01469 530577.

TRADITIONAL PATTERNED GLASS OPTIONS



Bark A T



Maple A T



Leaf A T



Marine A T



Frost A T



Haze A T



SGG ARENA® A T L



Note: Solaglas do not accept any liability for any reliance or interpretation placed on any statement or illustration shown here. In all glazing situations please seek suitable independent professional advice. Solaglas is a registered trademark of Saint-Gobain.

TRADITIONAL PATTERNED GLASS OPTIONS

Ideal for a wide variety of applications, such as doors and conservatories, the Saint-Gobain Solaglas range of traditional patterned glass offers both style and functionality.

Choice of a range of seven popular patterns, each offering a different level of obscuration, providing privacy while maximising the level of daylight passing through the glass.

Solaglas patterned glass is available in annealed, toughened and laminated.

TECHNICAL INFORMATION

However you use Solaglas glass, for safety and performance reasons it is essential that it is correctly specified and installed.

KEY: A = Annealed
T = Toughened
L = Laminated



Contora™



Oak™



Florielle™



Taffeta™



Pelerine™



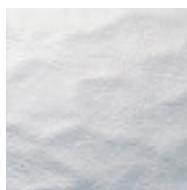
Chantilly™



Everglade™



Mayflower™



Minster™

Pilkington do not accept any liability for any reliance or interpretation placed on any statement or illustration shown here. In all glazing situations please seek suitable independent professional advice. Pilkington Textured Glass is a registered trademark of Pilkington.

GLASS OPTIONS

An extended range of patterned glass is available on request.



PILKINGTON

ACOUSTIC GLAZING

A range of acoustic glazing is available. Please contact the Sales Office on 01469 530577 to discuss requirements for noise level reductions to enable us to specify the correct glazing configuration to meet these requirements.

STORVIK AND STORMPROOF WINDOW FURNITURE RANGE



CONTEMPORARY STANDARD WINDOW FURNITURE RANGE

The Howarth **Standard Range** of handles is available in White and Black (shown right) or in a choice of alternative finishes and options (shown below) all available at extra cost.

- **Specification:** BS6462: 1994
Specification of Casement Stays and Face-fixed Fasteners.



CONTEMPORARY OR TRADITIONAL WINDOW HANDLES

Howarth offer a choice of window handle styles in a range of colour options, adding the finishing touch to your timber window.

Choose from our contemporary style to the more traditional Bulb or Monkey Tail handles all with our 5-year ironmongery guarantee. Should you require something more specific please call our Sales Office on 01469 530577 and we will try our best to help you.

IRONMONGERY GUARANTEE



NOTE: All guarantees given in Ironmongery this catalogue are subject to limitations and are strictly dependent upon compliance with manufacturers' usage and maintenance instructions. These are available upon request.

LOW LEVEL HANDLE OPTION

Low level handles (right, 2nd photograph) are available to comply with Lifetime Homes requirements on all 1350mm and 1500mm side hung sashes. Handles located 300mm from base of sash for accessibility.

NOTE: Low level handles can be fitted to 1200mm high side hung sashes but may not comply with Lifetime Homes requirements.



(Above) **Polished Chrome, Gold and Satin Chrome** effect are all available at extra cost.



(Left) Howarth **Fire Escape** green button handles.

(Right) Howarth **Push To Unlock** black button handles.

(Above) **Fire Escape** and **Push To Unlock** handles are also available in the standard colours and Polished Chrome effect or Gold effect.

TRADITIONAL WINDOW FURNITURE RANGE

The Howarth **Traditional Range** of handles is available in two styles, Bulb and Monkey Tail handles.

The **Bulb Handle** (shown below left) is available in a range of colour options, please call our Sales Office on 01469 530577 for further details.

The **Monkey Tail Handle** (shown below right) is available in Black.



(Left) Howarth **Bulb** handles.

(Right) Howarth **Monkey Tail** handles.

SLIDING SASH WINDOW FURNITURE RANGE

AVAILABLE IN A CHOICE OF FINISHES FOR STYLE AND SECURITY

Howarth offer a choice of Sliding Sash ironmongery options including Secured by Design for peace of mind.

White and Brass effect fittings are standard, with Chrome effect fittings available at extra cost all with our 5-year ironmongery guarantee.

IRONMONGERY GUARANTEE



Ironmongery

NOTE: All guarantees given in this catalogue are subject to limitations and are strictly dependent upon compliance with manufacturers' usage and maintenance instructions. These are available upon request.



STANDARD WINDOW FASTENER

(Shown left and below) Available in a traditionally styled **Brass effect** or **Chrome** effect design and in a contemporary **White** finish design.



SECURED BY DESIGN WINDOW FASTENER

(Right) For peace of mind and security, Secured by Design lockable window latches are available in **Brass effect** and **Chrome** effect and a **White** finish.



WINDOW LIFTS

(Right) Available in a traditionally styled **Brass effect** or **Chrome** effect design and in a contemporary styled **White** finish design.



DOOR SETS AND MAXVIEW FURNITURE RANGE



ADDING STYLE, SECURITY AND FUNCTIONALITY TO YOUR CHOICE OF DOORS

Howarth offers a selection of door furniture ironmongery from a choice of handles, fixtures and fittings to added security options, all available in a range of finishes.



Ironmongery

Our co-ordinated range adds character and functionality supported by our 5-year ironmongery guarantee.

IRONMONGERY GUARANTEE

NOTE: All guarantees given in this catalogue are subject to limitations and are strictly dependent upon compliance with manufacturers' usage and maintenance instructions. These are available upon request.

'URN' STYLE DOOR KNOCKERS

Available in Chrome effect and Brass effect.

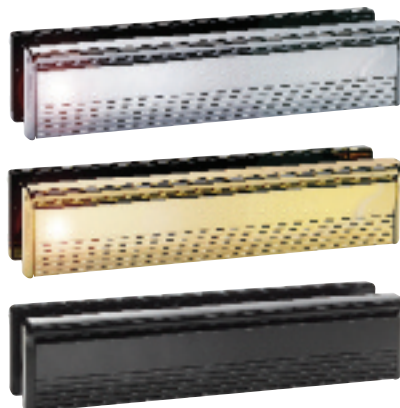


CONTEMPORARY DOOR FURNITURE RANGE

The Howarth range of door handles are available in Polished Chrome effect (shown above left) or in a choice of (from above centre clockwise) Polished Brass effect and Satin Chrome effect, Black and White finishes all available at extra cost.

LETTER PLATE

(Below) available in Polished Chrome and Polished Brass effect and Black.



VIEWERS

(Below) available in Chrome, Brass effect and Satin Chrome effect.



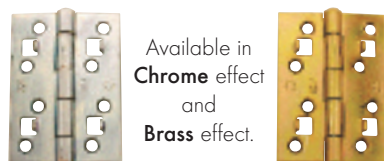
SECURITY CHAINS

(Below) available in Chrome and Brass effect.



DOOR HINGES

Available in Chrome effect and Brass effect.



CAVITY CLOSERS ENSURING A PERFECT FIT

Cavity Closers are the simplest, most effective way to seal cavities around wall openings and provide a rigid window or door frame acceptor. In addition to creating a rigid template for bricklaying and window or door installation, they enhance thermal efficiency, create a damp-proof course and prevent cold bridging.



CAVALOK CAVITY CLOSERS

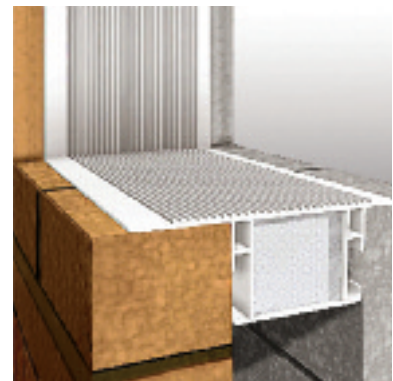
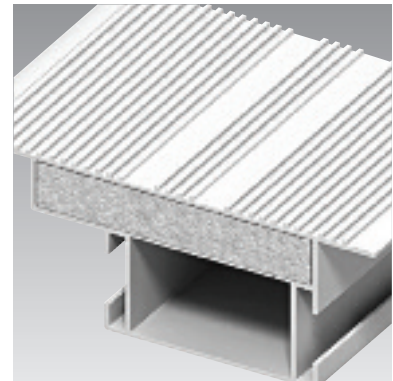
Cavity Closers are the definitive solution to thermal bridging at openings in cavity walls. Closers need to have a thermal conductivity better than $0.45\text{m}^2\text{K}/\text{W}$ and all Cavalok Cavity Closers exceed this requirement thanks to their integral insulating foam.

The Cavity Closer creates a thermal break, which improves the insulation performance and reduces the CO_2 emissions of a building. In addition, Cavity Closers prevent condensation from forming on internal walls.

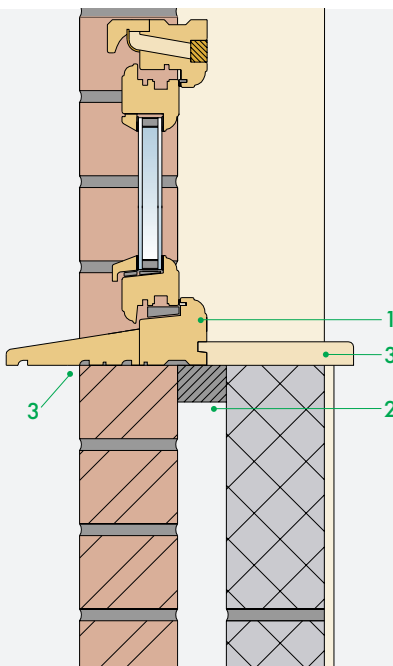
The Cavalok Cavity Closure system is designed to create window and door openings while sealing cavities between 50mm and 100mm wide. It is fully compatible with all types of building, whether masonry, steel or timber-framed.

BIGBLOK CLOSERS

The energy-efficient BigBlok cavity closure is an essential component for low U-value construction, helping your buildings to achieve higher ratings in the Code for Sustainable Homes. The closure is designed for larger cavities 125mm to 300mm wide which can accommodate more insulation.



Drawings show the differing profiles of (top) 100mm Cavity Closure and (above) 75mm Cavity Closure.



1. Minimum frame/closer overlap
Exposure zone:
Sheltered to Severe - 30mm
Very Severe - fully rebated
(check reveals)
2. Proprietary closer with minimum U Value of $0.45\text{m}^2\text{K}/\text{W}$
3. Sealant to front and back of frames/seals

ROBUST CONSTRUCTION DETAIL

The Robust Construction detail highlights the need to build in window frames correctly to help limit thermal bridging and air leakage. This means the brickwork cavity must be closed before the window frame can be fitted. The cavity can be closed by either using a PVCU Cavity Closer, or any other means, as long as the U-Value meets that of the Cavity Closer (minimum $0.45\text{m}^2\text{K}/\text{W}$). The frames must then be built in with a minimum overlap of 30mm over the cavity - see illustration left. These details apply to all window frames including bays, together with door and entrance frames.

NOTE:

Cavity closer sizes are nominal and should always be built-in as the brickwork progresses. The closer allows all necessary tolerances to ensure the smooth fitting of windows and fixings. It is recommended that braces are used to ensure that closers are not 'pinched'

during the build programme, thus avoiding the need to shoot frames in during the fitting process. **NB: Braces must be used if Howarth are to fit frames.** Window sizes shown are nominal and will be approx 5mm less than the size shown to allow for building in.



