



## A SPECIFIER'S GUIDE TO SOLID TIMBER DOORS AND DOORSETS



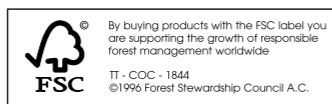
LONGDEN

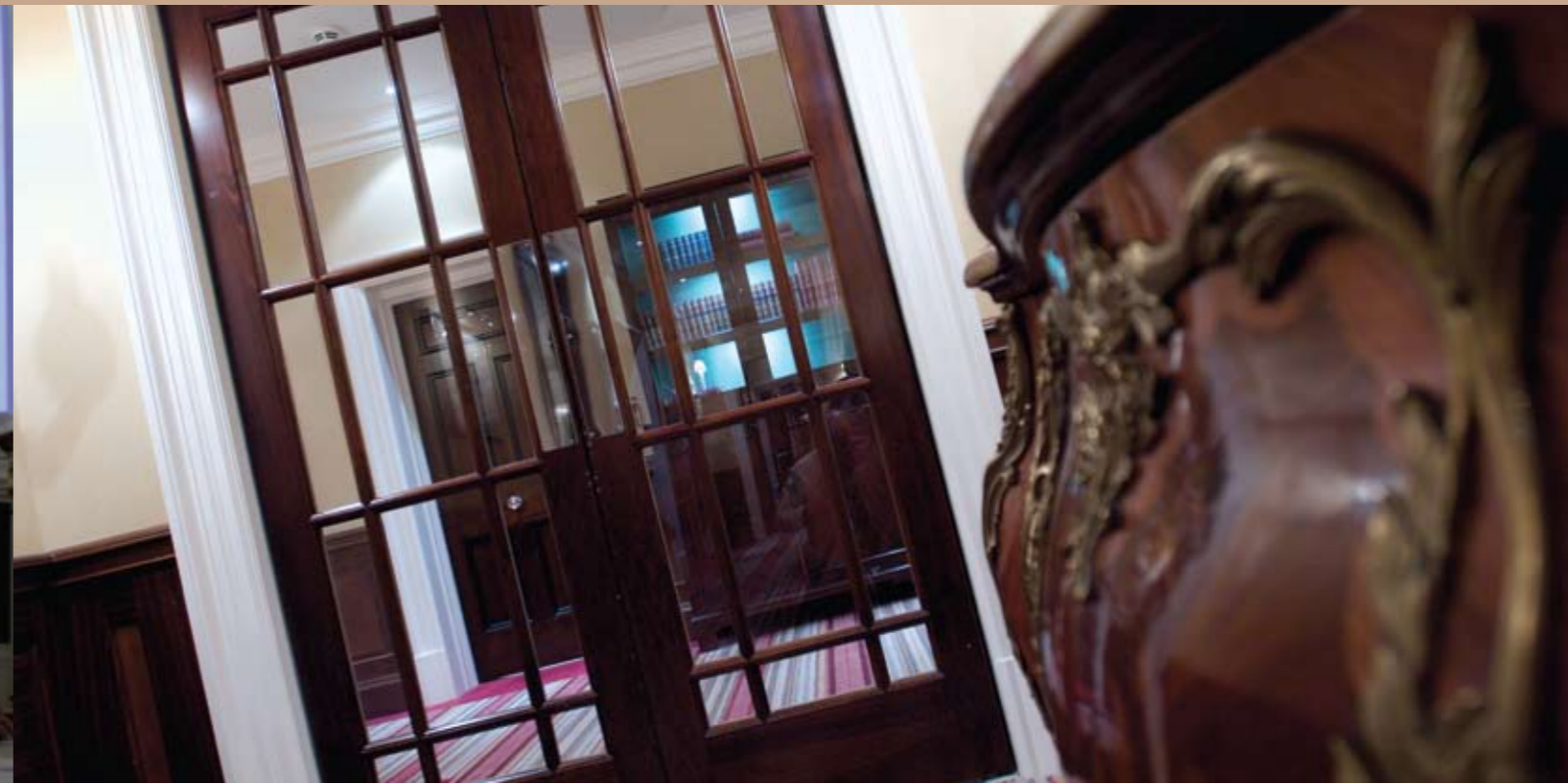
INDIVIDUALLY CRAFTED DOORS



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## HISTORY

Generations of tradition and craftsmanship breathe life into every Longden door.

Longden's tradition of quality which had its origins in the 19th century continues into the 21st with doors of remarkable beauty, doors fit to grace some of the finest building projects of our age.

The original Sheffield-based Longden company grew to become one of the top ten building and civil engineering contractors in 19th century Britain. With endless prestigious contracts, including The George Hotel, Sheffield City Hall and the Prudential Assurance Company, Longden always considers traditional, apprentice-based craftsmanship and the development of skills as its major strength.

As the architectural joinery and the production of high quality, solid timber panelled doors flourished, Longden moved away from the contractor business in 1978. Today, our tradition of combining time-honoured skills with modern techniques to meet modern, exacting performance standards continues, and it is the Longden name that has remained and is enshrined on our present-day range of beautiful handmade doors.

## INTRODUCTION

The Longden range of hardwood doorsets combines the highest quality of traditional craftsmanship with the performance levels needed to meet today's technical criteria.

In an ever-changing marketplace, where the demands of the construction industry continue to grow, there is one company perfectly placed to meet those demands thanks to a combination of the highest joinery standards, many years experience and manufacturing excellence. Established in 1838, Longden continues to manufacture at its site in Sheffield, having forged a reputation for quality, service and innovation.

The Longden range of solid timber, panelled doors has been gracing some of the UK's finest buildings for well over a hundred years. Many of our historic listed buildings have relied on Longden's traditional craftsmanship and expertise to maintain and preserve their heritage. Longden has maintained traditional joinery practises but at the same time manufactures to current British Standards including BS476 Part 22 and Part 31.1 for fire and smoke control and BS8214 the code of practise for fire doors with non-metallic leaves. This brochure demonstrates what the Longden range can offer, but the real inspiration for your project will come from you, the designer working with us to achieve your aims.



## THE LONGDEN APPROACH

### Attention to detail is at the heart of every Longden project.

Longden's experts work closely with all those involved in the specification of doors and doorsets to establish the best approach to each project whether it be restoration, conservation, adaptation of historic and commercial buildings or a new-build.

All Longden timber doors and doorsets are manufactured individually to order, giving total design freedom and the capability to match existing doors perfectly or to give complete individuality to a new project.

Years of investment in people, including the provision of apprenticeships and a comprehensive training programme, has resulted in exceptionally high rates of staff retention and a workforce whose positive, customer-focused attitudes and pride in their work have helped to further enhance Longden's reputation for expertise and traditional craftsmanship.

A truly bespoke joinery specialist, Longden is supported by the resources and modern techniques of Leaderflush Shapland, the UK's leading performance doorset manufacturer.

#### Capability

With the capacity to deliver, whatever the requirement or size of project, Longden is a major player in the solid timber door market. This is underlined by the extensive product portfolio which includes panelled doors, both raised and fielded and flat panel, as well as horizontal or vertical boarded doors and screens.

#### Support

Technical expertise is available at all stages of the specification and procurement process. At Longden, we also recognise the skills needed to install doorsets correctly and, as such, can offer assistance on the latest techniques to help installers.

#### Sustainability

Longden shares its customers' concern for sustaining the earth's resources. We have developed an Environmental Management System in accordance with BS EN ISO 14001:2004, based on a policy of sustainability and reduction of carbon emissions. Doors and doorsets from Longden can be specified using solid timber and timber-based raw materials approved by the Forest Stewardship Council (FSC) and exclusively from well-managed and sustainable sources.

For more information on Supply Chain and Sustainability please refer to pages 8 and 9.

For a copy of our complete environmental and timber purchasing policy visit [www.longdendoors.co.uk/timber\\_policy.php](http://www.longdendoors.co.uk/timber_policy.php).

#### Certification

All our doors and doorsets are fully certified to recognised performance standards. The company is accredited to BS EN ISO 9001:2008. All fire resisting products are manufactured under the intensive CERTIFIRE Independent Product Conformity Scheme. Every fire door or doorset carries a tamper evident and fully traceable label with clear, essential information.

#### Health and Safety

Longden operates a strict Health and Safety policy and has achieved BS OHSAS 18001:2007 standard.

#### Innovation

Continuing product development and an exhaustive performance testing programme enable us to offer a wide scope of certified doorsets. In addition to regular performance testing by UKAS accredited independent bodies, our in-house test facility allows continuous product development and quality assurance checks. Our test facilities include a furnace for full size doorsets and cyclic testing rigs, as well as equipment for assessing mechanical properties and security performance. But this innovative approach is also applied to customer service and procurement initiatives to meet the challenges of today's construction industry.





## SUPPLY CHAIN AND SUSTAINABILITY

We're essentially a timber based manufacturing company. And we're proud of it. Probably the most sustainable building material available to the British building industry today, wood is naturally renewable, readily recyclable and carbon neutral.

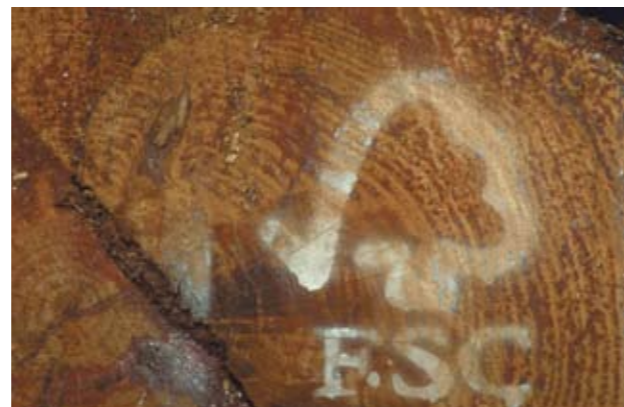
With so many environmental advantages, wood can benefit the entire global community – but only if forests continue to be managed responsibly. Unfortunately, in some countries, as much as 80% of timber is harvested illegally, often involving the destruction of protected forests, the loss of biodiversity and the violation of human rights.

### FSC – good for the environment, good for business.

FSC is an independent, non-governmental, not for profit organisation established to promote the responsible management of the world's forests. Globally acclaimed as having the highest social and environmental standards in forestry today, their certification system is the only one currently recognised by the main environmental and social groups.



By buying products with the FSC label you are supporting the growth of responsible forest management worldwide.



### We'll keep supporting the world's forests – with both feet on the ground.

To help overcome deforestation, the loss of biodiversity, poverty and the violation of human rights, we must overcome the illegal and unsustainable harvesting of timber. In 2009 and beyond, Longden will keep taking practical, realistic and workable steps to support the growth of responsible forest management around the world. We'll continue working closely with our suppliers to meet the requirements of the FSC and CPET. We'll continue executing our strict timber purchasing policy. And we'll continue making it our business to improve our performance every step of the way.

### 10 steps to sustainable sourcing.

#### Longden's timber purchasing policy

##### 1. Responsibility

We will recognise our responsibility to all our customers, suppliers and staff to base our commercial activities on well-managed forests.

##### 2. Legality and sustainability

We will remain committed to sourcing all timber from legal sources and will seek evidence of compliance from suppliers that avoid timber from:

- Illegally harvested wood
- Wood harvested in violation of traditional and civil rights
- Wood harvested in forests where high conservation values are threatened by management activities
- Wood harvested in forests being converted to plantations or non-forest use
- Wood from forests in which genetically modified trees are planted

##### 3. Endangered species

We will not source any timber species prohibited under Appendix I of the Convention on International Trade in Endangered Species (CITES).

##### 4. Traceability and supplier monitoring

We will continue to seek from our suppliers:

- Evidence of their commitment to continuous improvement in environmental performance
- Clear, practical information on the sources of wood products
- Evidence of good forest management practice at the origin of wood products

##### 5. Timber certification

We will only accept or use labels or certificates which include claims of environmental soundness or sustainability if these are supported by publicly available standards drawn up in a fully participatory, transparent and objective manner and backed by independent inspection.

##### 6. Avoid boycotts

Although we will not encourage boycotts or bans on specific species of timber, we will not source any species if its supply is found to be in breach of principles 2 or 3 above.

##### 7. Avoid misleading claims

We will, at all times, strive to avoid misleading and unsubstantiated environmental claims in relation to wood product supplies.

##### 8. Preparing staff

We will ensure that all employees associated with timber purchasing are encouraged to act in accordance with this Policy and are given appropriate education and training to do so, if required.

