TCP/11/16(409)
Planning Application – 15/02046/FLL – Change of use and extension to garage to form dwellinghouse, former garage at Birnam Park, Birnam

PLANNING DECISION NOTICE

REPORT OF HANDLING

REFERENCE DOCUMENT *(part included in applicant's submission, see pages 39-42)*

PERTH AND KINROSS COUNCIL

Mr And Mrs D Binnie
c/o Robin Baker Architects
G Nicoll
Tower Buildings
Station Road
Birnam
Dunkeld
PH8 0DS

Pullar House
35 Kinnoull Street
PERTH
PH1 5GD

Date 01.02.2016

TOWN AND COUNTRY PLANNING (SCOTLAND) ACT

Application Number: **15/02046/FLL**

I am directed by the Planning Authority under the Town and Country Planning (Scotland) Acts currently in force, to refuse your application registered on 10th December 2015 for permission for **Change of use and extension to garage to form dwellinghouse Former Garage At Birnam Bank Birnam** for the reasons undernoted.

Development Quality Manager

Reasons for Refusal

1. The proposal will result in an intensification of use of the private access. This access is in relatively poor condition, narrow and with difficult geometry and gradients. The intensification of use is therefore unacceptable in the interests of traffic and pedestrian safety.

2. The proposed alterations to the listed boundary to the walled garden would be detrimental to the character and interest of the listed building and the conservation area setting, and is therefore contrary to policies HE2 and HE3A of the Perth & Kinross Local Development Plan.

3. The proposed development sets an unwelcome precedent for similar infill development within the garden ground of nearby properties which would alter the established character and density of this part of the conservation area, and would be contrary to Policies PM1A and PM1B of the Perth & Kinross Local Development Plan.

Justification

The proposal is not in accordance with the Development Plan and there are no material reasons which justify departing from the Development Plan

The plans relating to this decision are listed below and are displayed on Perth and Kinross Council's website at www.pkc.gov.uk "Online Planning Applications" page

Plan Reference

15/02046/1	**15/02046/7**
15/02046/2	**15/02046/8**
15/02046/3	**15/02046/9**
15/02046/4	**15/02046/10**
15/02046/5	**15/02046/11**
15/02046/6	**15/02046/12**

REPORT OF HANDLING

DELEGATED REPORT

Ref No	**15/02046/FLL**	
Ward No	**N5- Strathtay**	
Due Determination Date	**09.02.2016**	
Case Officer	**Diane Barbary**	
Report Issued by		**Date**
Countersigned by		**Date**

PROPOSAL: Change of use and extension to garage to form dwellinghouse

LOCATION: Former Garage At Birnam Bank Birnam

SUMMARY:

This report recommends **refusal** of the application as the development is considered to be contrary to the relevant provisions of the Development Plan and there are no material considerations apparent which justify setting aside the Development Plan.

DATE OF SITE VISIT: 7 January 2015

SITE PHOTOGRAPHS

BACKGROUND AND DESCRIPTION OF PROPOSAL

Birnam Bank House is a category C listed Victorian villa in the Birnam Conservation Area. The property is located on the section of Birnam Glen to the south west of Dunkeld and Birnam Station, which is accessed by a private, unsurfaced, single-track road from Birnam and is characterised by low density detached villas. This section of the road is separated from the rest of Birnam by the railway line and motorway, and is outside the settlement boundary.

The current proposal is to convert an existing garage built in the early 1990s to a single two-bedroom dwellinghouse. A separate application has been submitted for listed building consent for alterations to the wall of the adjacent walled garden to provide garden ground for the proposed property (15/02047/LBC). The walled garden, although now in the same ownership as the garage, historically served the neighbouring category B listed property, Heath Park.

SITE HISTORY

15/02047/LBC Alterations

PRE-APPLICATION CONSULTATION

Pre application Reference: 15/00340/PREAPP

NATIONAL POLICY AND GUIDANCE

The Scottish Government expresses its planning policies through The National Planning Framework, the Scottish Planning Policy (SPP), Planning Advice Notes (PAN), Creating Places, Designing Streets, National Roads Development Guide and a series of Circulars.

DEVELOPMENT PLAN

The Development Plan for the area comprises the TAYplan Strategic Development Plan 2012-2032 and the Perth and Kinross Local Development Plan 2014.

TAYplan Strategic Development Plan 2012 – 2032 - Approved June 2012

Whilst there are no specific policies or strategies directly relevant to this proposal the overall vision of the Tay Plan should be noted. The vision states *"By 2032 the TAYplan region will be sustainable, more attractive, competitive and vibrant without creating an unacceptable burden on our planet. The quality of life will make it a place of first choice, where more people choose to live, work and visit and where businesses choose to invest and create jobs."*

Perth and Kinross Local Development Plan 2014 – Adopted February 2014

The Local Development Plan is the most recent statement of Council policy and is augmented by Supplementary Guidance.

The principal policies are, in summary:

Policy PM1A - Placemaking
Development must contribute positively to the quality of the surrounding built and natural environment, respecting the character and amenity of the place. All development should be planned and designed with reference to climate change mitigation and adaption.

Policy PM1B - Placemaking
All proposals should meet all eight of the placemaking criteria.

Policy RD3 - Housing in the Countryside
The development of single houses or groups of houses which fall within the six identified categories will be supported. This policy does not apply in the Green Belt and is limited within the Lunan Valley Catchment Area.

Policy TA1A - Transport Standards and Accessibility Requirements
Encouragement will be given to the retention and improvement of transport infrastructure identified in the Plan.

Policy HE2 - Listed Buildings
There is a presumption in favour of the retention and sympathetic restoration, correct maintenance and sensitive management of listed buildings to enable them to remain in active use. The layout, design, materials, scale, siting and use of any development which will affect a listed building or its setting should be appropriate to the building's character, appearance and setting.

Policy HE3A - Conservation Areas
Development within a Conservation Area must preserve or enhance its character or appearance. The design, materials, scale and siting of a new development within a Conservation Area, and development outwith an area that will impact upon its special qualities should be appropriate to its appearance, character and setting. Where a Conservation Area Appraisal has been undertaken the details should be used to guide the form and design of new development proposals.

OTHER POLICIES

Historic Scotland’s guidance on **Managing Change in the Historic Environment: Setting** (2010), sets out that development proposals should seek to avoid or mitigate detrimental impacts on the settings of historic assets.

Scottish Historic Environment Policy 2011
This document, produced by Historic Environment Scotland, provides guidance to Planning Authorities on how to deal with planning applications which affect Listed Buildings and their settings.

CONSULTATION RESPONSES

Education and Children's Services: No response

Contributions Officer: The development is within the catchment of Royal School of Dunkeld Primary School. Education & Children's Services have no capacity concerns in this catchment area at this time. No contributions required in this instance.

Transport Planning: Objection for reasons of insufficient provision with regard to access and in the interests of pedestrian and traffic safety.

Scottish Water: No response

Environmental Health: No objection

Local Flood Prevention Authority: No response

REPRESENTATIONS

The following points were raised in the 8 representations received:

- Setting a precedent for further similar development.
- Potential noise nuisance from workshop in close proximity to proposed dwellinghouse.
- Disruption of new vehicle access on to narrow lane; nuisance from noise, car headlights.
- Potential damage to access road and additional traffic congestion.
- Exacerbation of water pressure problems.
- Loss of amenity.
- Impact on setting of listed building.

Potential noise nuisance is not considered to be a material consideration in this case as use of the workshop is not commercial and should be commensurate with normal domestic use. The additional relevant points raised are discussed in the body of the report.

ADDITIONAL STATEMENTS RECEIVED:

Environment Statement	Not Required
Screening Opinion	Not Required
Environmental Impact Assessment	Not Required
Appropriate Assessment	Not Required
Design Statement or Design and Access Statement	Submitted
Report on Impact or Potential Impact eg Flood Risk Assessment	Not Required

APPRAISAL

Sections 25 and 37 (2) of the Town and Country Planning (Scotland) Act 1997 require that planning decisions be made in accordance with the development plan

unless material considerations indicate otherwise. The Development Plan for the area comprises the approved TAYplan 2012 and the adopted Perth and Kinross Local Development Plan 2014.

The determining issues in this case are whether; the proposal complies with development plan policy; or if there are any other material considerations which justify a departure from policy.

Policy Appraisal

Policy PM1A on Placemaking states that development must contribute positively to the quality of the surrounding built and natural environment. The design, density and siting of development should respect the character and amenity of the place. While the garage building is already in situ, and there is no additional visual impact on the setting of the two neighbouring listed buildings in this respect, proposed alterations to the listed boundary wall of the walled garden raise concerns. In particular, the proposal to reduce the height of the boundary to Birnam Glen to increase visibility at the site access is likely to be detrimental to the quality of the surrounding built environment.

The housing in the countryside policy states that the council will support proposals for the erection, or creation through conversion, of single houses and groups of houses in the countryside which fall into at least one of the specified categories. In this case the house meets the terms of the policy in part, in that the site is within an existing building group, and the proposal is for conversion of a non-domestic building (albeit not one that is considered to be redundant at present).

Policy TA1A states that encouragement will be given to the retention and improvement of transport infrastructure identified in the Local Development Plan. The response from the Transport Planning team to this application has raised significant concerns in relation to the condition of the traffic access to Birnam Bank and has objected to intensification of use in the interests of traffic and pedestrian safety.

The listed building policy states that there is a presumption in favour of the retention and sympathetic restoration, correct maintenance and sensitive management of listed buildings to enable them to remain in active use. The layout, design, materials, scale, siting and use of any development which will affect a listed building or its setting should be appropriate to the building's character, appearance and setting. In this case, the proposed alterations to the boundary of the walled garden are not considered acceptable in that the partial reduction in height of the boundary to Birnam Glen results in the loss of historic fabric and will detract from the historic character and interest of the walled garden.

The conservation area policy states that development within a conservation area must preserve or enhance its character or appearance. The design, materials, scale and siting of a new development within a conservation area, and development outwith an area that will impact upon its special qualities should be appropriate to its appearance, character and setting. The proposed alterations to the existing garage building will have little visual impact on the conservation area setting and, similarly,

alterations to the wall immediately adjacent to the garage will not be publicly visible. The proposed partial demolition and reduction in height of the garden boundary wall, however, will detract from the sense of enclosure currently provided by the consistent front boundaries to properties along Birnam Glen, and is not considered to meet requirements to preserve or enhance the conservation area setting.

Design and Layout

The existing double garage building is single storey with a pitched slate roof. It is stone clad with double timber garage doors on the elevation facing Birnam Bank, with arched timber windows at attic level on both gables.

Minor alterations to doors and fenestration, the addition of a pitch-roofed porch extension to the east elevation, and the installation of a flue and additional rooflights are proposed to convert the garage to a two-bedroom house. The alterations are not considered to have an adverse impact on the conservation area or the setting of the two listed buildings.

It is proposed to fell one small tree which, again, is not considered to have an adverse impact on the amenity of the conservation area.

The garage building is located at the northern edge of an existing area of walled garden, formerly belonging to the neighbouring villa, Heath Park. The boundary wall is rubble with a flat stone cope, varying in height from 1.5 to 1.8m, with a higher arched gateway in the north wall, and a modern access with a solid metal gate to the south. The eastern boundary is formed by a beech hedge.

Significant alterations are proposed to the wall to contain the site and create car access from the lane. It is proposed to demolish approximately 20m of the boundary at the northern corner of the site in order to open up the garden to the proposed dwellinghouse. The western boundary would be realigned across the east gable of the building to meet the northern boundary of the site and separate it from Birnam Bank. At the southern end of the site, it is proposed to demolish an additional 3m of the western boundary to create a visibility splay in the form of a vertically slatted timber fence. A 5m section of the stone boundary to the front of the walled garden is to be reduced in height to 1m, again to improve visibility for the vehicle access. It is considered that these alterations have a significant adverse impact on the character of the walled garden. The wall is listed under the curtilage of the building, and contributes to the historic character and interest of the setting of both Birnam Bank and Heath Park. The southern boundary contributes to the historic character and appearance of the conservation area setting. The proposal to widen the access and replace a 3m section of the wall with a timber fence set diagonally across the corner of the site does not meet requirements to preserve or enhance the conservation area. In combination with the loss of historic fabric and enclosure resulting from the reduction in height of the adjacent 5m length of wall, this proposal is considered unacceptable.

Residential Amenity

Birnam Bank has large garden grounds in addition to the walled garden, and the plot size for the proposed new dwellinghouse is considered adequate.

Additional points have been raised in relation to residential amenity in the objections submitted, including a potential detrimental impact on the amenity of the immediate area as a result of intensification of use. While it is unlikely that the current application would in itself substantially detract from the residential amenity of neighbouring properties, approval would set an unwelcome precedent.

Additional properties on this section of Birnam Glen are set in large grounds with the potential for subdivision and introduction of infill development, which could substantially alter the existing low-density layout of the building group. In addition to detracting from the established character of this part of the conservation area, this would put additional strain on the infrastructure of the area, including the road access.

Visual Amenity

The proposed alterations to the existing garage building are considered acceptable in terms of visual amenity, and will have little visual impact on the conservation area setting. Alterations to the wall immediately adjacent to the garage will not be publicly visible, but will alter the original line of the walled garden, detracting from its historic character rather than specifically its visual amenity.

It is proposed to widen the existing opening in the front boundary wall of the existing garden, create a visibility splay and reduce the boundary to 1m in height for a 5m section adjacent to the access, in order to increase visibility. It is considered that this will detract from the sense of enclosure currently provided by the consistent front boundaries to properties along Birnam Glen, and will be detrimental to the visual amenity of this part of the conservation area.

Roads and Access

Transport Planning officers have objected to the proposal as the proposed change of use from the existing garage to a dwellinghouse will result in additional vehicle trips generated that would have to utilise the existing private access serving a number of houses in the vicinity of the development site.

This private access road is in relatively poor condition, narrow and with difficult geometry and gradients along its length. There appears to be little scope to improve the road geometrically or widen it to provide suitable passing places due to the physical limitations imposed by the retaining wall and banking. Due to these issues, it would not appropriate to allow an intensification of its current use. This is consistent with previous assessments undertaken for applications on nearby sites; most recently 08/01360/FUL.

Developer Contributions

Education & Children's Services have no capacity concerns in this catchment area at this time, and therefore no contributions would be required in this instance.

Economic Impact

The economic impact of the proposal would be minimal.

Conclusion

In conclusion, the application must be determined in accordance with the adopted Development Plan unless material considerations indicate otherwise. In this respect, the proposal is not considered to comply with the approved TAYplan 2012 and the adopted Local Development Plan 2014. I have taken account of material considerations and find none that would justify overriding the adopted Development Plan. On that basis the application is recommended for refusal.

APPLICATION PROCESSING TIME

The recommendation for this application has been made within the statutory determination period.

LEGAL AGREEMENTS

None required.

DIRECTION BY SCOTTISH MINISTERS

None applicable to this proposal.

RECOMMENDATION

Refuse the application

Conditions and Reasons for Recommendation

1. The proposed development is not approved on the grounds that the intensification of use of the private access road is not acceptable due to the potential impact of traffic and pedestrian safety.

2. The proposed alterations to the listed boundary to the walled garden would be detrimental to the character and interest of the listed building and the conservation area setting, and is therefore contrary to policies HE2 and HE3A of the Perth & Kinross Local Development Plan.

3. The proposed development sets an unwelcome precedent for similar infill development within the garden ground of nearby properties which would alter the established character and density of this part of the conservation area,

and would be contrary to Policies PM1A and PM1B of the Perth & Kinross Local Development Plan.

Justification

The proposal is not in accordance with the Development Plan and there are no material reasons which justify departing from the Development Plan.

Informatives

Not applicable.

Procedural Notes

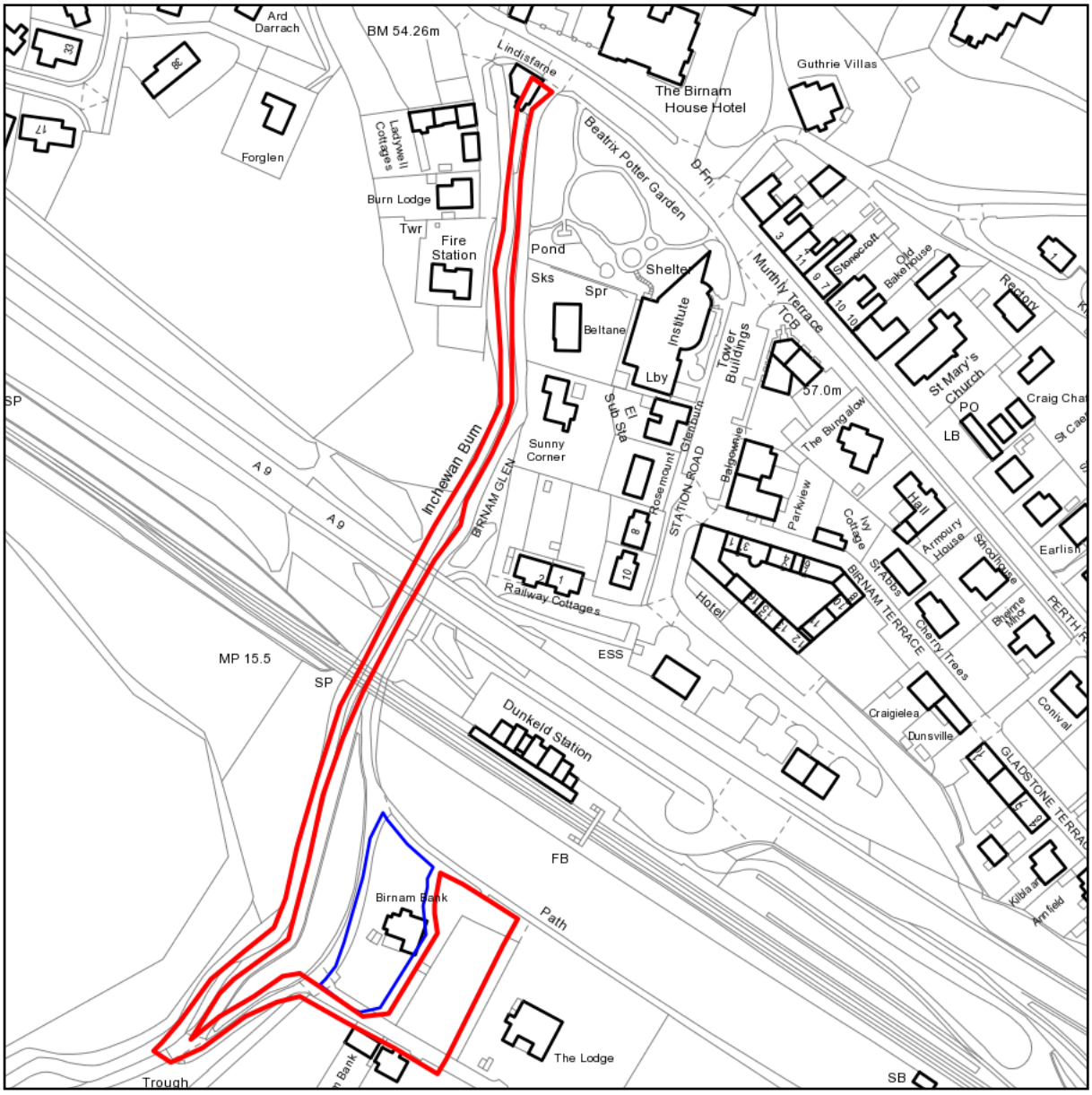
Not Applicable.

PLANS AND DOCUMENTS RELATING TO THIS DECISION

15/02046/1
15/02046/2
15/02046/3
15/02046/4
15/02046/5
15/02046/6
15/02046/7
15/02046/8
15/02046/9
15/02046/10
15/02046/11
15/02046/12

Date of Report 29.01.2016

Birnam Bank, Birnam, Dunkeld, PH8 0BW



Information

Online Ref: 000138357

Date: 2/12/2015

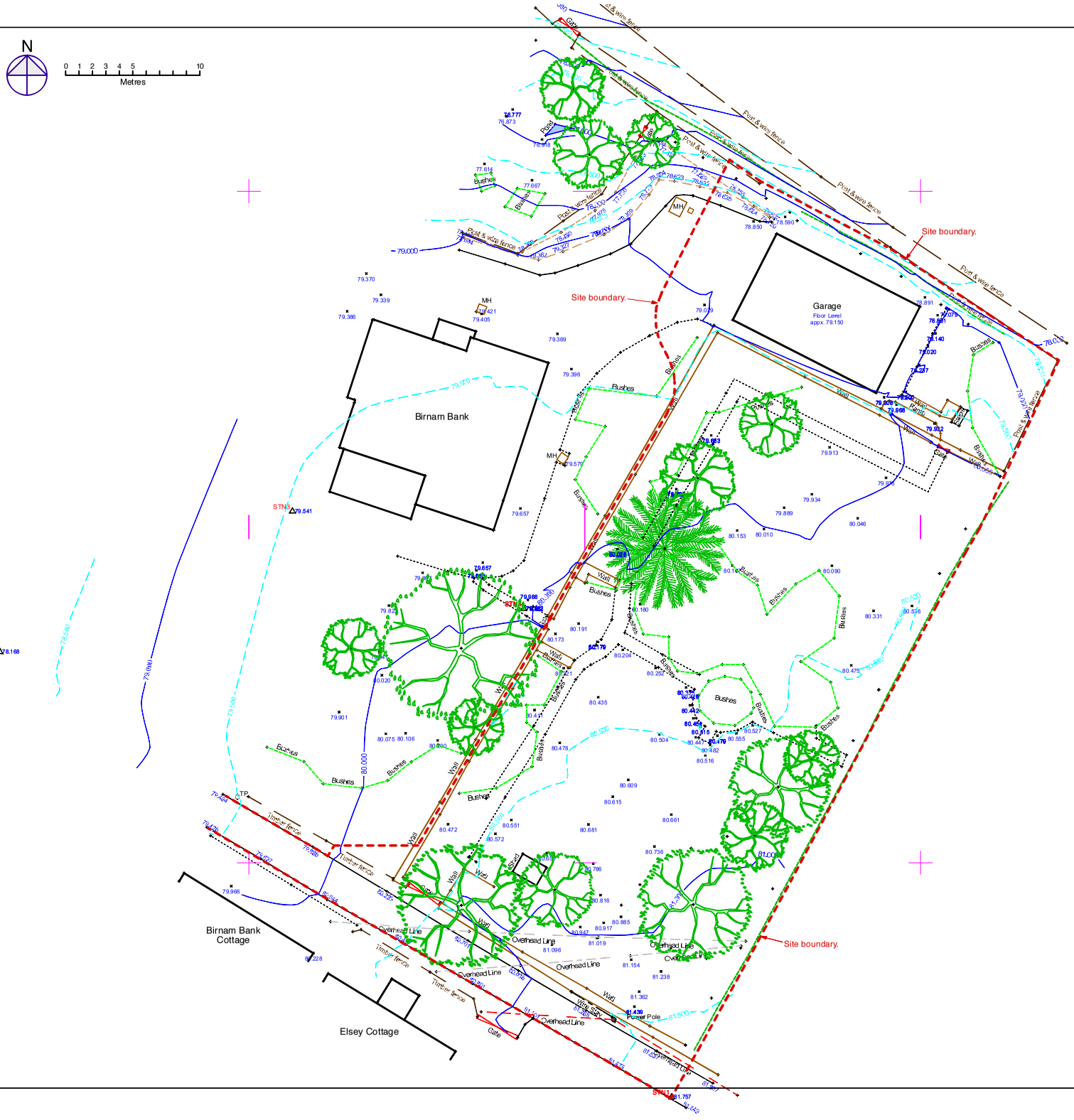
Application Boundary

Land in Ownership

Scale 1:2500 (16Ha)

0 100m 200m

N



58

All dimensions are to be verified and checked on site by the Main Contractor before the commencement of any shop drawings or work whatsoever, either on his behalf or for sub contractors or suppliers.

All discrepancies are to be reported to the architect immediately.

This drawing is to be read in conjunction with all related Architects, Engineers' and Specialist drawings and relevant information.

Revs

PLANNING DRAWING

robin baker ARCHITECTS
Tower Buildings
Station Road
Birnam PH8 0DS
T 01350 728116

Client:
Mr & Mrs D. Binnie

Project:
Birnam Bank
Birnam

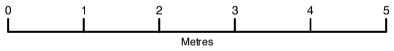
Drawing:
Existing Site Plan

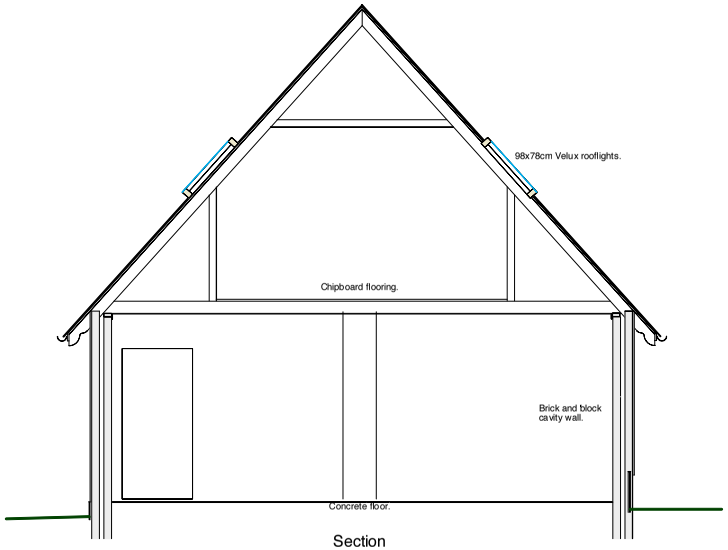
Scale:
1:200

Drawn:
GN

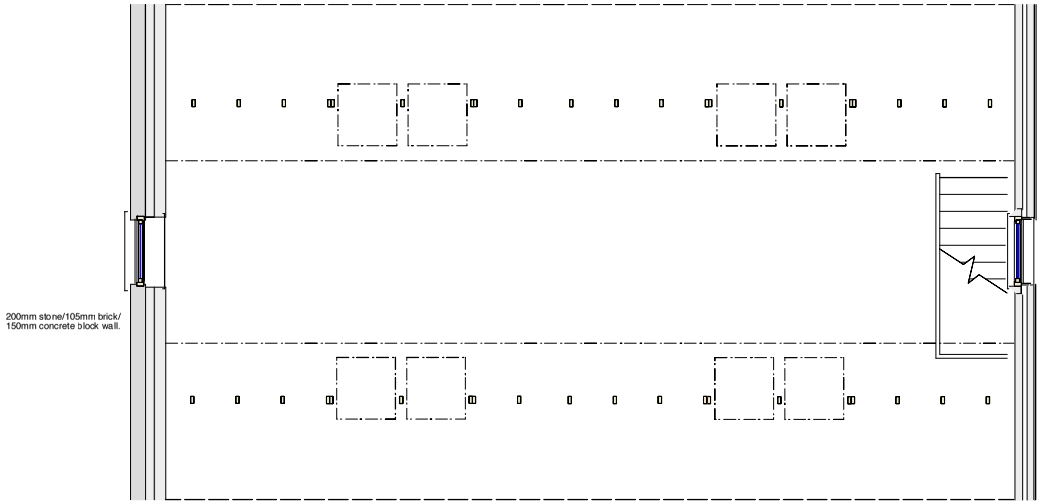
Date:
October 2015

Drawing No:
1511.E02

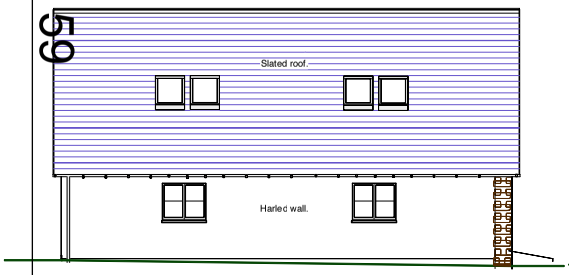




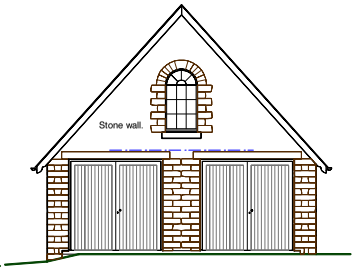
Section



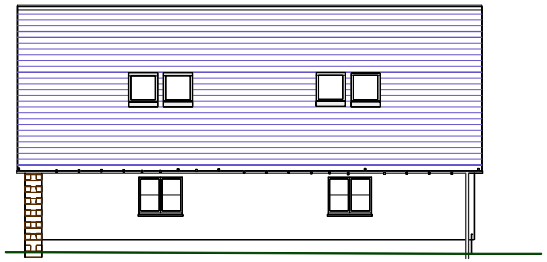
First Floor Plan



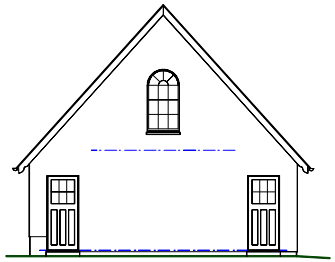
North Elevation



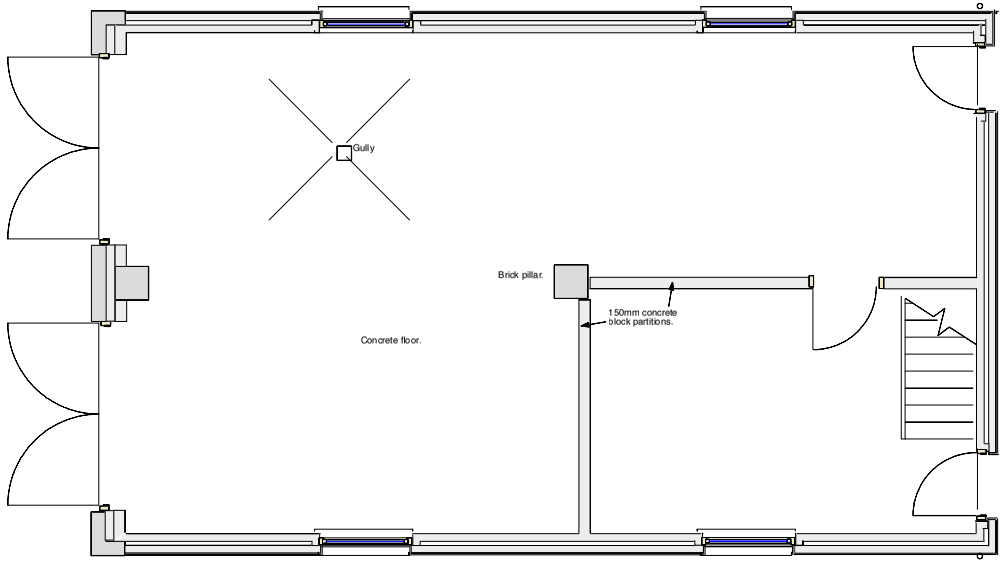
West Elevation



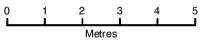
South Elevation



East Elevation



Ground Floor Plan



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Revs

robin baker ARCHITECTS

Tower Buildings
Station Road
Birnam PH8 0DS

T 01350 728116

info@robinbakerarchitects.com

Client:
Mr & Mrs D. Binnie

Project:
Birnam Bank
Birnam

Drawing:
Existing Garage Plans, Section and Elevations

Scale:
1:50 & 1:100

Drawn:
GN

Date:
April 2015

Drawing No:
1511.E03

TIMBER WINDOWS & DOORS
ALLAN BROTHERS

High Performance Timber Products

General Technical Information

Version 1.2 — August 2014

ALLAN BROTHERS LTD
ALLAN HOUSE
ORD ROAD
TWEEDMOUTH
BERWICK-UPON-TWEED
TD15 2XU
Tel 01289 334600
Fax 01289 334601

www.allanbrothers.co.uk

Enhanced Security Door BMTRADA Window General Performance BMTRADA High Performance Timber Window BMTRADA Enhanced Security Window BMTRADA SYSTEM CERTIFICATION BMTRADA ISO 9001

Secured by Design Official Police Security Initiative

WOOD. AT THE HEART OF A GOOD WINDOW
The Wood Window Alliance

bwf BRITISH WOODWORKING FEDERATION

Description

Company Background

Allan Brothers
Allan Brothers, Britain's longest existing high performance joinery company was founded in 1811 in the small Scottish Borders town of Eyemouth. The business relocated to the town of Berwick upon Tweed in 1853 and has been at its current purpose-built factory since 1988. Although no formal connection remains between the Company and the Allan family, the long history of the Company in the town has seen many generations of families employed within the business. In 2007 Allan Brothers was bought by Inwido Group as the cornerstone of its strategic development in the UK.