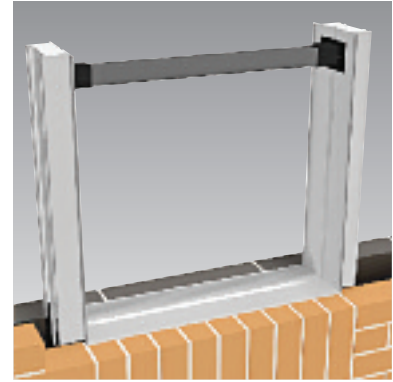
30 CAVITY CLOSERS (STANDARD MODULE)

	UNIVERSAL CLOSER SYSTEM		BIGBLOK CLOSER SYSTEM	
	75mm	100mm	125mm	150mm
	CODE	CODE	CODE	CODE
630				
HEIGHT				
600	CC106/75	CC106/100	CC106/125	CC106/150
750	CC107/75	CC107/100	CC107/125	CC107/150
900	CC109/75	CC109/100	CC109/125	CC109/150
1050	CC110/75	CC110/100	CC110/125	CC110/150
1200	CC112/75	CC112/100	CC112/125	CC112/150
1350	CC113/75	CC113/100	CC113/125	CC113/150
1500	CC115/75	CC115/100	CC115/125	CC115/150
1200				
HEIGHT				
600	CC206/75	CC206/100	CC206/125	CC206/150
750	CC207/75	CC207/100	CC207/125	CC207/150
900	CC209/75	CC209/100	CC209/125	CC209/150
1050	CC210/75	CC210/100	CC210/125	CC210/150
1200	CC212/75	CC212/100	CC212/125	CC212/150
1350	CC213/75	CC213/100	CC213/125	CC213/150
1500	CC215/75	CC215/100	CC215/125	CC215/150
1770				
HEIGHT				
600	CC306/75	CC306/100	CC306/125	CC306/150
750	CC307/75	CC307/100	CC307/125	CC307/150
900	CC309/75	CC309/100	CC309/125	CC309/150
1050	CC310/75	CC310/100	CC310/125	CC310/150
1200	CC312/75	CC312/100	CC312/125	CC312/150
1350	CC313/75	CC313/100	CC313/125	CC313/150
1500	CC315/75	CC315/100	CC315/125	CC315/150
2340				
HEIGHT				
600	CC406/75	CC406/100	CC406/125	CC406/150
750	CC407/75	CC407/100	CC407/125	CC407/150
900	CC409/75	CC409/100	CC409/125	CC409/150
1050	CC410/75	CC410/100	CC410/125	CC410/150
1200	CC412/75	CC412/100	CC412/125	CC412/150
1350	CC413/75	CC413/100	CC413/125	CC413/150
1500	CC415/75	CC415/100	CC415/125	CC415/150
2900				
HEIGHT				
600	CC506/75	CC506/100	CC506/125	CC506/150
750	CC507/75	CC507/100	CC507/125	CC507/150
900	CC509/75	CC509/100	CC509/125	CC509/150
1050	CC510/75	CC510/100	CC510/125	CC510/150
1200	CC512/75	CC512/100	CC512/125	CC512/150
1350	CC513/75	CC513/100	CC513/125	CC513/150
1500	CC515/75	CC515/100	CC515/125	CC515/150

BUILDING IN A CAVALOK CAVITY CLOSER

STAGE 1

(Illustrated right) Build the inner blockwork and outer brickwork of the cavity wall up to the window sill level. Select the correct cavity closer for the size of window. Place the cavity closer onto the brickwork in the correct position with the flanges sitting on the inner and outer skins and with the timber brace to the top.



31 CAVITY CLOSERS (NARROW MODULE)

	UNIVERSAL CLOSER SYSTEM		BIGBLOK CLOSER SYSTEM	
	75mm	100mm	125mm	150mm
	CODE	CODE	CODE	CODE
HEIGHT	488			
600	CCN06/75	CCN06/100	CCN06/125	CCN06/150
750	CCN07/75	CCN07/100	CCN07/125	CCN07/150
900	CCN09/75	CCN09/100	CCN09/125	CCN09/150
1050	CCN10/75	CCN10/100	CCN10/125	CCN10/150
1200	CCN12/75	CCN12/100	CCN12/125	CCN12/150
1350	CCN13/75	CCN13/100	CCN13/125	CCN13/150
1500	CCN15/75	CCN15/100	CCN15/125	CCN15/150
HEIGHT	915			
600	CC2N06/75	CC2N06/100	CC2N06/125	CC2N06/150
750	CC2N07/75	CC2N07/100	CC2N07/125	CC2N07/150
900	CC2N09/75	CC2N09/100	CC2N09/125	CC2N09/150
1050	CC2N10/75	CC2N10/100	CC2N10/125	CC2N10/150
1200	CC2N12/75	CC2N12/100	CC2N12/125	CC2N12/150
1350	CC2N13/75	CC2N13/100	CC2N13/125	CC2N13/150
1500	CC2N15/75	CC2N15/100	CC2N15/125	CC2N15/150
HEIGHT	1344			
600	CC3N06/75	CC3N06/100	CC3N06/125	CC3N06/150
750	CC3N07/75	CC3N07/100	CC3N07/125	CC3N07/150
900	CC3N09/75	CC3N09/100	CC3N09/125	CC3N09/150
1050	CC3N10/75	CC3N10/100	CC3N10/125	CC3N10/15
1200	CC3N12/75	CC3N12/100	CC3N12/125	CC3N12/150
1350	CC3N13/75	CC3N13/100	CC3N13/125	CC3N13/150
1500	CC3N15/75	CC3N15/100	CC3N15/125	CC3N15/150
HEIGHT	1770			
600	CC4N06/75	CC4N06/100	CC4N06/125	CC4N06/150
750	CC4N07/75	CC4N07/100	CC4N07/125	CC4N07/150
900	CC4N09/75	CC4N09/100	CC4N09/125	CC4N09/150
1050	CC4N10/75	CC4N10/100	CC4N10/125	CC4N10/150
1200	CC4N12/75	CC4N12/100	CC4N12/125	CC4N12/150
1350	CC4N13/75	CC4N13/100	CC4N13/125	CC4N13/150
1500	CC4N15/75	CC4N15/100	CC4N15/125	CC4N15/150
HEIGHT	2190			
600	CC5N06/75	CC5N06/100	CC5N06/125	CC5N06/150
750	CC5N07/75	CC5N07/100	CC5N07/125	CC5N07/150
900	CC5N09/75	CC5N09/100	CC5N09/125	CC5N09/150
1050	CC5N10/75	CC5N10/100	CC5N10/125	CC5N10/150
1200	CC5N12/75	CC5N12/100	CC5N12/125	CC5N12/150
1350	CC5N13/75	CC5N13/100	CC5N13/125	CC5N13/150
1500	CC5N15/75	CC5N15/100	CC5N15/125	CC5N15/150

BUILDING IN A CAVALOK CAVITY CLOSER

STAGE 2

(Illustrated right) Braced cavity closer provides a solid template for brickwork. Use brick ties provided to secure cavity closer to brickwork. Build inner and outer coursework up to the lintel height. When complete remove bracing from cavity closer, place lintel tight to the head of cavity closer on brick course.



30 CAVITY CLOSERS STORVIK (STANDARD MODULE)

	UNIVERSAL CLOSER SYSTEM		BIGBLOK CLOSER SYSTEM	
	75mm	100mm	125mm	150mm
	CODE	CODE	CODE	CODE
	2913			
HEIGHT				
600	CCSK506/75	CCSK506/100	CCSK506/125	CCSK506/150
750	CCSK507/75	CCSK507/100	CCSK507/125	CCSK507/150
900	CCSK509/75	CCSK509/100	CCSK509/125	CCSK509/150
1050	CCSK510/75	CCSK510/100	CCSK510/125	CCSK510/150
1200	CCSK512/75	CCSK512/100	CCSK512/125	CCSK512/150
1350	CCSK513/75	CCSK513/100	CCSK513/125	CCSK513/150
1500	CCSK515/75	CCSK515/100	CCSK515/125	CCSK515/150

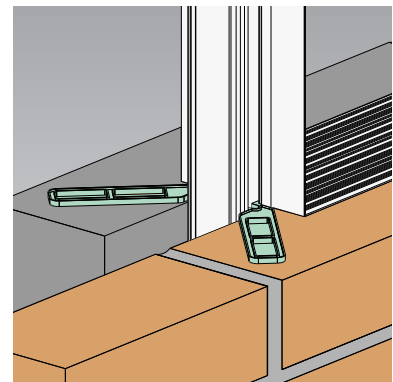
31 CAVITY CLOSERS STORVIK (NARROW MODULE)

	UNIVERSAL CLOSER SYSTEM		BIGBLOK CLOSER SYSTEM	
	75mm	100mm	125mm	150mm
	CODE	CODE	CODE	CODE
	2198			
HEIGHT				
600	CCSK5N06/75	CCSK5N06/100	CCSK5N06/125	CCSK5N06/150
750	CCSK5N07/75	CCSK5N07/100	CCSK5N07/125	CCSK5N07/150
900	CCSK5N09/75	CCSK5N09/100	CCSK5N09/125	CCSK5N09/150
1050	CCSK5N10/75	CCSK5N10/100	CCSK5N10/125	CCSK5N10/150
1200	CCSK5N12/75	CCSK5N12/100	CCSK5N12/125	CCSK5N12/150
1350	CCSK5N13/75	CCSK5N13/100	CCSK5N13/125	CCSK5N13/150
1500	CCSK5N15/75	CCSK5N15/100	CCSK5N15/125	CCSK5N15/150

NOTE:

Cavity closer sizes are nominal and should always be built-in as the brickwork progresses. The closer allows all necessary tolerances to ensure the smooth fitting of windows and fixings. It is recommended that braces are used to ensure that closers are not 'pinched'

during the build programme, thus avoiding the need to shoot frames in during the fitting process. **NB: Braces must be used if Howarth are to fit frames.** Window sizes shown are nominal and will be approx 5mm less than the size shown to allow for building in.



(Illustrated right) Brick ties should be fitted as shown every second brick course.

BUILDING IN A CAVALOK CAVITY CLOSER

STAGE 3

(Illustrated right) When all the coursework and masonry have been completed remove bracing. Secure the fixing cleats provided to both sides of the frame. Offer the window to the opening and ensure correct positioning and alignment before fixing in finished position.



30 CAVITY CLOSERS SLIDING SASH

	UNIVERSAL CLOSER SYSTEM		BIGBLOK CLOSER SYSTEM	
	75mm	100mm	125mm	150mm
	CODE	CODE	CODE	CODE
HEIGHT	410			
1050	CCVS0410/75	CCVS0410/100	CCVS0410/125	CCVS0410/150
1200	CCVS0412/75	CCVS0412/100	CCVS0412/125	CCVS0412/150
1350	CCVS0413/75	CCVS0413/100	CCVS0413/125	CCVS0413/150
1500	CCVS0415/75	CCVS0415/100	CCVS0415/125	CCVS0415/150
1650	CCVS0416/75	CCVS0416/100	CCVS0416/125	CCVS0416/150
HEIGHT	635			
1050	CCVS0610/75	CCVS0610/100	CCVS0610/125	CCVS0610/150
1200	CCVS0612/75	CCVS0612/100	CCVS0612/125	CCVS0612/150
1350	CCVS0613/75	CCVS0613/100	CCVS0613/125	CCVS0613/150
1500	CCVS0615/75	CCVS0615/100	CCVS0615/125	CCVS0615/150
1650	CCVS0616/75	CCVS0616/100	CCVS0616/125	CCVS0616/150
HEIGHT	860			
1050	CCVS0810/75	CCVS0810/100	CCVS0810/125	CCVS0810/150
1200	CCVS0812/75	CCVS0812/100	CCVS0812/125	CCVS0812/150
1350	CCVS0813/75	CCVS0813/100	CCVS0813/125	CCVS0813/150
1500	CCVS0815/75	CCVS0815/100	CCVS0815/125	CCVS0815/150
1650	CCVS0816/75	CCVS0816/100	CCVS0816/125	CCVS0816/150
HEIGHT	1085			
1050	CCVS1010/75	CCVS1010/100	CCVS1010/125	CCVS1010/150
1200	CCVS1012/75	CCVS1012/100	CCVS1012/125	CCVS1012/150
1350	CCVS1013/75	CCVS1013/100	CCVS1013/125	CCVS1013/150
1500	CCVS1015/75	CCVS1015/100	CCVS1015/125	CCVS1015/150
1650	CCVS1016/75	CCVS1016/100	CCVS1016/125	CCVS1016/150
HEIGHT	1630			
1050	CCVS1610/75	CCVS1610/100	CCVS1610/125	CCVS1610/150
1200	CCVS1612/75	CCVS1612/100	CCVS1612/125	CCVS1612/150
1350	CCVS1613/75	CCVS1613/100	CCVS1613/125	CCVS1613/150
1500	CCVS1615/75	CCVS1615/100	CCVS1615/125	CCVS1615/150
1650	CCVS1616/75	CCVS1616/100	CCVS1616/125	CCVS1616/150
HEIGHT	1695			
1050	CCVS1710/75	CCVS1710/100	CCVS1710/125	CCVS1710/150
1200	CCVS1712/75	CCVS1712/100	CCVS1712/125	CCVS1712/150
1350	CCVS1713/75	CCVS1713/100	CCVS1713/125	CCVS1713/150
1500	CCVS1715/75	CCVS1715/100	CCVS1715/125	CCVS1715/150
1650	CCVS1716/75	CCVS1716/100	CCVS1716/125	CCVS1716/150
HEIGHT	1855			
1050	CCVS1810/75	CCVS1810/100	CCVS1810/125	CCVS1810/150
1200	CCVS1812/75	CCVS1812/100	CCVS1812/125	CCVS1812/150
1350	CCVS1813/75	CCVS1813/100	CCVS1813/125	CCVS1813/150
1500	CCVS1815/75	CCVS1815/100	CCVS1815/125	CCVS1815/150
1650	CCVS1816/75	CCVS1816/100	CCVS1816/125	CCVS1816/150

HELP US TO PROVIDE AN ACCURATE QUOTATION

QUOTATIONS

In order for Howarth to process enquiries quickly and efficiently and return an accurate quotation we require the following information to be provided (where possible).