##### 9. Management

We have appointed a Senior Executive who is responsible for the implementation of this Policy and will ensure that relevant environmental issues are discussed regularly and addressed at the highest level of management.

##### 10. Continuous improvement

We will continue to define our own programmes, objectives and targets to achieve continuous improvement in environmental performance.



## EXCLUSIVE HOTELS

Longden doors are perfect for any exclusive hotel whether city chic, cool coast or comfortable country retreat.

The individual personality of Longden's beautiful, hand finished, solid timber doors adds a sense of quality and elegance to contemporary flair or traditional splendour. Timber stiles, rails and muntins can be combined with profile moulds or applied mouldings to match products such as panelling, skirting, dados and a complete range of complementary architectural hardware.

True bespoke joinery combines craftsmanship with modern manufacturing techniques to achieve a perfect balance of style and function with performance options such as fire resistance, sound reduction and security.

It's no wonder that these fine doors have graced some of the UK's finest buildings for well over a hundred years.

- A. Connaught Hotel, London
- B. Stafford Hotel, London
- C. Dorchester Hotel, London
- D. Twenty Ten Clubhouse, Celtic Manor Resort, Newport
- E. Lake Vyrnwy Hotel, Powys
- F. Western House Hotel, Ayr (Ayr Racecourse)



## EXCLUSIVE HOMES

Longden doors bring a breath of fresh air to the market for luxury residential doors.

By working closely with customers, interior designers and architects, Longden can provide a complete end-to-end solution which can include design, joinery, ironmongery and ancillary items such as dado rails, skirting, plinth blocks and screens. There is no limit to what can be achieved, virtually any finish can be applied and no two doors are the same.

We understand the importance of achieving a balance between style and function and use only the finest quality timbers, finishes and ironmongery for results that will enhance the more exclusive property, both aesthetically and practically.

Drawing on experience of working with some of the country's most prestigious architects, Longden now offers a full range of architectural hardware. This enables Longden to supply complete doorsets providing a full end-to-end solution, ensuring that both door and architectural hardware complement and work with the design of your home. All doorsets can be supplied together with flush items such as locks and flush bolts ready-fitted – all projecting items such as handles are individually wrapped and supplied loose, ensuring that everything arrives in perfect condition.

To request a copy of our Architectural Ironmongery brochure please call 0114 270 6330.





## CONSERVATION AND HERITAGE

Generations of tradition and craftsmanship combined with high performance characteristics help to ensure the longevity of our historic buildings.

Minimal intervention and the retention of as much of the existing fabric as possible is vitally important to a great many projects. The key is a combination of traditional craftsmanship, specialist conservation experience and an innovative, highly engineered approach to detailed design and construction.

Projects are considered individually and in detail, with Longden's involvement being summarised as follows:

- Replacement of existing doors with new performance doors or doorsets. These can be made to suit retained frames, architraves and other opening details such as reveal panelling or curved door-heads.
- Replacement of existing doors with new performance doors or doorsets incorporating retained panels, carvings or other features from original doors.
- Addition of new doorsets to accommodate revised layouts either replicating existing or, alternatively, in a contrasting or possibly more modern style.

In order to ensure the long-term usability and viability of historic buildings, there may well be a requirement to meet stringent performance standards, as indicated by today's Building Regulations. For doors, frames, architraves, reveal panelling and other similar elements, this can present a real challenge, requiring

a considered balance between intervention to achieve compliance and protection of essential architectural characteristics.

The Longden range is particularly suited to the restoration of historic and traditional buildings of all types and has been used extensively in notable monuments and listed buildings throughout the country. The company's approach to conservation and its expertise in replicating original features and traditional craftsmanship are widely recognised by architects, conservation experts and organisations such as English Heritage.

Specific performance levels may be called for in terms of accessibility, fire-protection, smoke containment, sound reduction and security – particularly with a change of building use or altered room arrangements. Whilst Building Regulations may be relaxed in the case of listed buildings and other performance standards waived, this approach should be treated with caution. For example, fire-resistant doorsets are the most effective means of protecting historic buildings from the spread of fire and smoke, without the damaging after-effects of sprinkler systems. Similarly, a security doorset can prevent unauthorised access and the resulting theft, vandalism and arson. Therefore, there is a strong case for the considered use of performance doorsets to protect historic buildings in the wider sense.

## COMMERCIAL

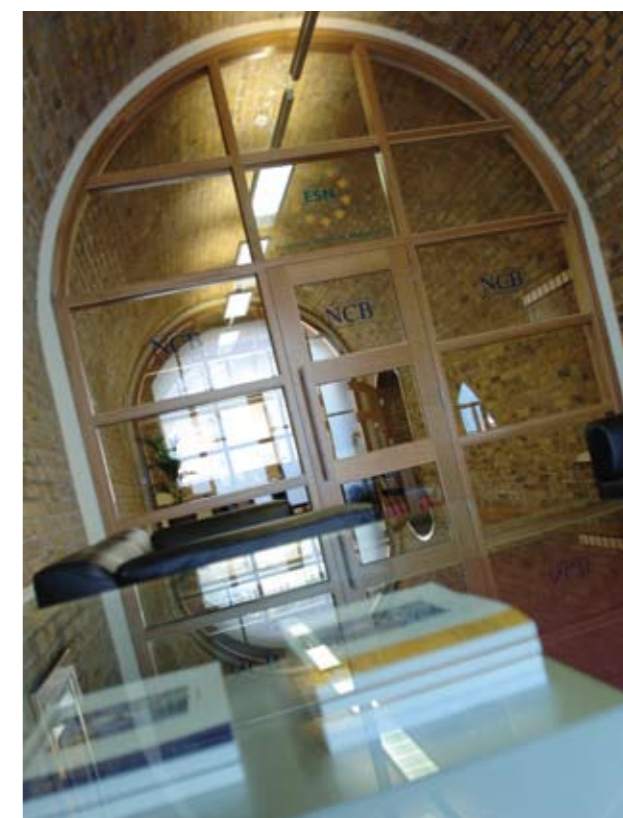
Certain buildings lend themselves to only the finest doors and doorsets.

Many projects demand something more than a standard offering whether it be a hotel, office, court or school. Longden solid timber panelled and boarded doorsets provide an impressive solution to the challenges presented by Building Regulations and other statutory requirements, whilst still retaining a high quality, traditional appearance.

Longden offers a stunning range of products which includes internal and external doors and doorsets, screens and other joinery items, in a variety of different styles suitable for commercial applications.

Whilst meeting all the performance criteria required, Longden will work with you to deliver the visual challenges of your project.

For more information regarding Longden external doorsets please contact us on 0114 270 6330.





## SPECIFICATION

All Longden timber doors and doorsets are manufactured individually to order, allowing complete design freedom and the capability to match existing doors. We work in partnership with interior designers and architects to achieve unique design briefs.

At Longden we are set up to assist designers with their own specifications and door schedules. We can provide standard format schedules for completion by specifiers, which can be downloaded from our website at [www.longdendoors.co.uk/specification.php](http://www.longdendoors.co.uk/specification.php).

To aid with specification Longden provides a full NBS specification facility. Standard clauses can be accessed from the website: [www.longdendoors.co.uk](http://www.longdendoors.co.uk). For further advice or assistance with specifications please contact Longden on 0114 270 6330.

Please note all dimensions given in this brochure are in millimetres unless otherwise stated.



## DOOR STYLES

As a bespoke manufacturer, we can create almost any style of door to suit your project. Our doors can be typically classified into the styles below. Pages 18 and 19 detail specifics on all our popular styles:

### Panelled doors

The Longden range of panelled doors is classified into either raised and fielded panels (Chippendale and Copeland) or flat panels (Sheraton). Panel doors are suitable for either internal or external applications depending on timber selection. In addition, glazing can be used in place of any of the panels.

### Boarded doors

Longden also manufactures contemporary boarded doors in either a horizontal or vertical design. Beaded glazed apertures can be incorporated into the design.

### Glazed doors

Glazed doors and doorsets are included within the Longden range, and can either be fully glazed, as in the Rivelin doorset, or by replacing any number of the panels in the door with glass to create the desired effect.

Whatever the environment or requirement, we can work with you from the standard to the absolutely unique.

At Longden we pride ourselves on being truly bespoke manufacturers. As such we are able to adapt, create and suggest door styles suitable for your project surroundings. For further information on all our products, contact Longden on 0114 270 6330.







## FLAT PANEL DOORS

### SHERATON

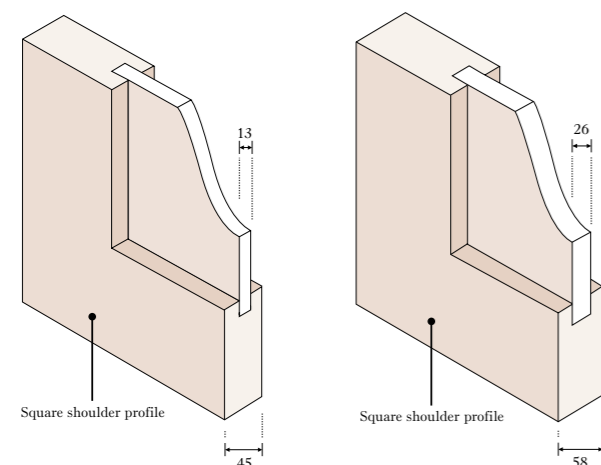
Sheraton flat panel doorsets offer the perfect combination of classic contemporary styling and high quality traditional construction.

The flat panels within the Sheraton range are manufactured from high performance materials, selected to suit particular applications. The flat panels are tongued into grooves within the framings; they are typically 13mm thick for FD30 doors and 26mm for FD60.

These dimensions represent the minimum needed to achieve fire resistance but other panel thicknesses can be supplied.

Sheraton FD30

Sheraton FD60



## RAISED & FIELDDED DOORS

### CHIPPENDALE

Typically raised and fielded Chippendale panels are constructed from timber. The panels are tongued into grooves within the framings; they are typically 32mm thick for non-rated and FD30 doors and 45mm thick for FD60.

### COPELAND

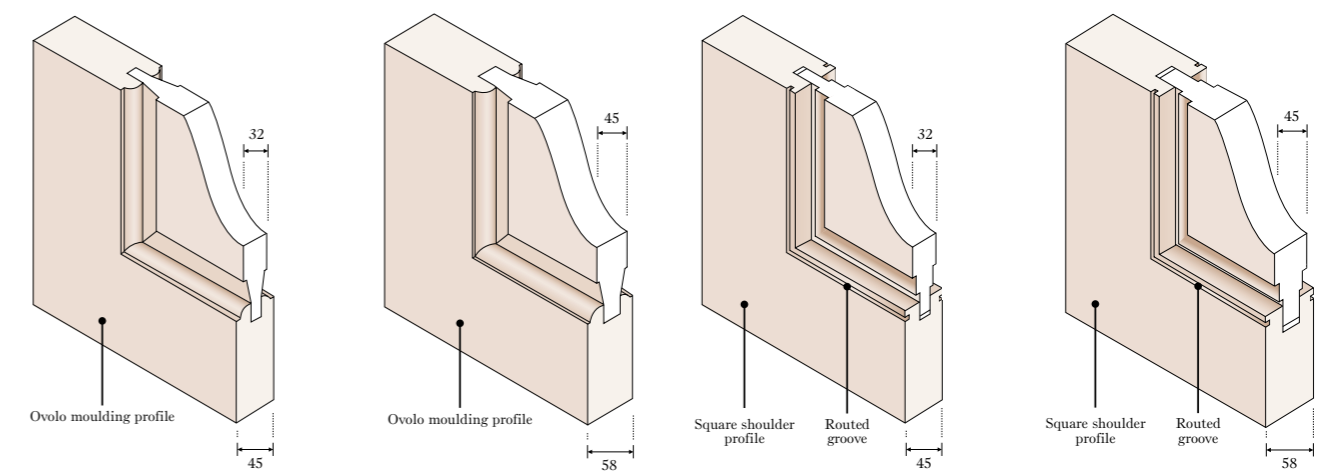
Add a contemporary touch to traditional raised and fielded panel constructions with the new Copeland panel incorporating a square shoulder or splay profile. As with the Chippendale panel construction, the panels are tongued into grooves within the framings; they are typically 32mm thick for non-rated and FD30 doors and 45mm thick for FD60.