Allan Brothers has a reputation for high standards of design and craftsmanship, good service and for consistently providing a value for money products and professional advice to our customers. From our factory in Northumberland we deliver excellence in products and service to customers all over the UK. Our long association with our town and our position as one of the regions biggest employers means that we take an exceptional pride in all that we do. Our extensive range of products is designed to meet all requirements whether executive homes, city apartments, social housing, timber-framed building projects, sympathetic rural developments or public sector construction.

INWIDO GROUP
Inwido is a Swedish-owned multi-national Group of timber window and door manufacturing businesses. The Group has expanded rapidly since 2003 through acquisition of successful local and national companies in this sector. Today Inwido is the number 1 supplier of timber windows and doors in the Nordic region with ambitions to grow strongly in other markets.

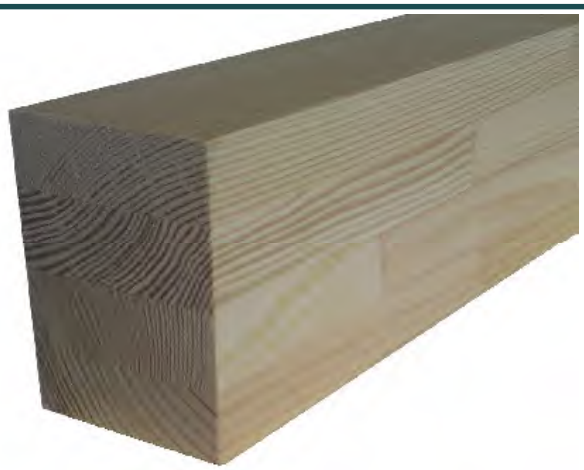
With operations in almost all of the northern European countries, the Group has the capability to supply every type of timber and timber-aluminium window and door into the UK market through its local operations.

Quality Assurance
Allan Brothers have a long history of supplying quality joinery products to our customers. The level of product quality and the adjoining services of Allan Brothers are key to the company's success and forward planning. We have an ongoing commitment to the training and development of all our employees regarding the level of quality required throughout our manufacturing processes and services and their own involvement within this in achieving and exceeding this standard. We are committed to regular monitoring throughout various stages of our customer's enquiries and orders from initial receipt through to delivery and our after sales services. From this we are able to monitor performance to ensure they are in line with our continuous improvement programmes. We have implemented the quality standards of ISO 9001. We are monitored for compliance to this standard by periodic assessment from a recognised independent accredited organisation. This standard will be used to further reinforce our commitment to our high standards of quality and continuous improvement.

Q-Mark
The Q-Mark is readily identifiable as a market leader in the certification of timber related products and a growing range of other construction materials.
Product certification provides assurance to specifiers, contractors and purchasers that our products will perform to an agreed standard. BM TRADA has offered a range of certification schemes under the Q-Mark brand for building products for over 20 years.
By specifying or selecting our Q-Marked products you can be assured that it has demonstrated the required performance levels through independent UKAS accredited testing or appraisal, and that every product manufactured offers the same level of performance through an approved quality management system.
Performance and production continue to be regularly checked through audit testing and inspections.
Q-Mark integrates with ISO 9001, FSC Timber Chain of Custody, BFRC Energy Ratings, BS644 and Secured By Design

Timber

Timber is the only truly sustainable material from which to manufacture windows and doors. Wood has the advantage of being an easily renewable material with little environmental impact from extraction, processing and manufacture. Trees grow by absorbing CO_2 from the atmosphere – one cubic metre of timber requires 1 tonne of CO_2 to grow. Even after felling the tree, processing the log, shipping to the UK and converting into a finished product, our timber windows are still 'carbon negative'. That is, there is more carbon contained within the window than will have been released into the atmosphere from all of the processes employed to produce it. No other material can come close to this environmental benefit.



We have independent verification of the sustainability of the timber that we use through the Forestry Stewardship Council (FSC) Chain of Custody Accreditation Scheme. This is an internationally recognised standard that audits the full supply chain from forest to window manufacture to ensure high standards of environmental stewardship throughout the process. Our FSC accreditation states that Allan Brothers' redwood windows and doors are manufactured using a minimum of 70% FSC Certified material.

FSC Chain of Custody numbers -
Certificate Code: TT-COC-002140
FSC License Code: FSC-C013001

BMTRADA

CERTIFICATE OF REGISTRATION

This is to certify that

Allan Brothers Ltd
Allan House
Ord Road
Tweedmouth, Berwick Upon Tweed
Northumberland
TD15 2XU

has been audited and found to meet the requirements of standard(s) FSC-STD-50-001 (Version 1.2) EN and FSC-STD-40-004 (Version 2.1) EN for FSC® Chain of Custody Certification

Scope of certification
The purchase, manufacture, sales and distribution of FSC certified high performance redwood windows and doors

Products: Redwood Windows and Doors

Vic Bowen
Chief Operating Officer
Certification UK

Certificate number TT-COC-002140

FSC Principles for Forest Stewardship

- Compliance with laws and FSC principles
- Tenure and use rights and responsibilities
- Indigenous people's rights
- Community relations and worker's rights
- Multiple benefits from the forest
- Assessment of environmental impact
- Management planning
- Monitoring and assessment of management impact
- Maintenance of high conservation value forests
- Responsible management of plantations

Timber Types

Softwood
FSC Finger-jointed Laminated to BS EN 13307

Hardwood
FSC Laminated - **on Request**

Moisture content of timber at time of machining of the components will be no more than 18%

Preservative Treatment
All timber which does not have sufficient natural durability, according to BS EN 350, will have organic preservative treatment in accordance with existing British Standards for out of ground contact. Components are treated after all machining processes have been completed to ensure complete protection across all faces of the timber components, whether visible or not.

Preservation is to Hazard Class 3 in accordance with EN 599-1 and the active ingredients are propiconazole + IPBC, which ensures effective protection against bluestain and wood-degrading fungi.

Decoration

Allan Brothers combine the expertise and experience we have developed over nearly 200 years in the business with the use of advanced production technology in a quality controlled environment to provide quality engineered timber products. Every product is treated and coated with specialist, modern materials to extend life, improve appearance and minimise maintenance which is an essential consideration nowadays when lifetime cost is an increasingly important criteria.

The range of wood stains and paints that Allan Brothers use are well known for:

- Being low maintenance
- High durability whatever the weather
- Letting the natural beauty of the timber shine through
- Retaining their original appearance for many years.

There are many reasons to specify factory finishing:

- A superior finish can be achieved because it is applied by skilled technicians operating modern, sophisticated equipment
- Optimum and uniform film thickness gives maximum durability
- The ability to have controlled and consistent conditions during application
- 100% product coverage including all rebates as well as behind gaskets, ironmongery and other concealed surfaces
- Reduced on site costs
- The ability to offer a coatings warranty against cracking, peeling or flaking

However, it is extremely important that the first coatings are applied correctly. To achieve this Allan Brothers invested in its own automated paint line and strictly adheres to coating guidelines set by the paint supplier.

The following procedures are followed when the coatings are applied

	Basecoat	Primer	Topcoat
Opaque Colours	Water based Dip (then end grain sealer)	Stain Blocking Primer	High Build Opaque Topcoat
Translucent	Water based Dip (then end grain sealer)		High Build Wood Stain

The coatings we use are all water based and therefore environmentally friendly.

- After Basecoats, components have end grain sealer applied
- Opaque colours use stain blocking primer
- Topcoats are High Build breather paints with satin/semi-gloss gloss levels

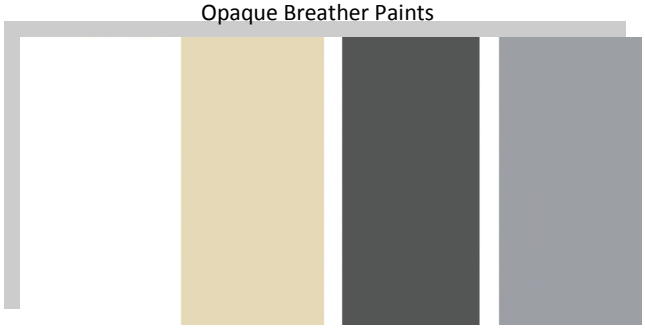
The finishes illustrated on this page represent our standard range, but there are over 1000 colours to choose from, including most RAL and BS4800. Sample swatches from the colours below are available on request. Please ask if you have specific requirements.

Colour Swatches

Translucent Wood Stain

Cypruss Teak Mahogany Walnut

Opaque Breather Paints



White - RAL 9016 RAL 1015 RAL 7043 RAL 7040

Note: Colours are only a representation - please ask for a colour swatch

Maintenance Cycles

Typically a 5-8 year single coating cycle tends to be the norm (depending on location - see coatings maintenance guidlines). This means that the natural beauty of timber is combined with the same, if not better, low maintenance assurances given by manufacturers who use other materials.

When recoated, timber will look just as good as new, something that is not always possible with other materials. Hence, if properly made, installed and looked after, timber windows and doors can, and will, outlast those made from other materials.

Dark Colours

When selecting the finishing materials for external joinery, consideration should be given to the choice of colour, since this will affect heat gain and ultraviolet resistance. Dark colours absorb more solar radiation than light ones, resulting in heat build up. Timber with a black finish can be up to 20 °C hotter than similar timber painted white on an average summer day, which can result in resin bleed or excessive drying and cracking of the wood. Our knot free timber will reduce the possibility of extractive staining.

Glass & Glazing

When multiple glass panes are assembled into units, they are commonly referred to as "insulated glass", "Double glazing/ Double Glazed Units" or Insulating Glass Units (IGU). The proper technical term for the assembly is hermetically sealed units, meaning that the environment inside of the unit is isolated from the external environment. These units are produced with the intention of maximizing the thermal insulating properties of a gas contained in the space formed by the unit while at the same time providing clear vision through the unit.

Allan Brothers windows are glazed to:

- BS 6262 Ref. 9.3.3.7 (Drained & Vented Glazing System)
- BS 8000 Ref. 3.4.1.2 (Glazing Techniques)
- GGF Manual Section 4.2 Ref. IG2
- NHBC Chapter 6.7 Clauses D7, D4
- Building Regulations Part K (England) and Section 4 (Scotland) - Where specified

All Allan Brothers glazing units are accredited to BS EN 1279. Toughened safety glass is accredited to BS EN 12150 with BS EN 12600 impact class 1 (this replaces BS6026 Class A). Laminated safety glass is accredited to BS EN 14449-2 (this replaces BS6206 Class B)

All flat glass is sourced from companies who have an ISO 14001 environmental policy.

Glazing Options
Glass - 4mm Float, 6mm Float, 10mm Float, 4mm Tough, 6mm Tough, 10mm Tough, 6.4mm Laminated, 6.8mm Laminated, 4mm Low Iron
Glazing Unit Cavity - filled with inert gases, argon as standard with the option of Krypton.
Spacer Bar - Black warm edge spacers are available, this helps to lower the u-value and achieve a higher BFRC rating.
Aluminium Spacer Bar Colours - Aluminium (silver), White, Bronze, Gold.
Lead - Applied 9 or 12mm Lead. Diamond, Square or Coloured Lead Patterns. Other Specific Patterns can be accommodated on request.

Obscure


Bark (or Kura)


Arena (or Crepi)


Minster (or Kathedral)


Chinchilla

Also Available -


Satinovo (or Matt)

Commonly available glass types may be available on request.

Spandrel Glass (i.e. SGG Emalite Lookalike) - is painted glass, for use in spandrels etc., which is available in most RAL colours. It can be manufactured into double glazed units and the opposite pane can be specified in many different options including Toughened, Laminated, Low 'E' and Self cleaning.

Parameters
Any glazed area over 2.5m² will have 6mm Toughened Glass to both panes of the glazing unit (or similar performing)
All directional obscure glazing has a maximum width of 1320mm due to the pattern of the glass.

Noise Control

Glazing Options for Noise Reduction

Double glazed windows help to reduce the amount of noise entering a property. By varying the composition of the sealed units, different levels of noise attenuation can be achieved. The table below gives a number of examples of the typical achievable decibel reductions achievable in a 28mm sealed unit across a variety of standard and specialist glass types. Please note these are examples only and we are able to tailor a unit to meet your thermal, acoustic and security requirements on request.

Rw - Weighted reduction (dB) Corrected for ear's response "*speech, some forms of music*"

RTRA - Traffic Noise Reduction (dBA) Performance against typical traffic noise "*low frequency noise"*

Typical Construction (glass only reference data)	Rw(dB)	RA,tr(dB)	Approx Weight Kg/m^2
4mm / 20 / 4mm	30	26	20
6mm / 16 / 4mm	36	31	25
4mm / 16 / 6mm	34	30	25
4mm / 12 / 6.4mm Stadip Silence	34	30	26
10mm / 12 / 4mm	35	32	35
10mm / 12 / 6mm	37	34	40
8.8mm Stadip Protect / 10 / 8.8mm Stadip Silence	40	35	44
6.8mm Stadip Protect / 12 / 8.8mm Stadip Protect	39	34	39
6.4mm Stadip Silence / 12 / 6mm	37	32	31
6mm / 15 / 8.8mm Stadip Silence	39	33	37
4mm / 16 / 8.8mm Stadip Silence	38	31	32
8mm / 12 / 8.4mm Stadip Silence	40	35	41

Whilst the cavity size bears little correlation to the decibel reduction, it does affect U -Value significantly.

A unit incorporating two different thicknesses of glass will perform better acoustically than two similar thickness glasses. As the decibel scale is logarithmic, an increase in for example in the Rw of 10 decibels, will equate to a 50% reduction in the level of audible sound.

Ventilators and Noise Reduction

The term "acoustic ventilator" is not well defined. Any ventilator product may be acoustically tested and a performance figure attributed to it, but in practice this does not necessarily mean it will have any beneficial sound attenuating properties. If you use any product similar to standard models but purporting to be 'acoustic', you risk undermining other measures aimed at reducing external noise pollution. Independent testing has shown some 'acoustic' ventilator products perform no better (and sometimes worse) than standard slot ventilators.

When acoustic performance is required, Allan Brothers recommend use of alternative ventilation methods other than slot ventilators i.e. through wall etc.

When specifying ventilators for their 'acoustic' properties, always ensure you compare like for like products. For example, ensure you compare Equivalent Area (EA) or Available Air Opening (AAO) performance as well as the physical size of the ventilators. There can be a great variation in performance of similarly sized ventilators. If you specify an "acoustic" ventilator with a smaller EA, you will need to fit more of them to comply with the Regulations. If you have to fit more vents, you will also be allowing more sound to enter the building and this will result in a lower combined dB attenuation figure. E.g. If a Vent has an acoustic performance rating of 32 and you need to fit a second vent in a room to meet the Building Regulations, the combined dB rating figure is reduced by 3dB to 29dB and should be taken into consideration when calculating the overall attenuation of the window or facade.

	Acoustic Performance Dn,e,w, (C;C_{tr})	
	Vent Open	Vent Closed
XS16	31 (0;0)	41 (-1;-2)
TV425	31 (0;1)	42 (-1;-2)
TV425HL	31 (0;1)	42 (-1;-2)

The figures in the table above are typical figures provided by our vent manufacturer and are not as fitted.

C - Living activities (talking, music, radio, tv), children playing, railway traffic at medium and high speed, highway traffic > 50 mph, Jet aircraft (short distance), factories emitting mainly medium and high frequency noise

C_{tr} - Urban road traffic, railway traffic at low speeds, aircraft (propeller driven), jet aircraft (large distance), disco music, factories emitting mainly low and medium frequency noise

Site Guidance

Delivery, Storage & Handling

Windows, door-sets and ancillary items should be checked upon delivery to ensure they comply with the order, the delivery is complete and there are no visible signs of damage to the products or to the protective wrapping.

Our joinery products are delivered on pallets with secure banding and packaging. Unloading by manual methods should always be carried out with adequate labour in accordance with current Health & Safety guidelines, or alternatively with the use of a forklift truck. Care should be taken that no damage is inflicted upon the product by the forks or during the unloading process.

Windows and door-sets should be lifted by the outer frame and not by the opening sashes, ironmongery or decorative / solid glazing bars. They should be carried vertically to avoid the tendency to twist or distort the outer frame and cause damage to the connecting joints. Particular care should be taken when handling large or coupled frames, and lifting gear should be considered.

Timber products should always be stored in dry, well ventilated conditions. The extended use of metal containers for site storage is not advised. Extreme conditions may be created which can be detrimental to the performance of our products, and would invalidate any warranty.

For long term performance of the window and finish, it is important that the moisture content is maintained during storage on site and during the construction process. BS 644: Timber Windows recommends that the moisture content of timber windows should be between 13% and 19% although fully factory finished windows may have lower moisture contents.

Stack inside on at least 3 level, full-width, evenly distributed bearers, in a dry shaded area and keep clear of the ground. Where products are supplied on a pallet or shrink-wrapped, ensure there is adequate circulation and that air can be allowed to flow freely to all products on the pallet. Avoid storage in direct sunlight. If our products must be stored outside, ensure they are protected from the elements with a waterproof cover such as a heat resistant tarpaulin or equivalent, and allow air circulation clearance between products.

Products should not be stored in a room or building where excessive moisture levels will be present. In particular, avoid rooms where plastering work is to be carried out as the drying of the plaster increases the moisture in the atmosphere of the room.

Avoid storing our products flat as the factory applied surface coatings and factory glazing systems have been developed for vertical or angled drainage away from the wetted surface. Any period of time spent with water lying on a horizontal window or door will cause swelling of the timber, poor operation of opening/closing and will invalidate any warranty on that product.

The storage and handling of doors must be in accordance with the guidance as given by BS 8000 Part 5: 1990.

Protective wrapping should not be removed until the products are ready for installation or until absolutely necessary. Care must be taken when using sharp objects such as knives etc. to remove packaging so as not to cause damage to the product or paint finish.

Regularly inspect the products whilst in storage to ensure the correct conditions are being met.

Remove products from pallet by lifting not dragging, and avoid damage to or from projecting ironmongery or fittings.

Our joinery products are manufactured to carefully controlled moisture contents in line with the requirements of BS 942. Should additional moisture be allowed to come into contact with our products whilst in storage or during installation, this may result in distortion or swelling of the products. This could affect the functionality of the operating mechanisms or components, leading to long term or lasting damage, and possible degradation of the overall appearance / finish.

Glazing

All products glazed in our factory undergo strict quality checks before the glazing is installed, and again prior to leaving our factory. The responsibility is with the installer to ensure that windows and doors are adequately protected against site activities that may pit, mark or scratch the glass surfaces. Should the glass surface become contaminated, do not use sharp instruments or abrasive pads to remove the contamination from the glass surface. Following the revision to the building regulations 1991 Approved Document N1 for glazing into critical locations, the responsibility is with the customer to indicate whether factory glazed windows are required to be supplied to conform to critical locations as defined by this revision.

Our 10-year glazing failure covers only units that have been factory glazed and have not been subsequently broken or deglazed.

Site Guidance

Installation

PLEASE FOLLOW GUIDANCE FROM BS8213-4 – CODE OF PRACTICE FOR SURVEY AND INSTALLATION OF WINDOWS AND EXTERNAL DOORSETS.

All joinery items are recommended to be fitted as soon as practical after delivery to site.

Correct installation of our products is vital to ensure proper performance now and in the future.

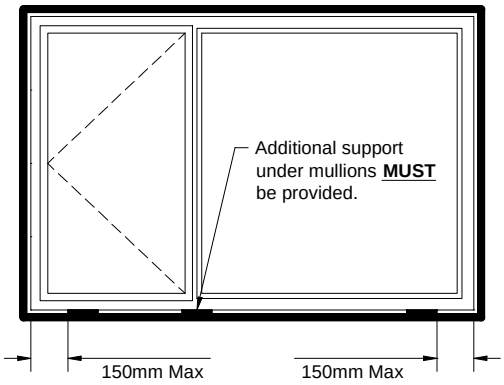
All our joinery products should be fitted into preformed openings at least 10mm larger (5mm all round) than the overall frame size and not built in as the work proceeds.

In timber-framed buildings, openings should allow for differential shrinkage as guidance given in NHBC Standards Chapter 6.2S2

If French Doors or Sliding Patio Doors are to be installed into new build properties, then a suitable former should be used. This will ensure the opening, to receive the frame, is square and gives the correct tolerances.

Framed products should be installed plumb and square using metal fixings or perimeter battens. Fixings should not be over tightened and surrounding brickwork should abut the frame only lightly so as not to distort the frame. We recommend that frames are fixed using screws through the frame into the brickwork.

Before final fixing, check that opening sashes have equal clearance on both sides. Mullions of multi-light windows MUST be supported to avoid sagging.



Any packing pieces should be located at fixing points where necessary. These should not distort the frame and prevent correct operation of any opening doors or sashes.

When using gap-filling foams avoid injecting excessive amounts as this may deflect the head and jambs, and induce an unacceptable bow.

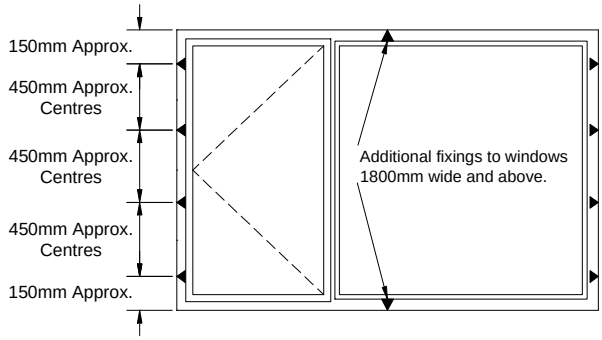
Lintels should be kept clear of the frame head. In replacement situations reveals should be sterilised before new joinery is installed.

A minimum of two fixing points per side (depending on height) should be used. These should start between 100 and 200mm in from the corners and intermediate fixings should be at centres no greater than 600mm. As a rough guide the minimum number of fixing points in height:

Below 1000mm	= 2 per side*
1000 to 1600mm	= 3 per side*
1601 to 2100mm	= 4 per side*
Over & above	= Installer Responsible

*Ground level only

Do not use our joinery products in any way to provide support for the building or additional support for scaffold. Avoid resting ladders etc. against the external faces of our products.



After installation it is advisable to fully open any doors and windows to ensure that they do not bind against the outer frame or perimeter reveal.

When installing our traditional Cords & Weights vertical slider, care should be taken to avoid piercing the box with nails or fixings when fitting decorative trims as this can interfere with the operation of the sliding weights.

The factory applied coating plays an integral part in the performance of our joinery products, and is essential in ensuring the window warranties can be maintained. To ensure longevity, water should not be allowed to penetrate into the timber. Factory finished joinery will not normally be cut or processed on site. If damage, drilling or cutting does occur, the area should be repaired immediately by treating with Aqua Primer 2907 and a flexible two-pack filler (or hot melt resin) or Teknoseal 4000 end grain sealer. The top coat should then be restored to its original thickness to maintain any warranty conditions.

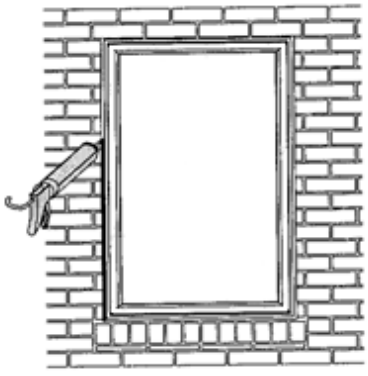
Any installation marks and similar construction damage should be made good and nail heads should be punched below the surface and filled with suitable filler, fit for the intended working environment.

Fitting of doors must be in accordance with the guidance as given in BS8000. It may be advisable that when installing external door sets into severely exposed areas, consideration is given to the fitting of extra protection by means of a decorative porch or canopy.

If carrying out wet trades after our joinery products have been installed, it is essential to provide adequate ventilation in order to dehumidify the area being worked. Failure to do so can lead to the products becoming saturated in moisture which can lead to adverse distortion or swelling, leading to operating difficulties and high levels of condensation to the inside of the glass units.

It is not recommended to install our factory double glazed windows or French / Patio doors in areas of high humidity such as swimming pools or similar etc.

Any gaps between the external face of the outer frame and the structural opening (reveal) should be filled with a non-setting suitably approved sealant to BS5889.



Site Guidance & Coatings Maintenance Guidelines

General Maintenance
General cleaning should be carried out regularly (minimum twice a year) using a non-abrasive cloth with mild detergent and warm water (pH neutral solution) to remove any contaminants, whilst frequently changing the water. **Under no circumstances should aggressive, alkaline or acidic cleaners be used.** After cleaning, rinse thoroughly with clean water to remove all residues but do not use hosepipes. During cleaning, if any damage is noticed it must be repaired immediately.
Ensure the bottom weather bars of doorsets, and aluminium channels for hinges to run in if the product features these, are clean and free from grit or other debris. Particular attention should also be paid to the bottom bead where there is maximum exposure to the environment and gaps under these should be cleaned regularly. Spray hinges, locks and channels with a silicon spray after installation and thereafter twice a year.

Ironmongery
All ironmongery on our windows and doors (except chains on Scotdoors) is factory fitted where practical. Adequate care should be taken to ensure that other trades avoid scratching or contaminating the surfaces and operating mechanisms as this can invalidate the warranties. Should the ironmongery become contaminated, use a soft cloth to remove any building debris but do not use abrasive cleaners. If in any doubt, temporary removal of the ironmongery by competent site personnel should be considered. Particular attention should be given to metallic fittings, which are vulnerable to scratching or tarnishing.

Decoration & Finishes
Basic guidelines on maintaining and redecorating factory finished windows, doors and exterior joinery.
This information relates to water based paints, which dry quickly and with little smell. Applying them requires a different brushing technique (described overleaf) from traditional oil paint.

General Care
Teknos factory applied coatings systems will give many years of life between re-painting cycles, and simple steps such as wiping down the joinery finish to remove dirt and insects will help extend the decorative finish. This can be done at the same time as cleaning the glass.
Good household maintenance also helps to extend repainting intervals. At least once a year:

- Check hinges and handles and treat with a light oil if necessary.
- Clean weather seals and ventilators to remove dust or grime.
- In autumn, clear guttering and down pipes, and repair any leaks.
- Each spring, inspect the joinery and spot repair any minor areas of coating damage, shakes or open joints. Moisture should not be allowed to penetrate into the timber throughout its life.

Repair products
The list below shows the typical maintenance products used to maintain factory finished joinery. Typically 1 litre of primer or topcoat will cover a surface area of 8 - 10 square metres.
Primers and Base Stains
Aqua Primer 2900 base stain
Anti-Stain Aqua 2901 opaque primer
Top Coats
Aquatop 2600 translucent and opaque finish

Repair products cont.
Ancillaries
Teknoseal 4000 end grain sealer
Teknoseal 4001 break joint sealer
Teknofill 5001 fine surface filler
All the recommended Teknos products are water based, with VOC levels significantly below current and proposed legislative levels. Teknos does not use heavy metal additives in any of its products.

First and subsequent redecoration
All areas to be re coated should be lightly abraded with a fine grade abrasive paper, washed down with a mild detergent solution and rinsed with clean water to remove dust, insects and other contaminants, which can form a base for algae and fungi growth.
Using a good quality, long haired, synthetic brush, designed for use with acrylic paints, apply one or two coats of Aquatop 2600 opaque or translucent topcoat in the appropriate shade, colour and gloss level. Allow to dry for four hours between coats.

Problem Areas
If regular maintenance is delayed or some other damage has occurred, additional steps may be necessary to reinstate the finish to its initial condition. The notes below cover the most common problems, and further help is available from the Teknos Customer Service teams.
Where minor flaking affects small areas of the topcoat surface but the timber substrate is not exposed:

- Abrade the damaged area with a fine grade abrasive paper to remove all unsound coating and feather out to leave a smooth surface.
- Clean down and wash the abraded area to remove dust, and allow to thoroughly dry.
- Apply a coat of Aquatop 2600 opaque or translucent topcoat in the appropriate shade, colour and gloss level to the damaged area. Allow to dry for four hours and then apply a second coat.
- If the damaged area is widespread, lightly abrade the complete frame; repair the damaged area as described above; apply the second coat to the complete frame.

Where moisture has penetrated joints, end grain, mitres or natural movement of the timber has opened shakes, treat as follows:

- Abrade the damaged area with a fine grade abrasive paper to remove all unsound coating and feather out to leave a smooth surface.
- Clean down and wash the abraded area to remove dust, and allow to thoroughly dry.
- Prime with Aqua Primer 2900 base coat stain, in the original colour for translucent systems or Anti Stain Aqua 2901 for opaque systems.
- Seal any open joints with Teknoseal 4001 joint sealer applied by mastic gun. Wipe with a damp cloth or spatula to give a smooth joint and allow to dry to a clear finish.
- Seal any exposed end grain with Teknoseal 4000 end grain sealer and allow to thoroughly dry.
- Apply a coat of Aquatop 2600 opaque or translucent topcoat in the appropriate shade, colour and gloss level. Allow to dry for four hours and then apply a second coat.

Coatings Maintenance Guidelines

Resin Exudation

Resin occurs naturally in timber, in pockets within the wood or associated with knots.

Where resin has exuded through the coating:

Although it may be unsightly, it is better not to remove fresh sticky resin.

The best remedial treatment is to allow resin to weather until it dries and oxidises, forming a white crystalline powder. The dried resin can then be removed with a stiff nylon or natural bristle brush, and any remaining residues washed off with a cloth.

Water based coatings often allow the passage of resin to the surface without damaging the coating. If the finish is not damaged by over-vigorous scrubbing during crystal removal, re-coating is often unnecessary, but otherwise an overall application of a finish coat restores the general appearance of the timber and maintains its protection.