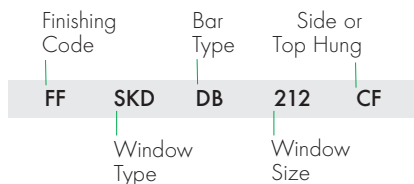
- Full company contact details.
- Site address and information (if known).
- Full up to date detailed drawings (including plans and elevations).
- Window schedule showing window references, location, sizes and location of escape windows. If possible, use the correct window coding, explained on this page.
- Full window specification including:
 - Window style.
 - Hinge type.
 - Required colour of finish.
 - Handle type.
 - Locking mechanism type.
 - Glazing requirements.

WINDOW CODING

We offer various window ranges in both side and top hung casements, various bar configurations and finishing options. Throughout the catalogue we have used industry standard coding, however, these standard codes will not be represented on our quotations. All window styles quoted will be represented by graphics on the quotation similar to the quotation example shown below.

UNDERSTANDING WINDOW CODES

For example, for a factory finished Storvik double glazed frame with Georgian bars, 1200mm x 1200mm with side hung sash, the code would be:



VENTILATION CALCULATIONS

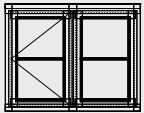
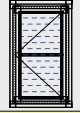
If ventilation calculations are required some additional information is required.

- Type of ventilation calculations required (background ventilation or rapid ventilation).
- Full up to date floor plans showing floor areas.
- Type of ventilation system proposed.
- Information on any additional ventilation mechanisms to be used.

INSTALLATION SERVICE

Over many years, we have fitted substantial quantities of our own frames and have an established network of proven CSCS registered fitting teams, working to strict procedures and to the highest standards.

Please contact the Sales Office for more information on 01469 530577.

Item No:	1	Dimensions:	1200 mm Wd x 1050 mm Ht	Frame Code:	SKD 1200X1050	Room:	KITCHEN	Plot Ref:	PLOT 1	
Quantity:	1	Finish:	White RAL-9010	Room:	KITCHEN	Window No:	W1			
Weight:	41.73 Kg	Bar Type:	19mm Plant On							
Comments:										
Glass	LE Double Glazed (4mm Low E Clear/Argon Gas/4mm Clear Eco)							Pattern:	None	
Spacer:	Silver Standard			Gas Fill:	Argon		Internal Bar:	13mm Duplex for 19mm Bars		
Glass Comments										
Price Each: £0.00										Price Total: £0.00
Quote Item No:	2	100mm Cavity Closer		1,205 mm Wd x 1,050 mm Ht		Price Each: £0.00 Price Total: £0.00				
Cavity Closer	100mm	Night Vents	8000mm White	Handle Colour	Chrome	Glazing Type	DOUBLE GLAZED	Handle Type	Locking	
Hinge Type	Reflex	Head Drip	Required	Locking Mechanism	Secure By Design	Sill Type	Standard 194mm	Weather Seal Colour	White	
Item No:	3	Dimensions:	630 mm Wd x 1200 mm Ht	Frame Code:	SKD 630X1200	Room:	W.C.	Plot Ref:	PLOT 1	
Quantity:	1	Finish:	White RAL-9010	Room:	W.C.	Window No:	W2			
Weight:	24.63 Kg	Bar Type:	19mm Plant On							
Comments:										
Glass	LE Double Glazed (4mm Low E Clear/Argon Gas/4mm Sola Obscure)							Pattern:	Bark	
Spacer:	Silver Standard			Gas Fill:	Argon		Internal Bar:	13mm Duplex for 19mm Bars		
Glass Comments										
Price Each: £0.00										Price Total: £0.00
Quote Item No:	4	100mm Cavity Closer		636 mm Wd x 1,200 mm Ht		Price Each: £0.00 Price Total: £0.00				
Cavity Closer	100mm	Night Vents	4000mm White	Handle Colour	Chrome	Glazing Type	DOUBLE GLAZED	Handle Type	Locking	
Hinge Type	Reflex	Head Drip	Required	Locking Mechanism	Secure By Design	Sill Type	Standard 194mm	Weather Seal Colour	White	
Additional Items										
Item No:	Customer Ref:	Description:	Comments:			Qty:	Price Each:	Price Total:		
5		BRICK TIES	Brick Ties are supplied Free Of Charge with Cavity Closers. Ref Quote: 00000			52	£0.00	£0.00		
6		FIXING CLEATS	Fixing supplied free for all Frames purchased with our Cavity Closers. Ref Quote: 00000			14	£0.00	£0.00		

QUOTE TOTAL: £0.00

P.O No: _____ Print Name: _____ Signed: _____ Date: DD . MM . YY

The prices on this quotation are exclusive of VAT. Please sign and return if this quotation meets your requirements.

If you require your order to go into the next available production week please return signed quotation before the close of business Friday.

BUSINESS PRACTICE

ESSENTIAL INFORMATION IMPROVING STANDARDS

FROM SECURED BY DESIGN, FIRE ESCAPE,
VENTILATION, ENERGY RATINGS, CONSTRUCTION
STANDARDS TO TERMS AND CONDITIONS



IMPROVING STANDARDS RANGING FROM ENVIRONMENTAL ISSUES TO HANDLING AND SITE CARE



- Sound environmental practices in all areas of the production process.
- Increased levels of environmental awareness leading to improved energy efficiency.
- sgc EcoClear®, the superior glazing solution available offered as an option.
- Ventilation meeting Part F of the 2010 Building Regulations.
- Safety glazing automatically included where deemed necessary.
- Handling, deliveries and storage guidelines ensuring items arrive on time and in factory condition.

- **NEW** - the high security Secured by Design locking system now available as an option on all our windows except the Storvik range where it is fitted as standard.



- Safety as a priority with our improved range of Fire Escape Windows.



- Howarth Timber Group Limited and Subsidiary Companies, Terms and Conditions of Trading.

FIGHTING CRIME WITH SECURED BY DESIGN



Secured by Design (SBD) is a national police initiative established by the Association of Chief Police Officers to ensure crime prevention measures are incorporated at the design stage of a new housing development to create a safer, more secure environment for residents. SBD has the backing of the Home Office Crime Prevention Agency.

SBD states that windows should be tested to meet PAS24: 2012 - the specification for Enhanced Security Performance of Casement and Reversible Windows for Domestic Applications. We offer a Secured by Design window frame that incorporates a shootbolt locking system, an anti break-in device between the jambs and reflex hinges, ensuring that SBD window frames meet all the requirements. The following window ranges have been tested by a UKAS accredited testing station.

- Storvik Double and Triple Glazed
- Stormproof Side and Top Hung Casement
- Sliding Sash

Howarth windows are also recognised under the BWF Timber Window Accreditation Scheme and have achieved BS644 Part 1: 1989 - Specification for Factory Assembled Windows - both of which are in addition to SBD requirements.

Howarth High Performance Securitherm™ Single Door Sets are also available in a Secured by Design option, having been tested by a UKAS accredited testing station to meet PAS24: 2012 requirements.

To meet the intruder resistance requirements of Secured by Design, the fitting tolerance between the mushroom bolts and the keeps are tight. Movement of the sashes or door leaves during transportation and installation of the frames or as a consequence of natural timber movement, may require the adjustment of the mushroom bolts. These bolts have cam adjustment to allow the purchaser to make any on-site compensation.



Shootbolt locking



Shootbolt locking (above)

Sash

Shootbolt gear box

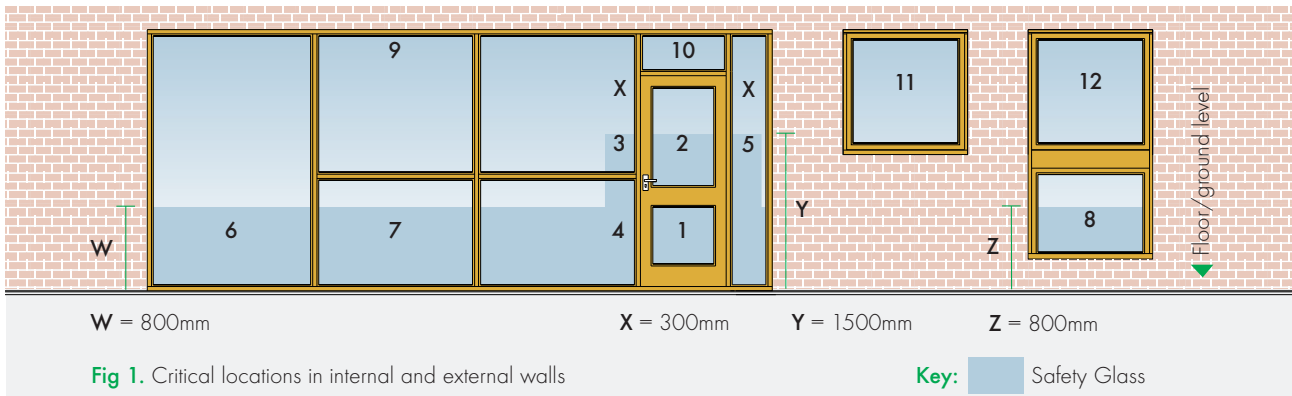
Locking mechanism (below)



Shootbolt locking

NOTE: Secured by Design frames fitted with laminated glass cannot be supplied to A Rated specification.

SAFETY GLAZING STANDARDS GUIDELINES



LOCATION REQUIREMENTS FOR SAFE USE

Howarth will automatically include safety glazing to all windows and doors in locations where safety glazing is deemed necessary.

If drawings are not supplied, please specify where safety glazing is requested.

Fig 1. CRITICAL LOCATIONS IN INTERNAL AND EXTERNAL WALLS AS SPECIFIED IN BUILDING REGULATIONS 2013 PART K.

Glass in doors and side panels to doors (1, 2, 3, 4 and 5) must be at least:

- A Class B safety glazing material if the smaller dimension of the glass is more than 900mm.
- A Class C safety glazing material if the smaller dimension of the glass is less than 900mm.
- Annealed glass in smaller panes if it meets the given criteria (see right).

Glass in low level glazing (6, 7, 8) must be at least Class C, or in small panes. Annealed (non-safety) glass may be used in areas marked 9,10,11 and 12. Robust annealed glass may be used in commercial frontages.

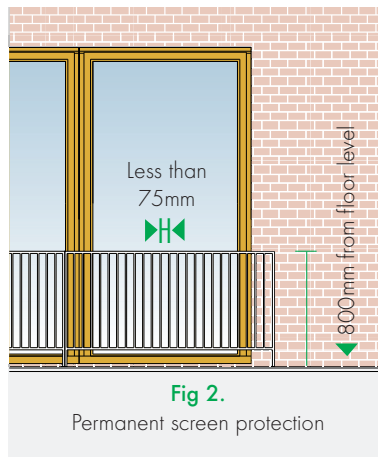


Fig 2. PERMANENT SCREEN PROTECTION

The use of annealed (non-safety) glass is permitted in a critical location if protected by a permanent, robust screen. The screen must prevent the passage of a 75mm sphere and must not be climbable. (Building Regulations 2013 Part K details the specific requirements for such screens and the full document should be consulted).

GLAZING IN SMALL PANES (all critical areas)

The use of annealed (non-safety) glass is permitted in small panes. Small panes must have a maximum smaller dimension of 250mm and an area not exceeding 0.5m². Annealed glass in small panes must not be less than 6mm thick, except in traditional leaded or copper lights if fire resistance is not required.

THE USE OF SAFETY GLAZING

The architectural use of safety glazing is primarily governed by Building Regulations 2013 Part K: Protection from falling, collision and impact. This is a national standard applying to all glazing work, including replacement glazing. It identifies critical locations in general terms only and sets the minimum standards of glazing materials acceptable for use in these areas.