Chippendale FD30

Chippendale FD60

Copeland FD30

Copeland FD60





## DOOR STYLES

Solid timber hardwood doorsets from Longden come in a number of different styles and constructions to suit luxury hotels, heritage and conservation buildings, as well as modern contemporary homes and commercial offices. The range includes the traditional and contemporary styles below that can be produced in either the Sheraton, Chippendale or Copeland styles but, as a bespoke manufacturer, Longden has the ability to create virtually any other style and design. All doors incorporating glass will be factory glazed and many glazed styles can be certificated with up to 60 minutes fire resistance.

Single doors or pairs of doors can be supplied for either single or double action, as well as other configurations for bespoke

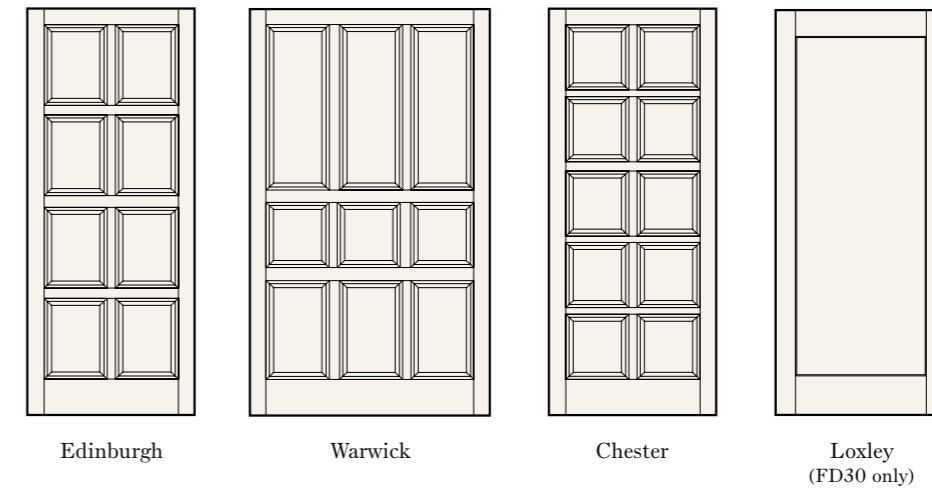
designs. We encourage an early involvement with specifiers to help develop their designs to meet all performance and aesthetic requirements.

The majority of the door styles can offer the following performance characteristics:

Fire: Non-rated, FD30 and FD60

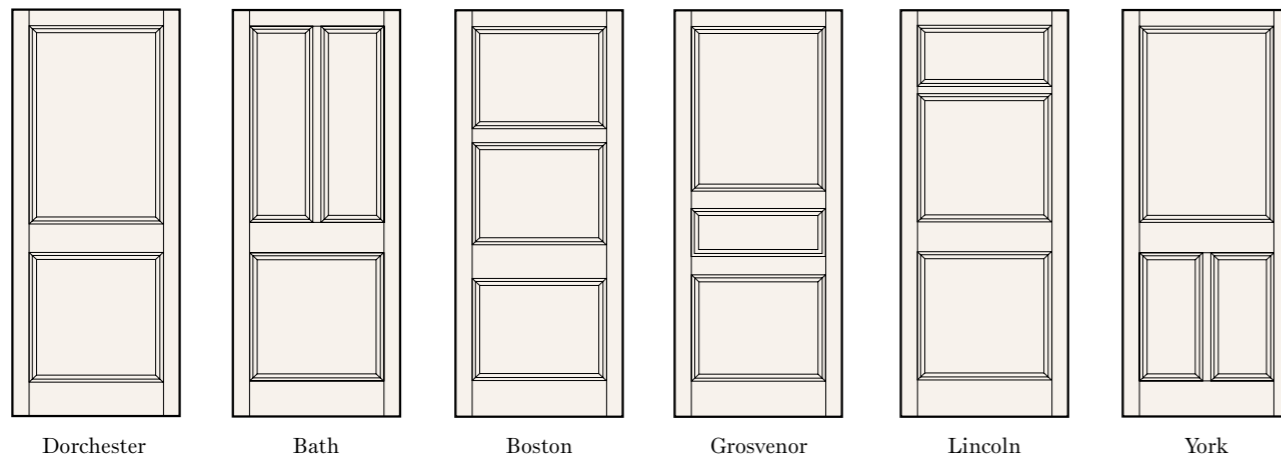
Acoustics: 18, 28, 30 or 38R<sub>w</sub>dB

For performance details refer to pages 38 and 39 or contact Longden directly to discuss your requirements on 0114 270 6330.

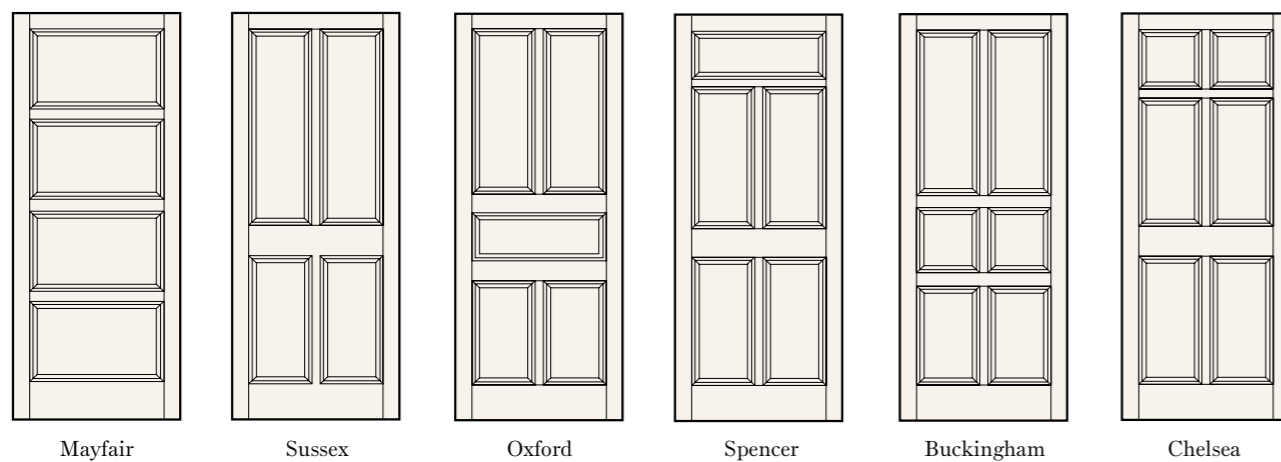
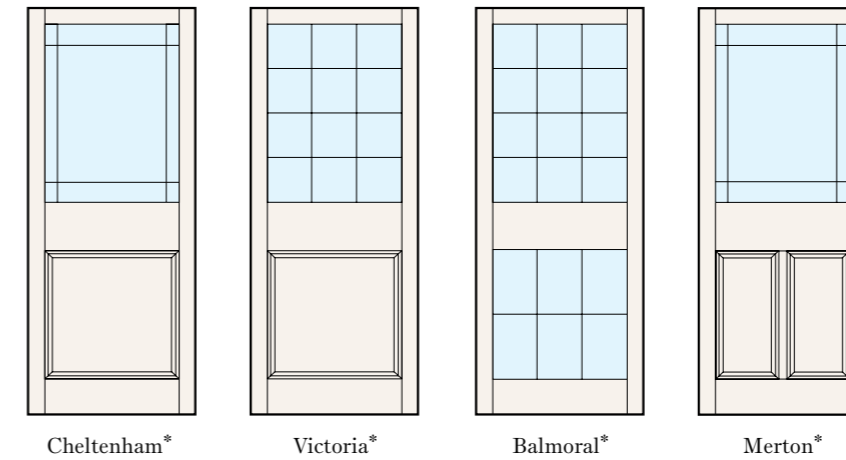


### Panelled doors

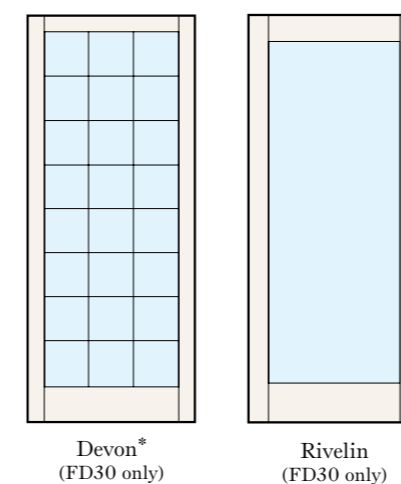
Sheraton, Chippendale or Copeland (flat panel or raised and fielded panel)



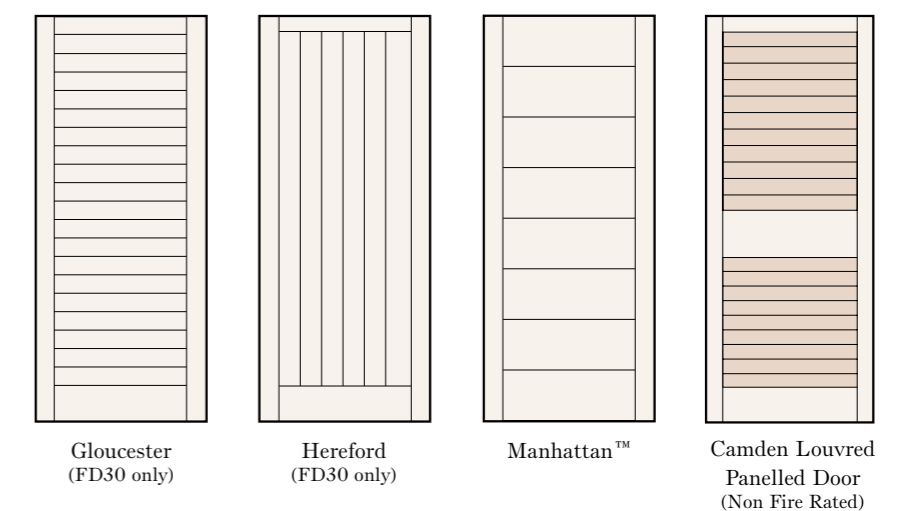
### Glazed doors



### Fully glazed



### Boarded doors



Note: The style and rail dimensions may vary depending on performance specification.

\*All these styles are created by using planted glazing bars which are fixed over the glazing. Please refer to page 25 for standard profile. Note: The style and rail dimensions may vary depending on performance specification.



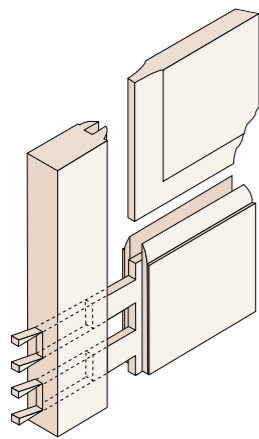
# DOOR COMPONENTS

## FLAT PANEL OR RAISED & FIELD

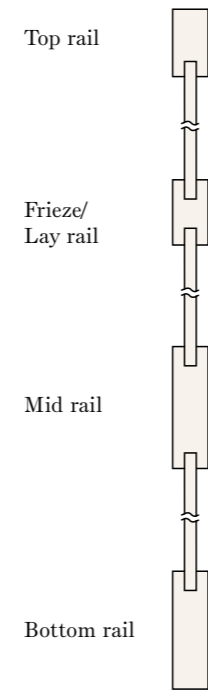
Both raised and fielded panel and flat panel doors are traditionally constructed with solid timber stiles, rails and muntins. All main joints are through mortice and tenon, wedged joints using a waterproof adhesive for maximum durability. Framing members can be moulded on the edges adjacent to the panel or applied mouldings added.



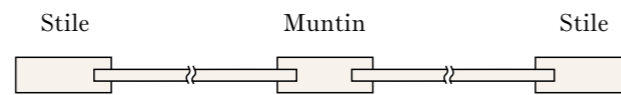
Unless otherwise specified, finished sizes for framing members will be as below: wherever possible, these should be regarded as minimum dimensions for all doors to avoid any possible fire certification problems.



Vertical section through panelled door



Horizontal section through panelled door

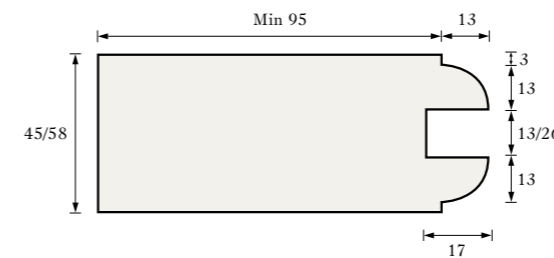


In addition to door style and panel type, the visual characteristics of a panelled door are also determined by any profile mould applied to panel edges of framings. Typical mouldings are shown below and, if no other type is specified, Ovolo is supplied as the standard profile.