Suggested redecoration cycles for pigmented coating system applied

Construction	**Moderate Climate** (This would include non-coastal areas at low altitude)	**Harsh/Rough Climate** (This would include areas within 5km of coastline)	**Extreme Climate** (Any areas of high altitude, or exposed coastal areas)
Sheltered (e.g. beneath porch or large roof overhang)	8 years	7 years	7 years
Partly Sheltered (e.g. window built back in reveal)	8 years	6 years	5 years
Unsheltered (e.g. face of building)	7 years	5 years	4 years

Suggested redecoration cycles for translucent coating system applied

Construction	**Moderate Climate** (This would include non-coastal areas at low altitude)	**Harsh/Rough Climate** (This would include areas within 5km of coastline)	**Extreme Climate** (Any areas of high altitude, or exposed coastal areas)
Sheltered (e.g. beneath porch or large roof overhang)	5 years	4 years	4 years
Partly Sheltered (e.g. window built back in reveal)	5 years	4 years	3-4 years*
Unsheltered (e.g. face of building)	4 years	3-4 years*	2-3 years*

*Only darker stains allowed (higher pigment levels in the stain helps protects the timber)

Applying water based paints

The short drying time and reduced flow of water based paints requires a different technique to achieve a good finish, but following a few simple hints will produce excellent results. The quality of the brush is very important; a long haired synthetic brush will give the best results. Avoid short haired or worn brushes which may leave lines in the dry film. Thoroughly wet the brush with water before starting, ensuring the base of the bristles (the heel of the brush) is fully wetted. The viscosity of the paint will affect the ease of application. Whilst the product can be applied directly from the tin, additional thinning with between 5 and 10% of water will improve the flow and levelling properties of the product, particularly in warmer weather.

For best results follow three simple steps:

- Load the coating generously onto the surface and disperse the paint briskly.
- Even out the coating with light diagonal cross strokes, ***do not overbrush,*** the coating will flow and level naturally.
- Finish the application with ***light*** brush strokes in the direction of the grain.

With practice an even coat can be applied quickly. An even coating film is important for durability, but also for appearance, particularly in the case of translucent wood stain.

Apply and finish each section systematically. So on a door or window paint one component at a time e.g. top rail followed by the stile and then the bottom rail.

When applying darker opaque colours over previously applied lighter shades use a base coat of the final colour or one coat of Anti Stain aqua 2901 Grey to aid opacity.

Do not attempt to paint when the temperature is below 5 degrees Celsius, or if the relative humidity exceeds 80%: the curing and performance of the coating may be impaired.

Allan Brothers uses Teknos coatings. Teknos is one of Europe's leading suppliers of wood coatings. For further information and technical support, please contact your local service centre:

Teknos (UK) Limited
Unit E1, Heath Farm
Banbury Road
Swerford
Oxfordshire OX7 4BN
Tel. +44 (0) 1608 683494
Fax: +44 (0) 1608 683487
Email: sales@teknos.co.uk

Teknos Scotland Limited
Nettlehill Road
Houston Industrial Estate
Livingston
EH54 5DL
Tel. +44 (0) 1506 436222
Fax: +44 (0) 1506 448826
Email: sales.scotland@teknos.co.uk

Teknos products can be bought online at:

www.teknosonline.co.uk

Warranty

Warranties
The following warranties are offered as standard on all Allan Brothers products:
30 years against rot and fungal attack on windows*
10 years against faulty manufacture of an unbroken sealed glazing unit on factory fitted double-glazing
10 years against manufacturing defects, excluding defects related to storage, installation and ventilation
10 years on ironmongery**
10 years on fully finished opaque paint systems***
10 years on fully finished translucent stain systems***
* Only for fully factory finished product.
** The warranty does not cover any tarnishing that may occur.
*** Our fully finished products are warrantied against peeling, cracking (over greater than 5% of the coated areas), damage resulting from fungal growth within the coating, significant yellowing of the coating and premature erosion of the film leading to areas of exposed timber. It does not cover against the exudation of resin, and movement or extractive staining around knots.
Biannual inspections should be made as referred to in the General Maintenance section of this leaflet.

Warranty Conditions
The warranty associated with our fully finished products are on the condition that:
- The products have been stored and handled in accordance with our guidelines.
- The coating has not been subject to physical (ladders etc.) or chemical (cleaning agents) damage.
- The coating has been maintained and repaired in accordance with the maintenance instructions.
- The coating has not failed due to site glazing or as a result of ancillary items.
- The coating has not failed due to bad maintenance to the building, alterations or repair to the building, or by the buildings poor design.
- The coating has not been allowed to accumulate dirt and debris leading to excessive mould growth.
- The coating has not been duly exposed to excessive pollutants (building brick wash, industrial etc) or heat (fire, heating appliances etc.) or extreme weather conditions.

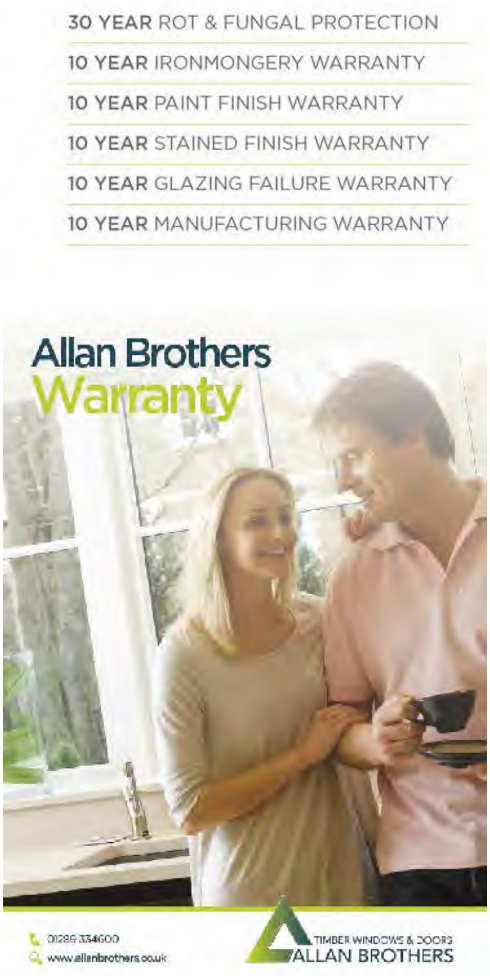
All warranties are invalid if the product has not been paid for.

All Allan Brothers products are manufactured to high quality standards in a controlled environment, and it is the responsibility of the installer to ensure the product is fit for the intended use, has been properly installed, adjusted, used and maintained.
The warranties may be invalidated if:
- The product has been installed improperly or modified due to improper installation.
- The product has failed due to the fitting of ancillary items such as window shading devices, blinds, security systems etc.
- The product has been damaged due to improper storage, installation, use or maintenance.
- The product has been exposed to performance specification conditions beyond that which has been published in our brochure.
- The product has been damaged by water ingress other than a defect caused by manufacturing, materials or workmanship.
- The product has been damaged due to condensation, during and after fitting.
- The product has been damaged due to improper washing or cleaning.
- The product has been damaged during transit on other modes of transport other than that of Allan Brothers standard method of transport.
- The product has been damaged by accidents or acts of god.

The specifier should make Allan Brothers aware of any extreme climatic locations where the goods will be installed, i.e. islands, headland, beachfronts and mountain locations as the warranties may not be applicable in these exposed situations as detailed in BSEN 927 (Classification of external wood coatings).

Our high performance windows and doors meet the exacting standards of BS 6375:1 Classification for weathertightness. However, in certain exposed locations, weather conditions can exceed these.

In the event of a component or part failing as a result of a defect caused by manufacturing, materials or workmanship, our liability is restricted to the supply of a replacement product, parts or to provide a factory authorised repair to the existing product. No liability is accepted for any charges for installation, painting or storage or any other consequential costs.



TIMBER WINDOWS & DOORS
ALLAN BROTHERS

High Performance Timber Products

Vertical Sliding Sash - Technical Guide

Version 1.0

June 2012

ALLAN BROTHERS LTD
ALLAN HOUSE
ORD ROAD
TWEEDMOUTH
BERWICK-UPON-TWEED
TD15 2XU
Tel 01289 334600
Fax 01289 334601
Visit us at- www.allanbrothers.co.uk

BRITISH WOODWORKING FEDERATION

WOOD. AT THE HEART OF A GOOD WINDOW
The **Wood Window** Alliance

BM TRADA CERTIFICATION ISO 9001:2008 UKAS

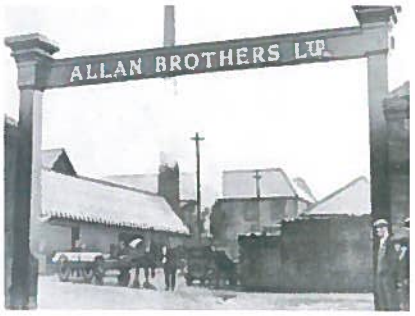
FSC MIX FSC® C013001

Supporting information - Please read in conjunction with General Technical Information

Product Description

TIMBER WINDOWS & DOORS
ALLAN BROTHERS

Vertical Sliding Sash



Sash windows have been used extensively in Britain since the seventeenth century. Their pleasing proportions and aesthetic appearance add charm and elegance to any building. Allan Brothers has designed and manufactured traditional sash windows for many years. However, we now have a sash window which incorporates modern thinking and technology whilst maintaining traditional styling and values. Moreover, it can be tailor-made to suit any configuration, can accommodate double or single glazing to help meet the requirements of planners, architects and builders alike.

The Allan Brothers Vertical Sliding Sash range consists of three main modes of operation to suit all requirements. Traditional cords & weights, spiral (spring) balance and the newest addition slide & tilt. This document covers the Cords & Weights and Spiral Balance versions.

We understand the conditions that our products are exposed to and design into them measures to protect them in the harshest conditions. Sloping surfaces, curved edges, the angle at which fixings penetrate the timber all form part of the whole design package to bring you a quality product. Exacting standards of timber specification combined with careful inspection on delivery ensures that the timber we use is of the highest standard. This is maintained through careful control of humidity within the manufacturing process.

Because of this level of design, specification and controlled conditions of manufacture, Allan Brothers' fully factory finished timber windows and doors have a life expectancy in excess of 30 years, when fitted and maintained in accordance with our recommendations.

Company and Window Accreditation

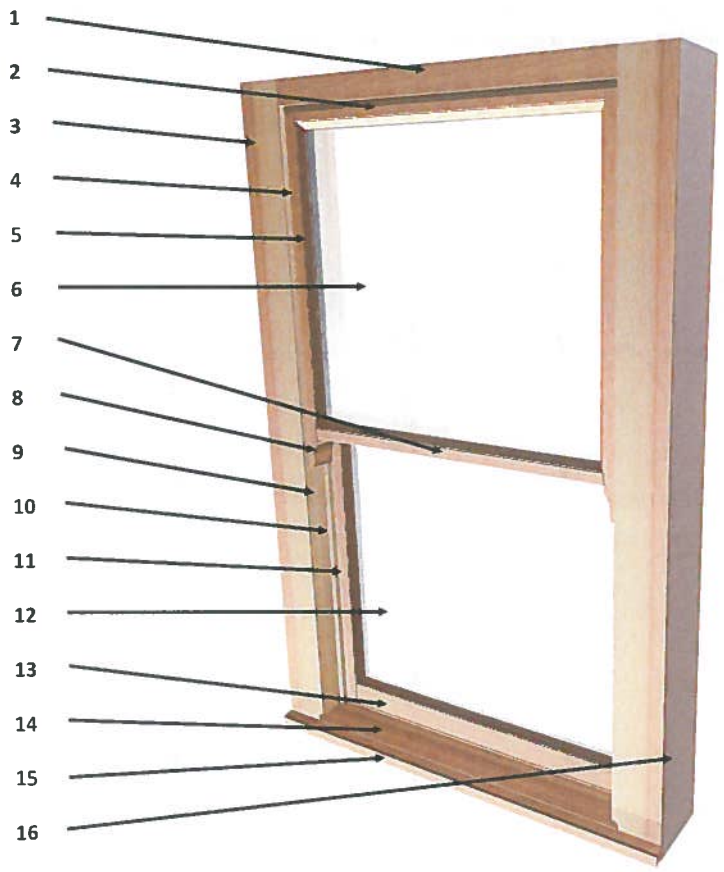
BM TRADA CERTIFICATION
ISO 9001:2008
UKAS MANAGEMENT SYSTEMS 012

ISO 9001: 2008 Quality System

FSC www.fsc.org MIX Wood from responsible sources FSC® C013001

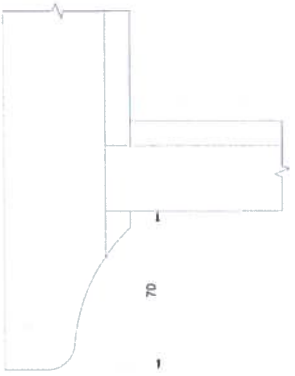
FSC Chain of Custody for Redwood Timber

Product Terminology

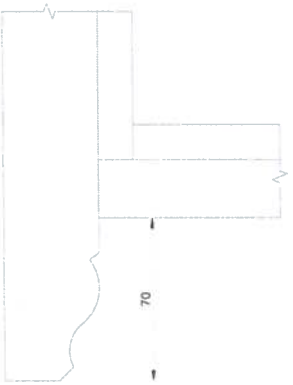


Horn Options

HN10

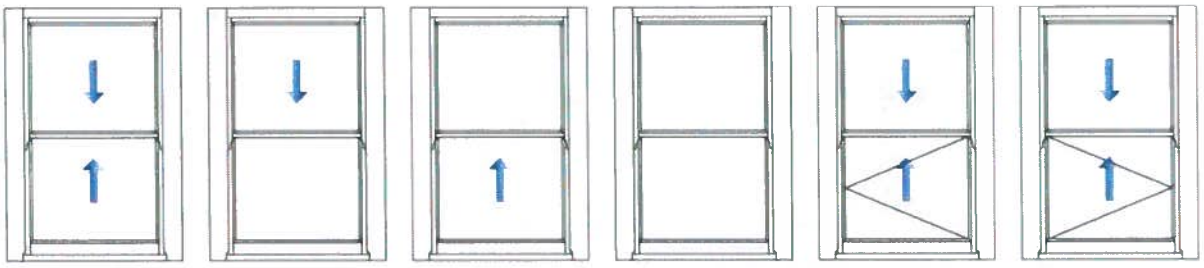


HN20



1. Frame Head Facing
2. Top Sash Top Rail
3. Frame Jamb Facing (Narrower on Spiral Balance)
4. Top Sash Stile
5. Sash Glazing Beads
6. Top Sash Glazing Unit
7. Top Sash Meeting Rail
8. Sash Horn (Optional)
9. Frame Jamb/Pulley Stile
10. Parting Bead
11. Bottom Sash Stile
12. Bottom Sash Glazing Unit
13. Bottom Sash Bottom Rail
14. Frame Sole
15. Cill Extension (Optional)
16. Backlining (C&W only)

Elevation Descriptions



Both Sashes Sliding

Top Sash Sliding - Bottom Sash Fixed

Fixed Top Sash - Bottom Sash Sliding

Both Sashes Fixed

Window with LH Simplex

Window with RH Simplex

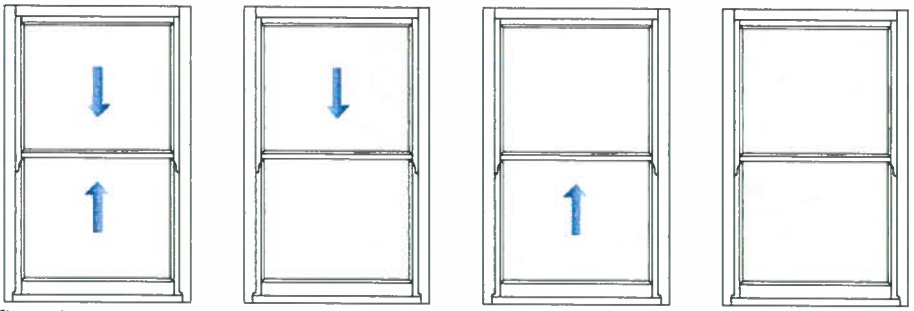
Please note all items viewed from outside

Product Elevations

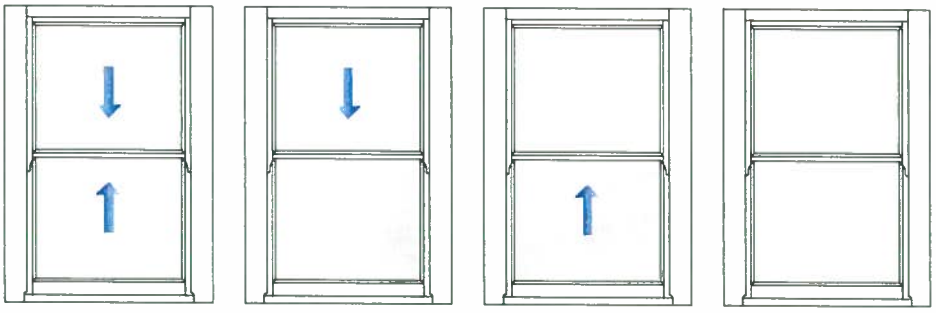
Below is a selection of elevations which are commonly used on the Vertical Sliding Sash window range. These can be further divided up with solid bar and bonded bar configurations. Items can also be coupled together on site to give greater flexibility in architectural design i.e. Bay windows etc.

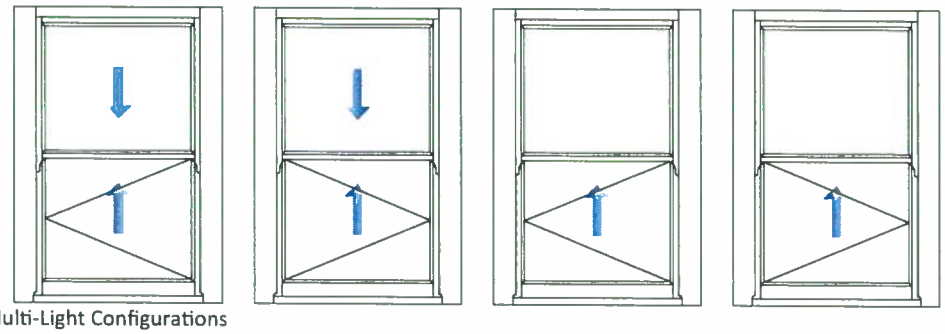
All elevations are viewed from the outside.

Spiral Balance Configurations

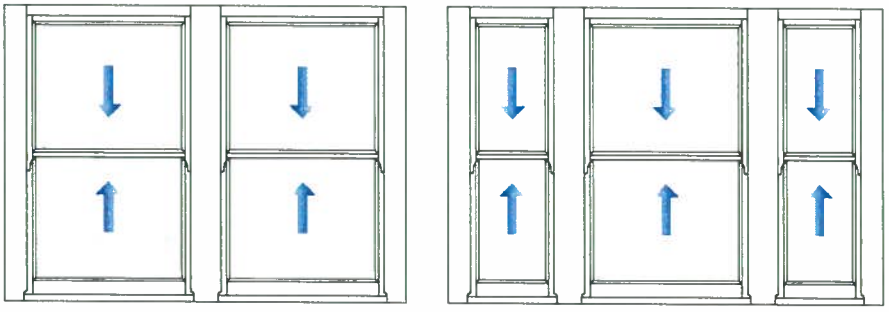


Cords & Weights Configurations





Cords & Weights Multi-Light Configurations



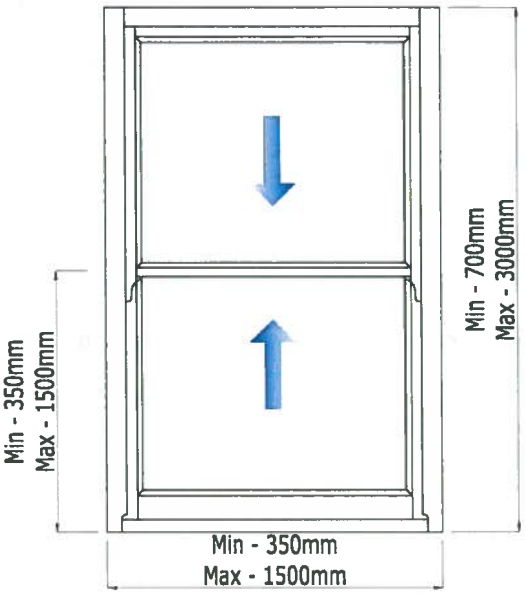
Multi-light configurations can have a mix of opening, fixed or simplex sashes to suit the clients requirements

Note: The maximum semi-perimeter (width + height) is 4500mm for all window designs

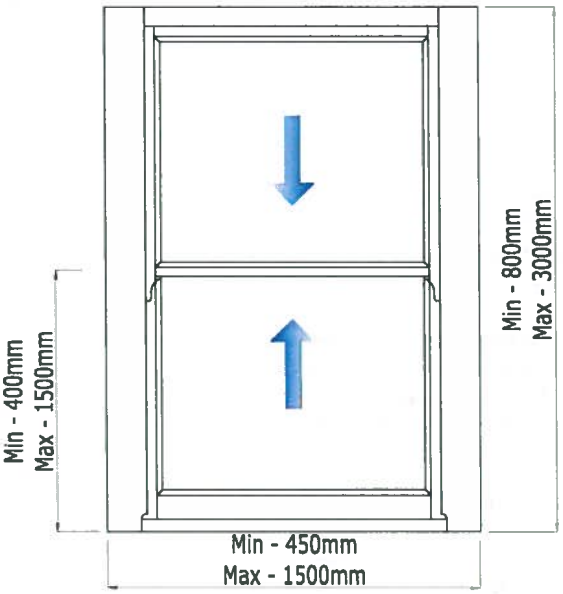
Product Parameters

The diagrams below show the available sash sizes for the Vertical Sliding Sash range,

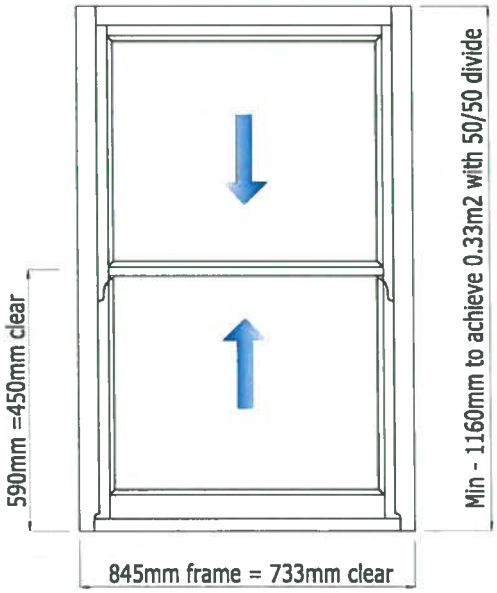
Sprial Balance



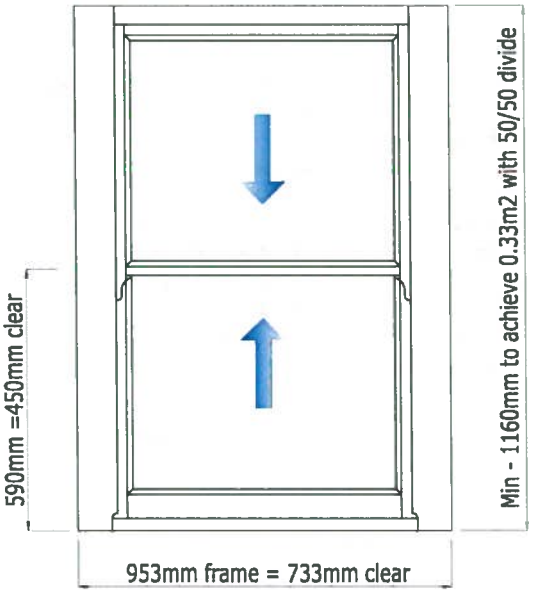
Cords & Weights



Sprial Balance - Egress



Cords & Weights - Egress



Note: Divides other than 50/50 will require a larger bottom sash, as a result the bottom sash movement will be limited.
Max. Sash Weight is 45kg
Please refer to ventilation page for minimum window parameters to accept trickle ventilators.

Maximum Sized Windows

For Health & Safety and Manual Handling the maximum semi-perimeter (width + height) for any single frame Allan Brothers will make is 4500mm. For larger windows, it is recommended that two windows are site coupled - see coupling diagrams and drawings section pages.
Any individual glazed light over 2.5m² will require 6mm toughened 2 sides glazing.

Window Weights

Window weights will be provided on the estimate/order.
Please refer to MAC Tool on HSE website for individual Manual Handling Assessment.

Thermal Performance

Poorly selected windows are a major source of heat loss in the winter. Energy efficient windows will help to minimise the heating costs and will also increase comfort.
Energy efficient windows may cost more initially but will not only improve comfort but will save energy and money for the life of the window. Over the life of a window, **the cost of heat lost is greater than the purchase cost**. Choosing the most energy efficient window will save money.
An important factor in the energy efficiency of a whole window is the U-value. A window with a low U-value loses less heat than one with a high U-value.

The following factors affect the whole window U-value:
- The type of glazing material.
- The number of glazing layers.
- The size of the cavity between the glazing layers.
- The type of gas in the cavity between the glazing layers.
- The design, material and type of frame and the other components.

Low emissivity (low-e) glass has special surface coatings to reflect heat back in the room. The low-e coatings reflect 40% to 70% of the heat that is normally transmitted through clear glass.
Double or triple-glazed windows have insulating air or gas-filled spaces between each pane. Highly energy efficient windows are manufactured with inert gases (argon or krypton) in the spaces between the panes because these gases transfer less heat than air.
Warm edge spacer bar will reduce heat loss at the edge of the glazing unit.

Allan Brothers Vertical Slide & Tilt window range uses high performance glazing products -

Neutral Low E - Planitherm Total +

Neutral Low E combines an excellent level of thermal efficiency with, as the name suggests a 'neutral' or clear appearance. All neutral low E units are manufactured using a new generation of soft coated glasses, the most commonly used of which is Planitherm Total+ by St Gobain. The U-Value of this product is 1.4, compared to 2.8 for standard clear glazing. With the addition of argon gas, our high performance Low E units offer the best solution when heat retention is the critical factor. With a centre pane U-Value of 1.2, they offer the householder a level of thermal efficiency far beyond that required by current legislation.

Low Iron Glass

Unlike Low E, Low Iron glass does nothing to help retain warmth in a room - what it does do however is contribute to the overall efficiency of the glazing by allowing more heat in. Often used for its noticeably superior clarity alone, Low Iron glass more easily allows radiated heat and light from the sun to enter a room, and in many cases this means the net effect of the glass is to contribute rather than to leak energy from a building. When considering the new Window Energy Ratings scheme, Low Iron glass is guaranteed to improve the performance of any given installation. Popular brand names for the raw glass product include 'Pilkington Optiwhite' and 'St Gobain Diamant'.

Argon and Krypton Gas Filling

The centre pane U-Value is improved by the addition of gas to the cavity, and hence this process offers a straightforward method of boosting the thermal efficiency of any sealed unit. Argon is commonly used and helps soft coated products from 1.4 to 1.2. Krypton gas is similar in effect but significantly outperforms argon in smaller cavities.

Warm Edge Spacer - Swisspacer V - Black Coloured

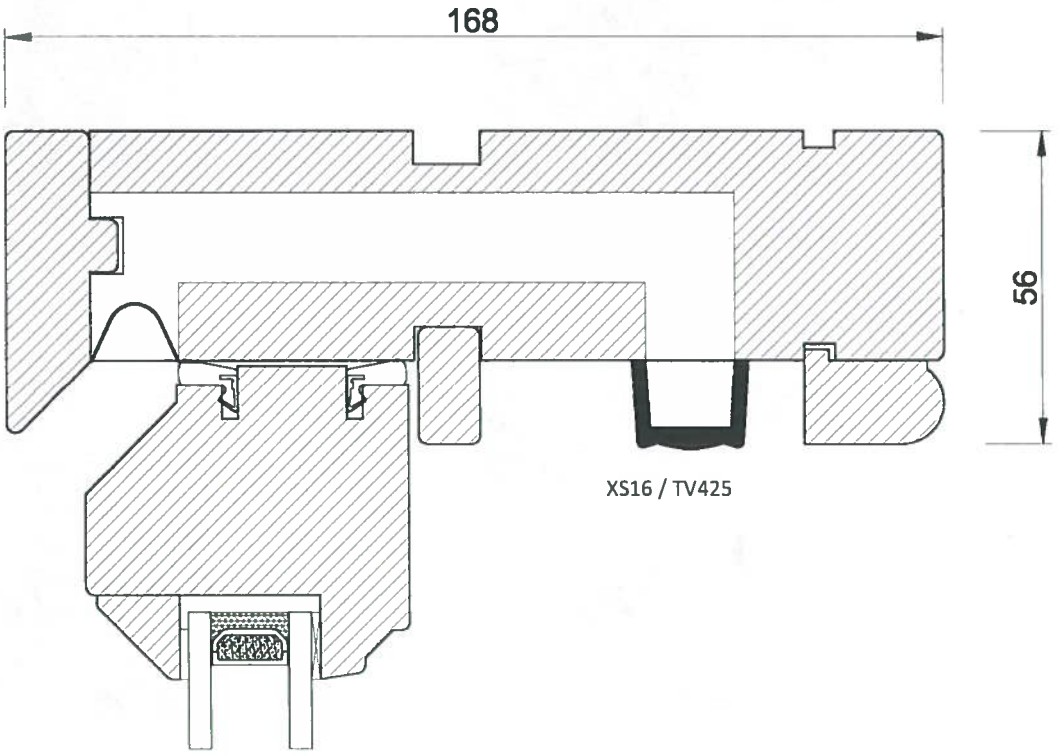
As the U-Value of a sealed unit is measured as a 'centre pane' value, the addition of warm edge does not improve this measure. However when looking at the window system as a whole, the thermal efficiency is vastly improved when replacing the standard aluminium bar with a low conductivity spacer. The effect is most noticeable perhaps by eliminating condensation around the edge of the glass, but again when looking at Window Energy ratings, warm edge significantly improves the banding of any system.

Below is a table of U-values for the Vertical Sliding Sash range using the Glass and Glazing Federation's standard size domestic window.
Always ensure that a quoted U-value is for the whole window and not simply for the glass.

VSS Cords & Weights	**Glass g**	**U-value**	**g-value**	**WER**	**Band**
4-14-4 SGG Planitherm Total + Air Alum Spacer	0.71	1.81	0.45	-27	D
6.4 Lam-12-4 SGG Planitherm Total + Argon Alum Spacer	0.65	1.72	0.42	-27	D
4-14-4 Planitherm Total + Argon Alum Spacer	0.71	1.64	0.45	-15	C
4-14-4 SGG Planitherm Total + Argon Swiss V	0.71	1.51	0.45	-6	B
6.4 Lam-12-4 SGG Planitherm Total + Argon Swiss V	0.65	1.59	0.42	-18	C
4-14-4 SGG Planitherm Total + Argon Swiss V With Diamant Glass	0.74	1.51	0.47	-2	B
VSS Spiral Balance	**Glass g**	**U-value**	**g-value**	**WER**	**Band**
4-14-4 SGG Planitherm Total + Air Alum Spacer	0.71	1.77	0.45	-24	D
6.4 Lam-12-4 SGG Planitherm Total + Argon Alum Spacer	0.65	1.67	0.42	-24	D
4-14-4 Planitherm Total + Argon Alum Spacer	0.71	1.58	0.45	-11	C
4-14-4 SGG Planitherm Total + Argon Swiss V	0.71	1.44	0.45	-2	B
6.4 Lam-12-4 SGG Planitherm Total + Argon Swiss V	0.65	1.54	0.42	-15	C
4-14-4 SGG Planitherm Total + Argon Swiss V With Diamant Glass	0.74	1.44	0.47	3	A

All U-values are taken from simulations carried out using Therm 5.2 by BFRC Approved Simulator 067 - Colin Virtue

Product
Ventilation



XS16 / TV425

Allan Brothers have various ventilation options to enable the specifier to easily achieve the relevant Building Regulations. The vent is concealed by using a through head slot, keeping the external opening in a concealed position. The internal component is held within the frame, so no allowance is required when installing.