Additional guidance is also provided by BS6262 Part 4. Compliance will also satisfy the requirements of Regulation 14 of the Health and Safety at Work Act.



Information reproduced by kind permission of Saint-Gobain Solaglas.



FIRE ESCAPE WINDOWS

SAFETY AS A PRIORITY

THE REGULATIONS FOR DWELLING HOUSES

On the April 1st 2007 the Building Regulations 2006 Part B: Fire Safety came into effect to replace the 2000 edition.

The guidance has been applicable to all initial notices submitted to the appropriate Local Authority since 1st April 2007. Some of the main points governing means of escape laid out by the Approved Document Part B are detailed below.

There is a requirement to provide emergency egress windows to habitable rooms on the ground and first floor levels of up to two storey dwellings unless a protected route is provided from those rooms to the final exit. All habitable rooms on the ground floor should either open directly into an entrance hall or other suitable exit or be provided with an escape window. Three storey properties do not require emergency egress windows from the ground and first floor habitable rooms, as they have to be provided with a protected route in any case.

This has had a great impact on which type of window frames can be used for escape purposes and where they can be used. Windows which will meet fire regulations are those with an unobstructed clear opening area which is at least 0.33m², with a minimum clear opening dimension of 450mm in either height or width. The lowest part of the opening must be between 800mm and 1100mm from the floor. Some of the systems Howarth uses to meet escape regulations are shown on these two pages.

STORVIK^{SKD}

For further details see page: 18

STORVIK^{SKT}

For further details see page: 30

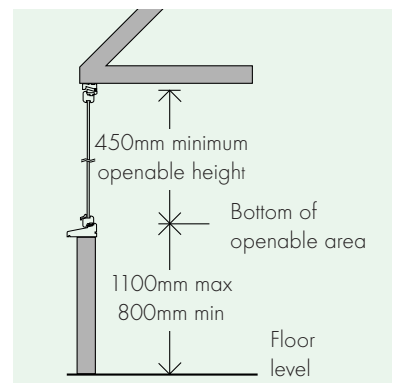
STORMPROOF SIDE AND TOP HUNG NARROW CASEMENT

For further details see page: 40

SLIDING SASH

For further details see page: 66

NOTE: Howarth recommends non-locking handles on all Fire Escape windows.



The diagram shown (left) illustrates the guidelines for the positioning of fire escape windows as detailed in the Approved Document Part B.

NOTE: When enquiries are received for quoting, Howarth will prepare quotations to the new regulations wherever possible, unless stated otherwise.

Window casement features easy to operate latches. (main photograph and left small inset).

'FLYING' MULLION

On the narrow casement widths of the Howarth Stormproof range the minimum opening width requirement is met by using a 'flying' mullion.



FIRE REFLEX HINGES

On the standard casement widths of the Stormproof range, Howarth uses the fire reflex hinge (shown below) which enables the sash to be moved from its normal opening position (right centre) to the side of the frame at the release of a catch (far right) to meet minimum opening requirements.

By simply releasing the green locking mechanism (shown below) the mullion can be released to fully open the window (main picture above and below far right).



Left hand casement in the normal opening position

Left hand casement in the fully open position



FRESH AIR CIRCULATION

Ventilation can be simply described as air circulation. This is the supply and distribution of fresh air into a building and the extraction and dispersal of stale contaminated air from it. Requirements for ventilation of buildings are set out in Building Regulations 2010 Part F: Ventilation. There are three main types of ventilation:

1. WHOLE BUILDING OR BACKGROUND VENTILATION

This can be defined as the supply of fresh air to a building to disperse low levels of water vapour or other pollutants, usually by the provision of background ventilators or mechanical supply ventilation.

2. LOCAL EXTRACT

In rooms such as kitchens or bathrooms, where most water vapour or concentrated pollutants are released, ventilation is usually provided by mechanical means such as extractor fans.

3. PURGE OR RAPID VENTILATION

For rapid dilution and removal of high concentrations of pollutants, ventilation is provided usually by opening windows and doors.

CALCULATION

(Below table)* Based on two people in main bedroom and one person in other bedrooms. For greater levels of occupancy, assume one extra bedroom per additional person. For more than five bedrooms add 10,000mm² per room. For single dwellings, up to four storeys above ground level, add 5,000mm². For single facade flats, requirement is effectively doubled.

TOTAL FLOOR AREA (M ²)	NUMBER OF BEDROOMS (MM ² EA) *				
	1	2	3	4	5
0 - 50	25,000	35,000	45,000	45,000	55,000
51 - 60	25,000	30,000	40,000	45,000	55,000
61 - 70	30,000	30,000	35,000	45,000	55,000
71 - 80	35,000	35,000	35,000	45,000	55,000
81 - 90	40,000	40,000	40,000	45,000	55,000
91 - 100	45,000	45,000	45,000	45,000	55,000
100 +	Add 5,000mm ² for every additional 10m ² floor area				

NEW BUILDINGS

The requirements for ventilation, as set out by the Approved Document Part F, are based on several factors, unique to each particular building. These include:

- Total floor area of building
- Number of floors
- Number of facades
- Number of bedrooms
- Number of occupants

The table for calculating ventilation requirements shown above is a simplified version of the requirements laid out in the Approved Document Part F Table 1.2a and should be used only as a rough guide.



NIGHT VENTS

Howarth uses the Titon Trimvent® Select XR16 night vent in all window ranges. This vent gives an equivalent area of 4600mm² per vent and is available as standard in either white or brown. Other colours are available at extra cost. Please contact our Sales Office for more information on 01469 530577.



Trimvent® Select is a registered trademark of Titon Hardware (UK).

REPLACEMENT OF EXISTING WINDOWS

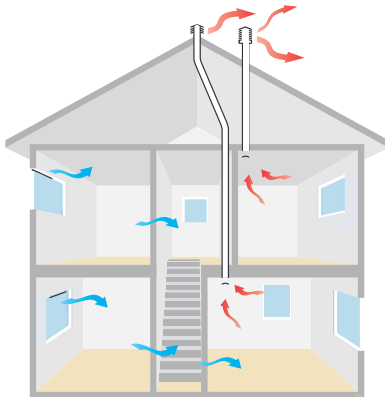
Where windows are to be replaced on-site, trickle vents should be fitted to any replacement window where the original window had trickle vents. The equivalent area of ventilators in the replacement windows should not be less than the equivalent area of the ventilator in the original window. Where there was no ventilator, or the size of the ventilator was unknown, a minimum of 5,000mm² equivalent area should be provided to all habitable rooms and 2,500mm² equivalent area to all wet rooms.

PURGE OR RAPID VENTILATION

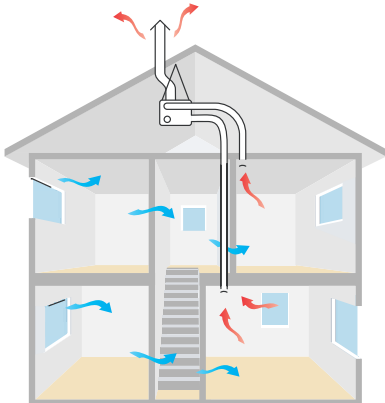
The requirement for purge or rapid ventilation is that the total opening area of all windows and doors exceeds 1/20th of the floor area of the room or building.



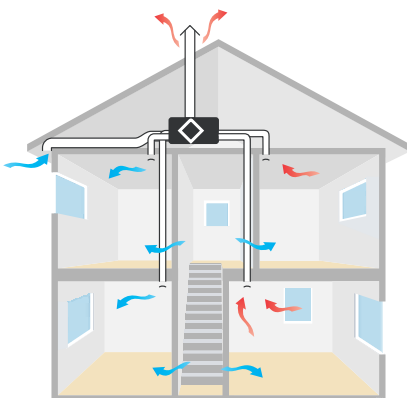
System 1



System 2



System 3



System 4

In order to achieve the air flow rates required, buildings need to be fitted with a ventilation system. The Approved Document Part F provides guidance on four ventilation systems:

System 1 BACKGROUND VENTILATORS AND INTERMITTENT EXTRACTOR FANS

Equivalent area for all ventilation should exceed that determined using Table 1.2a of the Approved Document Part F. Background ventilators should be fitted in all rooms to provide a minimum of 5,000mm² equivalent area to habitable rooms and 2,500mm² equivalent area to wet rooms.

System 2 PASSIVE STACK VENTILATION

The equivalent area of ventilation required for the building should be determined from the Approved Document Part F, as for System 1. A deduction of 2,500mm² equivalent area should be made for each passive stack ventilator (located in the wet rooms). Background ventilators should be fitted to provide a minimum of 5,000mm² equivalent area to all habitable rooms. No background ventilators should be fitted in wet rooms.

System 3 CONTINUOUS MECHANICAL EXTRACT

Background ventilators, providing a minimum of 2,500mm² equivalent area, should be fitted in all rooms except wet rooms where mechanical extracts are located.

System 4 CONTINUOUS MECHANICAL SUPPLY AND EXTRACT WITH HEAT RECOVERY

This system relies solely on mechanical ventilation systems to supply and remove air from the building. There is no requirement for background ventilators to be fitted to windows.

In all cases, the ventilation system is only compliant with Part F when the installed performance meets the ventilation requirements shown in the document. This is tested in accordance with new European Standards detailed in BSEN13141. To help achieve the required performance, Part F provides guidance on the location of ventilation devices within a room and the allowable controls.

EQUIVALENT AREA OF VENTILATION

The Approved Document Part F introduces the measurement of ventilation as an equivalent area in mm² rather than the free area as had previously been used. Equivalent area for ventilation devices is tested in accordance with BSEN13141 by measuring the flow of air through the device at differing pressure levels. It is a requirement that all products are clearly marked with their equivalent area. This enables the figures to be used to calculate the background ventilation for the whole building.

VENTILATION CALCULATIONS

As part of our design and quotation service, our Estimating Department will provide calculations assessing compliance with Document F based on the drawings issued. We will need a full set of detailed drawings of the dwelling/property.

However, although we can assist at the design phase, overall responsibility for ensuring compliance with Document F still remains with the builder.

Images on this page provided by Titon Hardware (UK).

DRIVING WINDOW ENERGY EFFICIENCY STANDARDS

During recent years, increased levels of environmental awareness have led to improvements in the energy efficiency requirements of buildings. Choosing the correct window specification minimises energy loss which can save on heating costs, in addition to reducing the impact on the environment.

Window Energy Ratings (WER) were launched in March 2004 by the British Fenestration Rating Council (BFRC), an independent government-supported body established to develop and administer a system of Window Energy Ratings in the UK. The idea was to develop a consumer-friendly method of illustrating which windows performed well in terms of energy efficiency, using the same type of labels already seen on white goods. Full details relating to Window Energy Ratings can be found on the BFRC website:

www.bfrc.org

In late 2006, the BFRC became part of the Glass and Glazing Federation.

WHAT IS A WINDOW ENERGY RATING (WER)?

A BFRC rating and label apply to a whole window (i.e. frame and glass). They do not apply to either the frame, or the system or the glass individually. Therefore it is at the point at which all these components come together to produce a whole window that the rating and label are obtained. A window's energy rating is determined by a formula which takes into account available solar heat gains (window g-Value) and subtracts the thermal losses (window U-Value and air leakage).

$$\text{WER} = \text{Solar Gains} - (\text{Thermal Losses} + \text{Air Leakage})$$

The resulting value (energy index) is then placed into a band on an A-G scale consistent with other energy performance labels already familiar to the consumer. The A-G rating system provides a means of promoting energy-efficient windows to the consumer and should also help the government to incentivise the windows' uptake.

- Windows with a B Rating or higher are endorsed by the Energy Saving Trust's Energy Efficiency Recommended (EER) scheme and may also carry their logo.



- The Energy Saving Trust (EST) has also produced a series of Best Practice Guides for windows in new dwellings which use BFRC ratings as the measure of window performance. Good practice is achieved by the use of C Rated windows and best practice via the use of B Rated windows. Whilst not mandatory, these guides will be used in any government-funded construction (e.g. social housing).
- C Rated windows are also included on DEFRA's (Department of Environment, Food and Rural Affairs) illustrative list of possible energy efficiency measures as part of the Energy Efficiency Commitment (EEC), paving the way for possible future subsidies.

