

**General:**

Strebord® doors for internal use should be lipped on two vertical edges in hardwood as a minimum requirement.

Where doors with overpanels are used the top edge of the door leaf and bottom edge of the overpanel should be lipped. For pairs of doors with overpanels, the lipping at the top edge of the door and bottom edge of the overpanel should be rebated (Nom.12mm). (See **Section 4 Intumescent Sealing for 'Q' Mark doors**).

The lipping material should be Min.530kg/M<sup>3</sup> for FD30 applications and 640kgs/M<sup>3</sup> for FD60 applications. Hardwood for lippings should provide for a minimum Class J30 standard as defined by reference to BS EN 942 : 2007 . (See **Section 7 Frame Materials**).

The minimum thickness of lipping should be 6mm for FD30 (plus rebate dimension if applicable). Additional thickness lippings (Min. 8mm) are required for FD60 applications. (See **'Q' Mark data**)

For FD30 applications the lippings may be bonded to the door core with Urea Formaldehyde, polyurethane or PVA adhesive. **NOTE: Urea Formaldehyde and polyurethane adhesives only should be used for FD60 applications.**

For some recessed ironmongery items it is the use of double lippings is recommended. (Refer to **Section 8 Ironmongery for further information**).

**NOTE: Recessed double lippings to receive hardware may be to the full width (height) of the door OR, limited to the area of the particular item of ironmongery allowing for a minimum 50mm margin around the hardware item.**

Doors made using Strebord® cores are generally lipped before applying facings.

Lippings may be applied after facings if required.

**NOTE 1: It is important to ensure that the lipping material and the cores are properly dried (10~12% for internal use) with similar moisture contents. Timber can shrink or grow by up to 1% across the grain for every 4% variation in moisture content. Differential movement between the core and lipping resulting from adverse environmental conditions or use of components with different moisture contents can give rise to 'telegraphing' of the core and, in extreme circumstances, splitting of veneer facings. (See Appendix 1 Storage, Installation & Maintenance).**

**NOTE 2: It is recommended that internal doors that are likely to be used in areas that may be washed down or, in areas of high humidity should be hardwood lipped on all edges.**

Lippings, particularly lippings at the closing & meeting stiles may need to be profiled either at the time of manufacture or, on site at the time of installation, to ensure correct operation while maintaining operating gaps to the satisfaction of BS4787. The extent of the profiling may vary according to the configuration and dimensions of the doorset and the choice of hardware (particularly hanging devices). A 2° bevel to the closing / meeting stiles of single action doors will satisfy most application requirements.

See **'Growth Formula' - Section 8 Co-ordination & Section 5 Smoke Sealing**.

**Q FD30 Fire Doors:**

*The minimum lipping specifications for this design of door leaves, are as follows:*

**SQUARE - 6~15mm thick.**

**ROUNDED - 8~17mm thick with maximum 4mm profiling.**

**REBATED - At meeting stiles and at the junction with overpanels - 20mm thick with equal 12mm deep rebate.**

*The vertical edges of leaves only require lipping if used without an overpanel, but may be optionally lipped on the top and bottom edges if required. Leaves must be lipped across the head if installed with a flush overpanel and the bottom edge of the overpanel must also be lipped.*

*Lippings must be from hardwood with a minimum density of 530kg/m<sup>3</sup>, bonded with urea formaldehyde, polyurethane or PVA adhesives.*

**Q FD60 Fire Doors**

*The minimum lipping specifications for this design of door leaves, are as follows:*

**SQUARE - 8 ~ 15mm thick.**

**ROUNDED - 10 ~ 17mm thick with maximum 2mm profiling.**

**REBATED - (at junction with overpanel only) 20 ~ 25mm thick with 13mm deep x 33mm wide rebate in the leaf head and a 13mm deep x (nom.) 22mm wide rebate in the bottom of the overpanel.**

*The vertical edges of leaves only require lipping if used without an overpanel, but may be optionally lipped on the top and bottom edges if required. Leaves must be lipped across the head if installed with a flush overpanel and the bottom edge of the overpanel must also be lipped.*

*Lippings must be from hardwood with a minimum density of 640kg/m<sup>3</sup>, bonded with urea formaldehyde or polyurethane adhesives.*

## General Purpose & FD30 Lippings

### Lippings - General:

3mm pencil round illustrated.