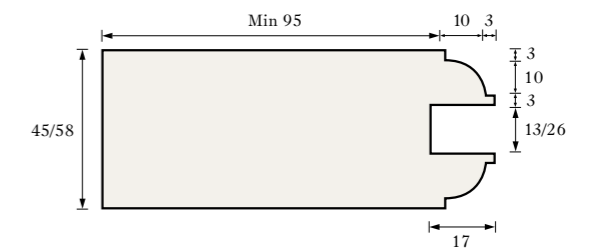


### Profile Moulds

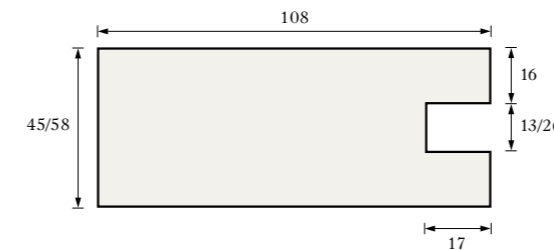
Ovolo (supplied as standard if no other is specified)



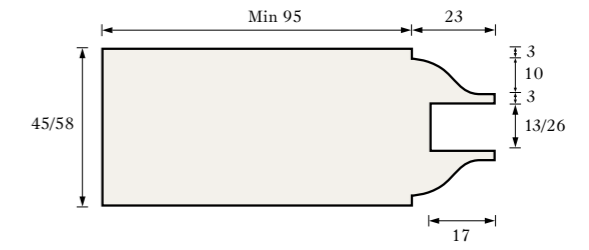
Stepped Ovolo



Square Shoulder



Lamb's Tongue

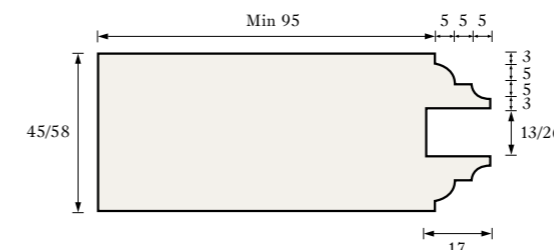


Door components table (all dimensions in mm)

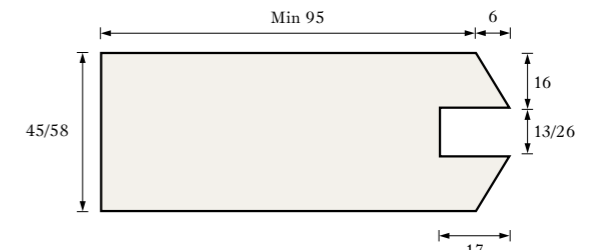
	Square Shoulder		Ovolo		Lamb's Tongue		Duplex		Stepped Ovolo		Splay	
	Overall Width	Flat Width	Overall Width	Flat Width	Overall Width	Flat Width	Overall Width	Flat Width	Overall Width	Flat Width	Overall Width	Flat Width
Top Rail and Stiles	108	N/A	108	95	118	95	110	95	108	95	108	102
Frieze/Lay Rail and Muntins	92	N/A	92	66	112	66	96	66	92	66	92	80
Mid Rail	224	N/A	224	198	244	198	228	198	224	198	224	212
Bottom Rail	216	N/A	216	203	226	203	218	203	216	203	216	210

Note on thickness: 45mm – Non-rated FD30 and 58mm – FD60

Duplex



Splay

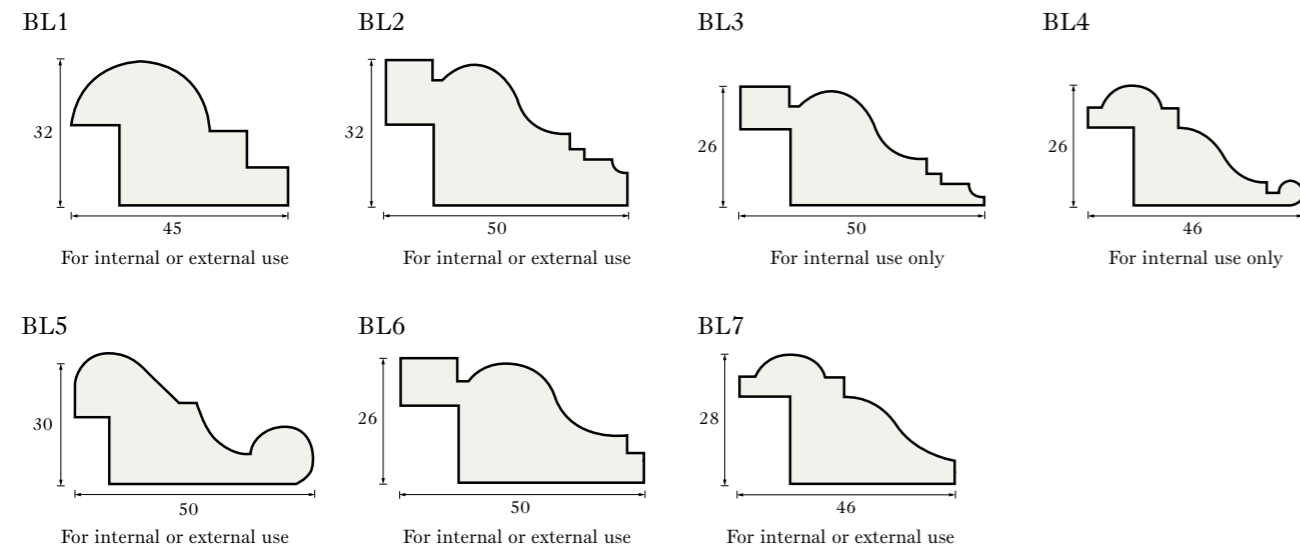




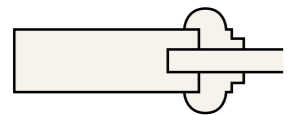
## APPLIED MOULDINGS

Applied mouldings can be added to provide extra details to panels either flat or raised and fielded. There are two types of applied mouldings, bolection or bed. Both can be used in conjunction with square profile moulds.

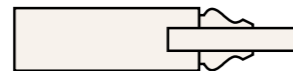
### Bolection Moulds



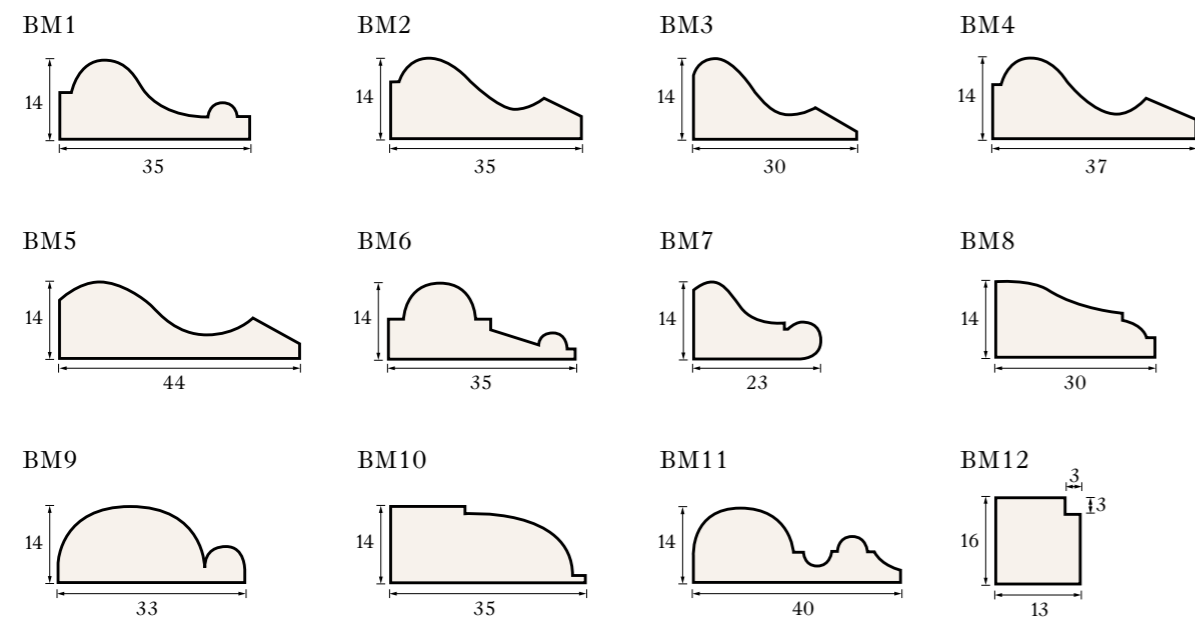
### Bolection mould on square shoulder profile



### Bed mould on square shoulder profile

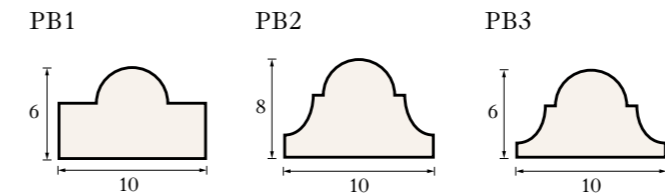


### Bed Moulds

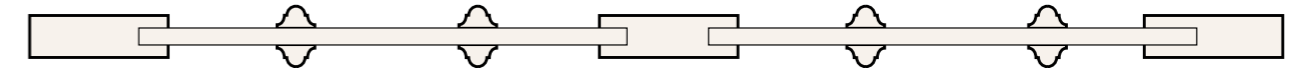


## PANEL BEADS

Three standard panel bead designs are offered. Each can be applied to flat surfaces to create intricate detail.

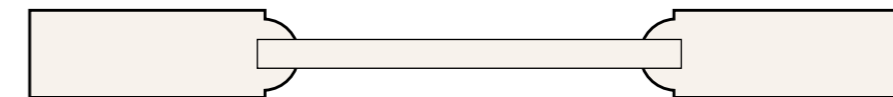


Example of PB3 panel bead on a Sheraton flat panel



Typical combinations of Sheraton flat panels using profile moulds, applied mouldings and panel beads.

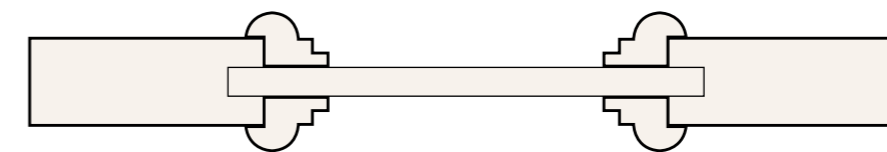
Ovolo profile mould



Square shoulder profile mould and applied bed mould

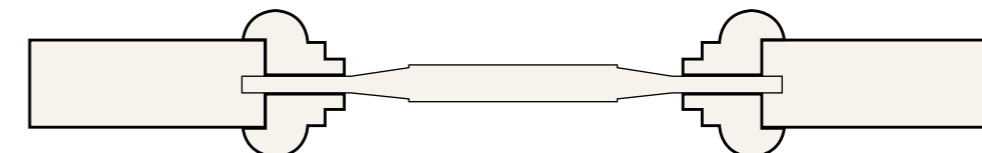


Square shoulder profile mould and applied bolection mould

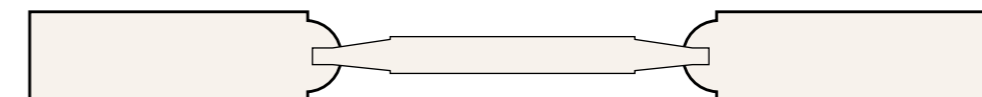


Typical combinations of Chippendale raised and fielded panels using profile moulds and applied mouldings.

Square shoulder profile mould and applied bolection mould



Ovolo profile mould





## BOARDED DOORS

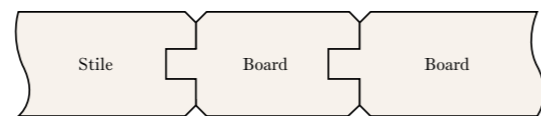
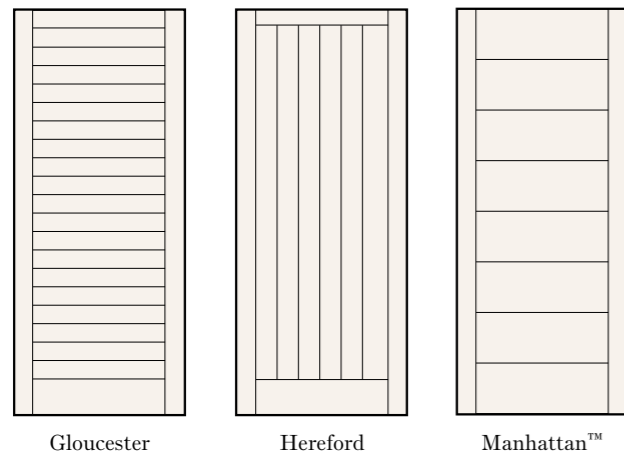
Boarded doors use either vertical or horizontal boarding with the framing effectively concealed.