A BFRC RATING IS AWARDED HAVING FOLLOWED THREE STAGES

- 1 A BFRC Certified Simulator produces an assessment report † of the window.
 - 2 A BFRC Independent Agency ensures the window company has a satisfactory quality management system, approves the Certified Simulator's report and informs BFRC.
 - 3 BFRC authorises, and informs the window company of the product's rating and gives permission for them to use the labels. BFRC places the product on the database on its website. The Energy Saving Trust, on receipt of the appropriate rating, allows the use of the Energy Efficiency Recommended logo on the window.
- † The Certified Simulator's report gives an assessment of the BFRC Rating, which takes into account U-Value, g-Value and L-Value (air leakage). The U-Value would normally be produced by the Simulator using approved software. The g-Value comes from the glass manufacture; and the L-Value from testing to BS 6375. The U-Value simulation is performed for a window to the standard GGF configuration, and the result can be applied to all products of other configurations using the same system/profile.

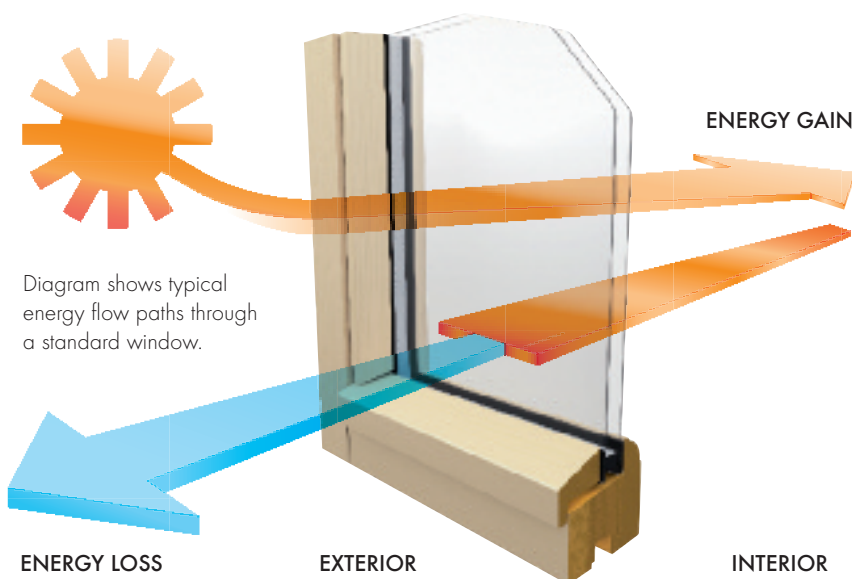


Diagram shows typical energy flow paths through a standard window.

sgg PLANITHERM TOTAL®, sgg SWISSPACER® and sgg ECOCLEAR® are registered trademarks of Saint-Gobain. All images for sgg PLANITHERM TOTAL®, sgg SWISSPACER® and sgg ECOCLEAR® provided by Saint-Gobain.

HOW DO WINDOW ENERGY RATINGS IMPROVE?

The overall performance of a window is dependent upon the combined effect of the frame and the glazing components and the air tightness of the finished window. Each frame style is then a fixed element and ratings within each frame style are varied by calculating the decreasing thermal losses and/or increasing solar gains that vary with the glazing specification.

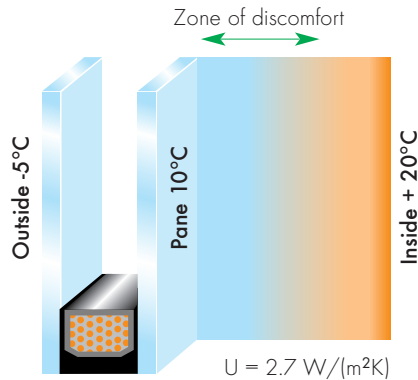
U-VALUES

The U-Value is a measure of the rate of heat flow through a window. A lower U-Value indicates less energy loss through the window. U-Values should always be representative of the entire window. U-Values for individual components of the window for example the glazing should not be used in any calculations.

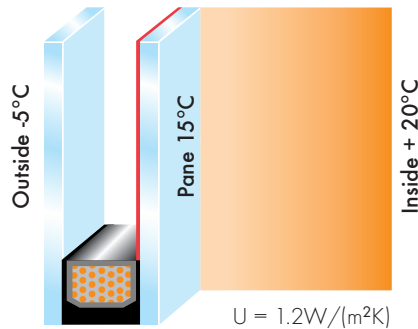
Heat is lost through the window by conduction, convection and radiation. Various measures can be taken to reduce heat loss through the window. Using a low-E coating to the glazing helps to reflect the heat back into the room. Filling the double glazed unit with an inert gas such as argon reduces the amount of heat lost through the glazing unit through convection. Warm edge spacer bars can also be used instead of conventional metal spacer bars to reduce the conduction through them.

SGG PLANITHERM TOTAL® LOW-E GLASS FITTED AS STANDARD

Standard double-glazing
4 mm (16 mm air filled cavity) 4mm



Double-glazing
4 mm (16 mm argon filled cavity) 4mm
SGG PLANITHERM TOTAL



SGG PLANITHERM TOTAL® is a low-E glass supplied as standard on all our double glazed units. This advanced low-emissivity product provides superior performance in thermal insulation. With centre pane U-Values as low as 1.2 W/m²K this ensures minimal thermal losses for frames incorporating this glazing.

SGG PLANITHERM TOTAL® has several advantages over traditional low-E glazing:

- **Better thermal insulation** - Reduces heat loss, saving money on heating bills and hence reducing use of energy and the impact on the environment.
- **More comfortable homes** - Better insulation means less draughts and cold spots near windows and doors.
- **Less condensation** - A warmer interior surface of the glazed unit reduces the probability of condensation.
- **Less of a tint to the glass** - Allows more natural light into the building whilst also giving clearer vision through the windows.
- **Energy efficiency** - Improved thermal insulation combined with greater solar gains make SGG PLANITHERM TOTAL® one of the most energy-efficient products on the market.

Energy Window	
Howarth Timber (Windows & Doors) Ltd Sustainable Windows Stormproof Energy Ultra	
A B C D E F G	A
Energy Index (U _{trans})(year) designs which comply by 2018 and based on UK standard windows. The actual energy consumption for specific applications will depend on the building, the local climate and the indoor temperature.	2
The climate zone is:	UK
Thermal Transmittance (U _{trans})	1.4 W/m².K
Solar Factor (g _{sol})	0.44 W/m².K
Infiltrative Air Leakage (q _{air})	0.4 W/m³.K
Reg. No.: 018 M175 www.bfrc.org	
This and is not a certified product. It is a voluntary label provided as a reference number to allow our users to make their own choice on the energy performance of competing products.	

SGG SWISSPACER® ULTIMATE - THERMALLY EFFICIENT SPACER BAR

SGG SWISSPACER® ULTIMATE is a next generation warm edge spacer bar. It is reputed to be the best performing foiled warm edge spacer bar in the world. Warm edge spacer bars insulate the edges of an energy efficient sealed unit. They keep the

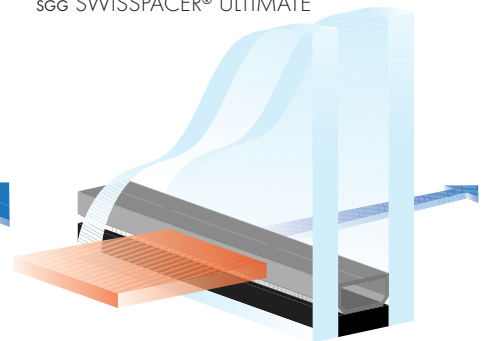
panes of glass apart and maintain the integrity of the air gap that insulates a building from heat loss through windows. This gives a greater level of energy efficiency and reducing the cost to both heating bills and the environment.

SWISSPACER
SAINT-GOBAIN

Standard Spacer



SGG SWISSPACER® ULTIMATE



SGG PLANITHERM TOTAL®, SGG SWISSPACER® and SGG ECOCLEAR® are registered trademarks of Saint-Gobain. All images for SGG PLANITHERM TOTAL®, SGG SWISSPACER® and SGG ECOCLEAR® provided by Saint-Gobain.

HIGHER ENERGY RATINGS AND LOWER FUEL BILLS

HOWARTH ENERGY RATED WINDOWS

In addition to the standard specification windows in each of our ranges, Howarth now offers a new energy rated family of windows.

ENERGY

The Energy family offers performance equivalent to **BFRC C Rated** windows.

ENERGY PLUS

The Energy Plus family offers performance equivalent to **BFRC B Rated** windows.

ENERGY ULTRA

The Energy Ultra family offers **BFRC A Rated** performance.

LOW U-VALUES

For projects specifically requiring low U-Values, Howarth Windows and Doors has introduced a new family of windows to our Energy Range.

ENERGY ULTRA U

The Energy Ultra U family offers the optimum thermal insulation with the lowest achievable U-Values.

GLAZED UNITS GUARANTEES

We offer a ten year guarantee on all sealed units. First five years supply and replacement on site, remaining five years supply only.



Sealed Units

NOTE: All guarantees given in this catalogue are subject to limitations and are strictly dependent upon compliance with manufacturers' usage and maintenance instructions. These are available upon request.

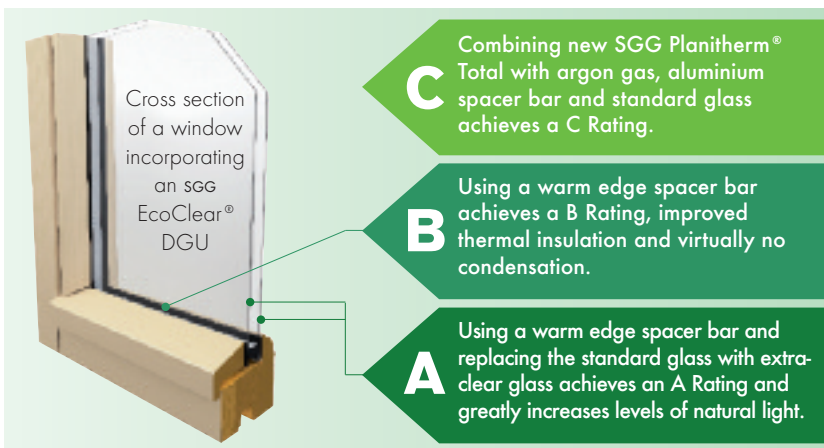
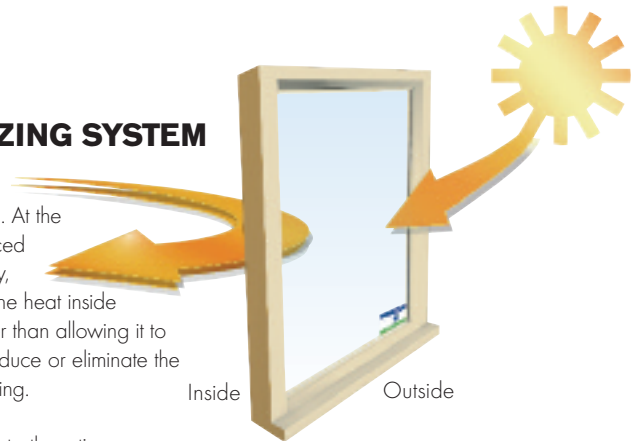
SGG ECOCLEAR® - HIGH PERFORMANCE GLAZING SYSTEM

Howarth offers the option to specify SGG EcoClear®, the most technically superior glazing solution available today.

Incorporating the new SGG Planitherm® Total coated glass technology, windows can now achieve the highest possible Window Energy Ratings (WERs) and will qualify for Energy Saving Recommended status with most frame systems. Windows glazed with SGG EcoClear® allow optimal amounts of the sun's energy to pass through the glass

into the room, benefiting from free solar heat gain. At the same time, using advanced glass coating technology, SGG EcoClear® reflects the heat inside back into the room rather than allowing it to escape. Both features reduce or eliminate the need for additional heating.

SGG EcoClear® offers up to three times more thermal insulation than standard double glazing and 20% better insulation than old fashioned thermally insulating glass. All this is achieved without compromising the amount of natural light passing through the glass.



REDUCE ENERGY BILLS

Windows glazed with SGG EcoClear® can drastically cut the cost of heating bills over their lifetime.



REDUCING CARBON FOOTPRINTS

In the UK, homes create over a quarter of all CO₂ emissions. SGG EcoClear® windows will help reduce energy loss and significantly lower CO₂ emissions.

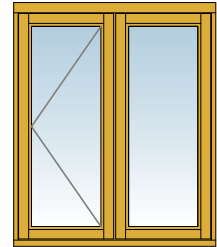
All SGG EcoClear® double glazed units (DGUs) are manufactured to the highest British and European quality standards (BS EN 1279-3).