XS16

TV425 / TV425HL

Parameters for trickle vents

Frame Size (mm)

	Spiral Balance		Cords & Weights		Colours
	1 Vent Min	2 Vents (1 Light) Min	1 Vent	2 Vents (1 Light) Min	
XS16	486	875	594	983	White Brown
Equivalent Area	2900	5800	2900	5800	
Free Area	4000	8000	4000	8000	
TV425 HL	546	934	654	1042	White Brown Chrome Gold SAA
Equivalent Area	2600	5200	2600	5200	
Free Area	4000	8000	4000	8000	

Product Fittings

Fitch Sash Locks

Brass

Chrome

Hook Lifts

Brass

Chrome

Options-

Ring Lifts

ERA Sash Stops

Brass

Silver

Options -

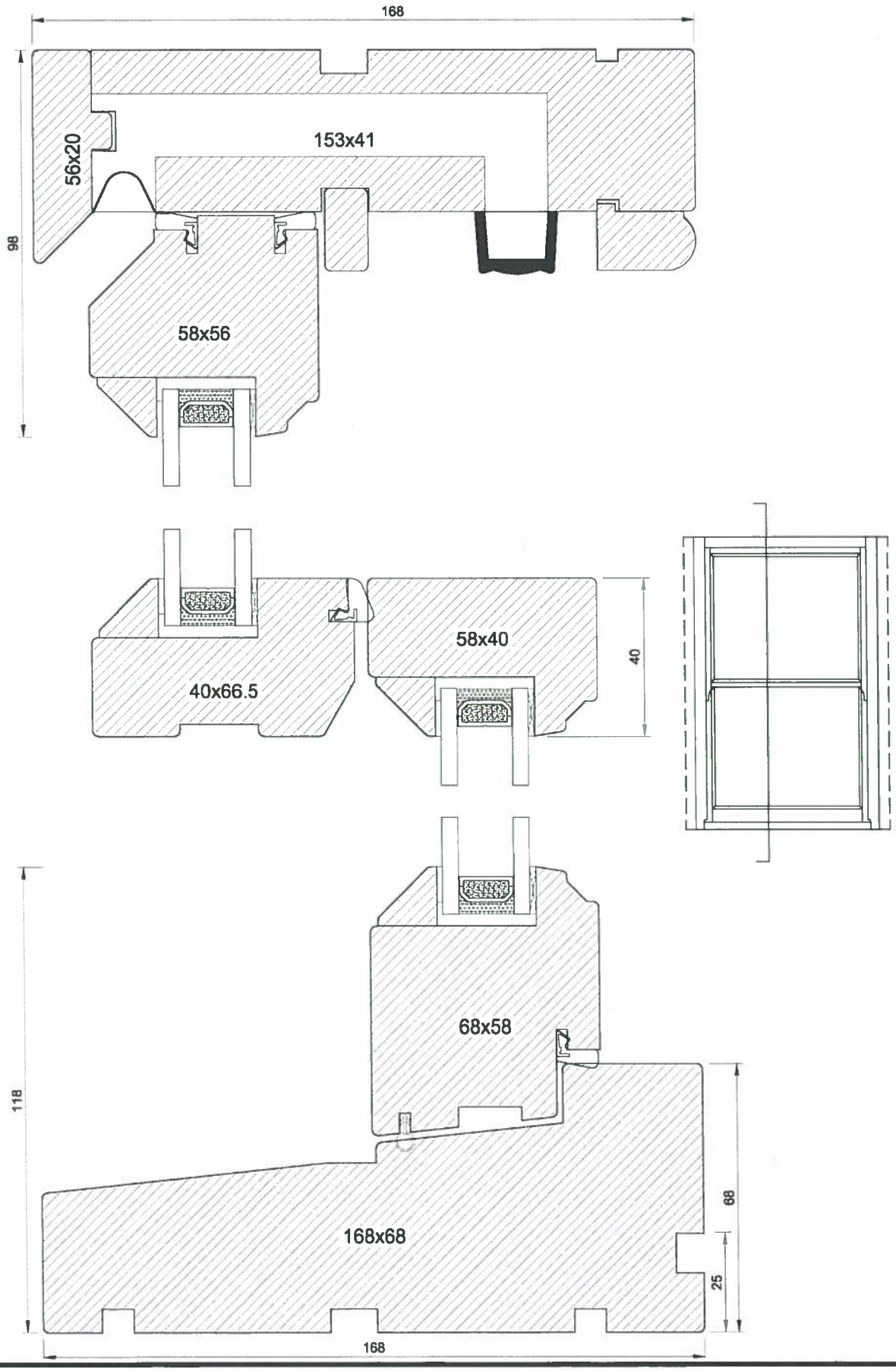
None, One or Two per window

Pulleys

Brass

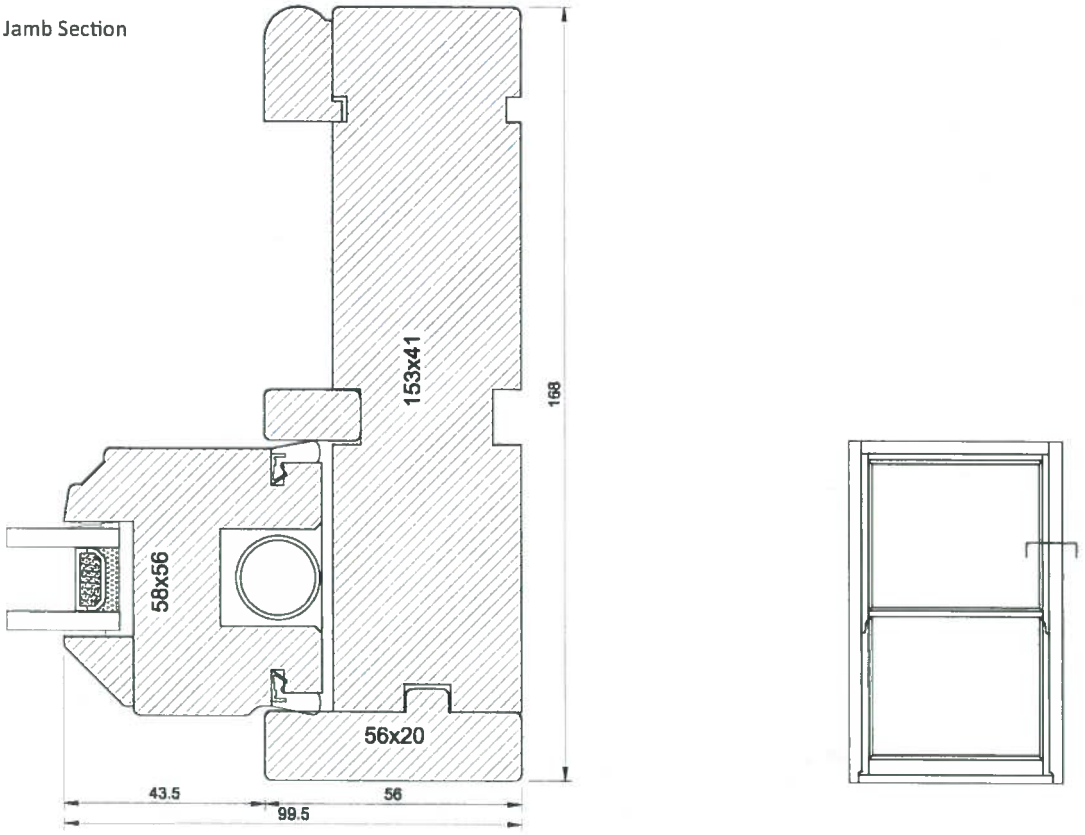
Chrome

Drawings
Vertical Section - Spiral Balance/Cords & Weights

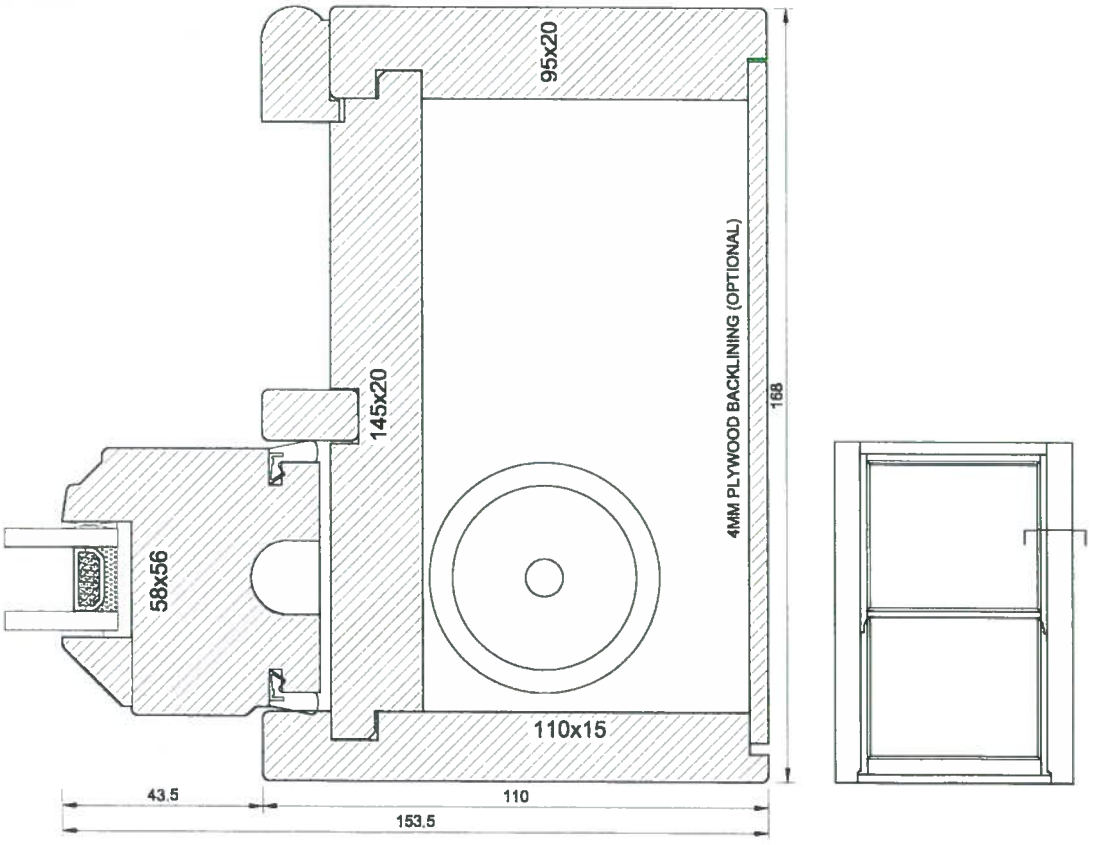


Drawings
Jamb Sections

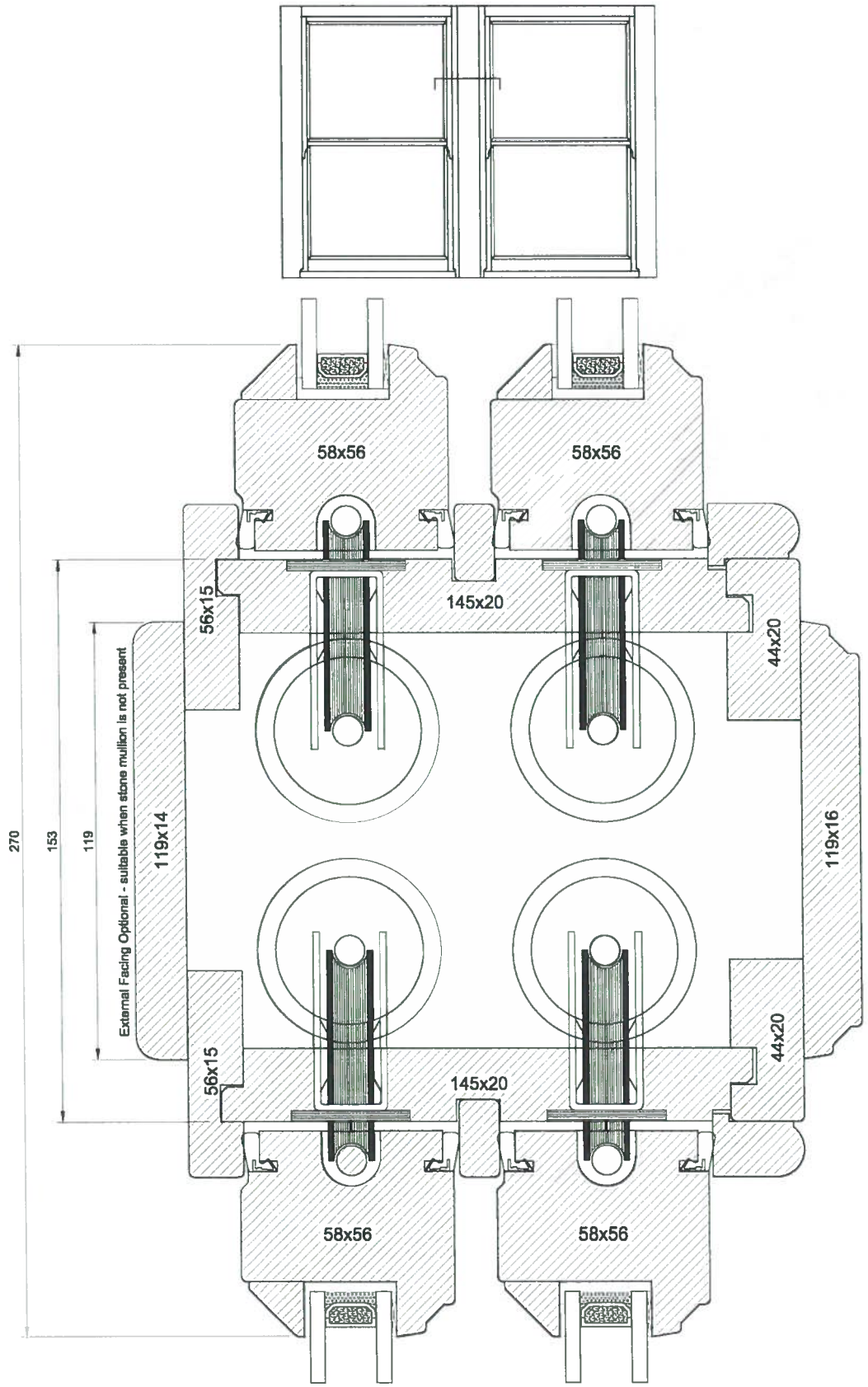
Spiral Balance Jamb Section



Cords & Weights Jamb Section

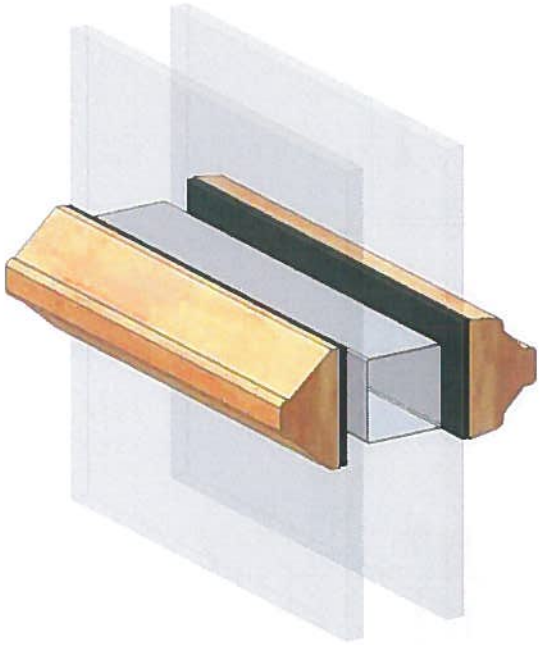


Drawings
Cords & Weights Mullion



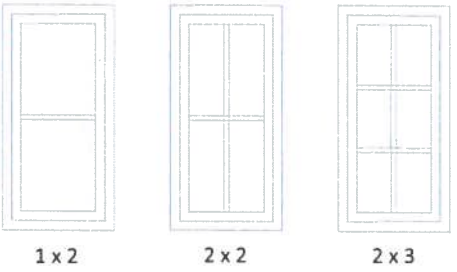
Drawings
Bars

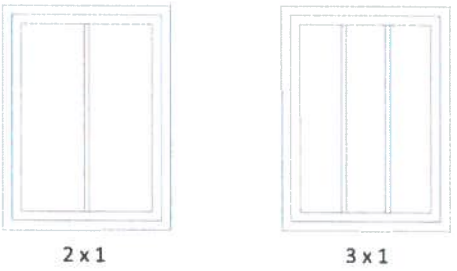
With the option of solid or bonded Georgian bars, Allan Brothers can match your fenestration requirements.
Bar types can be mixed to enhance the look of the product even further.

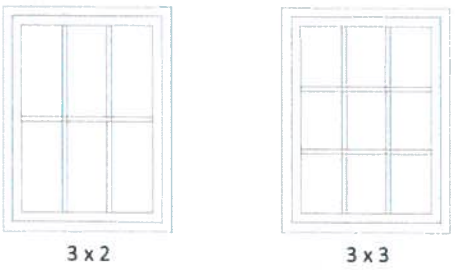


The Georgian bonded bars have an integra bar between the panes, to give the effect of individual glazing units, making them difficult to differentiate from through bars. This also allows the high performing, drained and vented, glazing system to remain intact and do its job without having a detrimental effect on the appearance of the product.

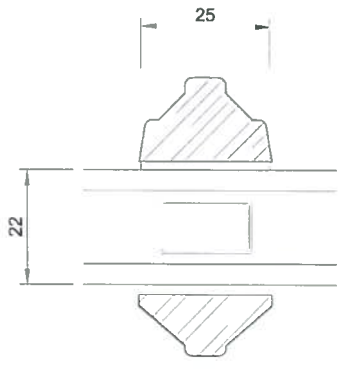
Most Common Bar Patterns
Please note other patterns are available on request to suit your fenestration



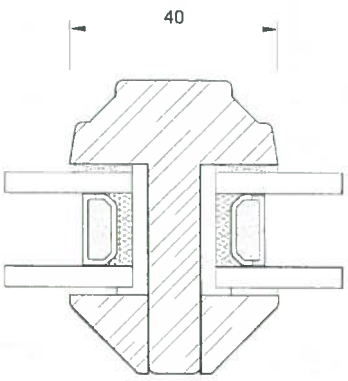




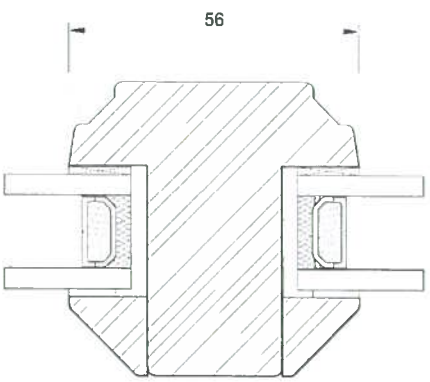
25mm Bonded Bar



40mm Solid Bar



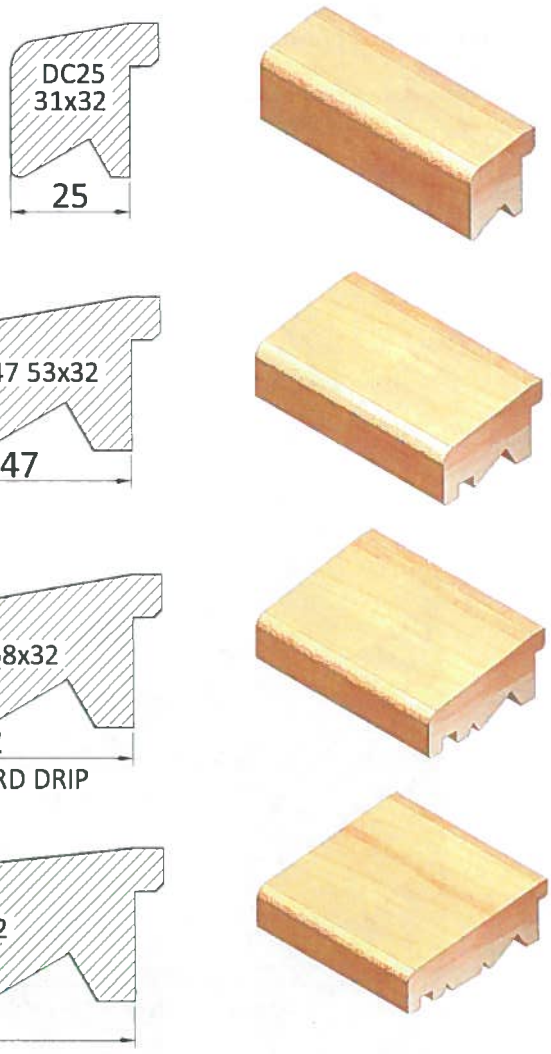
56mm Solid Bar



Drawings
Cill Extensions

Allan Brothers manufacture a variety of timber cill extensions to suit the built in environment.
The cill extensions are all designed with a large radius edge to ensure good paint coverage.
The underside of the cill extension has rebates to allow concealed fixings and to stop the water travelling back towards the fabric of the building.

Note: Consideration should be given to cill width when designing a building which incorporates timber windows. Wide cill extensions in timber have a higher chance of failure as coatings need to adapt with the timber to seasonal changes, they will expand and contract more, leaving the coating vulnerable to breakdown over time which can lead to the timber being exposed to moisture. Designing a building with a cill extension of less than 100mm will greatly improve the life of the cill extension.



Sole Options

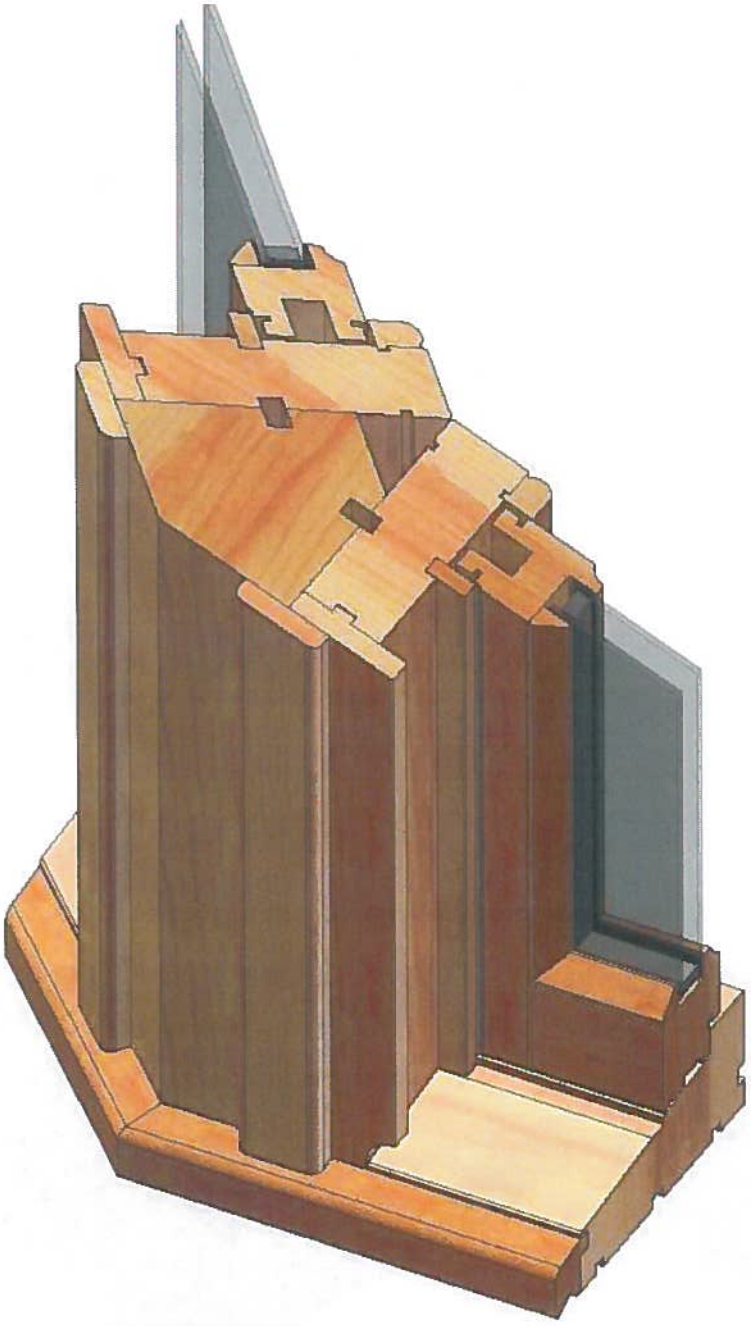
The window has the option of having a "flush" sole or being grooved to take a cill extension as shown below.

Flush - no cill extension required

With Cill Extension

Drawings
Coupling Diagrams

When coupling items please follow figures 1 - 4
Products should be fitted in accordance with BS82313-4: Code of Practice for survey and installation of windows and external doorsets.
Allan Brothers can supply coupling packs and bay corner posts to complement the Vertical Sliding Sash range.
The Cill Extension section can be supplied long for site fitting across the width of the coupled windows.
Bay Corner Posts can be supplied to various angles to suit your design (in increments of 5°).



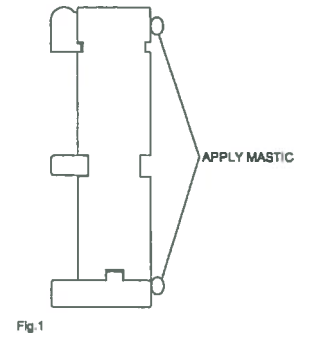


Fig.1

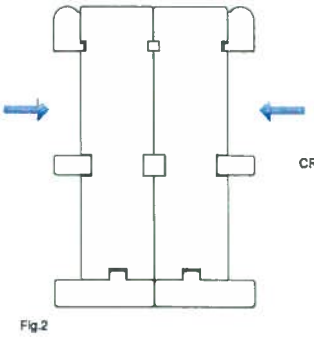


Fig.2

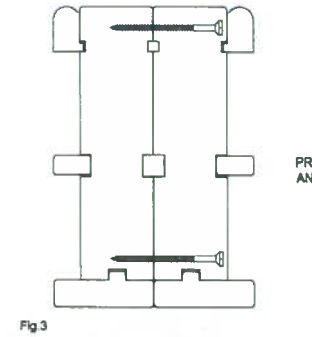


Fig.3

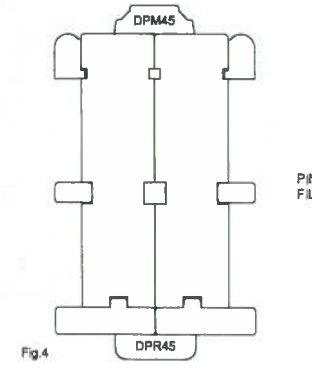


Fig.4

Note: Allan Brothers do not supply load bearing windows.

Operation and Maintenance

Vertical Sliding Sash Window – User Instructions

When closed, your Allan Brothers Sliding Sash window should be kept locked for added security. To operate your vertical sliding sash window –

- Release the catch on the meeting rails (Figure 1).
- Note: where a restrictor mechanism has been fitted (Figure2), this should be unscrewed using the special key provided and removed before the catch on the meeting rails is released.
- Both sashes can now be opened by sliding vertically in opposite directions
- To close the outer or top sash, it should be pushed upwards until it re-locates against the window head.
- The inner or bottom sash is closed by pulling it downwards, until it meets the sill.
- Tighten the catch on the meeting rails, then replace the restrictor mechanism, if fitted. (Figure 2)
- The key should then be removed and kept in a safe but handy place.

Figure 1

Figure 2

Ventilation

- If a ventilator is fitted, it can be opened by sliding the faceplate to the left, then tilting upward or downwards to direct the flow of air.

Traditional Cords and Weights Window - 'Simplex' ironmongery

Special ironmongery, called 'Simplex', has been developed to facilitate easy and safe cleaning of your vertical sliding sash window. If your window is fitted with this 'Simplex' hardware, it should be operated as follows:

- Lift the bottom sash up above the level of the butterfly hinges, engage the butterfly hinges and lower the bottom sash onto them. (Figure 3)
- Pull the cord on the right hand side downward to engage the cord clutch. (Figure 4)
- Release the baton rod thumbscrews. (Figure 5)
- Pull back the batten rod.
- Pull the bottom sash forward slightly and release the sash cord clipped to the sash. (Movement as shown in Figure 6)
- Open the bottom sash to 90 degrees, in which position it is both easy and safe to clean.
- To clean the top sash, it should be pulled down as far as it will go whilst the bottom sash is still open.
- After cleaning, the window should be closed in reverse sequence.

Note: If "Simplex" ironmongery is fitted, the bottom sash will only go up as far as the cord clutch (Figure 4).

Figure 3

Figure 4

Figure 5

Figure 6

Vertical Sliding Sash Window Maintenance

Spiral Balance mechanisms self lubricate but in order for this to happen they need to be used, if a window is seldom used they should be opened and closed a few times when they are cleaned to allow this to happen.

It may be necessary to lightly grease the catch and restrictor mechanisms periodically. It is essential that the weather seals are not coated when the window is subsequently re-decorated.

During inspection, particular attention should be paid to the bottom bead where there is maximum exposure to the environment.

With drained and vented systems, drainage holes should be cleaned regularly.

Coatings Information

If your Allan Brothers joinery products have been fully factory finished and installed correctly they should be virtually maintenance free. General cleaning should be carried out regularly (minimum twice a year) using a non-abrasive cloth with mild detergent and warm water (ph neutral solution) to remove any contaminates, whilst frequently changing the water. **Under no circumstances should aggressive, alkaline or acidic cleaners be used.** After cleaning rinse thoroughly with clean water to remove all residues, but do not use hosepipes. During cleaning, if any damage is noticed then this must be repaired immediately as below.

Repair of Coatings

Should damage occur the damaged surface must be cleaned of any loose timber, paint or stain. If filler is required then flexible two-pack filler should be used. The area should then be recoated with the appropriate paint or stain colour.

Subsequent Painting / Redecoration

Under normal environmental conditions, your fully finished coating will last for 5 years' (stain) or 8 years' (opaque) before it needs to be re-coated. This may vary with location, exposure, elevation, etc. When re-coating simply clean the timber frame and redecorate using a high build micro-porous (MVP) finish.

Product Specifiers Guide

Our Vertical Sliding Sash range can be specified by using this general specification which can be altered to suit the users needs.

Timber Windows High performance Vertical Sliding Sash frame replacement, factory double-glazed and factory finished.