With boarded doors both vertically and horizontally boarded styles are generally constructed using 45mm thick x 95mm\* (minimum) wide stiles and top rails, and a concealed middle rail. For vertical boarded doors a concealed bottom rail can be provided. Boards are solid, tongued and grooved with 'V' or square joints, and laid out to give equal board widths to suit the door size. Boarded doors will generally be manufactured from Tulipwood for paint finish.

A full range of timbers are available as shown on page 37 and a variety of finishes can be applied.

Boarded doors are available non-rated or certificated for 35 minutes fire resistance, including FD30S for restricted smoke leakage. Glazed apertures can be incorporated with sizes to suit modules of whole board widths, with glass retained by a glazing bead.

\*For FD30 stiles and top rails are 45mm thick x 108mm wide minimum.  
Note: Longden do not recommend the use of oak for external boarded doors.



Horizontal section through a vertical boarded door



Horizontal section through a Manhattan boarded door

## GLAZED DOORS

As well as the traditional panelled and boarded doors, Longden also offers a fully glazed doorset.

The Rivelin fully glazed doorset offers designers and specifiers an option to combine design with performance characteristics.

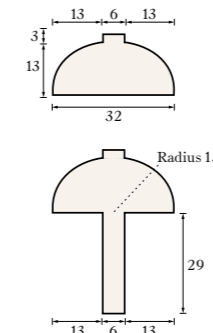
The Rivelin offers 30 minute fire resistance and acoustic reduction of up to 35Rw dB with appropriate perimeter sealing.

In addition to fully glazed doors, all panelled door styles shown on pages 18 and 19 can incorporate glazed panels, examples of which are shown.

For further advice contact Longden on 0114 270 6330.

Planted and solid bar glazing beads

Certain door styles as shown on pages 18 and 19 are created through the use of planted or solid bar glazing beads, for example the Balmoral or Devon. The drawings opposite detail the standard profiles used to create these designs.



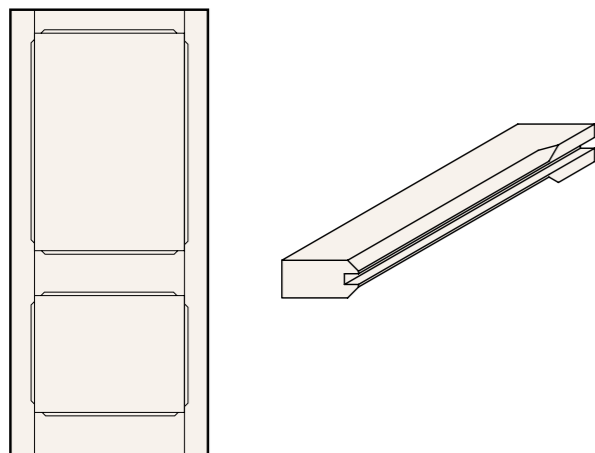


## JOINERY DETAILS

Longden has used its many years of experience and expertise to develop joinery techniques that enhance the overall appearance of doors when certain visual effects are required. Such details include:

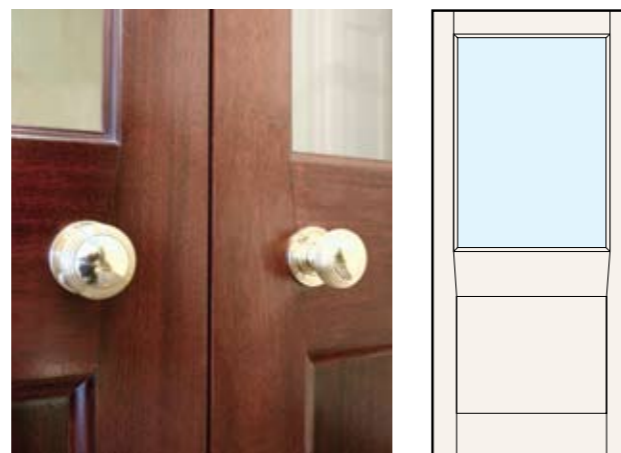
### Stopped chamfer

A stopped chamfer detail can be applied to rails and stiles as shown.



### Gun stock shoulders

This detail is used where doors have a combination of solid panels and vision panels. It creates a transitional joint between the two panels as illustrated.



## FRAMES

Longden timber doors can be supplied with matching frames or as factory pre-hung doorsets.

Longden doorset frames can be manufactured from the same solid timber as the door leaves. Generally they are manufactured to the sections shown but alternative designs incorporating mouldings can be accommodated. These frames are for both internal and external use. The diagrams on pages 28 and 29 show the standard frame profiles available in relation to fire resistance performance.

Typically for exclusive home projects, frames and architraves are supplied primed for on-site painting, although, frames and architraves can also be supplied in matching timber to complement the doors.

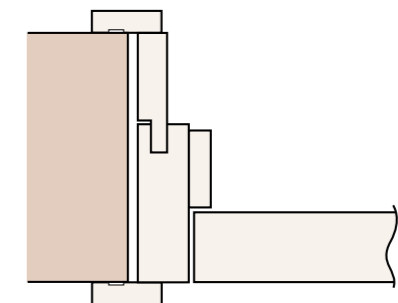
### Sidelights and fanlights

Sidelights and fanlights can also be incorporated. Typical configurations can be found in the Design Considerations section on page 35.

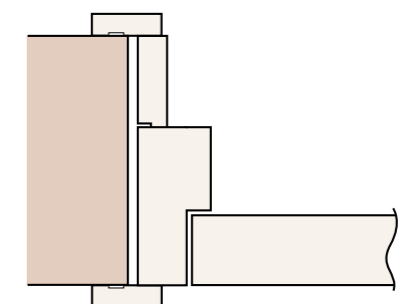
### Extension lining

Extension linings can be used to extend the width of the frame to fill the reveal. Alternatively, Longden can supply reveal panelling to complement doors and other joinery.

### Plain lining

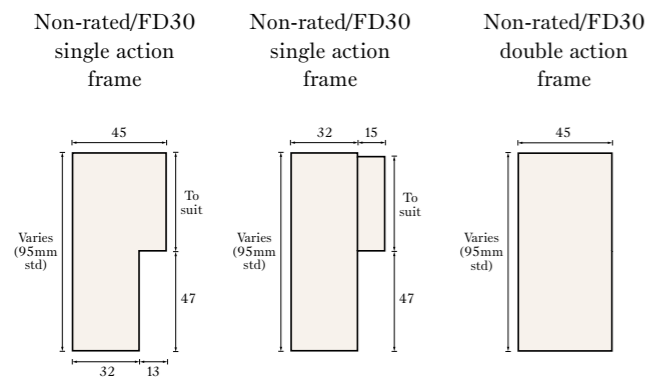


### Rebated frame

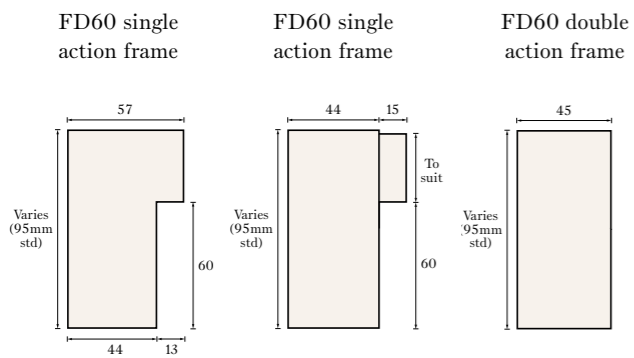
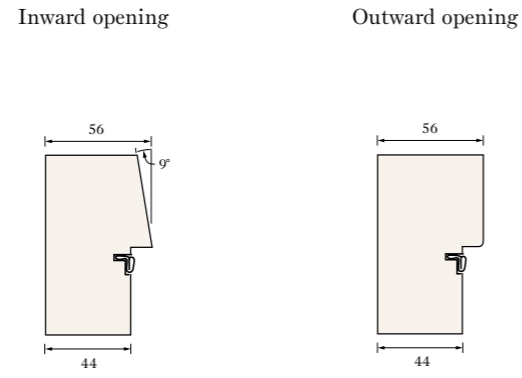




Internal frame section



External frame section



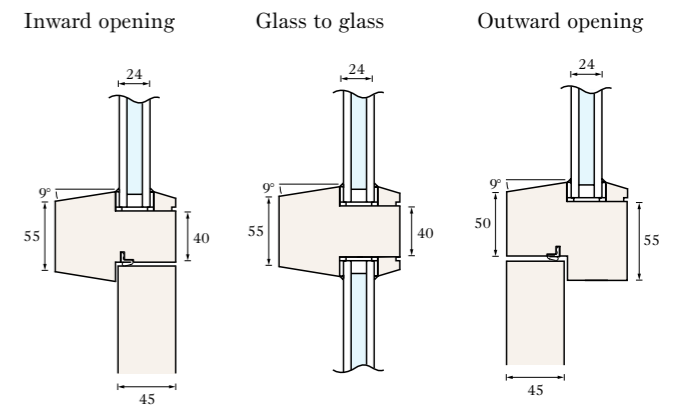
Intumescent and seals

Intumescent strips to suit the required fire performance will be fitted within door leaf edges or frames, in accordance with BWF-CERTIFIRE requirements to ensure certification. Where smoke protection is also required, combined intumescent and smoke seals will be fitted. If necessary, intumescent can be supplied for on-site fitting to existing frames. As a default the colour of intumescent will be chosen as the closest match to the choice of timber.

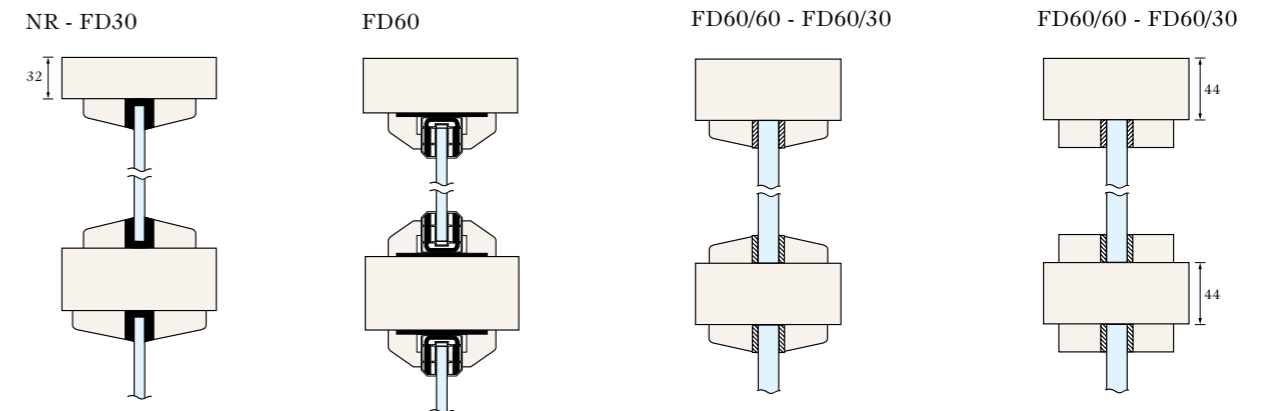
Glazed screens

Door leaves can be incorporated into glazed screens constructed using frame sections which conform to fire performance certification. It should be noted that in some situations safety glass may be required. Screens are supplied ready for glazing by others on-site. The glass can be supplied loose, cut to size with mitred beading.

External Mono glazed screen



Barum glazed screen



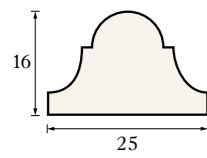


## OTHER JOINERY ITEMS

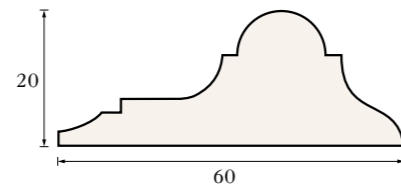
Below are our standard profiles for dado mouldings, skirtings and plinth blocks. However, we are usually able to match existing profiles or bespoke profiles that may be required.