ULTRA LOW U-VALUES

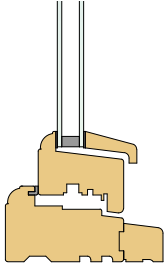
The tables below illustrate indicative thermal performance data for the Howarth range of timber windows with U-Values as low as 0.8 W/m²K on the Storvik^{SKD} triple glazed.

For further details please contact the sales office on 01469 530577.

Benchmark
Window
1230mm wide
x
1480mm high

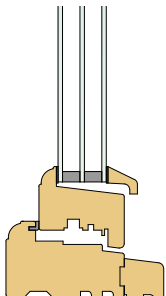


NEW STORVIK^{SKD} DOUBLE GLAZED CASEMENT



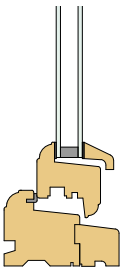
DESCRIPTION	ENERGY	ENERGY PLUS	ENERGY ULTRA	ENERGY ULTRA U
Glazing Configuration	4 -16 - 4	4 -16 - 4	4 -16 - 4	4 -16 - 4
Internal Glazing Type	Low E	Low E	Low E	Low E (High Spec)
External Glazing Type	Clear	Clear	Low Iron	Low Iron
Gas Type	Argon 90%	Argon 90%	Argon 90%	Argon 90%
Spacer Bar Type	Standard	Warm Edge	Warm Edge	Warm Edge
Solar Gain (g _w Value)	0.42	0.42	0.44	0.31
Thermal Insulation (U-Value) W/m ² K	1.5	1.3	1.3	1.2
Window Energy Rating	C	B	A	C

NEW STORVIK^{SKT} TRIPLE GLAZED CASEMENT



DESCRIPTION	ENERGY	ENERGY PLUS	ENERGY ULTRA	ENERGY ULTRA U
Glazing Configuration	4 -16 - 4 -16 - 4	4 -16 - 4 -16 - 4	4 -16 - 4 -16 - 4	4 -16 - 4 -16 - 4
Internal Glazing Type	Low E	Low E	Low E	Low E (High Spec)
Centre Glazing Type	Clear	Clear	Low Iron	Low E (High Spec)
External Glazing Type	Clear	Clear	Low Iron	Low Iron
Gas Type	Argon 90%	Argon 90%	Argon 90%	Krypton
Spacer Bar Type	Standard	Warm Edge	Warm Edge	Warm Edge
Solar Gain (g _w Value)	0.38	0.38	0.41	0.24
Thermal Insulation (U-Value) W/m ² K	1.3	1.1	1.1	0.8
Window Energy Rating	B	A	A	B

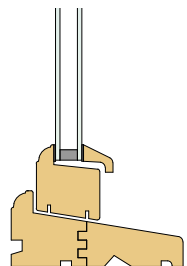
STORMPROOF GLAZED CASEMENT



DESCRIPTION	ENERGY	ENERGY PLUS	ENERGY ULTRA	ENERGY ULTRA U
Glazing Configuration	4 -16 - 4	4 -16 - 4	4 -16 - 4	4 -16 - 4
Internal Glazing Type	Low E	Low E	Low E	Low E (High Spec)
External Glazing Type	Clear	Clear	Low Iron	Low Iron
Gas Type	Argon 90%	Argon 90%	Argon 90%	Argon 90%
Spacer Bar Type	Standard	Warm Edge	Warm Edge	Warm Edge
Solar Gain (g _w Value)	0.44	0.44	0.46	0.32
Thermal Insulation (U-Value) W/m ² K	1.6	1.4	1.4	1.3
Window Energy Rating	C	B	A*	D#

This option does not meet Document L1B for window energy ratings.

SLIDING SASH GLAZED CASEMENT



DESCRIPTION	ENERGY	ENERGY PLUS	ENERGY ULTRA
Glazing Configuration	4 -16 - 4	4 -16 - 4	4 -16 - 4
Internal Glazing Type	Low E	Low E	Low E
External Glazing Type	Clear	Clear	Low Iron
Gas Type	Argon 90%	Argon 90%	Argon 90%
Spacer Bar Type	Standard	Warm Edge	Warm Edge
Solar Gain (g _w Value)	0.45	0.45	0.47
Thermal Insulation (U-Value) W/m ² K	1.6	1.4	1.4
Window Energy Rating	C	B*	A

NOTE: * Results based on energy rating calculations ratified by the BFRC

NOTE: All other results generated by Howarth to determine energy ratings are conducted using the rules and procedures used by the BFRC and are based upon the BFRC standard specification and frame sizes for such calculations.

Solaglas do not accept any liability for any reliance or interpretation placed on any statement or illustration shown here. In all glazing situations please seek suitable independent professional advice. Solaglas is a registered trademark of Saint-Gobain.

sgg PLANITHERM TOTAL[®], sgg SWISSPACER[®] and sgg ECOCLEAR[®] are registered trademarks of Saint-Gobain. All images for sgg PLANITHERM TOTAL[®], sgg SWISSPACER[®] and sgg ECOCLEAR[®] provided by Saint-Gobain.

From July 2013, under Article 9 of the Construction Products Regulation, it became mandatory for building products sold in the UK to comply with the European Economic Area (EEA) CE Marking requirements.

New European test methods, and the means of measuring these, have been developed and accepted by all countries in the EEA. As responsible manufacturers, committed to maintaining the highest standards, we welcome the recognition that the CE mark brings, and its visible reassurance to our customers and end users.

WHAT THE CE MARK SIGNIFIES

The CE mark (Conformité Européenne) signifies European Conformity and is the manufacturer's declaration that the product complies with the essential requirements of the relevant EEA health, safety and environmental protection legislation. Manufacturers of building products who want to export to any EEA member state are now required to meet the regulations and their products must carry the CE mark.

In effect, the CE mark on Howarth products demonstrates that the product can be sold legally throughout the EEA, and is fit for

purpose. It provides assurance that our products meet defined minimum standards for health, safety and economy of energy. The CE designation is not a 'quality mark' - where, for example, a UK trade or professional organisation has drawn up its own requirements and standards and owns its own mark - but is a regulatory common approach to conformity throughout all member countries of the EEA.



CE MARK ON WINDOWS AND DOORS

WORKING TOWARDS A GREENER FUTURE

For further details on how Howarth Windows & Doors is committed to pursuing sound environmental practices please see [page 6](#).



SECURITY ASSURED

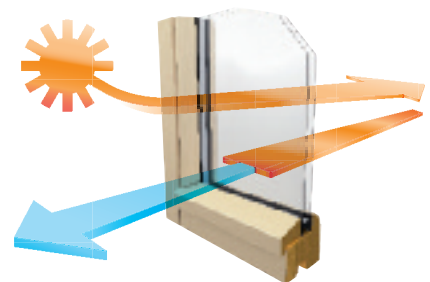
Secured by Design is a national police initiative to create a safer more secure environment for residents.

More information on how the Howarth range contributes to this aim can be found on [page 124](#).



WINDOW ENERGY RATINGS

The ratings are a consumer-friendly method of illustrating which windows perform well in energy efficient terms. For more information, please see [page 130](#).



THE MARK AND ITS RELEVANCE TO THE WHOLE BUILDING

The CE mark shows that the product, when properly installed and maintained, will enable the finished construction works to comply with the Construction Products Regulation requirements of:

- Mechanical resistance and stability.
- Safety in case of fire.
- Hygiene, health and environment.
- Safety and accessibility in use.
- Protection against noise.
- Energy economy and heat retention.
- Sustainable use of natural resources.

THE STANDARDS REQUIRED

Most external windows and door sets require CE marks and it is the responsibility of installers, fabricators and suppliers to comply. To qualify for a CE mark, products must achieve prescribed levels of performance and must be manufactured in line with a factory production control system (FPC).

Product standard EN 14351-1 standardises performance characteristics for windows and exterior doors, setting out the requirements for manufacturing and including acoustics, ventilation, test methods, production control and more.

COMPREHENSIVE TESTING

All testing is carried out by an accredited and independent body which ensures that the window and door systems have been design to fulfil all EN Standard requirements. Products are assessed for:

- Air permeability.
- Water resistance.
- Wind loading.
- Safety.
- Impact resistance.
- Thermal transmittance value.



STANDARDS OF CONSTRUCTION

Page 136 gives all details of our quality standards relating to all aspects of our products, from the timber we use to adhesives and decorative finishes.

HANDLING GUIDELINES

To maintain the integrity of our products from the time they leave the factory to the time they are installed, please refer to **page 138** for details of packaging, protection, deliveries, storage.



LATEST THERMAL PERFORMANCE FIGURES

For the latest figures on how our windows and doors perform in terms of thermal efficiency, please visit our website at:

- www.howarth-timber.co.uk

MANUFACTURING QUALITY AND CONSTRUCTION



As a founder member of the British Woodworking Federation Timber Window Accreditation Scheme and as a member of The Wood Windows Alliance, we can assure our customers of the highest levels of product performance, durability and manufacturing standards.



All Howarth windows are covered by these schemes, which incorporate third party quality inspection and product guarantees.

LAMINATED TIMBER

Main frame and sash components on all Howarth window ranges are now made from clear-faced laminated finger jointed timber. This helps to reduce waste, improve stability and means the main frame components will be free of knots and subsequently, resin stain. This is a major advance, improving the performance and look of the frame and durability of its paint system.



TIMBER

- **BS EN 942:2007 Timber in Joinery; General Classification of Timber Quality.**



All timber used is Redwood Nordic Pine from well-managed yield sources.

PRESERVATION OF TIMBER

BS5589:1989 Table 5 Performance Level B for 30 years service life.

- **Test Results: BS6375 Part 1 & Part 2.**

MATERIALS, CONSTRUCTION AND WORKMANSHIP REQUIREMENTS

- **BS644:2012** Timber Windows and Door Sets. Fully Finished Factory-Assembled Windows and Door Sets of Various Types, Specification.
- **BS1186 Part 2:1988** Specification for Workmanship in Joinery.



BS644:2012

PERFORMANCE

- **BS5368 Part 1, 2 & 3** High Performance Part C Rating. It should be noted that this is higher than the Part A Rating to which many windows are routinely tested.
- **BS6375 Part 1:2009** Please consult our performance declarations available to download from our website for Water Tightness, Wind Resistance and Air Permeability.
- www.howarth-timber.co.uk
- **BS6375 Part 2:2009** Operation and Strength Performance: Pass

ADHESIVES

- **BS EN 204 D4** D3 adhesive for concealed or semi concealed joints and D4 for exposed joints is the minimum requirement for BS644:2012. Howarth uses D4 adhesive throughout which offers the following benefits:
 - Improved durability.
 - Greater strength.
 - Improved water resistance.

DECORATION

All Fully Finished decorative and glazing processes are carried out at our purpose-built finishing factory in New Holland, under strict quality-controlled conditions, ensuring that our high standards are continually met. Components are hand picked and prepared in our factory prior to assembly and every exposed joint or end grain is sealed. Once assembled, the frames are base coated with either a translucent or opaque water-based, moisture-permeable protective coat, after which they are de-nibbed prior to top coat application.

At the paint plant, the frames are spray coated with water-based, moisture-permeable paint or stain to the required colour. Our strict quality control ensures the correct coating thickness is applied. The newly decorated product is then glazed using the very latest drained and ventilated glazing systems. By ensuring that the glazing rebates are sealed prior to fitting and that all the recommended setting blocks, distance spacers and security tapes are used, we can guarantee that the product will give many years of satisfaction.

FRAME COATING SYSTEMS SUITABILITY

Can be overcoated immediately with water-borne or solvent-borne paint or woodstain which will adhere well.

MAINTENANCE

Regular maintenance of the frame is essential to ensure maximum performance of the glazing system and double glazed unit.

GLAZING STANDARDS COMPLIANCE

At Howarth, we manufacture all our glazed units to the relevant industry standards.

GLAZING STANDARDS

The NHBC, BRE and TRADA recommend the use of drained and vented glazing systems. All factory-fitted glazing from Howarth is glazed using this method. For replacement glazing units a CD-ROM illustrating best practice for on-site glazing methods, as approved by the BWF, is available from Howarth.

Please telephone **01469 530577** for further details.