- **Manufacturer and reference**: Allan Brothers Ltd. Allan House, Ord Road, Tweedmouth, Berwick-upon-Tweed, TD15 2XU
  Tel 01289 334600, Fax 01289 334601, Website: www.allanbrothers.co.uk, E-mail: abinfo@allanbrothers.co.uk
  Range: Allan Brothers Vertical Sliding Sash

- **Operation**: Cords & Weights
  Spiral Balance

- **Materials generally**: to BS EN 942. Timber species: European redwood from selected sawmills, timber sources from sustainable managed forests with a minimum of 70% FSC material
  Class J10 for glazing beads and the like.
  Class J30 or better for all other members.

- **Preservative treatment**: organic solvent as NBS section Z12 Table 25 of the British Wood Preserving and Damp-proofing Association manual, 1999 or equivalent
  Desired service life: 30 years.
  Moisture content on delivery: 13 - 19%.

- **Manufactured** to BS 644, Part 1 and fully weather-stripped
  Constructed in accordance with BS 1186-2
  Adhesive to BS EN 204, Part 1, Group D4.
  Exposure category - BS6375, Part 1. - Design wind pressure: minimum 2000 (Pa).

- **Glazing**: Factory glazed to meet current thermal regulations with 22mm double-glazed units, manufactured and kitemarked to BS EN1279 and factory fixed in accordance with BS6262. Dry glazed system with double-sided security tape.

- **Finish** as delivered: Fully factory finished, water-borne decorative paint or stain finish (colour to be chosen by client). Total dry coating minimum 120 microns. All decorative finishes to have a minimum warranty of 10 years for opaque and 10 years for stain in conjunction with the supplier's recommended maintenance procedure

- **Ironmongery/accessories**:
  Fittings: Premium Brassware
  Locking: By means of a Fitch Sash Lock
  Trickle Ventilation: Ventilators to be fitted as standard to head of frames to meet statutory requirements.

- **Warranties** 30 years against rot and fungal attack
  10 years against glazing unit failure
  10 years against manufacturing defects
  5 years on all ironmongery
  8 years on opaque finished
  5 years on stain finish coatings

TIMBER WINDOWS & DOORS
ALLAN BROTHERS

High Performance Timber Products

System 2000 - Technical Guide

Version 1.1

November 2011

ALLAN BROTHERS LTD
ALLAN HOUSE
ORD ROAD
TWEEDMOUTH
BERWICK-UPON-TWEED
TD15 2XU
Tel 01289 334600
Fax 01289 334601
Visit us at- www.allanbrothers.co.uk

Supporting information - Please read in conjunction with General Technical Information

Product Description

About the System 2000

System 2000

The System 2000 window range is a flush casement with a 92mm section, comprising a Top Hung, Side Hung, Top Hung (Fully Reversible) and fixed lights which cover all modes of outward operation to meet the users differing needs while maintaining a constant appearance for the building. The range utilises a 28mm Double Glazing Unit which gives the client a wide variety of glazing options. Whether for security, noise or thermal insulation we can provide a glazing solution to suit the specific requirements.

The System 2000 range can be supplied in larger-than-average sizes so more challenging architectural designs are achievable. The top hung fully reversible window has the concealed hinges demanded by many customers with the convenience and practicality of being reversible. We understand the conditions that our products are exposed to and factor into them measures to protect against the harshest conditions. Products have been designed for long-lasting thermal and security performance.

The System 2000 range can be enhanced to meet BS7950 and therefore satisfy the requirements of Secured by Design. Sloping surfaces, curved edges and even the angle at which fixings penetrate the timber have all been considered in the design package to bring you this quality window. Exacting standards of timber specification combined with careful inspection on delivery ensures that the timber we use is of the highest standard. This is maintained through careful control of humidity within the manufacturing process.

Company and Window Accreditation

ISO 9001: 2008 Quality System

BS644 :Q Mark for Timber Windows

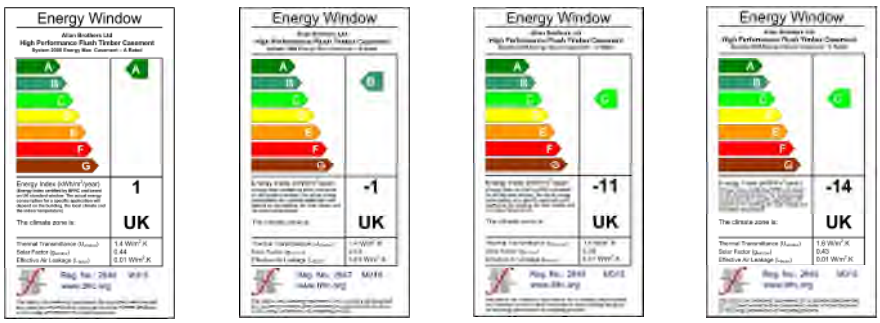
BS7950: Q Mark for Enhanced Security Windows

Q Mark for Trada High Performance Scheme

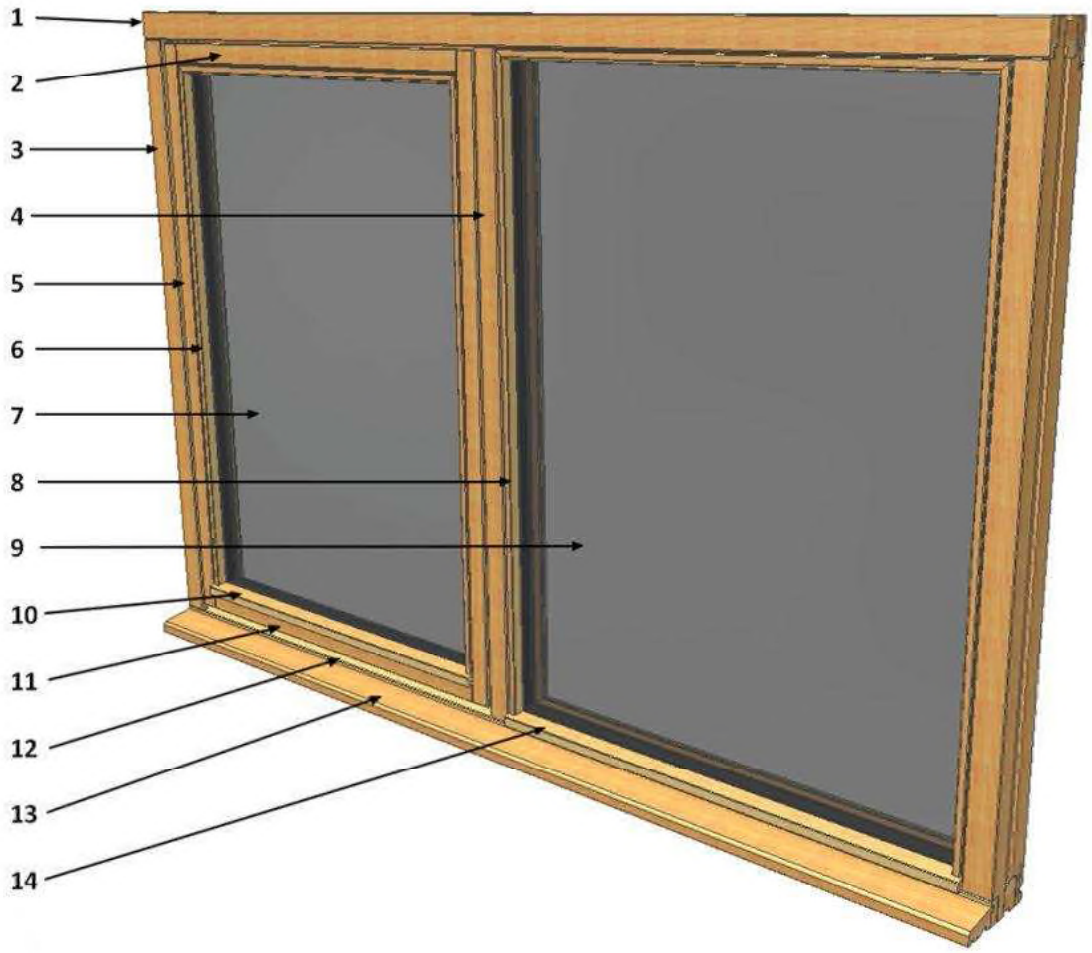
Secured By Design License Holder

FSC Chain of Custody for Redwood Timber

Window Energy Ratings

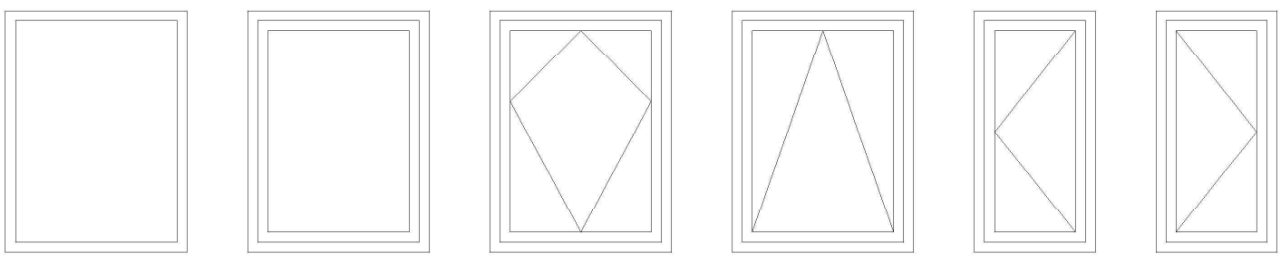


Product Terminology



1. Frame Head
2. Sash Top Rail
3. Frame Jamb
4. Frame Mullion
5. Sash Stile
6. Sash Glazing Beads
7. Sash Glazing Unit
8. Deadlight Glazing Bead
9. Deadlight Glazing Unit
10. Sash Bottom Glazing Bead
11. Sash Bottom Rail
12. Frame Sole
13. Cill Extension
14. Deadlight Bottom Glazing Bead

Elevation Descriptions



Deadlight | Fixed Sash | Top Hung Fully Reversible | Top Hung Non - Reversible | Side Hung - Left Hand | Side Hung - Right Hand

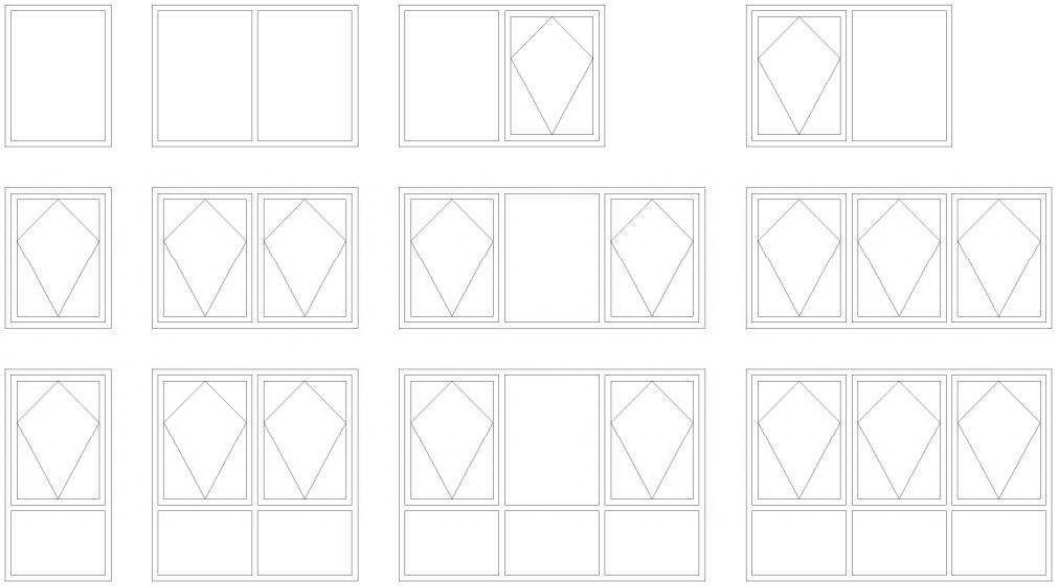
Please note all items viewed from outside

Elevations

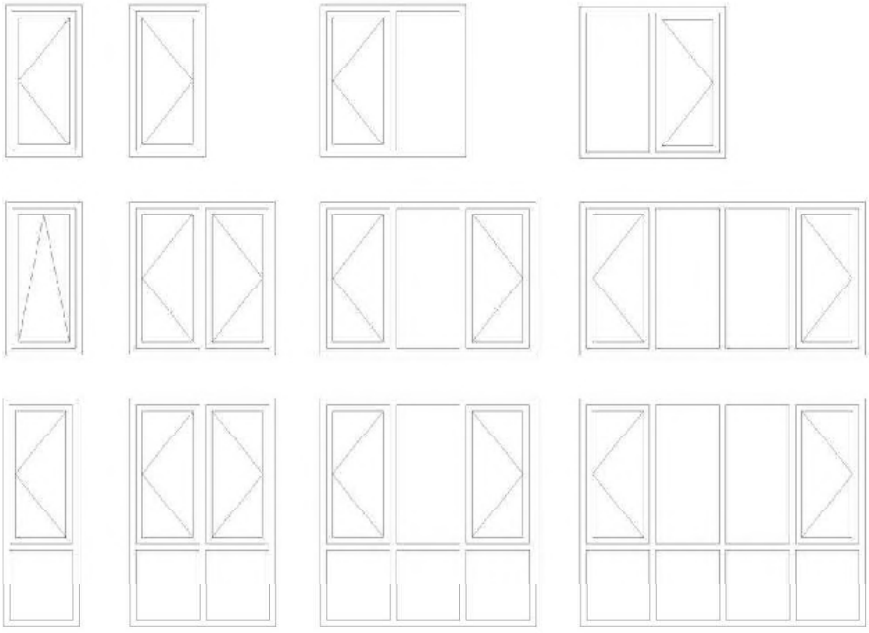
Below is a selection of elevations which are commonly used on the System 2000 window range. These can be further divided up with mullions, transoms and bar patterns. Items can also be coupled together on site to give greater flexibility in architectural design i.e. Bay windows etc. The System 2000 92mm section is designed to match perfectly with Allan Brothers Doorsets. Fully reversible windows and side hung can be accommodated in one frame where necessary. Fixed sashes can be incorporated which will provide equal sight lines for bar patterns.

Elevations viewed from outside

The elevations shown in this section are hung on a fully reversible hinge



The elevations shown in this section are hung on a friction hinge

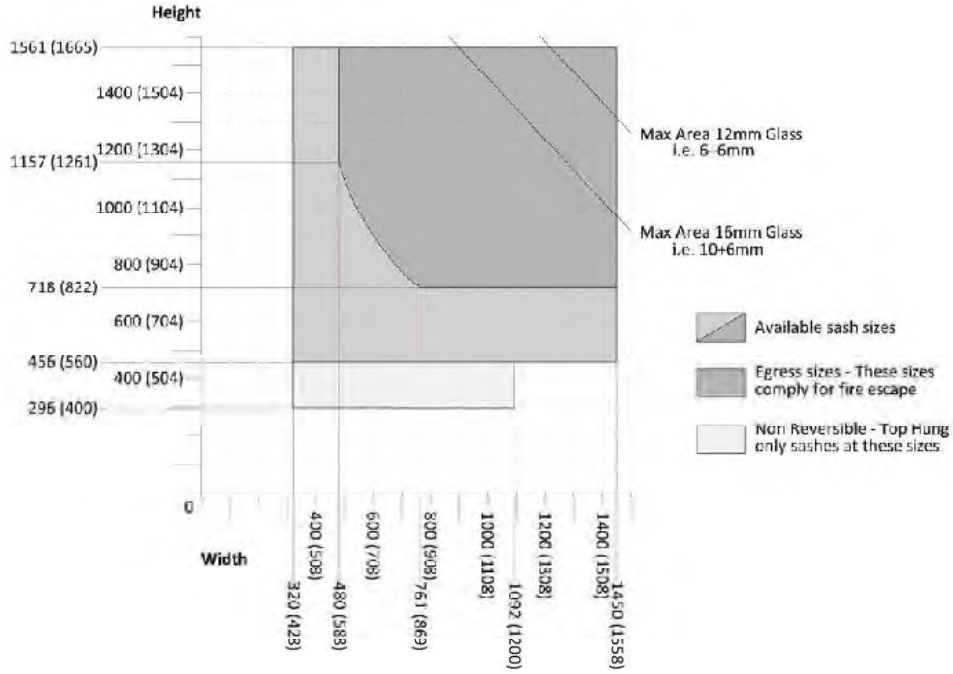


Note: The maximum semi-perimeter (width + height) is 4500mm for all window designs

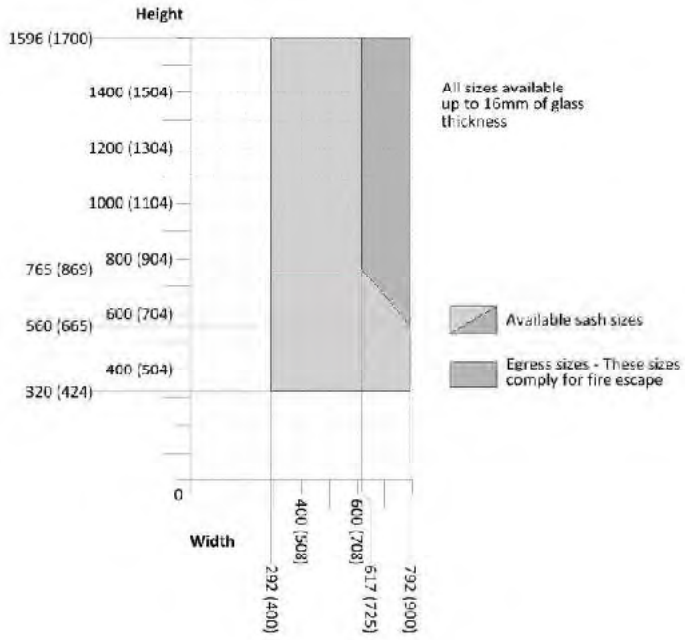
Parameters

The graphs below show the available sash sizes for the System 2000 range, the leader lines show key dimensions, the shaded areas show the hardware limitations and availability of egress (0.33m²) for compliance with the relevant Building Regulations. The graphs also show the size restrictions of varying glazing options.

Top hung fully reversible parameters - Sash sizes (Frame sizes are in brackets)



Side hung parameters - Sash sizes (Frame sizes are in brackets)



Please refer to ventilation page for minimum window parameters to accept trickle ventilators.

Maximum Sized Windows

For Health & Safety and Manual Handling the maximum semi-perimeter (width + height) for a single frame Allan Brothers will make is 4500mm. For larger windows, it is recommended that two windows are site coupled - see coupling diagrams and drawings section pages. Any individual glazed light over 2.5m² will require 6mm toughened 2 sides glazing.

Window Weights

Window weights will be provided on the estimate/order.
Please refer to MAC Tool on HSE website for individual Manual Handling Assessment.

Weather Performance & Operating Forces

Weather Performance
The Allan Brothers System 2000 window range can cope with even the most extreme British weather conditions.

Allan Brothers System 2000 windows have been fully tested by independent test houses for –

Air Permeability, i.e. - the ability to resist air leakage through the window, under positive and negative pressures, to replicate the effects of variable wind speed and direction.
The sample windows were tested to BS EN 1026 and the results were classified in accordance with BS EN 12207 to Class 4. The test steps up the positive and negative pressure in defined increments from 50Pa to 600Pa.
Typically, BS 6375 Pt1 recommends a Class 2 rating (300Pa) for windows. ***The System 2000 far exceeds Class 4 (600Pa) which is the highest rating under this standard.***

Watertightness, i.e. the ability to resist water penetration when spraying the window and applying pressure in defined increments from 0Pa to 600Pa to the external face of the window to replicate the effects of driving rain.
The sample windows were tested to BS EN 1027 and the results are classified in accordance with BS EN 12208 to Class 9a.
Typically BS 6375 Pt1 recommends a Class 3A (100Pa) for most locations rising to Class 5A (200Pa) for more extreme conditions. ***The System 2000 window achieved a Class 9a (600Pa)***

Resistance to Wind Load, i.e. the ability of the members to resist deflection under positive and negative static and dynamic wind loads.
The sample windows were tested to BS EN 12211 and the results were classified in accordance with BS EN 12210 to Class E2500.
Typically UK buildings are subject to design wind loads of no more than Class 3 (1200Pa). In the most extreme weather conditions of the Scottish Highlands and Islands design wind loads can rise above Class A5 (2000Pa). ***The System 2000 achieved performance levels well in excess of these requirements gaining a resistance to wind rating of class E2500 - the maximum the Test House rig was capable of.***

Operation and Strength Characteristics, i.e. for ease of use of operating the window to disengage, open, close and re-engage.
The sample windows were tested to BS 6375 Pt2 and passed all of the following criteria:- fastener operation, movement of sash, resistance to excessive operating force, release of jammed sash, release of jammed hinge - Class A, strength of restricted opening and location devices and maximum opening stops.


Bodycote warrington apt

A Bodycote Materials Testing Company
www.bodycote.com
www.warringtonfire.net

SUMMARY OF RESULTS

Certificate Number: TC/08/12/001/C Original date of issue: 3rd December 2008

Report Numbers: 177210/A Date of test: 24/10/08

This is to certify that samples of: System 2000 Top hung reversible

Manufactured by: Allan Brothers

Have been successfully type tested and classified in accordance with:

BS 6375-1 :2004 Performance of windows and doors

By the examination and application of the following performance tests for: -

Clause 4: 2000+

Air Permeability to BS EN 1026/ BS EN 12207: Class 4
Water Tightness to BS EN 1027/ BS EN 12208: Class 9A
Wind to BS EN 12210/ BS EN 12211: Class E2500

Issued by: C R Bryn Date: 03 December 2008
Chris Bryan – Laboratory Technician

Authorised by: Ian Keels Date: 03 December 2008
Ian Keeling – Laboratory Manager

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0621

Bodycote Laboratories Ltd - Key Industrial Park - Fernside Rd. - Willenhall - West Midlands - WV13 3YA
tel +44 (0) 1902 722122, fax +44 (0) 1902 727242,
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Bodycote warrington apt

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SUMMARY OF RESULTS

Certificate Number: TC/08/12/002/C1 Original date of issue: 3rd December 2008

Report Numbers: 177210/B Date of test: 24/10/08

This is to certify that samples of: System 2000 Top hung reversible

Manufactured by: Allan Brothers

Have been successfully type tested in accordance with:

BS 6375-2 Performance of windows

By the examination and application of the following performance tests for: -

Test 1: Fastener Operation
Test 2: Movement of sash
Test 3: Resistance to excessive operating force
Test 4 Release of jammed sash
Test 5: Release of jammed hinge
Test 6: Strength of restricted opening and location devices and maximum opening stops

Issued by: C R Bryn Date: 03 December 2008
Chris Bryan – Laboratory Technician

Authorised by: Ian Keels Date: 03 December 2008
Ian Keeling – Laboratory Manager

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SUMMARY OF RESULTS

BS 6375-2 Performance of windows

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Bodycote warrington apt

SUMMARY OF RESULTS : 183275

Allan Brothers
System 2000 Side Hung Window

Allan House, PO Box 5, Berwick-upon-Tweed, TD15 2AT

Summary of Tests	Result
BS 6375-1:2009 – Clause 4, Furniture Category & Classification	2000
Clause 6: Air Permeability BS EN 1026:2000	CLASS 4
Clause 7: Watertightness BS EN 1027:2000	CLASS 9A
Clause 8, Wind resistance BS EN 12211:2000	CLASS C5

This summary accompanies and must be used only in conjunction with Test Report 183275

Summary prepared by: Chris Bryan, Operations Manager

Approved by: Mark West, Deputy Operations Manager

0621

* For and on behalf of Bodycote warringtonapt.

Date issued: 7th August 2009, Issue 2

Testing carried out by Bodycote warringtonapt Laboratories Ltd.
At Key Industrial Park, Fernside Rd., Willenhall, West Midlands. WV13 3YA

Security Performance

Secured by Design (SBD) is a police initiative that encourages the building industry to adopt a number of crime prevention methods which assist in reducing the opportunity for crime and the fear of crime thus resulting in a safer and more secure environment.
The aim of SBD is to achieve a better quality of life by focusing on crime prevention at the design, layout and construction stages of homes and commercial premises. In doing so Secured by Design supports one of the Government's key planning objectives: the creation of secure, quality places where people wish to live and work.
Secured by Design is owned by the Association of Chief Police Officers (ACPO) and has the backing of the Home Office.

The Secured by Design scheme functions on two levels:

- A licensing scheme for products which meet police preferred specifications.
- An award given to developers who build developments to Secured by Design standards.

Licensing Scheme
To achieve Secured by Design accreditation, manufacturers of doors, windows, locks and certain other products must ensure that their products meet the minimum security standards specified by SBD (BS7950 for Windows, Pas24 for Doors). Once a product has been tested and certified to the relevant standard, the company may apply for SBD membership (a licence fee applies). Once Approved, all member companies benefit from the use of the 'Police Preferred Specification' Secured by Design logo on their approved products.

The Developers Award
The Secured by Design award is a certificate given to developments which, following consultations with local police Architectural Liaison Officers (sometimes called Crime Prevention Design Advisors), are built in a way which conforms to the ACPO guidelines and therefore reduce the opportunity for crime. This encompasses a good use of natural surveillance and defensible spaces as well as windows and doors meeting SBD's minimum quality and security standards. Research carried out by Huddersfield University shows that residents living on Secured by Design Developments are half as likely to be burgled and two and a half times less likely to suffer vehicle crime. Secured by Design developments also benefit from 25% less criminal damage.

Product
When fitted with the requisite ironmongery, our top hung fully reversible and side hung System 2000 windows have been independently tested to and meets the criteria of BS 7950: 1997 Specification for enhanced security performance. A copy of the test reports and Secured by Design license are shown below. Our System 2000 windows meet this demanding criteria thanks to a Maco R.A.I.L. (Reverse action In-line) espagnolette which has a 6 point locking mechanism. The range is externally glazed with security tape to stop the removal of the double glazing units. In the tests the units are subject to mechanical forces applied to the corners and manual manipulation using an array of hand tools to check the security of the glazing. The samples are also subject to mechanical tests where forces are applied to specific points on the windows and then a series of 3 minute attacks using hand tools.

Please ask for a copy of the latest Secured by Design Licence

Thermal Performance

Poorly selected windows are a major source of heat loss in the winter. Energy efficient windows will help to minimise the heating costs and will also increase comfort.
Energy efficient windows may cost more initially but will not only improve comfort but will save energy and money for the life of the window. Over the life of a window, the cost of heat lost is greater than the purchase cost. Choosing the most energy efficient window will save money.
An important factor in the energy efficiency of a whole window is the U-value. A window with a low U-value loses less heat than one with a high U-value.

The following factors affect the whole window U-value:
- The type of glazing material.
- The number of glazing layers.
- The size of the cavity between the glazing layers.
- The type of gas in the cavity between the glazing layers.
- The design, material and type of frame and the other components.

Low emissivity (low-e) glass has special surface coatings to reflect heat back in the room. The low-e coatings reflect 40% to 70% of the heat that is normally transmitted through clear glass.
Double or triple-glazed windows have insulating air or gas-filled spaces between each pane. Highly energy efficient windows are manufactured with inert gases (argon or krypton) in the spaces between the panes because these gases transfer less heat than air.
Warm edge spacer bar will reduce heat loss at the edge of the glazing unit.

Allan Brothers System 2000 window range uses high performance glazing products -

Neutral Low E - Planitherm Total +
Neutral Low E combines an excellent level of thermal efficiency with, as the name suggests a 'neutral' or clear appearance. All neutral low E units are manufactured using a new generation of soft coated glasses, the most commonly used of which is Planitherm Total+ by St Gobain. The U-Value of this product is 1.4, compared to 2.8 for standard clear glazing. With the addition of argon gas, our high performance Low E units offer the best solution when heat retention is the critical factor. With a centre pane U-Value of 1.2, they offer the householder a level of thermal efficiency far beyond that required by current legislation.
Low Iron Glass
Unlike Low E, Low Iron glass does nothing to help retain warmth in a room - what it does do however is contribute to the overall efficiency of the glazing by allowing more heat in. Often used for its noticeably superior clarity alone, Low Iron glass more easily allows radiated heat and light from the sun to enter a room, and in many cases this means the net effect of the glass is to contribute rather than to leak energy from a building. When considering the new Window Energy Ratings scheme, Low Iron glass is guaranteed to improve the performance of any given installation. Popular brand names for the raw glass product include 'Pilkington Optiwhite' and 'St Gobain Diamant'.
Argon and Krypton Gas Filling
The centre pane U-Value is improved by the addition of gas to the cavity, and hence this process offers a straightforward method of boosting the thermal efficiency of any sealed unit. Argon is commonly used and helps soft coated products from 1.4 to 1.2. Krypton gas is similar in effect but significantly outperforms argon in smaller cavities.
Warm Edge Spacer - Swisspacer V - Black Coloured
As the U-Value of a sealed unit is measured as a 'centre pane' value, the addition of warm edge does not improve this measure. However when looking at the window system as a whole, the thermal efficiency is vastly improved when replacing the standard aluminium bar with a low conductivity spacer. The effect is most noticeable perhaps by eliminating condensation around the edge of the glass, but again when looking at Window Energy ratings, warm edge significantly improves the banding of any system.

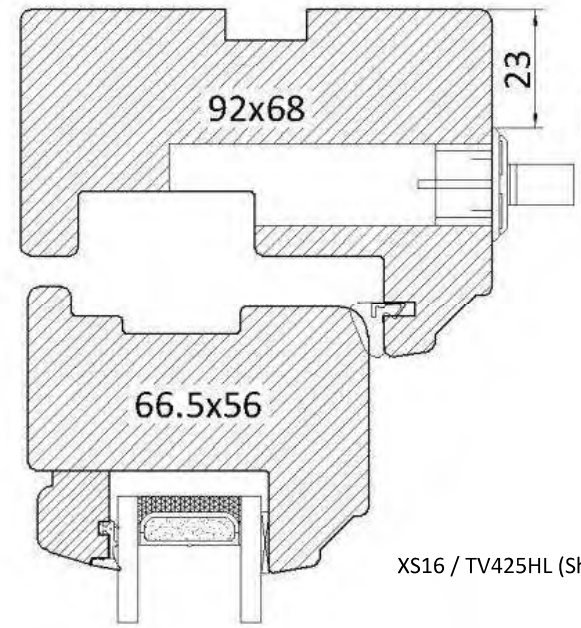
Below is a table of U-values for the System 2000 range using the Glass and Glazing Federation's standard size domestic window.

Always ensure that a quoted U-value is for the whole window and not simply for the glass.