### Dado mouldings

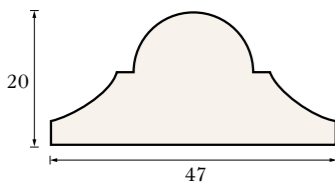
DD1



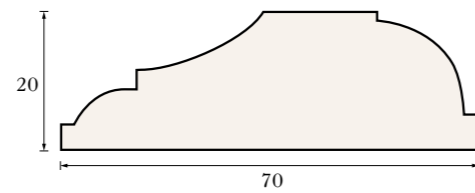
DD3



DD2

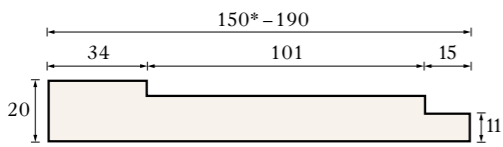


DD4

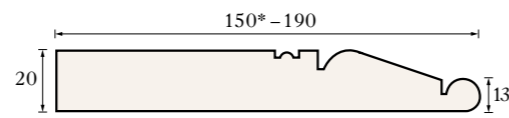


### Skirtings

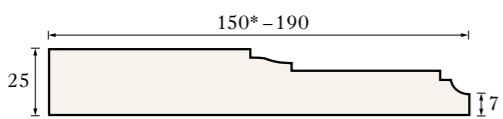
SKRT1



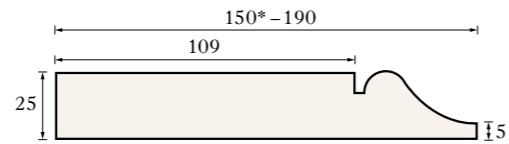
SKRT2



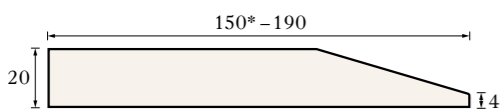
SKRT3



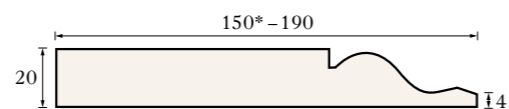
SKRT4



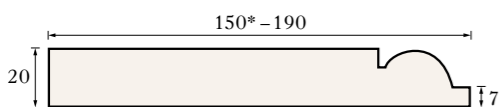
SKRT5



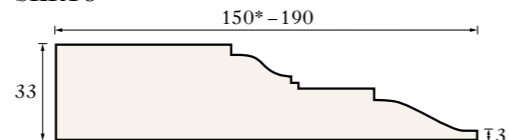
SKRT6



SKRT7



SKRT8

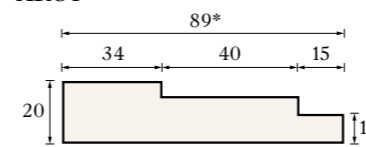


\*Variation to sizes will be considered on request.

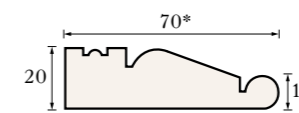


### Architraves

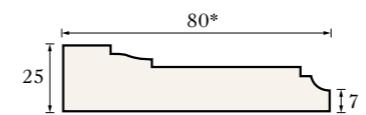
ARC1



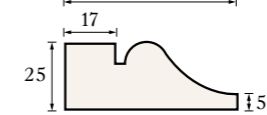
ARC2



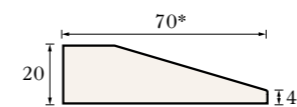
ARC3



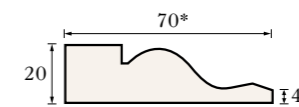
ARC4



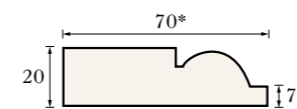
ARC5



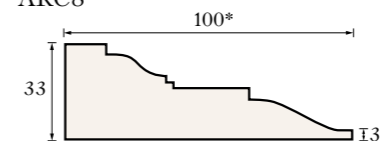
ARC6



ARC7



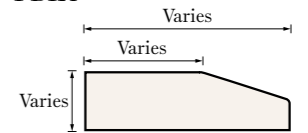
ARC8



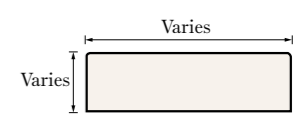
\*Variation to sizes will be considered on request.

### Plinth blocks

PBK1



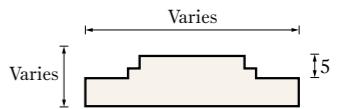
PBK2



PBK3\*\*



PBK4\*\*



\*\* Can be supplied with either square or rounded corners.





## GLAZING

Longden is able to supply many of the door styles detailed on page 18 and 19 with glazed panels in place of solid panels. Where vision panels have been specified, glass type will be determined by the performance characteristics required. The table below outlines the glass performance characteristics. When specifying external doorsets, double glazed units can be supplied.

**Bevelled glass**  
As an alternative glazing option, Longden can supply bevelled

glass. Bevelled glass is usually found on the inner face of the door leaf but if specified, Longden can supply bevelled glass on both the inner and the outer face of the door leaf.

Where more decorative glazing effects such as acid etching is required, Longden can advise on all options available. For more information regarding speciality glazing please refer to page 40.

### Longden glass types

Glass Type	Thickness		Type			Fire Rating			Insulation	Acoustic Level	Attributes				Safety	Weight
	mm	Laminated	Toughened	Cast	N/R	FD30	FD60	R <sub>w</sub> dB			Unwired	Wired	Etched	Obscure		
Pyroshield Safety	6			✓	✓	✓	✓		32		✓			C	16.7	
Pyroshield Cast Safety	7			✓	✓	✓	✓		32		✓	Only obscure		C	16.7	
Laminated	6.5	✓			✓				32	✓		✓	✓	B	15	
Laminated	8.5	✓			✓				33	✓		✓	✓	B	20	
Pyrobelite	7	✓				✓			35	✓		✓		C	17	
Pyrodur Plus	7	✓				✓			35	✓				B	17.5	
Pyroguard Clear	7.2			✓		✓			32	✓		✓		B	16	
Pyroguard Wired	7.2			✓		✓			32		✓	✓		B	16	
Pyrostop	15	✓				✓	✓	30 min	38	✓		✓		B	36	
Pyrostop	23	✓				✓	✓	60 min	40	✓		✓		A	50	
Toughened	6		✓		✓				32	✓		✓	✓	A	16.7	
Pyran S	6		✓			✓	✓		32	✓		✓		A	14	

## IRONMONGERY

We can offer a complete ironmongery fitting service for the Longden range.

In this case, doors and doorsets are delivered with factory fitted ironmongery and hinges. However, all protruding items, such as handles and strike plates, are supplied loose for on-site fitting.

Factory fitting as many items as possible ensures a perfect fit and avoids the risk of damage on-site. Early discussion of ironmongery requirements with us is essential to avoid problems. For example, fitting the wrong lock could destroy mortice and tenon joints, invalidating fire certification and guarantees.

Locks offered include:

- Mortice locks
- Sash locks
- Dead locks
- Bathroom locks

For items supplied by others, it is strongly recommended that CE marked and CERTIFIRE approved ironmongery is used for all fire rated doors, otherwise certification may be invalidated.

Please contact Longden directly for more information on ironmongery and architectural hardware or visit the website at [www.longdendoors.co.uk](http://www.longdendoors.co.uk).



## FINISHES

Virtually any form of finish can be applied to Longden timber doors and doorsets, including primed for paint, clear varnish, stain, wax and oil finish, all of which can be factory applied. Please note that with clear finishes, variations in colour and grain of timber may occur as timber is a natural material. Doors ordered for on-site painting can be supplied pre-primed. Longden do not recommend that product is left clean for on-site finishing.

### Standard door finishes:

**2 coats primer**  
Standard consists of two water-based primer, de-nib between coats. Top coats added on-site by brush or spray and should be of a quality suitable to the location either internal or external.

**2 coats acid catalyst lacquer**  
This has a 30% – 40% satin sheen as standard. Alternatively matt 10% – 20% or gloss 50% – 70% can be supplied. Tinted lacquers are also available.

Note: For the best results, Longden recommends the use of a minimum of 20% matt lacquer to complement your doorset.

### Waterborne microporous

This is the standard finish used on external doors and doorsets.

For further information contact Longden on 0114 270 6330.





# PERFORMANCE CHARACTERISTICS

## Use of doorsets

The doorset is a fully finished, engineered element comprising of frame, pre-hung door leaf and essential ironmongery, all matched and pre-assembled in the factory. It is delivered to site as a package for reassembly and simple installation.

In contrast, traditional door assemblies consist of the same elements but usually from various different sources, with final assembly and finishing carried out on-site – frequently involving different trades.

Longden doorsets are designed as complete, engineered units to meet specific performance requirements and are manufactured to exacting standards from established components under factory conditions ensuring:

- minimised intervention on-site
- consistent fitness for purpose
- straightforward replication of certified test conditions within the building

The importance of doorsets is acknowledged by BS 8214: 1990 'Code of practice for fire door assemblies with non-metallic leaves':

“It is strongly recommended that pre-hung, pre-finished, fire doors (i.e. doorsets) are specified whenever possible as this reduces the amount of site work necessary and allows normal factory quality control procedures to be applied to the finishing operations”.

BS 8214 calls for testing of complete fire door assemblies or doorsets, fully representative of all aspects of how they will be used on-site. For door assemblies, this is far more problematic with potential for combinations of mismatched, uncertified

components and poor site practices. In addition to fire resistance, other performance criteria can be achieved and maintained more easily with doorsets, including:

- smoke containment
- sound reduction
- durability

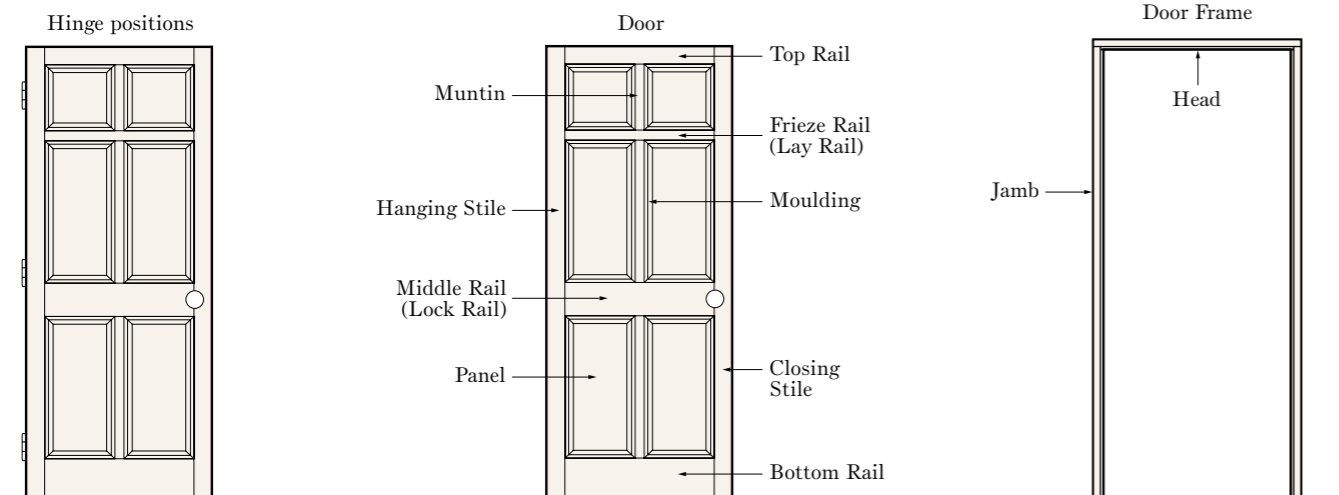
This is due to the factory finishing, matching and fitting of the various components which work together to meet performance levels.

Independent research has addressed commonly held misconceptions about the capital costs of doorsets by using an objective comparison of realistic, current market prices compared with those of site-assembled unitary components. This research used single stage tenders for three real projects from reputable, national door contractors. With all building types considered, savings in capital costs were shown for doorsets over the average for contractors using site assembled unitary components clearly showing that: Doorsets can save up to half the initial capital cost of traditional door assemblies.

The doorset concept is a well-established example of the prefabrication and off-site product techniques advocated today under the 'Modern Methods of Construction' banner. Current initiatives, based on 'Constructing Excellence' principles, call for greater efficiency and savings in all areas of the building industry, not just construction costs. To satisfy these requirements, research has analysed differences in the procurement process and consequential time implications for architect, consultant quantity surveyor and main contractor's estimator, between doorsets and unitary component assemblies.