PERMISSIBLE VISUAL QUALITY STANDARDS WITHIN DOUBLE GLAZED UNITS

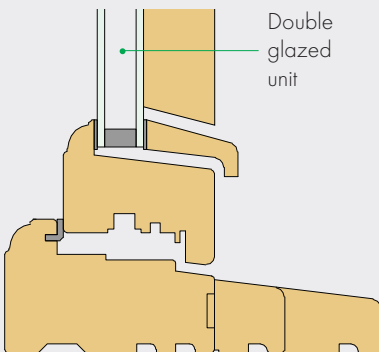
The following extract is from the Glass & Glazing Federation's information sheet on the permissible visual defects within double glazed units:

- Both panes of the sealed unit shall be viewed at right angles to the glass from the room side, standing at a distance not less than 2 metres; but for toughened, laminated or coated glass, not less than a distance of 3 metres in natural daylight and not in direct sunlight. The area to be viewed is the normal vision area with the exception of a 50mm wide band around the perimeter of the unit.

- Flat, transparent glass, including laminated or toughened (tempered) glass, shall be deemed acceptable if the following phenomena are neither obtrusive nor bunched: totally enclosed seeds, bubbles or blisters; hairlines or blobs; fine scratches not more than 25mm long; minute embedded particles. Obtrusiveness of blemishes shall be judged by looking through the glass, not at it, under lighting conditions as described above.
- The above criteria do not apply to patterned glass as, due to the method of manufacture, imperfections such as seeds and bubbles are deemed to be acceptable.

Full information is available upon request from the Sales Office on 01469 530577.

DRAINED AND VENTED SECURITY GLAZING SYSTEM



FEATURES

- Superior resistance to unauthorised entry.
- Has excellent durability and movement accommodation.
- Provides a neat and professional finish at sightline.
- Suitable for all types of glass.

SECURITY RATING

Successfully tested to **BS7950: 1997**. Specification for Enhanced Security Performance of Casement and Windows for Domestic Applications (Annex A5 Glazing Removal Test).



ANTI-CAPILLARY GAP

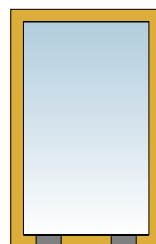
Both vertical glazing beads and vertical external plant-on bars have an anti-capillary gap created where they meet the drained and vented bottom bead. This design minimises the chance of moisture uptake through the exposed endgrain, reducing the likelihood of degradation to both timber and paint finish.

REQUIRED POSITIONS FOR 'SETTING' AND 'LOCATION' BLOCKS FOR REPLACEMENT GLAZING

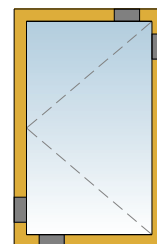
The diagrams illustrated on the right are for guidance only.

For full details, please refer to British Standard BS6262.

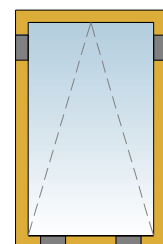
1982 Glazing for Buildings and BS8000 Part 7:1990 Code of Practice for Glazing.



Fixed Light



Side Hung



Top Hung

HANDLING GUIDELINES

PACKAGING AND PROTECTION

Once completed, frames are carefully wrapped and detailed labels are applied to the frame on two edges. These labels contain details about the frame including its approximate weight, size and its final location in the plot (e.g. Plot 1, Bed 1). This is to assist site staff to correctly install the frame in its rightful place, ensuring that fire escapes and other vital specifications are not misplaced.

The completed unit is loaded, usually in plot lots, onto a pallet for ease of unloading, and secured by further wrapping and strong retaining straps.

Some door sets and particularly large items may be loaded onto specially designed stillages for extra safety.

DELIVERIES

To assist you with deliveries, we will contact the site agent, or their associate, 24 hours prior to despatch from our factory. The driver will then contact the site agent again approximately two hours prior to his arrival on-site.

Offloading is the responsibility of the authorised site agent and is not carried out by the Howarth driver. However, the driver will position the vehicle in the most suitable position on-site to provide access for offloading of products.

NOTE: Particular care needs to be taken when offloading and moving door sets to ensure they do not suffer damage to bottom and corners of frame.



CHECKING DELIVERIES

It is important that an authorised person is available at the time of delivery to inspect for any physical damage and that this is pointed out to the delivery driver at the time and the notes signed to highlight this. Similarly, the number of frames delivered must also be checked and only this number should be signed for, if possible establishing which frames or materials are missing.

If problems are not reported upon delivery they must be reported in writing within three days of delivery.

NOTE: Some ancillary items will be marked as a unit and will need to be counted as such (e.g. certain handles will be supplied boxed or cover beads may be shown as an item).

NOTE: Any mechanical damage reported after the driver has left the site will be the responsibility of the builder.

HEALTH AND SAFETY

It is imperative that correct health and safety procedures are followed on-site when loading or unloading heavy items. Most frames weigh over 25kg and can weigh over 100kg. These frames are marked with a yellow caution label as shown. To facilitate the handling of particularly heavy or awkward frames,

we may deliver these frames in sections ready for site assembly.

It is the responsibility of the customer to ensure that handling methods are adequate and the correct health and safety measures are followed.



STORAGE OF PRODUCTS

Fully decorated windows require additional care when handling and should be stored vertically off the ground on bearers and under cover in a well ventilated environment. Leave the protective wrapping in place at the end of the build process until just before final inspection. When removing packaging take extra care not to damage paint film or glass. Any damage must be recorded on the delivery note at the time of delivery.

To prevent unnecessary damage caused by storage and exposure to the elements, it is recommended that frames are planned for delivery just prior to requirement for installation.



REMOVAL OF PACKAGING

Door sets are supplied with both wedge and brace blocks to ensure the frame remains square and stable during transit and storage. These should be removed just before offering the door set into the opening.

Riser blocks as shown in the above photograph, are a design feature of Howarth windows. They ensure smooth operation of the window mechanisms and should not be removed from the frame.

TERMS AND CONDITIONS

Howarth Timber Group Limited and Subsidiary Companies.

Terms of Trading:

1. BUSINESS CUSTOMERS AND CONSUMERS

1.1 Some of these terms apply to consumers only; some apply to business customers only. Those terms are marked as such.

1.2 All other terms apply to all customers.

1.3 You are classified as a business customer if you indicate to us that the goods supplied by us will be used in the course of your business or if you use the goods in the course of your business.

1.4 If you are not a business customer, you are a consumer. You have certain statutory rights as a consumer which are not affected by these terms. Contact your local trading standards office for more information. Words in italic type are legal words which clarify, rather than alter, the meaning of the relevant clause.

2. PRICE

2.1 The price quoted excludes VAT (unless otherwise stated). VAT will be charged at the rate applying at the time of delivery.

2.2 Our quotations lapse after 30 days (unless otherwise stated).

2.3 The price quoted includes delivery between 7.30am to 5.00pm, Monday to Friday (unless otherwise stated).

2.4 Business customers only: unless otherwise stated, the price quoted to business customers is an illustrative estimate only and the price charged will be our price current at the time of delivery.

2.5 Business customers only: rates of tax and duties on the goods will be those applying at the time of delivery.

2.6 Business customers only: at any time before delivery we may adjust the price to reflect any increase in our costs of supplying the goods.

3. DELIVERY

3.1 All delivery times quoted are estimates only.

3.2 If we fail to deliver within a reasonable time after the quoted delivery time, you may (by informing us in writing) cancel the contract, however:

3.2.1 you may not cancel if we receive your notice after the goods have been dispatched; and

3.2.2 if you cancel the contract, you can have no further claim against us under that contract.

3.3 If you accept delivery of the goods after the estimated delivery time, it will be on the basis that you have no claim against us for delay (including indirect or consequential loss, or increase in the price of the goods).

3.4 We may deliver the goods in instalments. Each instalment is treated as a separate contract.

3.5 We may decline to deliver if:

3.5.1 we believe that it would be unsafe, unlawful or unreasonably difficult to do so; or

3.5.2 the premises (or the access to them) are unsuitable for our vehicle.

3.6 We may charge you for storage (and abortive delivery costs) if you do not accept delivery at the quoted delivery time (or any later time agreed in writing).

4. RISK

4.1 The goods are at your risk from the time of delivery.

4.2 Delivery takes place either:

4.2.1 at our premises (if you are collecting them or arranging carriage); or

4.2.2 at your premises or address specified by you (if we are arranging carriage).

4.3 You must inspect the goods on delivery. If any goods are damaged or not delivered, you must write to tell us within three days of delivery or the expected delivery time. You must give us (and any carrier) a fair chance to inspect the damaged goods.

5. PAYMENT TERMS

5.1 Payments terms are as follows unless you have an approved credit account:

1) Orders with a Net Value of £1,000 or less require payment to be made in full with cash or cleared funds on placement of the order.

2) Orders with a Net Value of £1,001 or more require 50% payment to be made with cash or cleared funds prior to the order being released into production, the remaining 50% is required to be paid with cash or cleared funds no later than 5 working days prior to the date of delivery.

5.2 Business customers only: If you have an approved credit account, payment is due net monthly, that is at the end of the month following the month of the date of our invoice, unless otherwise agreed in writing.

5.3 If you fail to pay us in full on the due date we may:

5.3.1 suspend or cancel future deliveries;

TERMS AND CONDITIONS - CONTINUED

5.3.2 cancel any discount offered to you;

5.3.3 Business customers only: charge you interest at the rate set under s.6 of the Late Payment of Commercial Debts (Interest) Act 1998;

a. calculated (on a daily basis) from the date of our invoice until payment;

b. before and after any judgment (unless a court orders otherwise);

5.3.4. Consumers only: Charge you interest at a rate equivalent to the rate set for business debts under s.6 of the Late Payment of Commercial Debts (Interest) Act 1998;

5.3.5 claim fixed sum compensation from you under s.5A of that Act to cover our credit control overhead costs; and

5.3.6 recover (under clause 5.8) the cost of taking legal action to make you pay.

5.4 If you have an approved credit account we may withdraw it or reduce your credit limit or bring forward your due date for payment. We may take any of these actions at any time and without notice.

5.5 Business Customers only: you do not have the right to set off any money you may claim from us against anything you may owe us.

5.6 Consumers only: you may only set off money you claim from us against money you owe us with our written agreement and on such terms as we may state.

5.7 While you owe money to us, we have a right to keep any property we may hold of yours until you have paid us in full (a lien).

5.8 You are to indemnify us in full and hold us harmless from all expenses and liabilities we may incur (directly or indirectly and including finance costs, legal costs on a full

indemnity basis and the costs of instructing a debt collection agency to recover a debt due to us if any) following any breach by you of any of your obligations under these terms.

5.9 Consumers only: clause 5.8 means that you are liable to us for losses we incur because you do not comply with these terms. We may claim those losses from you at any time and if we have to take legal action we will ask the court to make you pay our legal costs.

6. TITLE

6.1 Consumers only: your statutory rights are unaffected.

6.2 Business customers only: until you pay all debts you may owe us:

6.2.1 all goods supplied by us remain our property;

6.2.2 you must store them so that they are clearly identifiable as our property;

6.2.3 you must insure them (against the risks for which a prudent owner would insure them) and hold the policy on trust for us;

6.2.4 you may use those goods and sell them in the ordinary course of your business, but not if:

a. we revoke that right (by informing you in writing); or

b. you become insolvent.

6.3 Business customers only: you must inform us (in writing) immediately if you become insolvent.

6.4 Business customers only: if your right to use and sell the goods ends you must allow us to remove the goods.

6.5 Business customers only: we have your permission to enter any premises where the goods may be stored:

6.5.1 at any time, to inspect them; and

6.5.2 after your right to use and sell them has ended, to remove them, using reasonable force if necessary.

6.6 Despite our retention of title to the goods, we have the right to take legal proceedings to recover the price of goods supplied should you not pay us by the due date.

6.7 You are not our agent. You have no authority to make any contract on our behalf or in our name.

7. WARRANTIES

7.1 We warrant that the goods:

7.1.1 comply with their description on our acknowledgement of order form; and

7.1.2 are free from material defect at the time of delivery (as long as you comply with clause 7.4).

7.1.3 Natural products such as timber or quarried products may vary in grain or shading from the samples supplied.

7.1.4 If materials are supplied at the request of the customer to be a specific grade, no warranty is given that the grade will be suitable for the purposes required by the customer.

7.2. Business customers only, We give no other warranty (and exclude any warranty, term or condition that would otherwise be implied) as to the quality of the goods or their fitness for any purpose.