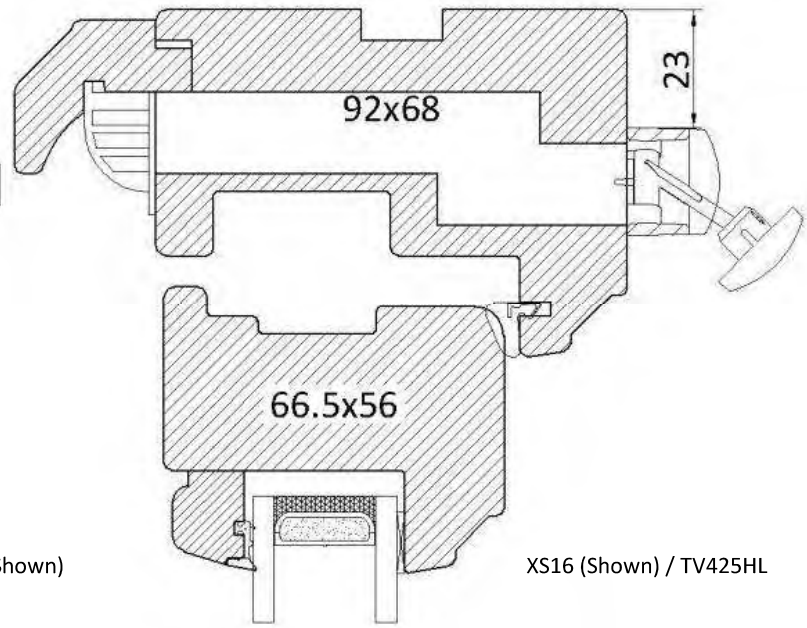
Glass Specification	Glass g	Window U-value	Window Solar Factor	WER	Band
4-20-4 SGG Planitherm Total + Air Alum Spacer	0.71	1.70	0.43	-23	D
6.4 Lam-18-4 SGG Planitherm Total + Argon Alum Spacer	0.65	1.57	0.39	-23	D
4-20-4 Planitherm Total + Argon Alum Spacer	0.71	1.56	0.43	-14	C
4-20-4 SGG Planitherm Total + Argon Swiss V	0.71	1.39	0.43	-2	B
6.4 Lam-18-4 SGG Planitherm Total + Argon Swiss V	0.65	1.40	0.39	-11	C
4-20-4 SGG Planitherm Total + Argon Swiss V With Diamant Glass	0.74	1.39	0.44	0	A
4-8-4-8-4 SGG Planitherm Total + (S3 & S5) krypton Swiss V	0.61	1.07	0.37	7	A
4-8-4-8-4 SGG Planitherm Total + (S3 & S5) krypton Swiss V with Diamant	0.64	1.07	0.38	9	A

All U-values are taken from simulations carried out using Therm 5.2 by BFRC Approved Simulator 067 - Colin Virtue

Ventilation



XS16 / TV425HL (Shown)



XS16 (Shown) / TV425HL

Allan Brothers have various ventilation options to enable the specifier to easily achieve the relevant Building Regulations. The option of either a flush finish to the external face suitable for Scottish Building Standards and refurb in England & Wales, or external grilles and drip bead which achieves a higher EA rating for new-build in England and Wales.

XS16

TV425HL

Parameters for trickle vents

		1 Vent	2 Vents (1 Light)	2 Vents (2 Lights)	Colours	Pull Cord Option
XS16 (Semi-Concealed)	Min Frame Width	486mm	875mm	918mm	White Brown	Please enquire
	Equivalent Area	2900mm^2	5800mm^2	5800mm^2		
	Free Area	4000mm^2	8000mm^2	8000mm^2		
XS16 (Through)	Min Frame Width	486mm	875mm	918mm		
	Equivalent Area	4600mm^2	9200mm^2	9200mm^2		
	Free Area	4000mm^2	8000mm^2	8000mm^2		
TV425HL (Semi-Concealed)	Min Frame Width	546mm	934mm	1038mm	White Brown Chrome Gold SAA	Please enquire
	Equivalent Area	2600mm^2	5200mm^2	5200mm^2		
	Free Area	4000mm^2	8000mm^2	8000mm^2		
TV425HL (Through)	Min Frame Width	546mm	934mm	1038mm		
	Equivalent Area	4300mm^2	8600mm^2	8600mm^2		
	Free Area	4000mm^2	8000mm^2	8000mm^2		

Fittings

Handles

Handles are press to release via a button with auto latch closure and are available in locking and non-locking or fire escape versions. Fire escape versions feature a green push button to aid visibility.
Handles are handed left or right for improved ergonomics and are fitted with clip-in screw covers.
Handles are BBA approved and manufactured from zinc alloy to BS EN 12744 and electroplated in accordance with BS EN 12540 and salt spray tested for 240 hours.
Fab & Fix Connoisseur handles available in: Chrome, Brown, White, Gold or SAA (shown)

Hinges

The PN Uni Hinges on our System 2000 range are concealed when the window is closed to enhance the windows appearance. The modes of operation include canopy (top swing fully reversible) and side hung. The strength of the hinges have been tested to BS6375 Part 2. PN Uni hinges have also been tested to BS3745 / ISO Standard 1462 for corrosion resistance and are manufactured to certified quality system DS/EN 9001: 1994. PN UNI hinges are used on our System 2000 range due to their ease of operation, low maintenance, overall strength and durability.

Locking

System 2000 windows are fitted with the Maco R.A.I.L. (Reverse Action In-line Locking) espagnolette. The reverse action operation pulls the cams together, clamping them onto both sides of the striker plate for strength and security without needing a shootbolt espagnolette. The Maco R.A.I.L now comes with BBA Approval. They are constructed of silver chromate steel with wax coating to withstand a minimum of 360 hours salt spray test as defined in BS7479 and DIN50021.

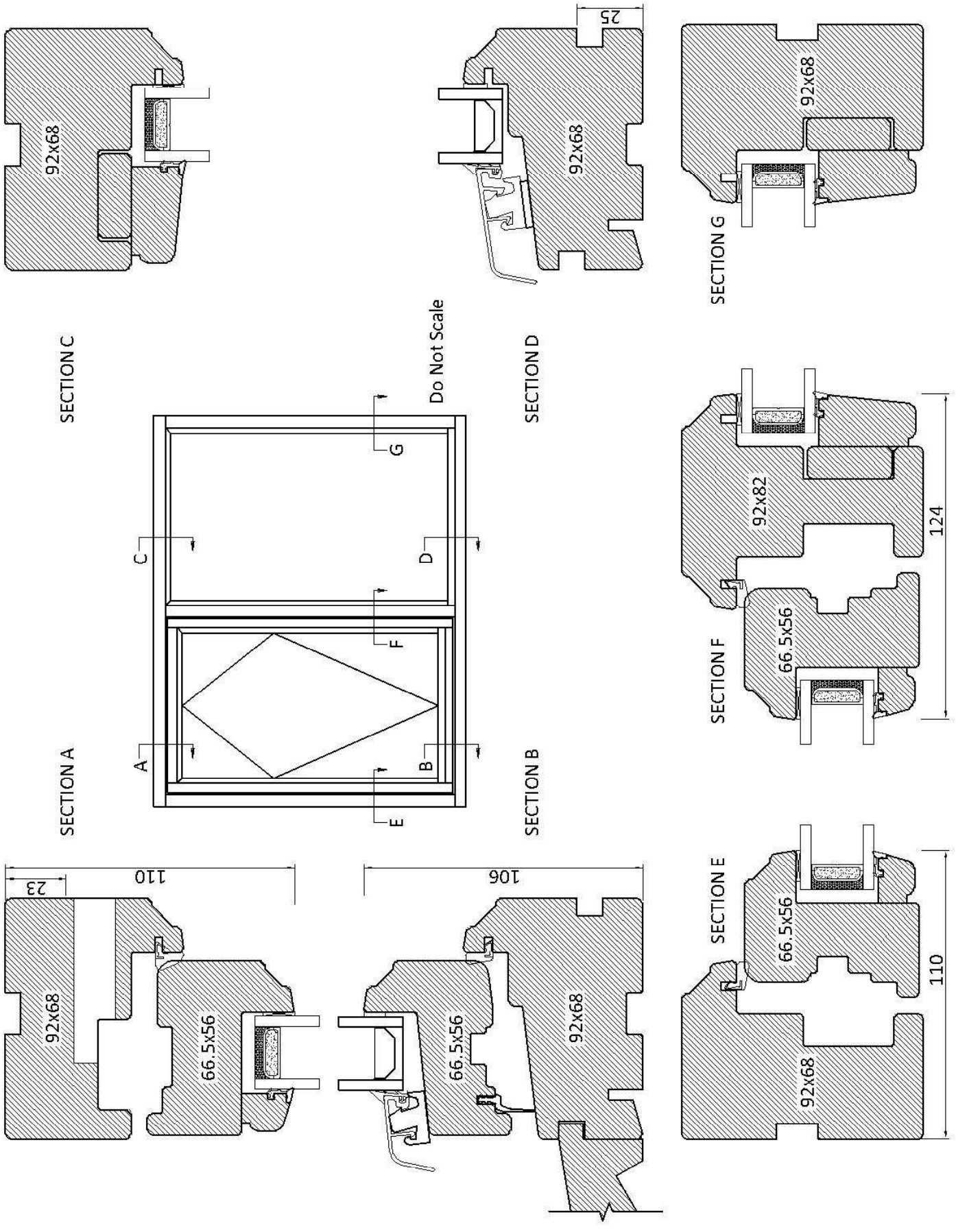
The R.A.I.L. Reach has a low-level handle offset 250mm from the bottom of the sash which is ideal for use on side hung windows especially for those hard to reach windows in kitchens and bathrooms. It is also ideal for use in buildings such as Care Homes.

Restrictors

There is a built in restrictor on System 2000 canopy windows which will engage within 100mm of the sash being opened, once the restrictor has been disengaged, the sash will then open another 100mm (approx.) to allow greater ventilation. Following disengagement of the second restricted position, the sash will be free to fully reverse and engage the restrictor once again in reversed position to allow cleaning. Upon closing the sash the restrictors will once again re-engage at the same points. Additionally, a key locking restrictor (blocking device) can, if specified, restrict the opening to no more than 100mm - highlighted below.

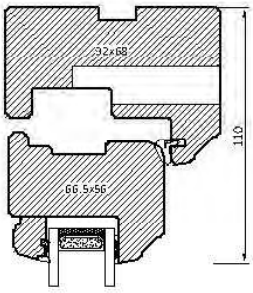
The Auto-Latch restrictor (below) is a sprung hook + peg mechanism which restricts opening to 100mm. It is self relocating and for use on side hung sashes only. Minimum single light frame width for Auto-Latch restrictor 500mm.

Layout Drawing

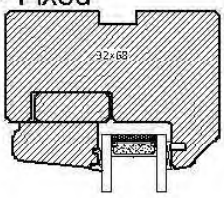


Section Drawings

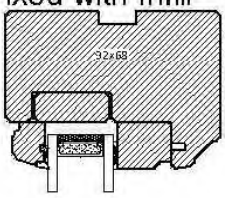
Head



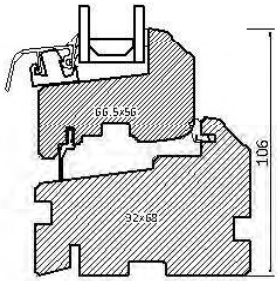
Head - Fixed



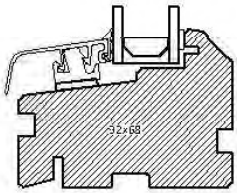
Head - Fixed with Infill



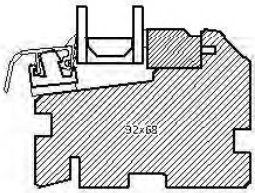
Sole



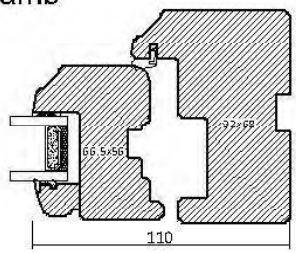
Sole - Fixed



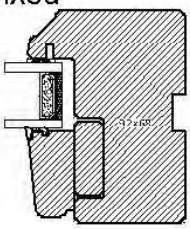
Sole - Fixed with Infill



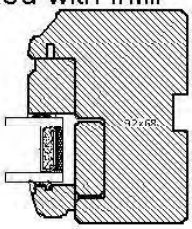
Jamb



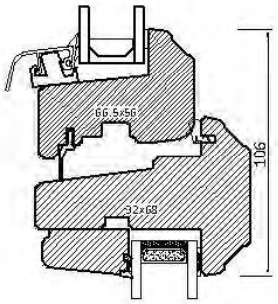
Jamb - Fixed



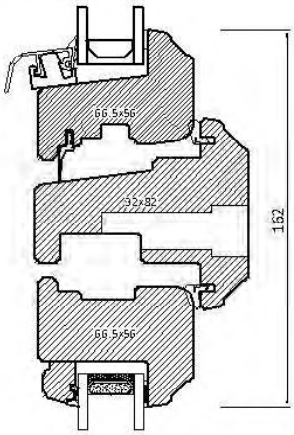
Jamb - Fixed with Infill



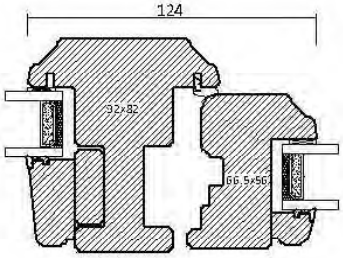
Transom



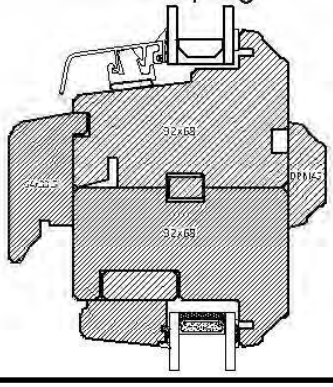
Vented Transom



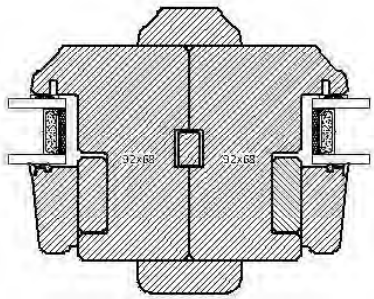
Mullion



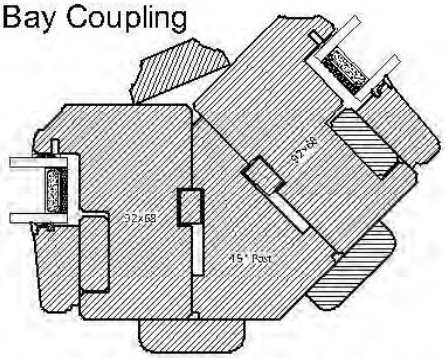
Horizontal Coupling



Vertical Coupling

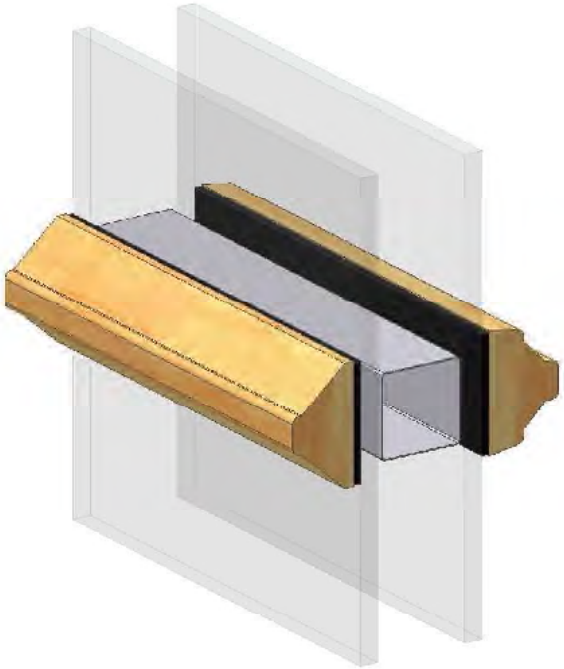


Bay Coupling



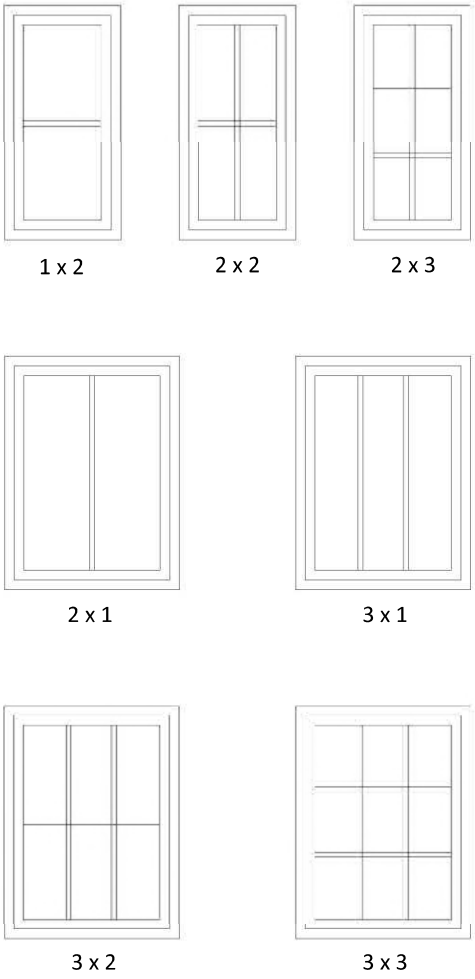
Bars

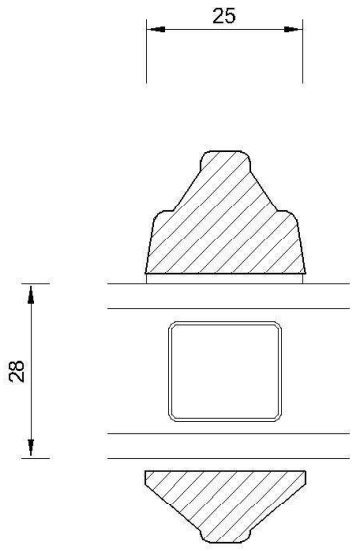
With the option of solid or bonded Georgian bars, Allan Brothers can match your fenestration requirements.
Bar types can be mixed to enhance the look of the product even further.



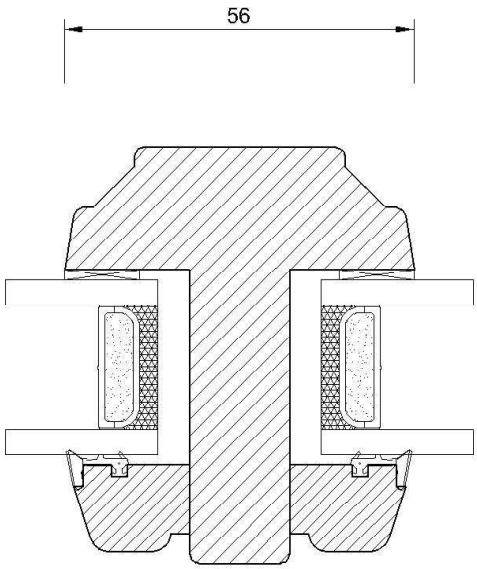
The Georgian bonded bars have an integra bar between the panes, to give the effect of individual glazing units, making them difficult to differentiate from through bars. This also allows the high performing, drained and vented, glazing system to remain intact and do its job without having a detrimental effect on the appearance of the product.

Most Common Bar Patterns
Please note other patterns are available on request to suit your fenestration





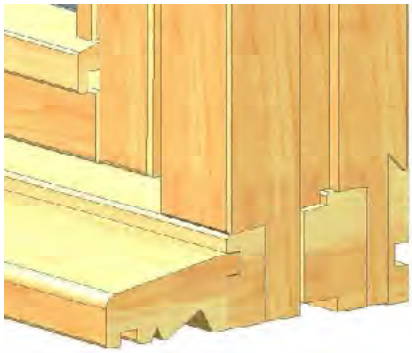
Bonded Bar



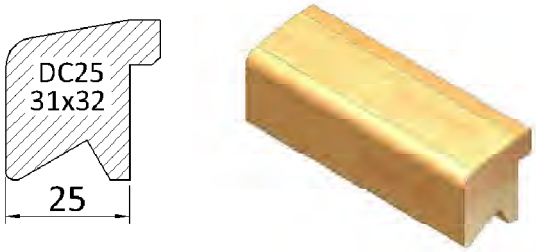
Solid Bar

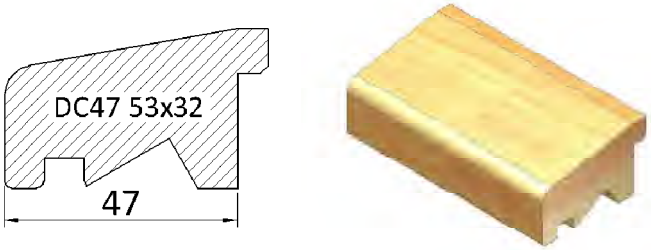
Cill Extensions

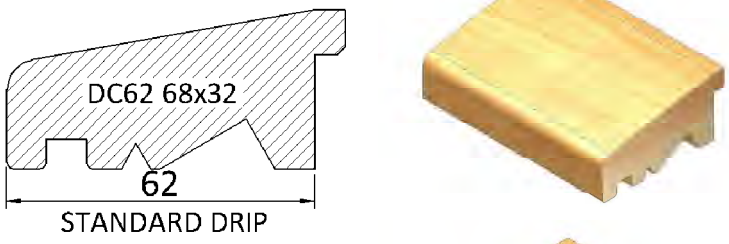
Allan Brothers manufacture a variety of timber cill extensions to suit the built in environment.
The cill extensions are all designed with a large radius edge to ensure good paint coverage.
The underside of the cill extension has rebates to allow concealed fixings and to stop the water travelling back towards the fabric of the building.

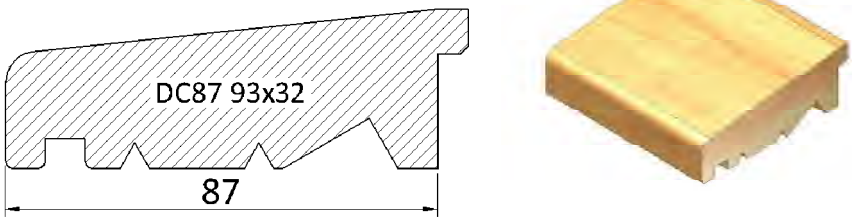


Note: Consideration should be given to cill width when designing a building which incorporates timber windows. Wide cill extensions in timber have a higher chance of failure as coatings need to adapt with the timber to seasonal changes, they will expand and contract more, leaving the coating vulnerable to breakdown over time which can lead to the timber being exposed to moisture. Designing a building with a cill extension of less than 100mm will greatly improve the life of the cill extension.







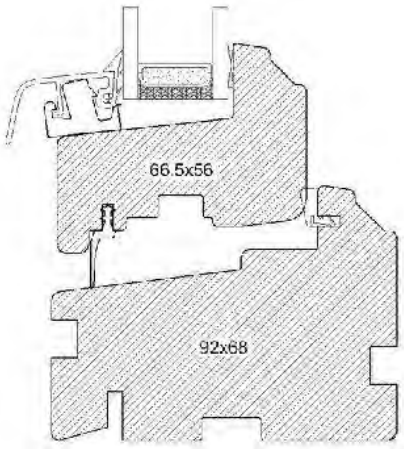


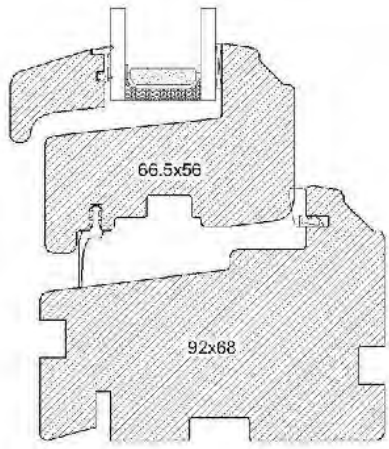
Bottom Glazing Bead

There are two options for Bottom Glazing Beads on System 2000 windows. Both options allow for ventilation and drainage away from the bottom of the glazing unit.

Aluminium beads with Protective end caps can be specified for longevity. As standard they are supplied in White or Brown. Alternatively they can be powder coated in any RAL colour.

Timber bottom beads can be specified for the more traditional setting. These are always supplied in the same colour as the window.



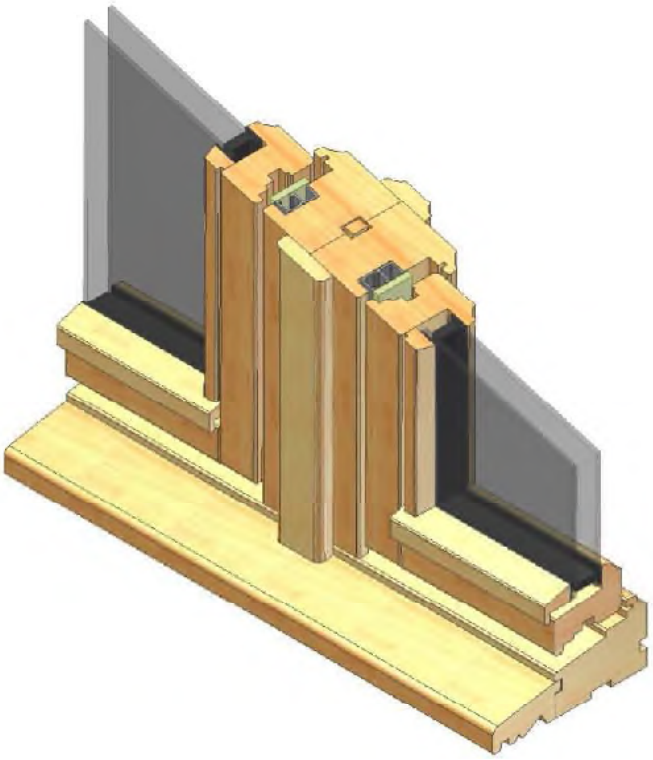


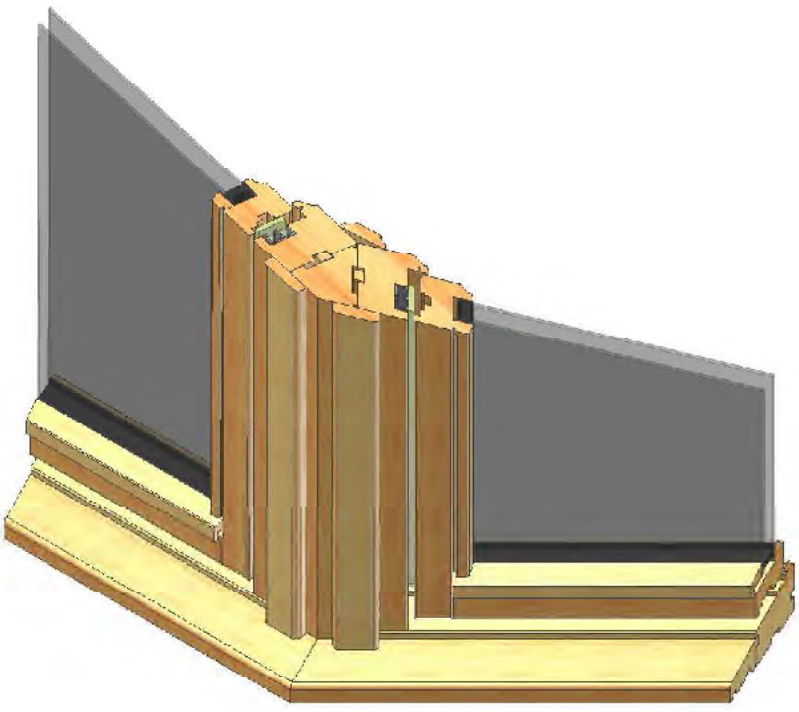
Coupling Diagrams

Allan Brothers can supply coupling packs and bay corner posts to complement the System 2000 range.
The Cill Extension section can be supplied long for site fitting across the width of the coupled windows.
Bay Corner Posts can be supplied to various angles to suit your design (in increments of 5°).

When coupling items please follow figures 1 - 6

Note: Allan Brothers do not supply load bearing windows.





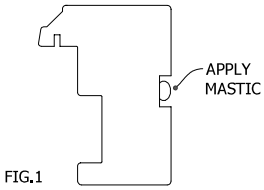


FIG.1

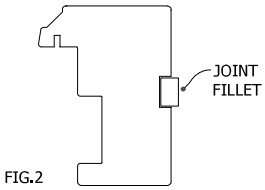


FIG.2

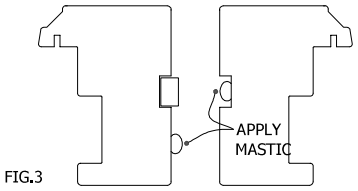


FIG.3

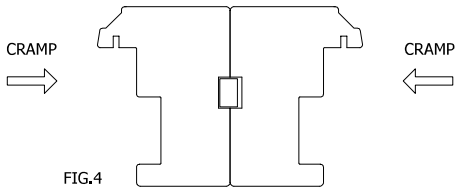


FIG.4

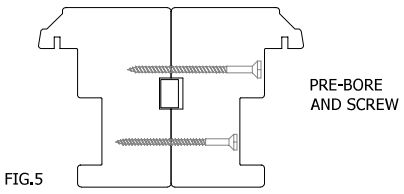


FIG.5

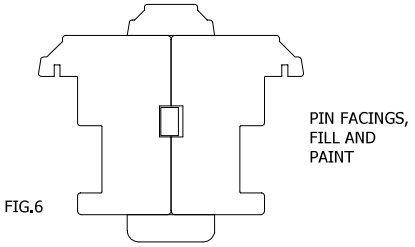


FIG.6

Operation and Maintenance

System 2000 Window - User Instructions

In the closed position your System 2000 window should be kept locked and the key kept in a safe, but handy place.

To operate:

- Open the handle (requires the button to be depressed)
- Push the sash outwards.

For Fully reversible top swing -

- At 100mm the internal restrictor mechanism engages. The window is now in its initial restricted ventilation position. Fig 1.
- For additional ventilation, press the top of the restrictor catch in (as shown by the arrow) and push the sash outwards. The restrictor arm will re-engage after the sash has travelled another 100mm,
- Release the restrictor as before, the sash can now be fully rotated outwards. The restrictor will re-engage approximately 100mm from the perpendicular for cleaning.
- To return the window to its closed position, release the restrictor and rotate the window backwards. Please note that the restrictor will engage automatically at each of the two ventilation positions described above.
- When the window is closed, return the handles to the closed position and lock.
- Please remember - always remove the key and keep it in a safe place

Figure 1

Ventilation -

- If a ventilator is fitted, it can be opened by sliding the faceplate to the left, then tilting upward or downwards to direct the flow of air.
- This window does have a night vent position that can be manually engaged by locating the lock in a slot in the keeper at approximately 10mm from the window's closed position.

Closed | Restricted | 2nd Vent | Cleaning

System 2000 Window - Maintenance

If properly installed, the only required maintenance should be to:

- Ensure guide channels are clean and grit free, spray hinge joints, locks and guide channels with silicon spray after installation and thereafter twice a year.
- Particular attention should be paid to the bottom bead where there is maximum exposure to the environment. Drained and vented systems drainage gaps should be cleaned regularly. Clean the coating and glass (minimum twice yearly) using mild detergent and clean warm water, applied with a soft cloth or brush. Do not use any other chemicals.

Coatings Information

If your Allan Brothers joinery products have been fully factory finished and installed correctly they should be virtually maintenance free. General cleaning should be carried out regularly (minimum twice a year) using a non-abrasive cloth with mild detergent and warm water (ph neutral solution) to remove any contaminates, whilst frequently changing the water. **Under no circumstances should aggressive, alkaline or acidic cleaners be used.** After cleaning rinse thoroughly with clean water to remove all residues, but do not use hosepipes. During cleaning, if any damage is noticed then this must be repaired immediately as below.

Repair of Coatings

Should damage occur the damaged surface must be cleaned of any loose timber, paint or stain. If filler is required then flexible two-pack filler should be used. The area should then be recoated with the appropriate paint or stain colour.