## Doorset terminology



Note: Doorsets with a height exceeding 2100mm will require 4 hinge fittings.

This analysis showed that doorsets substantially simplified the procurement process and offered overall time/cost savings of 50%.

Over 60 different components make up a typical storey height door assembly. It is generally accepted within the building industry that:

Substantial installation time and cost savings are achieved on-site with doorsets over unitary component assemblies.

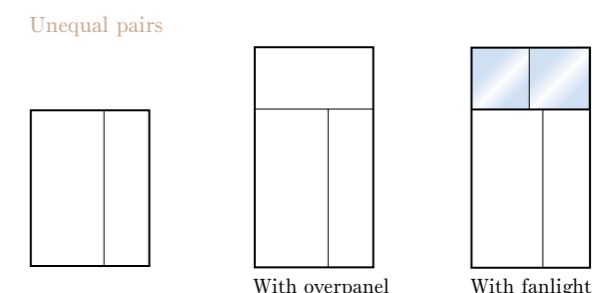
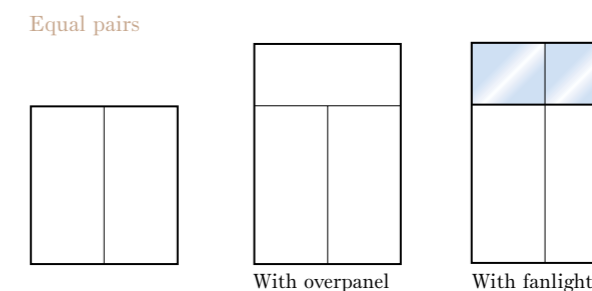
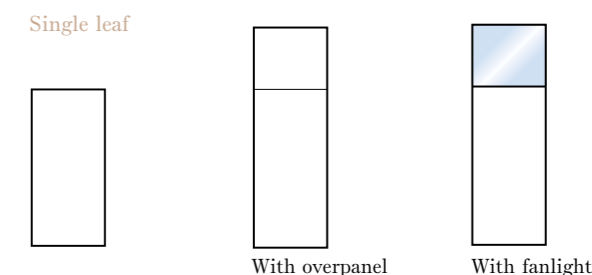
“There is an overwhelming case for the use of performance doorsets in place of site assemblies of unitary door components in today's building industry.”\*

## Design considerations

### Configurations and handings

The drawings on the right and page 36 set out the terminology for typical doorset configurations and handings for use in specifications. Configuration, size, construction and performance characteristics are all interrelated. As a guide, individual doors with a maximum width of 1046mm or a maximum height of 2600mm are achievable. Specific size ranges for particular products can be found in individual BWF-CERTIFIRE product data sheets. Longden manufactures all door leaf sizes to suit individual requirements.

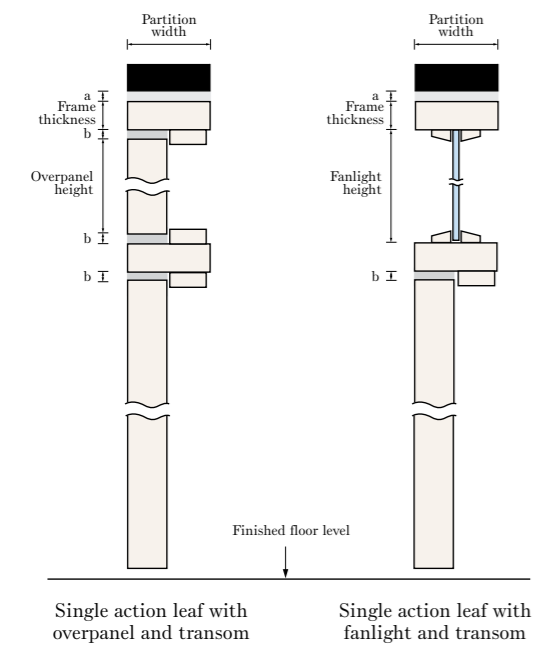
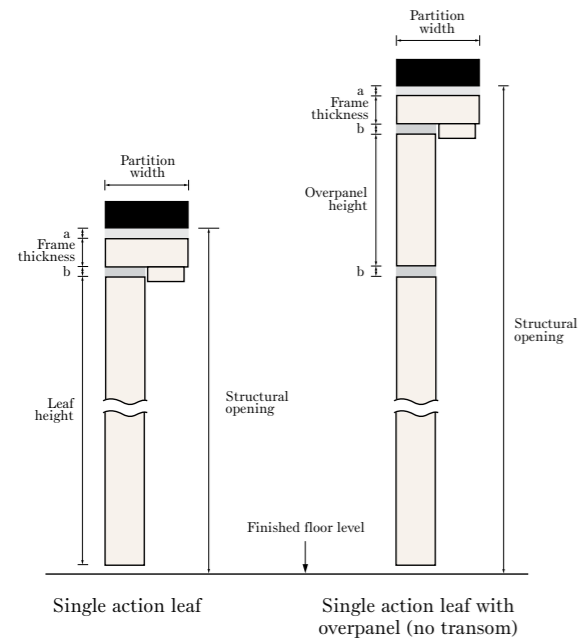
\* Independent research carried out by Gleeds Consultancy.





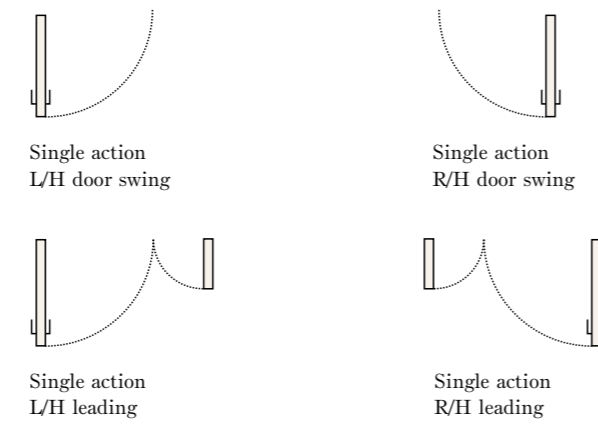
# TOLERANCES AND DIMENSIONS

The drawings below set out the terminology and tolerances for dimensioning doorsets.

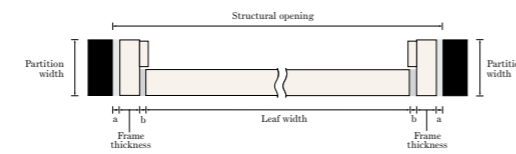


a = 7mm tolerance between structural opening and frame assembly  
 b = 3mm gap  
 c = 4mm at meeting stiles

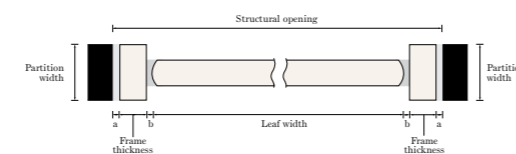
## Handings



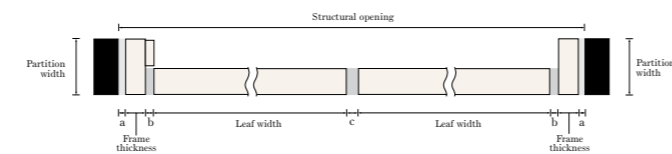
## Single action single leaf



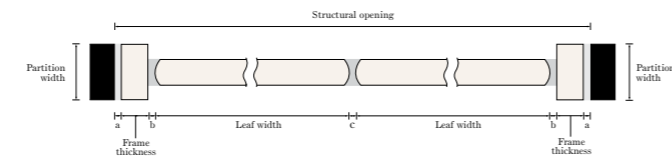
## Double action single leaf



## Single action pair of leaves



## Double action pair of leaves



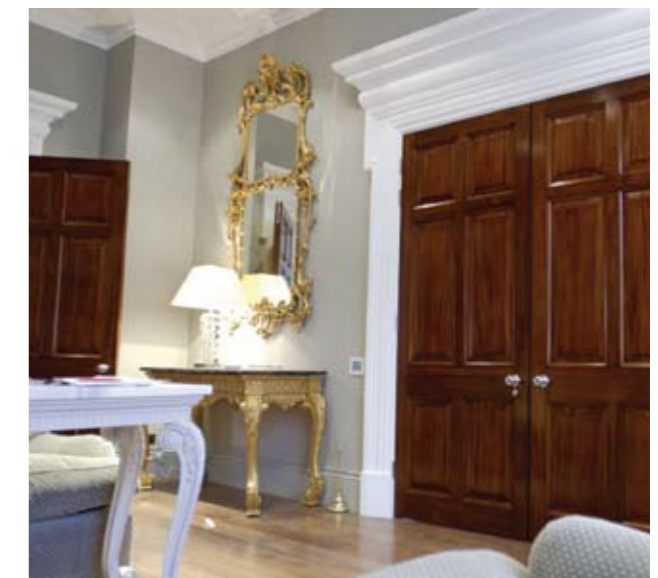
# HARDWOODS

All Longden doors are manufactured from correctly seasoned hardwood.

The density of timbers varies depending on the species and moisture content. The asterisk indicates that the density can vary more than 20%. For FD60s the density needs to be a minimum of 530kg/m<sup>3</sup> excluding Ash and Iroko. Use of Beech is not recommended by Longden.

Moisture content for internal doors and doorsets is recommended to be 10% + - 2% and for external doors and doorsets 16% + - 3%.

Timber Species	Density (kg/m <sup>3</sup> )	Suitable for external use	Max Fire Rating	Available in FSC upon request
Ash American	670*	No	FD30	Yes
Ash European	710*	No	FD30	Yes
Cherry American	580	No	FD60	Yes
Iroko	660	Yes	NR	Yes
West African Mahogany	530*	Yes	FD60	Yes
Rock Maple	740	No	FD60	Yes
European Oak	720	No	FD60	Yes
American White Oak	770	No	FD60	Yes
Sapele	640	Yes	FD60	Yes
Tulipwood	510	No	FD30	Yes
Utile	660	Yes	FD60	Yes
American Black Walnut	660	Yes	FD60	Yes
French Walnut	670	No	FD60	Yes
Oak American Red	770	No	FD60	Yes
Movingue	680	Yes	FD60	Yes





## FIRE RESISTANCE

Building Regulations Approved Document Part B, 'Fire safety', identifies situations where fire resisting doors and doorsets – described as 'fire doors' are needed, as well as the restriction of smoke leakage. It also specifies the level of protection (30 or 60 minutes) and refers to appropriate test standards. Part B firmly recognises the relevance of UKAS accredited, independent product conformity certification schemes to ensure that fire resistance performance levels are actually achieved on-site. Independent initiatives, such as the CERTIFIRE scheme, are designed to ensure that installed fire doors perform as intended and members are subjected to rigorous and comprehensive appraisal. CERTIFIRE audits are usually undertaken by the ISO 9000 Inspectorate during manufacture and only CERTIFIRE approved glazing and seals are used.

Building Regulations concentrate on protecting occupants but there is also protection of the building itself to consider, particularly with historic properties. Fire doors offer the most effective means of containing fire and smoke, so protecting historic building fabric without the damaging effects of sprinklers.

The Longden range can achieve up to FD60 (60-minutes) fire rating, with smoke control where needed, fully certified and supported by the BWF-CERTIFIRE scheme. Longden has passed its CERTIFIRE audit test with further testing carried out enabling larger doors, panels and areas of glazing to be certified as fire resistant.



	Panelled						Boarded		Rivelin		
	Sheraton			Chippendale/Copeland							
	Non-Rated	FD30	FD60	Non-Rated	FD30	FD60	Non-Rated	FD30	Non-Rated	FD30	
Fire Performance to BS 476 Part 22											
Suitable for internal use	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Suitable for external use	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	
Thickness	45-58mm	45-58mm	58mm	45-58mm	45-58mm	58mm	45mm	45mm	45mm	45mm	
Smoke Control	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Sound reduction	Standard Seals	30R <sub>wdB</sub>	30R <sub>wdB</sub>	30R <sub>wdB</sub>	30R <sub>wdB</sub>	30R <sub>wdB</sub>	30R <sub>wdB</sub>	✗	✗	30R <sub>wdB</sub> *	30R <sub>wdB</sub> *
	Acoustic Seals	38R <sub>wdB</sub>	37R <sub>wdB</sub>	✗	38R <sub>wdB</sub>	37R <sub>wdB</sub>	✗	✗	✗	35R <sub>wdB</sub> *	35R <sub>wdB</sub> *

\* Note: Based on glass performance.