7.3 Consumers only: the warranty in clause 7.1 is in addition to your statutory rights.

7.4 If you believe that we have delivered goods which are defective in material or workmanship, you must:

7.4.1 inform us (in writing), with full details within:

TERMS AND CONDITIONS - CONTINUED

a. three days of delivery if defect, damage or variance is reasonably discoverable on careful examination on delivery; or

b. six months of supply if defect, damage or variance is not reasonably discoverable on careful examination on delivery;

7.4.2 any damage to fully finished frames must be recorded on the delivery note at the time of delivery; and

7.4.3 you must allow us to investigate (we may need access to your premises and product samples).

7.5 If the goods are found to be defective in material or workmanship (following our investigations), and you have complied with those conditions in clause 7.4) in full, we will (at our option) repair or replace the goods or refund the price.

7.6 We are not liable for any other loss or damage arising from the contract or the supply of goods or their use, even if we are negligent, including (as examples only);

7.6.1 direct financial loss, loss of profits or loss of use; and

7.6.2 indirect or consequential loss

7.7 Our total liability to you (from one single cause) for damage to property caused by our negligence is limited to £15,000,000.

7.8 Where we are not the manufacturer of the goods supplied by third parties our liability is limited only to any benefit that we may receive under any manufacturer warranty or guarantee of the goods.

7.9 For all other liabilities not referred to elsewhere in these terms our liability is limited in damages to the price of the goods.

7.10 Nothing in these terms restricts or limits our liability for death or personal injury resulting from negligence.

7.11 Nothing in these terms affects or limits our liability for fraudulent misrepresentation.

8. SPECIFICATION

8.1 If we prepare the goods in accordance with your specifications or instructions you must ensure that:

8.1.1 the specifications or instructions are accurate;

8.1.2 goods prepared in accordance with those specifications or instructions will be fit for the purpose for which you intend to use them;

8.1.3 your specifications or instructions will not result in the infringement of any intellectual property rights of a third party, or in the breach of any applicable law or regulation; and

8.1.4 you are responsible for rechecking your specification or instructions to verify they meet your requirements.

8.2 Business Customers only:

We reserve the right;

8.2.1 to make any changes in the specifications of our goods that are necessary to ensure they conform to any applicable safety or statutory requirements; and

8.2.2 to make without notice any minor modifications in our specifications we think necessary or desirable.

9. RETURN OF GOODS

9.1 We will accept the return of goods from you only:

9.1.1 by our prior agreement (confirmed in writing);

9.1.2 on payment of an agreed handling charge (unless the goods were defective when delivered); and

9.1.3 where the goods are as fit for sale on their return as they were on delivery.

10. EXPORT TERMS

10.1 Clause 10 of these terms applies (except to the extent that it is inconsistent with any written agreement between us) where we supply the goods over an international border or overseas.

10.2 The Incoterms' of the International Chamber of Commerce which are in force at the time when the contract is made apply to exports, but these terms prevail over the Incoterms to the extent that there is any inconsistency.

10.3 Unless otherwise agreed, the goods are supplied ex works our place of manufacture.

10.4 Where the goods are to be sent by us to you by a route including sea transport we are under no obligation to give a notice under section 32(3) of the Sale of Goods Act 1979.

10.5 You are responsible for arranging testing and inspection of the goods at our premises before shipment (unless otherwise agreed). We are not liable for any defect in the goods which would be apparent on inspection unless a claim is made before shipment. We are not liable for any damage during transit.

10.6 We are not liable for death or personal injury arising from the use of the goods delivered in the territory of another State (within the meaning of s.26 (3) (b) Unfair Contract Terms Act 1977).

11. CANCELLATION

11.1 You may not cancel the order unless we agree in writing (and clauses 3.2.2 and 11.2 then apply).

11.2 If the order is cancelled (for any reason) you are then to pay us for all stock (finished or unfinished) that we may then hold (or to which we are committed) for the order.

TERMS AND CONDITIONS - CONTINUED

11.3 We may suspend or cancel the order, by written notice if:

11.3.1 you fail to pay us any money when due (under the order or otherwise);

11.3.2 you become insolvent;

11.3.3 you fail to honour your obligations under these terms.

12. WAIVER AND VARIATIONS

12.1 Any waiver or variation of these terms is binding in honour only unless:

12.1.1 made (or recorded) in writing;

12.1.2 signed on behalf of each party; and

12.1.3 expressly stating an intention to vary these terms.

12.2 All orders that you place with us will be on these terms (or any that we may issue to replace them). By placing an order with us, you are expressly waiving any printed terms you may have to the extent that they are inconsistent with our terms.

13. FORCE MAJEURE-BUSINESS CUSTOMERS ONLY

13.1 If we are unable to perform our obligations to you (or able to perform them only at unreasonable cost) because of circumstances beyond our control, we may cancel or suspend any of our obligations to you, without liability.

13.2 Examples of those circumstances include act of God, accident, explosion, war, terrorism, fire, flood, transport delays, strikes and other industrial disputes and difficulty in obtaining supplies.

14. PERFORMANCE

14.1 Unless otherwise agreed in writing you must, at no cost to us:

14.1.1 erect, maintain, dismantle and move all scaffolding and plant required for the work;

14.1.2 provide any water supply, artificial lighting and electric power required for the work;

14.1.3 unload goods, plant and material immediately on arrival at the place of delivery and provide secure and dry storage and other reasonable facilities; and

14.1.4 ensure that all safety, health, welfare facilities and arrangements (where applicable) comply with current health and safety legislation.

14.2 You must keep all joinery supplies in well stored and dry place. White joinery supplies must be primed or stained immediately on receipt. Any subsequent cut surface must be primed or stained before fixing in position.

14.3 We shall carry out work on a continuous basis during normal working hours (see clause 2.3) and the price is fixed accordingly. We will make additional charges if we are:

14.3.1 denied access;

14.3.2 waiting on site; and

14.3.3 returning on site to commence or continue work due to clauses 14.3.1 and 14.3.2.

15. GENERAL

15.1.1 English law is applicable to any contract made under these terms. The English and Welsh courts have non-exclusive jurisdiction.

15.2 Any dispute arising out of the contract may be referred to the arbitration of an agreed arbitrator, or, failing that, an arbitrator appointed by the Chartered Institute of Arbitrators.

15.3 If you are more than one person, each of you is liable for all of your obligations under these terms (joint and several liability).

15.4 If any of these terms are unenforceable as drafted:

15.4.1 it will not affect the enforceability of any other of these terms; and

15.4.2 if it would be enforceable if amended, it will be treated as so amended.

15.5 We may treat you as insolvent if:

15.5.1 you are unable to pay your debts as they fall due; or

15.5.2 you (or any item of your property) becomes the subject of:

a. any formal insolvency procedure (examples of which include receivership, liquidation, administration, voluntary arrangements (including a moratorium) or bankruptcy);

b. any application or proposal for any formal insolvency procedure; or

c. any application, procedure or proposal overseas with similar effect or purpose.

15.6 Business customers only: all brochures, catalogues and other promotional materials are to be treated as illustrative only. Their contents form no part of any contract between us and you should not rely on them in entering into any contract with us.

TERMS AND CONDITIONS - CONTINUED

15.7 Business customers only: any notice by either of us which is to be served under these terms may be served by leaving it at or by delivering it to (by first class post or by fax) the other's registered office or principal place of business. All such notices must be signed.

15.8 No contract will create any right enforceable (by virtue of the Contracts (Rights of Third Parties) Act 1999) by any person not identified as the buyer or seller.

15.9 The only statements upon which you may rely in making the contract with us are those made in writing by someone who is our authorised representative and either:

15.9.1 contained in our estimate (or any covering letter) and not withdrawn before the contract is made; or

15.9.2 which expressly state that you may rely on them when entering into the contract.

15.10 Please note that we may transfer personal information about you to those we may appoint to administer your account or recover amounts owing. That may include, for example, passing information about you to our insurers, debt recovery agents and solicitors, if you fail to pay us.

16. AFTER DELIVERY

16. Where frames have been delivered more than six months (twelve for fully finished Endurance frames) prior to a problem being reported, a confirmation from the customer to the acceptance of an inspection charge will be required prior to our inspection. If the problem has been caused by our manufacture or our installation no inspection charge will be subsequently raised and within our Guarantees and Terms and conditions of Sale, the rectification work will be carried out by our selves free of charge.

PLEASE NOTE: Whilst every effort has been made to ensure that the information in this catalogue was correct at the time of going to press, Howarth Timber (Windows & Doors) Ltd reserves the right to modify or update the specification of its products, and the materials used within its products, without prior notice, as its policy is one of continual improvement.

© Howarth Windows & Doors Ltd 2014





DIRECT NUMBERS

Orders: 01469 535301
 Estimating: 01469 535302
 After Sales: 01469 535306
 Technical: 01469 535311
 Marketing: 01469 530577

CONTACT DETAILS

Address: The Dock, New Holland, North Lincolnshire DN19 7RT
 Telephone: 01469 530577
 Fax: 01469 531559
 Email: windows&doors@howarth-timber.co.uk
 Website: www.howarth-timber.co.uk

For all enquiries
 please contact the
 Howarth Windows & Doors
 Sales Office on:
01469 530577

For further information on
 Howarth Timber & Building Supplies
 products and services please email:
info@howarth-timber.co.uk

Alternatively please visit our
 comprehensive website at:
www.howarth-timber.co.uk

HOWARTH TIMBER & BUILDING SUPPLIES BRANCHES

The UK's largest privately owned and operated timber group with branches
 located nationwide.

NORTH WEST

Accrington	0844 801 3318	sales.accrington@howarth-timber.co.uk	BB5 0DN
Ashton (Lancs)	0844 801 3031	sales.ashton@howarth-timber.co.uk	OL7 0AG
Blackburn	0844 801 3311	sales.blackburn@howarth-timber.co.uk	BB1 3EE
Burnley	0844 801 3314	sales.burnley@howarth-timber.co.uk	BB10 1RZ
Bury (Lancs)	0844 801 3315	sales.bury@howarth-timber.co.uk	BL9 6AQ
Darwen	0844 801 3309	sales.darwen@howarth-timber.co.uk	BB3 2ES
Manchester	0844 801 3316	sales.manchester@howarth-timber.co.uk	M4 5HE
Oldham	0844 801 3310	sales.oldham@howarth-timber.co.uk	OL1 3LJ
Rochdale	0844 801 3313	sales.rochdale@howarth-timber.co.uk	OL16 2AA
Sale	0844 801 3317	sales.sale@howarth-timber.co.uk	M33 6LB

YORKS & LINCS

Barnsley	0844 801 3032	sales.barnsley@howarth-timber.co.uk	S75 2BL
Bradford	0844 801 3039	sales.bradford@howarth-timber.co.uk	WF15 8ER
Brighouse	0844 801 3335	sales.brighouse@howarth-timber.co.uk	HD6 1PP
Dewsbury	0844 801 3034	sales.dewsbury@howarth-timber.co.uk	WF13 2AF
Grimsby	0844 801 3035	sales.grimsby@howarth-timber.co.uk	DN32 9BA
Leeds	0844 801 3036	sales.leeds@howarth-timber.co.uk	LS9 0RA
Malton	0844 801 3302	sales.malton@howarth-timber.co.uk	YO17 6BT
Scunthorpe	0844 801 3038	sales.scunthorpe@howarth-timber.co.uk	DN15 6XH
Thorne	0844 801 3040	sales.thorne@howarth-timber.co.uk	DN8 5DY
Wakefield	0844 801 3300	sales.wakefield@howarth-timber.co.uk	WF1 5DW
York	0844 801 3301	sales.york@howarth-timber.co.uk	YO26 4ZH

MIDLANDS

Corby	0844 801 3033	sales.corby@howarth-timber.co.uk	NN18 8ET
Derby	0844 801 3308	sales.derby@howarth-timber.co.uk	DE1 3QT
Mansfield	0844 801 3303	sales.mansfield@howarth-timber.co.uk	NG19 7JG
Newcastle (Staffs)	0844 801 3037	sales.newcastle@howarth-timber.co.uk	ST5 1AW

LONDON & SOUTH EAST

Dartford	0844 801 3306	sales.dartford@howarth-timber.co.uk	DA1 1BN
London	0844 801 3304	sales.london@howarth-timber.co.uk	SE4 2LY
Tottenham	0844 801 3305	sales.tottenham@howarth-timber.co.uk	N17 6RA

HOWARTH TIMBER ENGINEERED SOLUTIONS

Northern enquiries 0844 801 3031 ashton@howarth-te.com
 Southern enquiries 0844 801 2320 enquiries@howarth-te.com



Due to a policy of continual product development,
 Howarth Timber Group Limited reserves the right to
 alter any of the information given in this publication
 without prior notice.