Subsequent Painting / Redecoration

Under normal environmental conditions, your fully finished coating will last for 5 years' (stain) or 8 years' (opaque) before it needs to be re-coated. This may vary with location, exposure, elevation, etc. When re-coating simply clean the timber frame and redecorate using a high build micro-porous (MVP) finish. (For full info, see General Technical Info—Coatings Maintenance Guidelines)

Specifiers Guide

Getting the System 2000 Specified
Our System 2000 range can be specified as the window standard on a project by using this general specification which can be altered to suit the user's needs.

- **Timber Windows**
  High performance window/combination frame replacement, factory double-glazed and factory finished.

- **Manufacturer and reference:**
  Allan Brothers Ltd. Allan House, Ord Road, Tweedmouth, Berwick-upon-Tweed, TD15 2XU
  Tel 01289 334600, Fax 01289 334601, Website: www.allanbrothers.co.uk, E-mail: abinfo@allanbrothers.co.uk
  Reference - Allan Brothers System 2000

- **Materials generally:**
  To BS EN 942. Timber species: European redwood from selected sawmills, timber sources from sustainable managed forests with a minimum of 70% FSC material
  Class J10 for glazing beads and the like.
  Class J30 or better for all other members.

- **Preservative treatment:**
  Organic solvent as NBS section Z12 Table 25 of the British Wood Preserving and Damp-proofing Association manual 1999 or equivalent.
  Desired service life: 30 years.
  Moisture content on delivery: 13 - 19%.

- **Manufacture:**
  Accredited to BS 644, and fully weather-stripped.
  Constructed in accordance with BS 1186-2.
  Adhesive to BS EN 204, Part 1, Group D4.
  Exposure category - BS6375, Part 1. - Design wind pressure: minimum 2500 (Pa).

- **Security generally:**
  To 'Secured by Design' standards
  Windows to be Q-mark accredited to BS 7950 specification for enhanced security performance of windows for domestic applications.
  Manufactured by a firm currently holding a 'Secured by Design' Licence

- **Glazing:**
  Factory glazed to meet current thermal regulations with 28mm double-glazed units, manufactured and kitemarked to BS EN1279 and factory fixed in accordance with BS6262. Dry glazed system with double-sided security tape and aluminium drained and ventilated bottom bead. Where required, laminated glass to meet SBD

- **Finish as delivered:**
  Fully factory finished. Water-borne decorative paint or stain finish (colour to be chosen by client). Total dry coating minimum 120 microns. All decorative finishes to have a minimum warranty of 10 years for opaque and 10 years for stain in conjunction with the supplier's recommended maintenance procedure

- **Ironmongery/accessories:**
  To 'Secure by Design' standards
  All ironmongery to have a minimum 10 year warranty
  Hinges: PN Uni with hinge security fittings. Locking: multi point reverse action inline espagnolette, key operated locking handles to ground floor and 'vulnerable' windows only.
  Trickle Ventilation: Ventilators to be fitted as standard to head of frames to meet statutory requirements.
  Handle Specification – Titon Select push button

- **Warranties** 30 years against rot and fungal attack
  10 years against glazing unit failure
  10 years against manufacturing defects
  10 years on all ironmongery
  10 years on opaque finish coatings
  10 years on stain finish coatings

TIMBER WINDOWS & DOORS
ALLAN BROTHERS

High Performance Timber Products

A Series Doorset - Technical Guide

Version 1.0

June 2012

ALLAN BROTHERS LTD
ALLAN HOUSE
ORD ROAD
TWEEDMOUTH
BERWICK-UPON-TWEED
TD15 2XU
Tel 01289 334600
Fax 01289 334601
Visit us at- www.allanbrothers.co.uk

Supporting information - Please read in conjunction with General Technical Information

Product Description

A Series French Door

The A Series French Door range consists of single and double doorsets. This gives the client many different operation and fenestration options to meet their needs, while still being manufactured from the same common section. This maintains a constant appearance throughout the building thus enhancing its overall aesthetic appeal. The range has been designed to be as thermally efficient as possible while still being affordable so as to save the customer money in the long run by reducing heating costs and on the initial outlay.

The range utilises a 28mm Double Glazing Unit this gives a wide variety of glazing options whether this be for security, noise or insulation we can provide a glazing solution to suit nearly every requirement. We understand the conditions that our products are exposed to and design into them measures to protect them in the harshest conditions. Products have been designed for long-lasting thermal and security performance.

The A Series French Door range can be enhanced to PAS 24 standards and therefore is suited for Secured by Design developments. Sloping surfaces, curved edges, the angle at which fixings penetrate the timber all form part of the whole design package to bring you a quality product. Exacting standards of timber specification combined with careful inspection on delivery ensures that the timber we use is of the highest standard. This is maintained through careful control of humidity within the manufacturing process.

Company and Doorset Accreditation

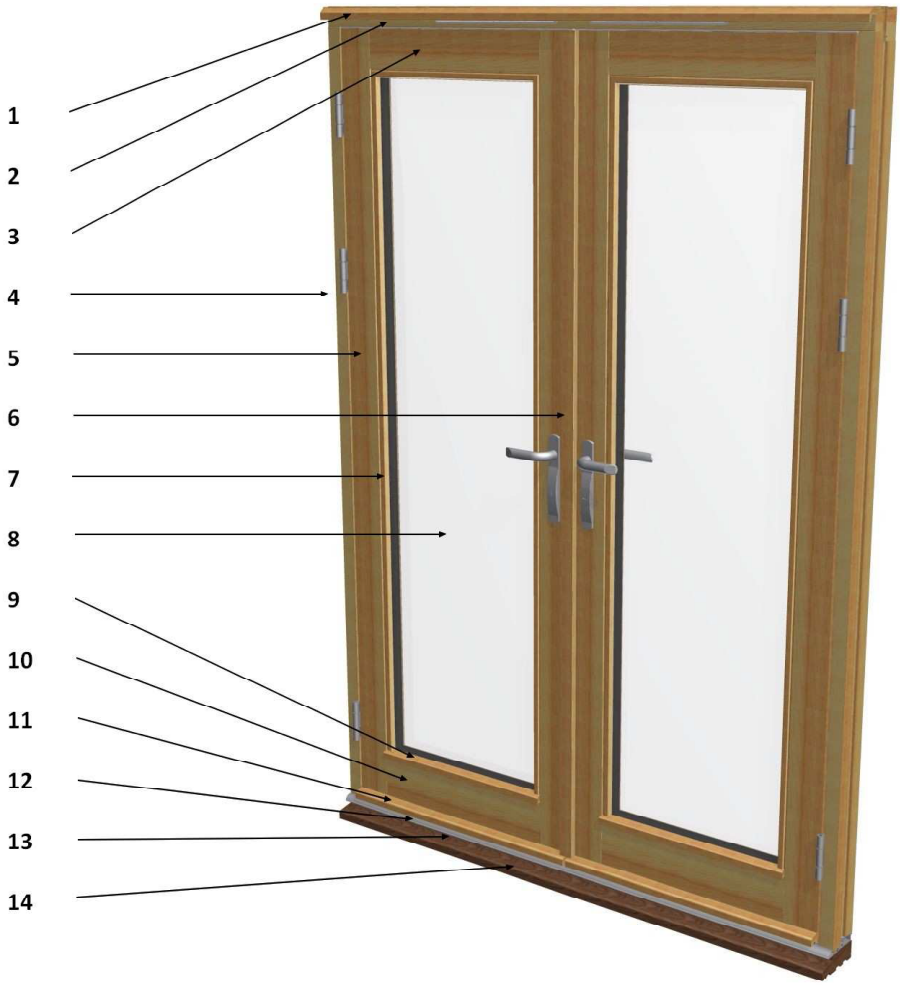
ISO 9001: 2008 Quality System

PAS23/24: Q Mark for Enhanced Security Doorsets

Secured By Design License Holder

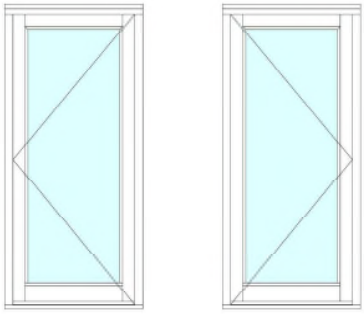
FSC Chain of Custody for Redwood Timber

Product Terminology



1. Head Drip
2. Frame Head
3. Door Top Rail
4. Frame Jamb
5. Door Stile
6. Cover Plate
7. Door Glazing Beads
8. Door Glazing Unit
9. Door Bottom Glazing Bead
10. Door Bottom Rail
11. Door Wash Board
12. Thresh
13. Frame Sub Sole
14. Cill Extension

Elevation Descriptions



Door - Left Hand Hung

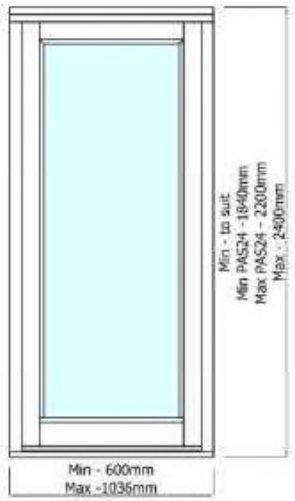
Door - Right Hand Hung

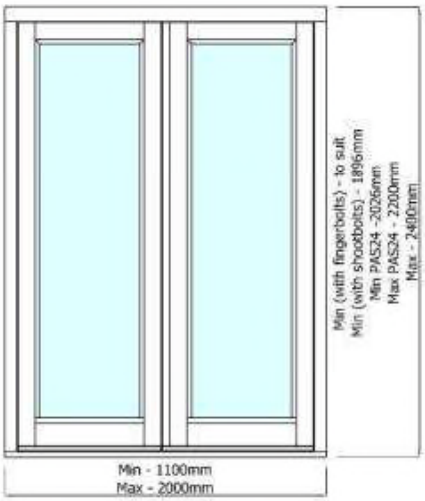
Please note all items viewed from outside

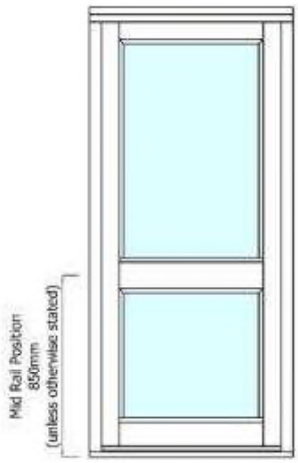
Elevations

Below is a selection of elevations which are commonly used on the A Series Doorset range. These can be further divided up with mid-rails, sash bars and bonded bar patterns. Items can also be coupled together on site to give greater flexibility in architectural design - see section on sidelights.

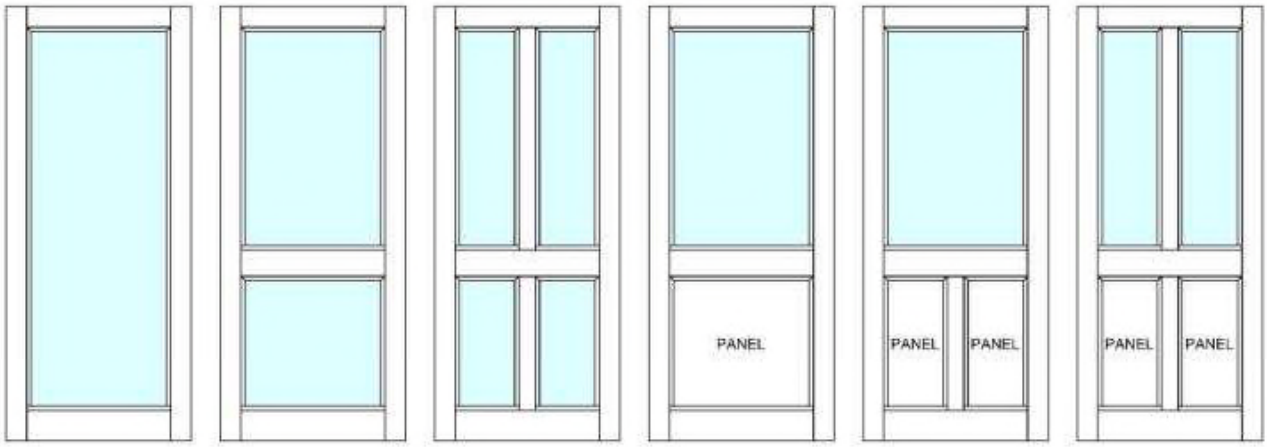
Elevations viewed from outside



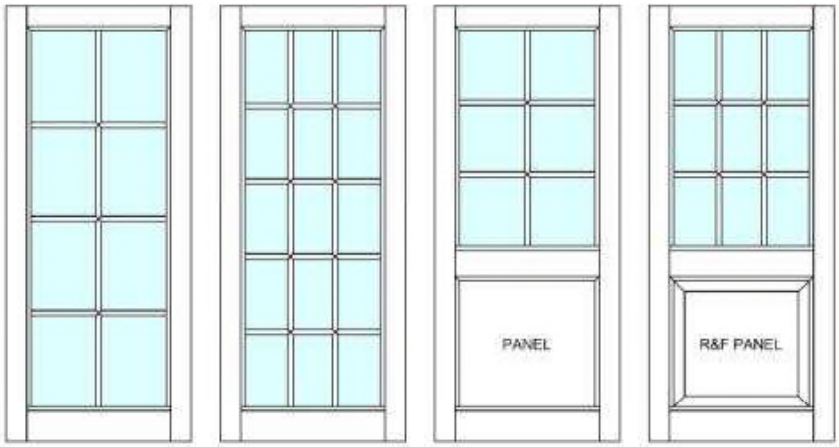




Door Leaf Styles (not exhaustive)



Door Styles using bonded bars (examples)



Clear Opening
775mm is achieved by using an overall doorset width of 946mm.

Product Weights
Doorset weights will be provided on the quote/order.

Please refer to MAC Tool on HSE web-site for individual Manual Handling Assessment.

Weather Performance & Operating Forces

The Allan Brothers A Series Doorset range have been successfully tested to BS 6375 Part1 PAS23 and PAS24. Proving their outstanding weather resistance can cope with most British weather conditions.

Allan Brothers A Series Doorsets have been fully tested for -

Air Permeability, i.e. - the ability to resist air leakage through the doorset, under positive and negative pressures, when tested in defined increments from 50Pa to 600Pa.
The sample doorsets were tested to BS EN 1026 and the results were classified in accordance with BS EN 12207 to 150Pa (Class 1) for air permeability.

Watertightness, i.e. the ability to resist water penetration when spraying the doorset and applying pressure to the external face of the doorset, in defined increments from 0Pa to 600Pa
The sample doorsets were tested to BS EN 1027 and the results are classified in accordance with BS EN 12208 to 250Pa (Class 2A)

Resistance to Wind Load, i.e. the ability of the members to resist deflection under positive and negative static and dynamic wind loads.
The sample doorsets were tested to BS EN 12211 and the results were classified in accordance with BS EN 12210 to 1200Pa (Class A2). 1200 is the maximum rating for a door in BS6375 Pt1.

Operation and Strength Characteristics, i.e. for ease of use of operating the doorset to disengage, open, close and re-engage.
The sample doorsets were tested to PAS23 and passed. As part of PAS23, the A-Series also successfully completed 50,000 cycles, the requirement for residential doors.


WINK HAUS

Certificate

This Certificate is awarded to:

Allan House
Cox Road
Berwick-upon-Tweed
Northumberland
TD15 2XU

Allan Brothers Timber 2400 Outward Opening Double Doorsets

Test type	Test Pressure Pa & Test Class
Air permeability	150 Pa / Class 1
Watertightness under static pressure	700 Pa / Class 2A
Wind resistance	1200 Pa / Class A2

SAMPLE ACHIEVED AN EXPOSURE CATEGORY OF 1200

Signed on behalf of Winkhaus laboratories _____ Date 15/06/2010

M. Ross Hoult Page, Senior Laboratory Technician

Signed on behalf of Winkhaus laboratories _____ Date 15-06-2010

M. Ade-Collins Laboratory Manager

Page 1 of 1

UKAS 1989

Security Performance

Secured by Design (SBD) is a police initiative that encourages the building industry to adopt a number of crime prevention methods which assist in reducing the opportunity for crime and the fear of crime thus resulting in a safer and more secure environment.
The aim of SBD is to achieve a better quality of life by focusing on crime prevention at the design, layout and construction stages of homes and commercial premises. In doing so Secured by Design supports one of the Government's key planning objectives: the creation of secure, quality places where people wish to live and work.
Secured by Design is owned by the Association of Chief Police Officers (ACPO) and has the backing of the Home Office.

The Secured by Design scheme functions on two levels:

- A licensing scheme for products which meet police preferred specifications.
- An award given to developers who build developments to Secured by Design standards.

Licensing Scheme
To achieve Secured by Design accreditation, manufacturers of doors, windows, locks and certain other products must ensure that their products meet the minimum security standards specified by SBD (BS7950 for Windows, PAS24 for Doors). Once a product has been tested and certified to the relevant standard, the company may apply for SBD membership (a licence fee applies). Once Approved, all member companies benefit from the use of the 'Police Preferred Specification' Secured by Design logo on their approved products.

The Developers Award
The Secured by Design award is a certificate given to developments which, following consultations with local police Architectural Liaison Officers (sometimes called Crime Prevention Design Advisors), are built in a way which conforms to the ACPO guidelines and therefore reduce the opportunity for crime. This encompasses a good use of natural surveillance and defensible spaces as well as windows and doors meeting SBD's minimum quality and security standards. Research carried out by Huddersfield University shows that residents living on Secured by Design Developments are half as likely to be burgled and two and a half times less likely to suffer vehicle crime. Secured by Design developments also benefit from 25% less criminal damage.

Product
When fitted with the requisite ironmongery, our A Series doorsets have been independently tested to and meets the criteria of PAS24 Specification for enhanced security performance. A copy of the Secured by Design license and BM Trada accreditation certificate are shown below. Our A Series doorsets meet this demanding criteria thanks to a Winkhaus locking system. The range is externally glazed with security tape to stop the removal of the double glazing units. In the tests the units are subject to mechanical forces applied to the corners and manual manipulation using an array of hand tools to check the security of the glazing. The samples are also subject to mechanical tests where forces are applied to specific points on the doorsets and then a series of 3 minute attacks using hand tools.


Secured by Design

SBD

Official Police Security Initiative

Secured by Design
Licence Holder
This is to certify that:
ALLAN BROTHERS LTD
of
Allan House
PO Box 3
Berwick upon Tweed
TD15 2AT
Hold a 'Secured by Design' Licence
CERTIFICATE VALID FOR 12 MONTHS FROM DATE BELOW
Signed:
Ken Jones
Chairman ACPO CPI Ltd
Date: 06 May 2009


BM TRADA

REGISTRATION CERTIFICATE

BM TRADA
Q-MARK

This is to certify

Allan Brothers Ltd
Allan House
Ord Road
Tweedmouth
Berwick Upon Tweed
TD15 2XU

Meets the requirements of
The BM TRADA Scheme for
Enhanced Security Doors and Doorsets to
PAS 23 and PAS 24

Signed on behalf of BM TRADA Certification Ltd
Dr Peter Boeke, Chief Operating Officer

Please ask for a copy of the latest Secured By Design Licence

Thermal Performance

Poorly selected doors are a major source of heat loss in the winter. Energy efficient doors will help to minimise the heating costs and will also increase comfort.
Energy efficient doorsets may cost more initially but will not only improve comfort they will save energy and money for the life of the door-set. Over the life of a doorset, the cost of heat lost is greater than the purchase cost. Choosing the most energy efficient doorsets will save money. An important factor in the energy efficiency of a whole doorset is the U-value. A doorset with a low U-value loses less heat than one with a high U-value.
The following factors affect the whole doorset U-value:
• The type of glazing material.
• The number of glazing layers.
• The size of the cavity between the glazing layers.
• The type of gas in the cavity between the glazing layers.
• The design, material and type of frame and the other components.

Low emissivity (low-e) glass has special surface coatings to reflect heat back in the room. The low-e coatings reflect 40% to 70% of the heat that is normally transmitted through clear glass.
Double or triple-glazed doorsets have insulating air or gas-filled spaces between each pane. Highly energy efficient doorsets are manufactured with inert gases (argon or krypton) in the spaces between the panes because these gases transfer less heat than air.
Warm edge spacer bar will reduce heat loss at the edge of the glazing unit.

Allan Brothers A Series French Doors use high performance glazing products -

Neutral Low E - Planitherm Total
Neutral Low E combines an excellent level of thermal efficiency with, as the name suggests a 'neutral' or clear appearance. All neutral low E units are manufactured using a new generation of soft coated glasses, the most commonly used of which is Planitherm Total by St Gobain. The U-Value of this product is 1.4, compared to 2.8 for standard clear glazing. With the addition of argon gas, our high performance Low E units offer the best solution when heat retention is the critical factor. With a centre pane U-Value of 1.2, they offer the householder a level of thermal efficiency far beyond that required by current legislation.

Argon and Krypton Gas Filling
The centre pane U-Value is improved by the addition of gas to the cavity, and hence this process offers a straightforward method of boosting the thermal efficiency of any sealed unit. Argon is commonly used and helps soft coated products from 1.4 to 1.2. Krypton gas is similar in effect but significantly outperforms argon in smaller cavities.

Warm Edge Spacer - Swisspacer V - Black Coloured
As the U-Value of a sealed unit is measured as a 'centre pane' value, the addition of warm edge does not improve this measure. However when looking at the door system as a whole, the thermal efficiency is vastly improved when replacing the standard aluminium bar with a low conductivity spacer. The effect is most noticeable perhaps by eliminating condensation around the edge of the glass, but again when looking at Door Energy ratings, warm edge significantly improves the banding of any system.

Below is a table of U-values for the A Series range using the standard size domestic doorset as described in BR443.

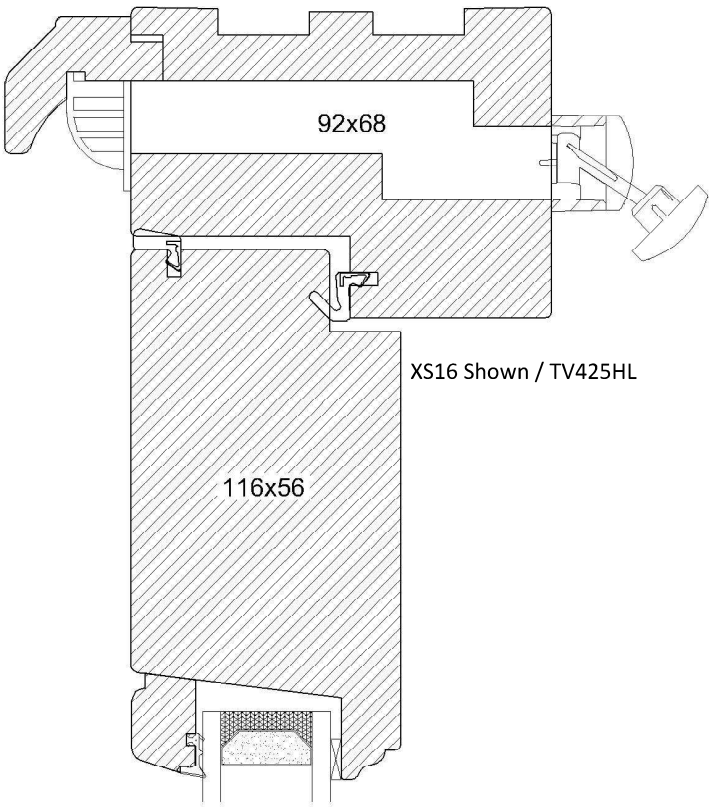
A U value is a measure of heat loss. It is expressed in W/m2K, and shows the amount of heat lost in watts (W) per square metre of material (for example wall, roof, glazing, and so on) when the temperature (K) is one degree lower outside.

All U-values are taken from simulations

Glazing Spec	Glass g-value	Door U-value
4-20-4 SGG Planitherm Total, Air, Alum spacer	0.66	1.71
6.4 Lam-18-4 SGG Planitherm Total, Argon, Alum spacer	0.61	1.58
4-20-4 SGG Planitherm Total, Argon, Alum spacer	0.66	1.57
4-20-4 SGG Planitherm Total, Argon, Swiss V	0.66	1.45
6.4 Lam-18-4 SGG Planitherm Total, Argon, Swiss V	0.61	1.45

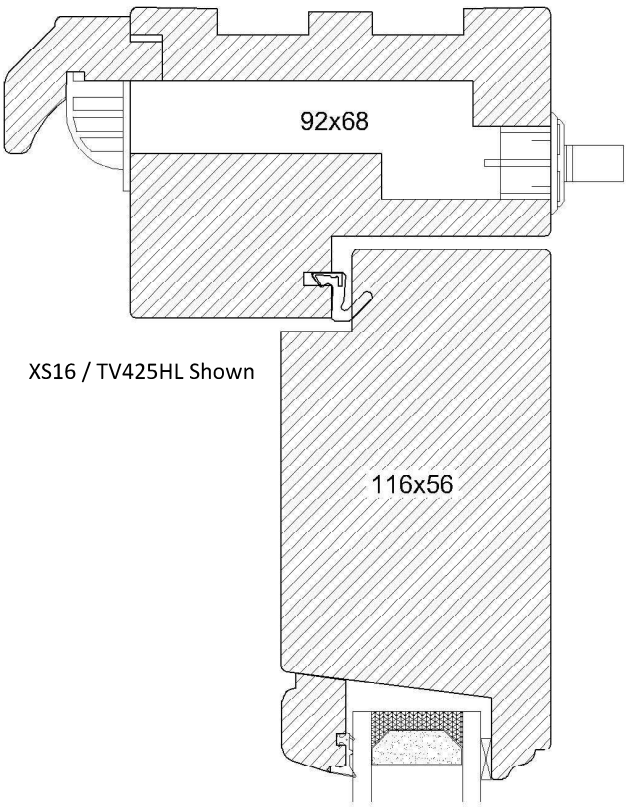
Ventilation

Open Out Section



XS16 Shown / TV425HL

Open In Section



XS16 / TV425HL Shown

The A Series French Door range have been designed to achieve as higher Equivalent Area as possible while still being aesthetically pleasing both internally and externally. This will help clients to achieve Building Regulations much easier than before.

XS16

TV425HL

Parameters for trickle vents	Frame Size (mm) 2 Vents per Doorset Minimum	Colours	Pull Cord Option
XS16	1000	White Brown	Please Enquire
Equivalent Area	9200		
Free Area	8000		
TV425HL	1000	White Brown Chrome Gold SAA	Please Enquire
Equivalent Area	8600		
Free Area	8000		

Fittings

Security Handles
Hoppe PAS24
Available in -
Gold Anodised or
Silver Anodised

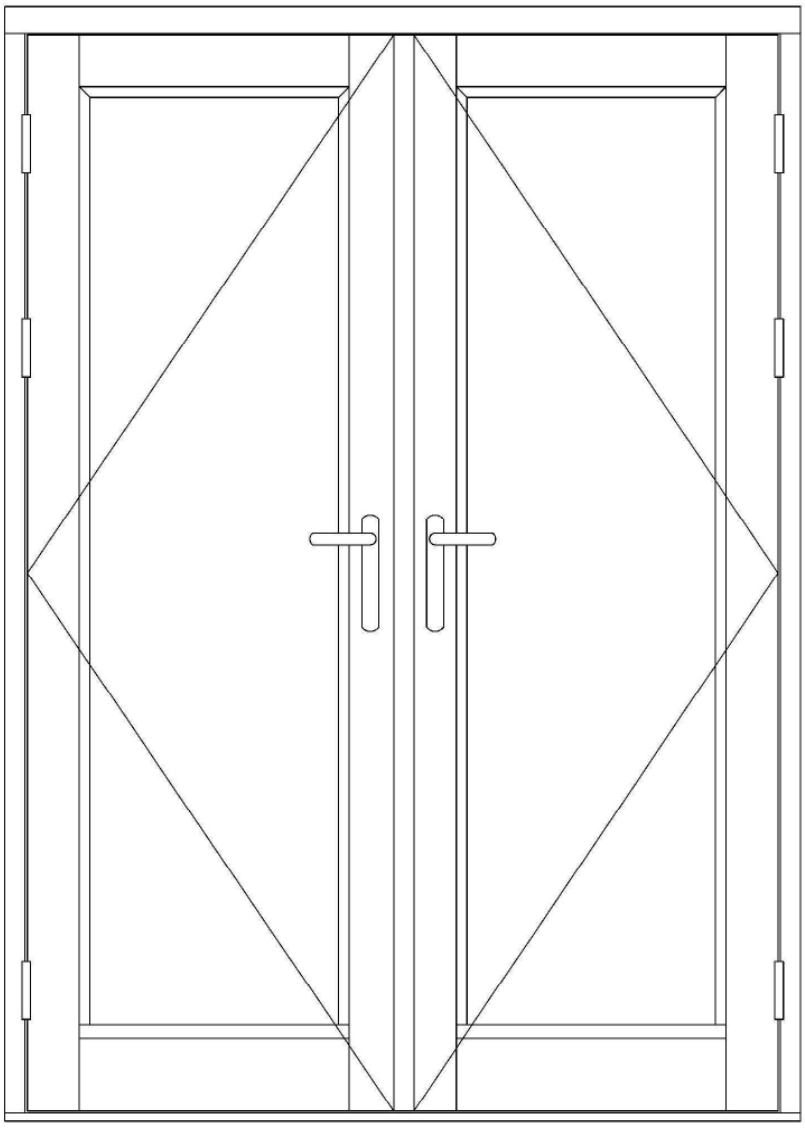
Mila Evolution
Available in -
Polished Gold
Polished Stainless Steel
Brushed Stainless Steel

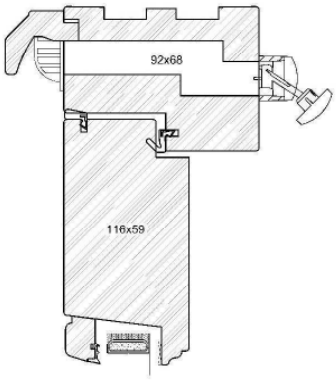
Security Hinges
2D adjustable hinges, in bright zinc or yellow zinc with additional polyester coating for a greater resistance to corrosion.

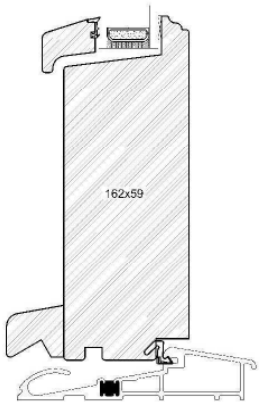
Locking
Allan Brothers use Winkhaus multi-point locks to ensure our doors are secure.