## SOUND REDUCTION

Noise can be a major nuisance and achieving reasonable levels of acoustic control with sound reduction between different parts of a building or between outside and inside, may be essential to the usability and viability of historic properties. Original doors and frames are largely ineffective, particularly if they are in poor condition, as any gaps allowing leakage of air will substantially reduce sound reduction. Statutory control of sound reduction is currently limited, with Part E of the Building Regulations covering converted (as well as new-build) housing and other residential uses. Here, doors between communal corridors and rooms in flats should have good perimeter seals and achieve at least a sound reduction index of 29R<sub>wdB</sub> or have a minimum mass per unit area of 25kg/m<sup>2</sup>. While there is some guidance on doors within a dwelling, no specific values are applied in the Regulations – as is the case for entrance doors to the outside. It could be argued that more needs to be done in a world of increasing housing densities and growing external noise.

Longden doorsets can achieve a sound reduction value of 30R<sub>wdB</sub> incorporating acoustic seals, while up to 38R<sub>wdB</sub> is available with more specialised panelled door constructions whilst maintaining the original aesthetic appearances. Please refer to the table on page 38.

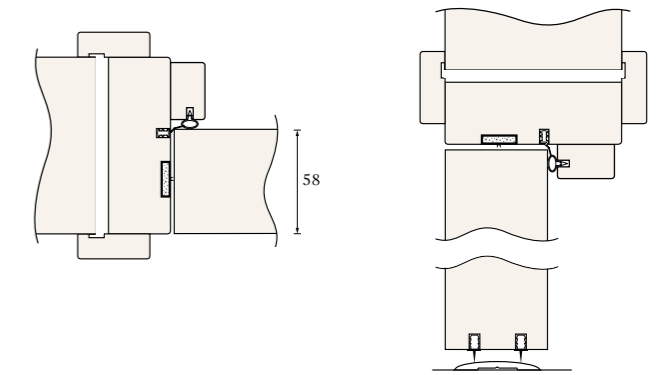
The tested values shown in the table on page 38 relate to single leaf doors. Double leaf pairs are available, however a slight reduction in performance can be expected from the single leaf value.

The following provides general guidance on acoustic privacy in relation to sound reduction:

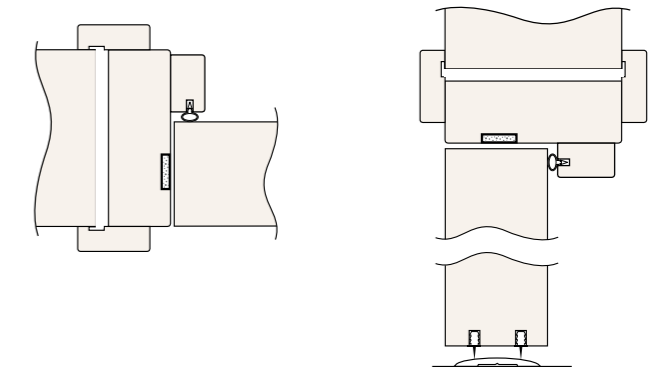
- 25R<sub>wdB</sub> Normal speech easily overheard
- 30R<sub>wdB</sub> Loud speech clearly overheard
- 35R<sub>wdB</sub> Loud speech can be distinguished
- 40R<sub>wdB</sub> Loud speech heard but not intelligible
- 45R<sub>wdB</sub> Loud speech heard faintly
- 50R<sub>wdB</sub> Loud and shouting speech can be heard with difficulty



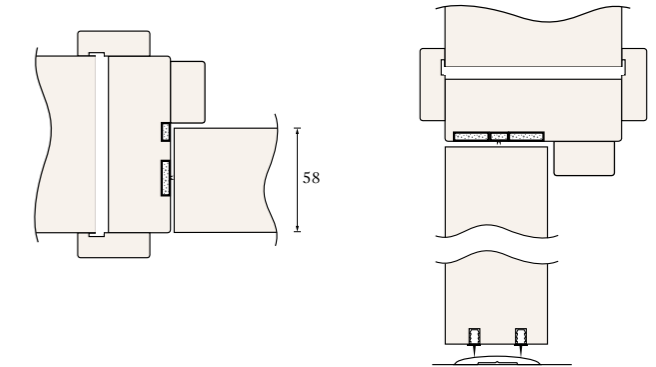
FD30 - 37R<sub>wdB</sub>



FD30 - 30R<sub>wdB</sub>



FD60 - 28R<sub>wdB</sub>





## ACCESSORIES

### Speciality Glazing

Together with Artglass UK Ltd, Longden can offer speciality glazing options which adds something truly special to your glazed door, doorset or screen. Through Artglass UK Ltd, Longden can offer a custom design service for all glazed products including a wide range of decorative effects such as acid etching, sand blasting, glass painting, traditional leaded glass, colour laminated glass and glue-chipping – an age-old process which uses special glues to remove small pieces of glass from the surface to give a beautiful, random, fern-like effect. By combining some of these processes with other decorative methods, even more amazing finishes and patterns can be achieved.

As bespoke manufacturers, Artglass UK Ltd and Longden can work closely with designers to produce a virtually unlimited range of special effects and designs. As a long-established, family-run firm, Artglass UK Ltd has a wealth of knowledge and experience of glazing installations for almost any environment or requirement. For more information regarding bespoke speciality glazing, please visit [www.artglassuk.co.uk](http://www.artglassuk.co.uk) or alternatively contact Longden on 0114 270 6330 to discuss your glazing requirements suitable to your door or doorset.



### Intumescent Packs

To help you meet performance requirements for fire and smoke, Longden can provide intumescent packs containing all the necessary seals for fitting within door leaf edges or frames. The seals are colour matched to the chosen timber and are available as fire seals or, where smoke protection is also required, combined fire and smoke seals.

For further information on Longden intumescent packs and BWF-CERTIFIRE requirements, contact us on 0114 270 6330.

### Door Protection

Longden can provide durable door protection sheets (shown opposite) to help protect your door or doorset against on-site damage. Our door protection sheets meet the Loss Prevention Certification Board (LPCB) quality standards, are chemical resistant and waterproof and can be supplied for one or both sides of the door.

For more information regarding the Longden door protection sheets, please contact us on 0114 270 6330.



## CARE FOR TIMBER DOORS

### Introduction

All Longden doors and doorsets are manufactured from carefully selected timbers. Timber being a natural product will vary in colour and grain, unique to the particular species selected.

Care must be taken not to cause physical damage during unloading, storage and installation.

### Delivery and Storage

On delivery, all components should be checked against the order schedule and inspected to ensure that there is no damage to any part including the protective packaging.

The appropriate moisture content (which will be the same as when it was manufactured) must be maintained during storage, construction and installation. Deliveries should be scheduled so that doorsets are left unfixd on-site for the least possible period of time. Exposure to the above recommended moisture levels will cause irreversible damage to the door with regards to bow, twist and the integrity of joints being compromised.

Physical damage to doors and doorsets can best be avoided by careful handling and keeping protective packaging in place for as long as possible. Doorsets should not be stored or fitted in the building until the wet trades have completed their work and the building has dried out.

Doorsets should not be stored on their edge or end. Store them flat on a level surface with at least three level bearers to keep them at least 90mm above the floor – the bearers should be longer than the width of the doors. Doorsets which have projecting sills or have the hardware fitted must have spacers between them in the stack to avoid damage.

Protect doorsets from extreme heat, dryness, humidity and sudden changes of temperature. Avoid double handling by storing doorsets in the order that they will be required and take care not to drag them across each other when they are removed. If doors need to be separated from doorsets for any reason, identify the door with its frame so that the correct door is returned to the correct frame.

Care should be taken not to store naturally finished doors where they may be exposed to daylight and opaque packaging should be kept in place until the time of installation.

### Installation

Doors should be fitted so that they are square, plumb and true. Care must be taken to ensure that the gap between the door and frame does not exceed 3mm. Fire rated doorsets should not be altered on-site as this will affect the fire resisting properties of the doorset.

To avoid compromising the integrity of the door construction, the mortice and tenon joint should not be cut into when recessing lock cases on-site.

The size of the lock case will determine the size of the middle rail e.g. an 80mm lock case will require a 216mm middle rail, whereas a 108mm lock case will require a 244mm middle rail.

Hinge cut-out positions will be in accordance with Longden recommended and certified positions.

### Finishing

Primed doors should be denibbed and have the undercoat and top coat applied, ready for on-site painting.

In the event of the finish being removed on-site, it is imperative that the finish is re-applied to re-seal the door.

Longden does not recommend that product is left clean for on-site finishing. However, if so required, the responsibility of the finish passes on to the finishing contractor and Longden will no longer be held liable.





## CASE STUDIES

### CONNAUGHT HOTEL

A multi million pound restoration providing the ultimate in contemporary design, whilst retaining the traditional, discreet elegance of this exclusive hotel.

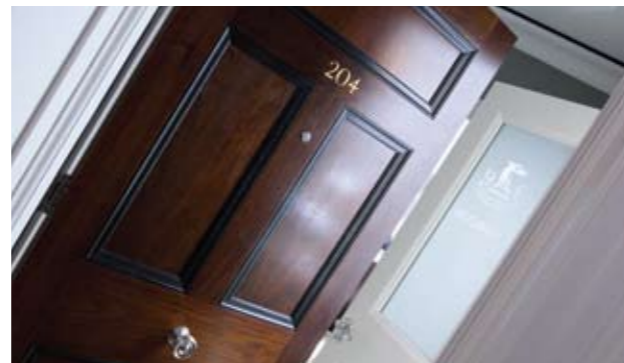
For over a hundred years the Connaught in Mayfair has been one of London's foremost five-star hotels. Its Mayfair location coupled with unashamed levels of luxury and service have established generations of loyal devotees.

Doors supplied:

- Spencer (5-panel) Sheraton, flat panel doorsets constructed using French Walnut
- Dorchester (2-panel) Sheraton, flat panel doorset supplied primed for on-site painting
- Rivelin, fully glazed doorsets

Performance characteristics:

- Fire – FD30 and Non-rated



### CRAVEN HILL GARDENS

As a company with a wealth of experience in the exclusive homes sector, this project in the City of Westminster is a good example of how our doors and glazed panels can create stunning visual effects. By replacing some of the existing panels with glass, we created areas that allowed light to spill from one room to another, giving certain areas of the development a fresh look.

Longden supplied 60 doorsets in total, with ancillary items such as skirting boards and plinth blocks.

Door supplied:

- Boarded Manhattan™ horizontal doorsets, constructed using American Black Walnut. Some doors were supplied solid (standard) and some were supplied using alternate glass panels (frosted and clear)

Performance characteristics:

- Fire – FD30 and Non-rated



### DURHAM TOWN HALL

Longden doorsets were specified for the three phase redevelopment of Durham Town Hall. Built in 1850 and modelled on London's Westminster Hall, the Town Hall features an impressive hammer-beam roof as well as superb stained glass windows, paintings, heraldic symbols and a magnificent fireplace of local stone.

Doors supplied:

- 4 panel Chippendale Sussex doors and frames constructed in American White Oak
- Architect designed hybrid arched Sheraton door

Performance characteristics:

- Fire – FD30 and Non-rated



### TWENTY TEN CLUBHOUSE

In the middle of an ancient forest surrounded by spectacular natural beauty, the Celtic Manor Resort commands the landscape fusing the modern and the ancient with nature.

Amidst all this splendour you will find the only doorsets that are befitting of such a prestigious project, completing the synthesis of the dynamic elements that make the Celtic Manor Twenty Ten clubhouse truly individual. The bespoke solid timber doorsets from Longden that grace the space within the luxurious Twenty Ten clubhouse are American Oak and Cherry with some of the doors being dual faced – Cherry on one side and American Oak on the other – creating a distinctive finish which not only gives full expression to the modern and traditional styles that live within the resort but is also very representative of the Longden brand.



### FETTES COLLEGE

Founded in 1870, Fettes College has a fine tradition of academic success producing more entrants to Oxford and Cambridge Universities than any other Scottish School during the last decade.

Longden were chosen to supply doorsets as part of a significant refurbishment and reconfiguration of existing dormitory accommodation on the second and third floors of the old college building.

Door supplied:

- 6 panel Sheraton with bed moulds on both sides supplied primed
- 6 panel Sheraton with bolection moulds on both sides in stained Douglas Fir

Performance characteristics:

- Non-rated





This document is produced as a guide to specifying our hardwood timber doors and doorsets.  
The only limit to what we can achieve is your imagination. Talk to Longden about all your project requirements.



# LONGDEN

INDIVIDUALLY CRAFTED DOORS

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