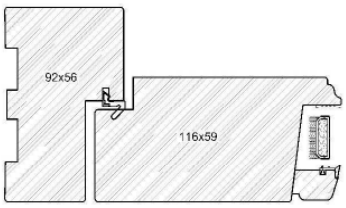
Restrictors
Mila Friction Arm Limit stays are available to limit the door opening to 90°

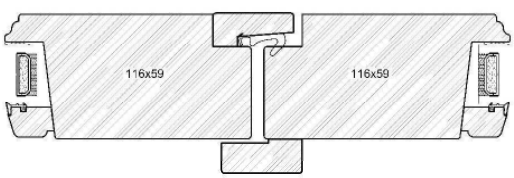
Layout Drawing - Open Out

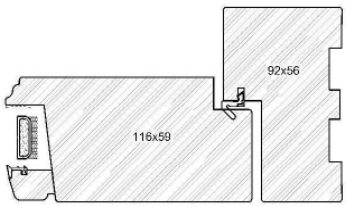




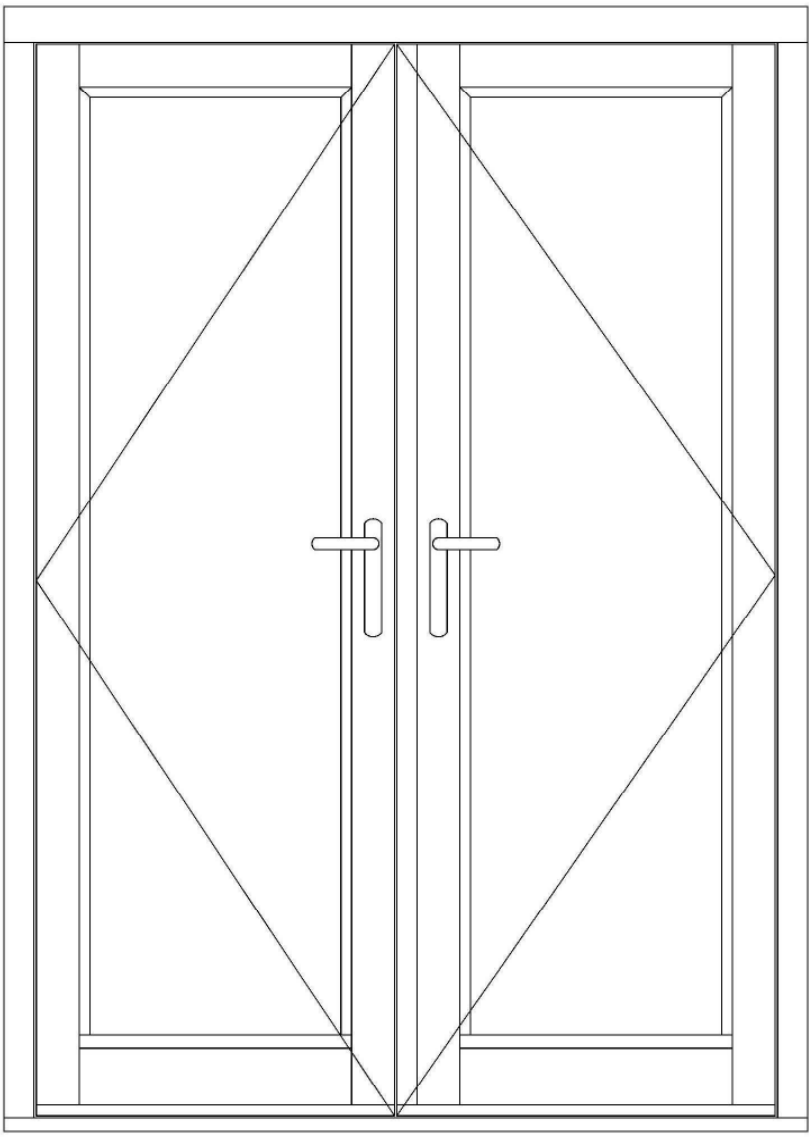


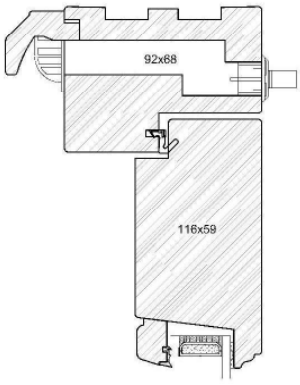


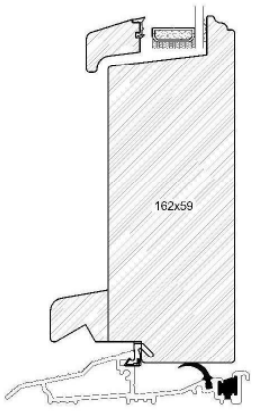


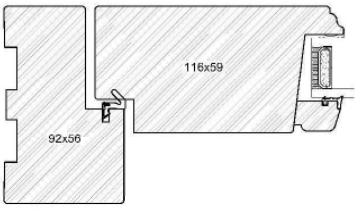


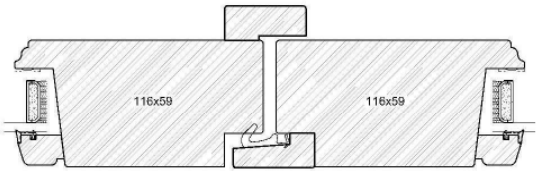
Layout Drawing - Open In

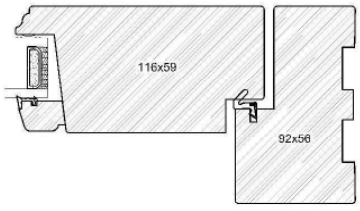








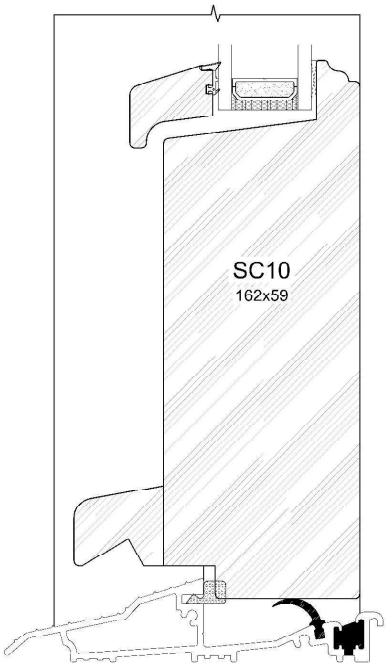




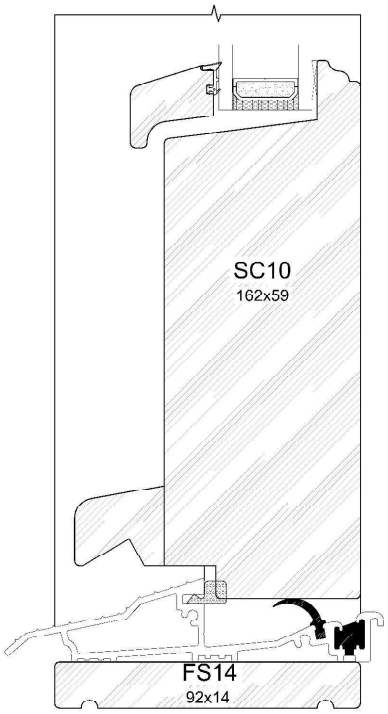
Thresh & Sub-Soles

Allan Brothers as standard use a Part M thresh. In addition, sub-soles can be added to suit the customers requirements. Where suitable, these sub-soles then take our standard cill extension sizes. By using a 44mm sub-sole, a cill extension can be fixed full width across coupled items.

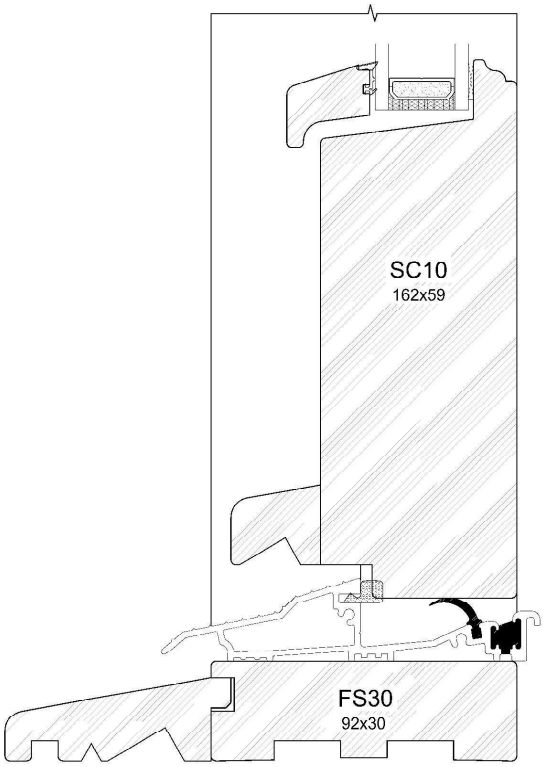
Part M Thresh



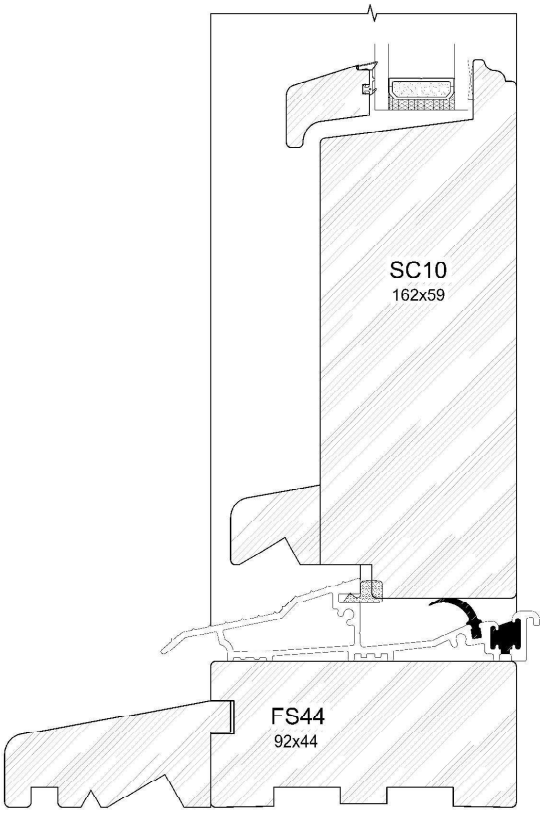
Thresh with 14mm Sub-sole



Thresh with 30mm Sub-sole



Thresh with 44mm Sub-sole



FS30 cannot be used with sidelights, as drip groove heights differ.

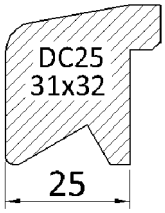
Sub Soles & Cill Extensions

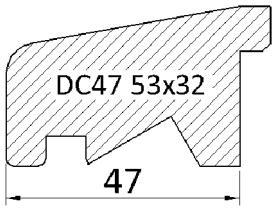
As standard, Allan Brothers incorporates a low threshold which complies with Part M. In addition to this we also offer a hardwood subsole which allows a cill extension to be fitted which will shed the water beyond the masonry.

Part M Thresh

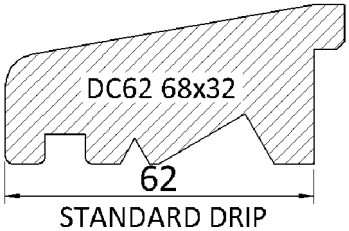
Thresh with Sub Sole & Cill Extension

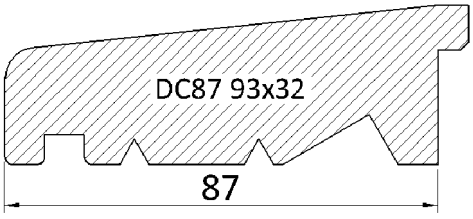
Allan Brothers manufacture a variety of timber cill extensions to suit the built in environment.
The cill extensions are all designed with a large radius edge to ensure good paint coverage.
The underside of the cill extension has rebates to allow concealed fixings and to stop the water travelling back towards the fabric of the building.





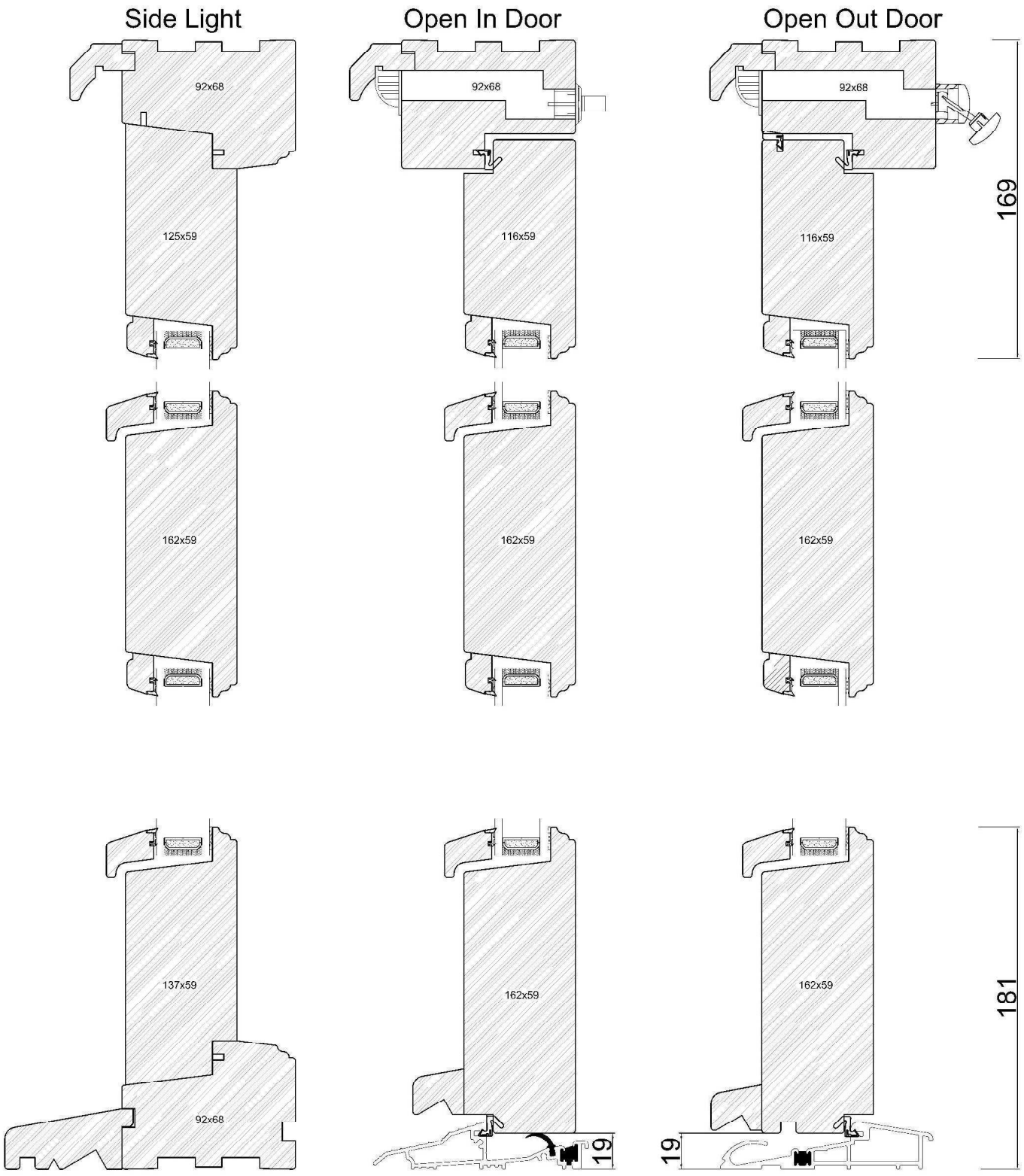
Note: Consideration should be given to cill width when designing a building which incorporates timber products. Wide cill extensions in timber have a higher chance of failure as coatings need to adapt with the timber to seasonal changes, they will expand and contract more, leaving the coating vulnerable to breakdown over time which can lead to the timber being exposed to moisture. Designing a building with a cill extension of less than 100mm will greatly improve the life of the cill extension.





Layout Drawing - Side Lights

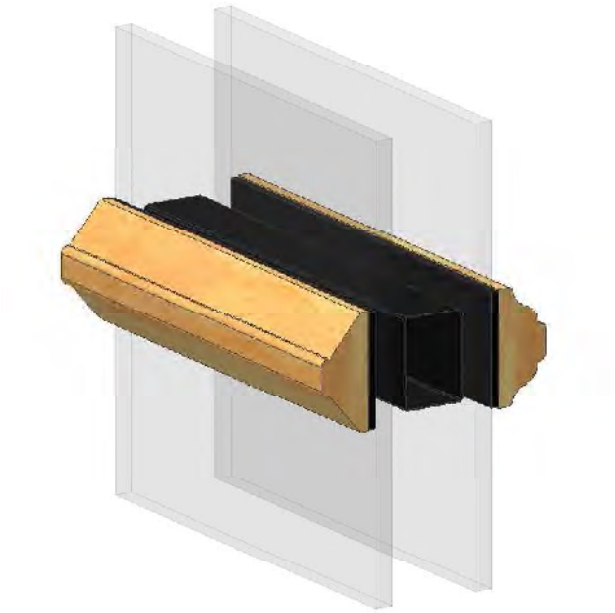
Allan Brothers can produce sidelights to compliment your A Series Doorset.



A deeper bottom rail can be produced to match doorsets with a 44mm subsole

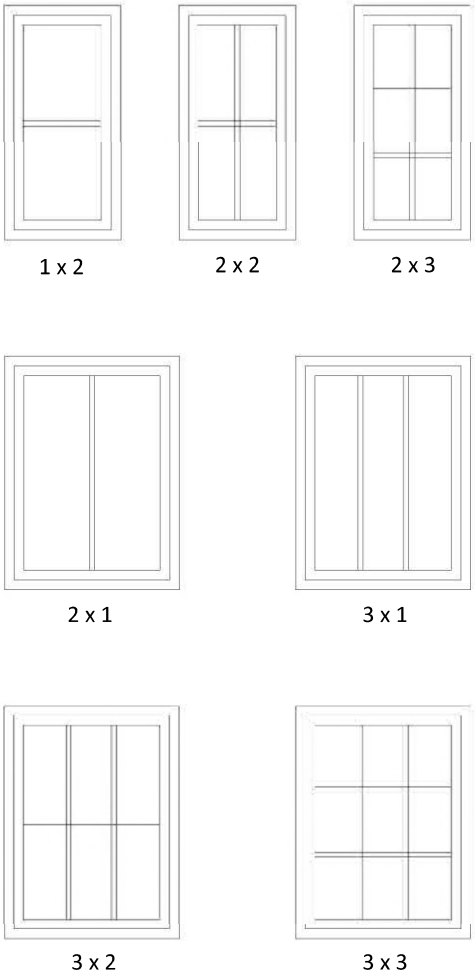
Bars

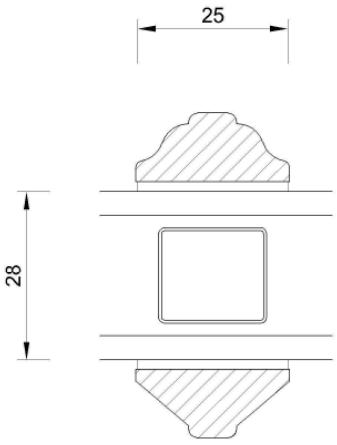
With the option of solid or bonded Georgian bars, Allan Brothers can match your fenestration requirements.
Bar types can be mixed to enhance the look of the product even further.

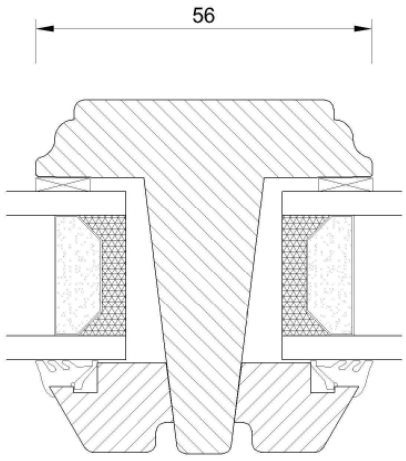


The Georgian bonded bars have an integra bar between the panes, to give the effect of individual glazing units, making them difficult to differentiate from through bars. This also allows the high performing, drained and vented, glazing system to remain intact and do its job without having a detrimental effect on the appearance of the product.

Most Common Bar Patterns
Please note other patterns are available on request to suit your fenestration

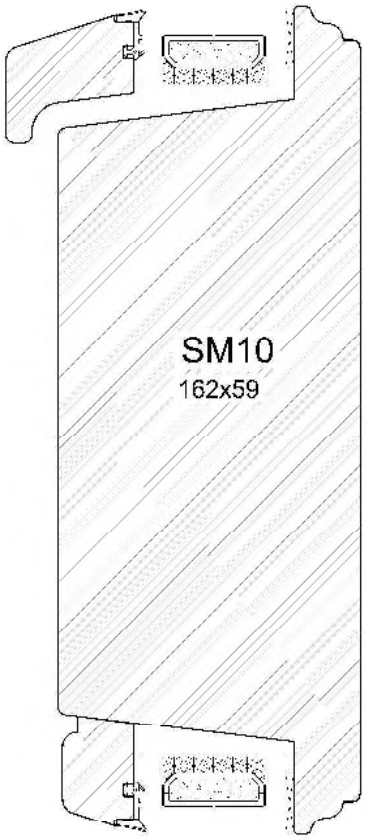






Mid Rails & Panels

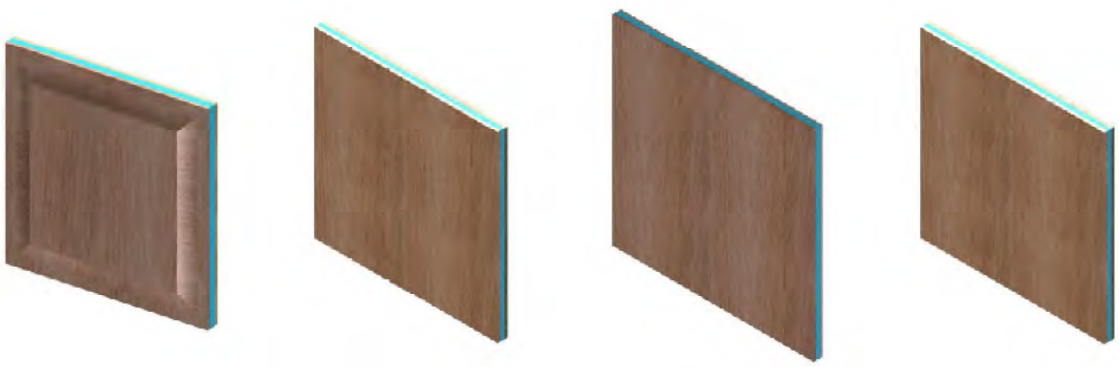
With the option of a 162mm Mid-Rail and a 116mm Muntin Allan Brothers can match your door fenestration requirements.



Panel Options

Allan Brothers can provide panels to suit your required fenestration

Raised & Fielded Panel (Security)	Flat (Composite) Panel	Grooved (Composite) Panel	Flat Security Panel (can be grooved)



Coupling Diagrams

When coupling items please follow figures 1 - 6

Products should be fitted in accordance with BS82313-4: Code of Practice for survey and installation of windows and external doorsets.

The Cill Extension section can be supplied long for site fitting across the width of the coupled products.

Allan Brothers can supply coupling packs to complement the A Series range.

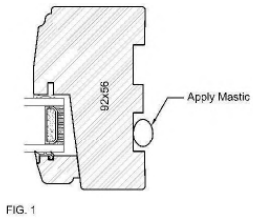


FIG. 1

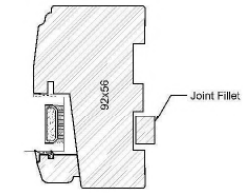


FIG. 2

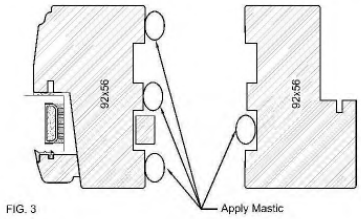


FIG. 3

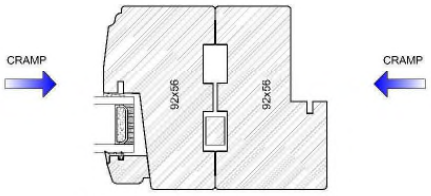


FIG. 4

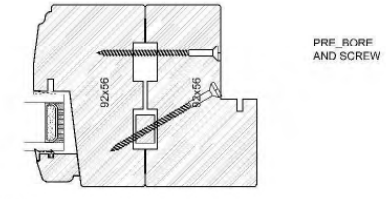


FIG. 5

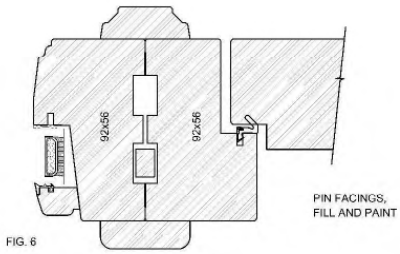


FIG. 6

Note: Allan Brothers do not supply load bearing products.

Operation and Maintenance

Operation

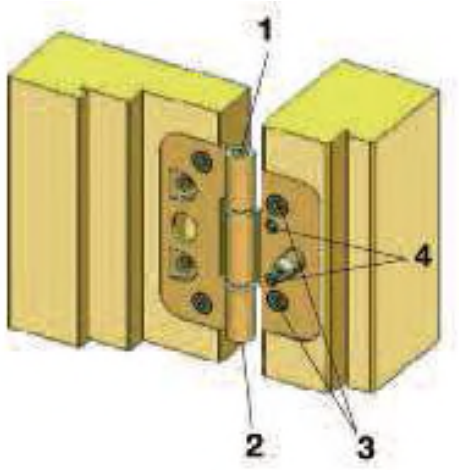
Single Doors
To unlock your Doorset insert the key into the slot, turn the key away from the frame and press the handle downwards to release the hook bolts and locking mechanism. The door can now be opened. To close, return the door towards the frame until the latch engages, lift the door handle upwards as far as it will go (approximately 45 degrees) and release it. To lock your doors simply turn the key one complete revolution towards the frame. Your Doorset is now securely locked.

French (Double) Doors
To unlock your French Doorset insert the key into the slot, turn the key away from the centre of the doors press the handle downwards to release the hook bolts and locking mechanism. The main door can now be opened. To open the second leaf of your French Doorset, insert the key into the slot, turn the key away from the edge of the door and press the handle downwards to release the shoot bolts positioned at the top and bottom of the door, the door can now be opened. To close your French Doorset, close the second leaf of the door, move it back towards the doorframe until it re-locates within the frame and then lift the handle to 45° to re-engage the top and bottom shoot bolts and turn the key to lock. Repeat this for the main door leaf to close your French Doorset (close, then lift the handle and turn the key). Your French Doorset is now securely locked. It is recommended that you fit hooks on the outside faces of both leaves of open outward French Doors and eyebolts in the wall abutting both sides of the door in order that both door leaves can be secured whilst open.

Maintenance and Adjustment
Ensure the bottom weather bar is clean and dirt free. All locking points, hinges, door handle and rubber seal on the weather bar should be lightly treated with a silicon spray, immediately after your doors are installed and thereafter twice yearly.
To improve performance your doors and hinges may need adjusting slightly following installation or sometimes during the changing seasons as they may move slightly. In the event of this happening please follow the instructions to adjust your door. If the door lock is too far away from the keeps your Doorset will not lock and will need lateral adjustment.

Height Adjustment (+ or- 3mm)
To increase the door height loosen the top screw (1) of each hinge by two or three turns. Then turn the bottom screw (2) of one hinge until the door is at the desired height. One turn lifts the door 1.25mm. Adjust the bottom screws (2) of all the hinges until they support the weight of the door. Finally, lightly tighten the top screws (1) of the hinges. If you wish to lower the door, release the bottom screws by an equal amount until you reach the desired height.

Lateral Adjustment (+ 3mm)
To increase the turning allowance between the door and frame on the hinge side loosen all of the frame leaf fastening screw (3) of the two bottom most hinges by two turns. Turn both adjustment screws (4) on the hinges clockwise towards the lock side. One turn moves the door approx 2mm. Tighten the fastening screw (3). Perform the procedure to the top hinge, if necessary.



Coatings Information
If your Allan Brothers joinery products have been fully factory finished and installed correctly they should be virtually maintenance free. General cleaning should be carried out regularly (minimum twice a year) using a non-abrasive cloth with mild detergent and warm water (ph neutral solution) to remove any contaminates, whilst frequently changing the water. **Under no circumstances should aggressive, alkaline or acidic cleaners be used.** After cleaning rinse thoroughly with clean water to remove all residues, but do not use hosepipes. During cleaning, if any damage is noticed then this must be repaired immediately as below.

Repair of Coatings
Should damage occur the damaged surface must be cleaned of any loose timber, paint or stain. If filler is required then flexible two-pack filler should be used. The area should then be recoated with the appropriate paint or stain colour.

Subsequent Painting / Redecoration
Under normal environmental conditions, your fully finished coating will last for 5 years' (stain) or 8 years' (opaque) before it needs to be recoated. This may vary with location, exposure, elevation, etc. When re-coating simply clean the timber frame and redecorate using a high build micro-porous (MVP) finish.

Specifiers Guide

- **Product:** - Fully assembled French doors to Allan Brothers standard section details. Allan Brothers decorative mould to door leafs (see drawings).
- **Timber: -** European Redwood generally in accordance with BS EN 942
- **Preservative Treatment: -** A double vacuum impregnation process in accordance with BS 8417
- **Adhesive: -**PVA Glue to Group D4 of BS EN 204
- **Decorative Finish: -** Doors are fully finished using a basecoat and topcoat system. Finished in either stain or opaque colours to our standard range.
- **Opening Doors:** - Doors fitted with 1 1/2 pairs of adjustable security hinges.
- **Weatherstrips: -** Foam filled weather-stripping.
- **Fittings: -** Locking is by Winkhaus Cobra/FGTE espagnolette system with euro cylinders and factory fitted handles
- **Handles: -** Choice of standard colours - Gold, silver, chrome
- **Vents: -** Ventilation is by a recessed controllable ventilator in the top rail of the door, available in brown or white. A 4000mm2 free area or 4600mm2 EA vent is available
- **Factory glazing: -** Externally beaded 28mm (4-20-4) toughened double-glazed unit with inner pane Softcoat Low E glass as standard. Double glazed units manufactured to BS EN 1279. Obscure glass where required is Cotswold as std
  Doors are generally glazed to: -
  BS 6262 Ref. 9.3.3.7 (Drained & Vented Glazing system)
  BS 8000 Ref. 3.4.1.2 (Glazing Techniques)
  GGF Manual Section 4.2 Ref. IG2
  NHBC Chapter 6.7 Clauses D7, D4, M7, M4
  Building Regulations, Part N, Scottish Building Standards Section 4.
  All doors conform to Part L
  Glazed using security glazing tape around the double glazed unit and secured using Allan Brothers fixing system.
- **Decorative Glazing Bars: -** Allan Brothers standard sectional detail 25mm bonded bars.
- **Performance: -** Fully tested and accredited to PAS23/24
- **Packaging: -** Doors are generally stood vertically and shrink-wrapped on pallets.
- **Door Sizes**: - Width - min door 453mm, max door 953mm - frame 1000-2000mm
  Height - min door 1954mm, max 2128mm - L/L Thresh frame 2000mm 2200mm
- **Secured by Design** - Addition of Laminated glass required
- **Warranties** 30 years against rot and fungal attack
  10 years against glazing unit failure
  10 years against manufacturing defects
  10 years on all ironmongery
  10 years on opaque finished
  10 years on stain finish coatings