The profiling of lipping edges is recommended to provide for the following:

a/ Reduced risk of injury to users in the event of accidental contact.

b/ Improved resistance to impact.

c/ The profiling will act as a lead when used with smoke or acoustic sealing systems thus enhancing seal life.

d/ Provides for improved adhesion of paint and lacquer finishes.

Fig. 3.1

### LIPPINGS:

Lippings should be in hardwood of 6mm minimum thickness.

Lippings must be applied to the two vertical edges.

Use of top and bottom lippings is recommended but not essential, except when used with certain ironmongery items. ( See Section 9 Hardware).

The recommended minimum density for hardwood lippings for fire rated doorsets is 530kgs/M3 @ 15% moisture content. (See Section 7 Frame materials).

Lippings may be bonded to the core using Urea Formaldehyde, polyurethane or PVA adhesives.

Where shaped lippings for double action hanging stiles or rebates are required, the lipping thickness should be increased.

### Lippings - General:

Fig. 3.2

Q Max. 4mm for 'Q' Mark doors.



**Splayed Closing Stile** - To achieve correct operation of the doors while maintaining operating gaps to the dimensions recommended by reference to BS4787 it may be necessary to splay the edges of the doors.  
**NOTE: 2° bevel illustrated.**

### Lippings - General:

Fig. 3.3

Q Max. 4mm for 'Q' Mark doors.

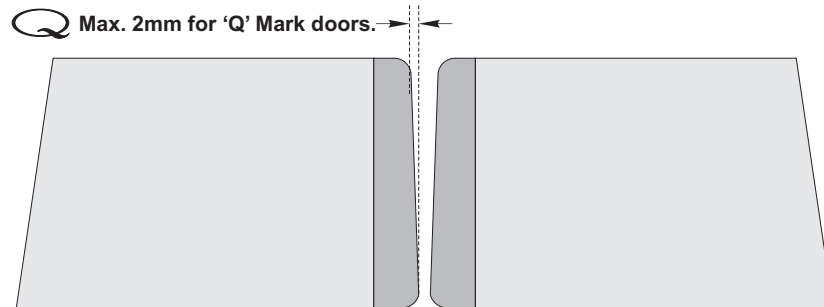


**Slightly rounded closing stiles:** The same effect can be achieved by slightly rounding the closing stiles. The important thing being that the closing of the door should clear the frame during operation without detriment to operating gaps described in BS4787.

**NOTE: This is the recommended closing stile detail for double action doors.**

**Meeting Stiles - Operational Adjustments:**

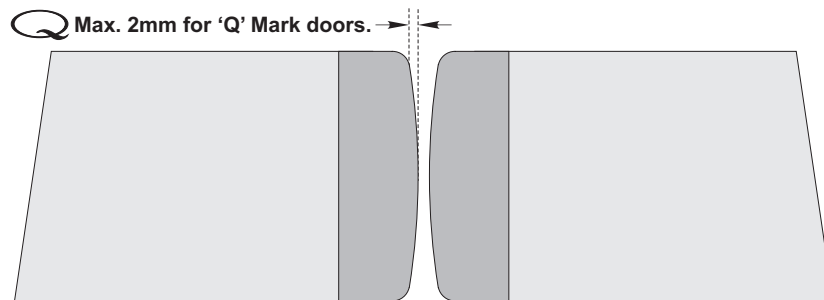
Fig. 3.4



**Splayed Meeting Stiles** - To achieve correct operation of the doors while maintaining operating gaps to the dimensions recommended by reference to BS4787 it may be necessary to splay the edges of the doors.  
Generally Fire doors should be capable of being opened and closed simultaneously.

**Meeting Stiles - Slightly Rounded:**

Fig. 3.5

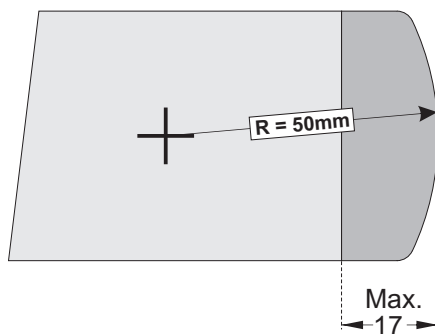


**Slightly rounded Meeting stiles:** The same effect can be achieved by slightly rounding the closing stiles. The important thing being that the closing face (frame doorstop face) of the door should clear the adjacent door during operation without detriment to operating gaps described in BS4787 when opened or closed in any order.

**NOTE:** This is the recommended 'standard' meeting stile arrangement for double action pairs of doors.

**Hanging Stiles - Double Action Doors:**

Fig. 3.6



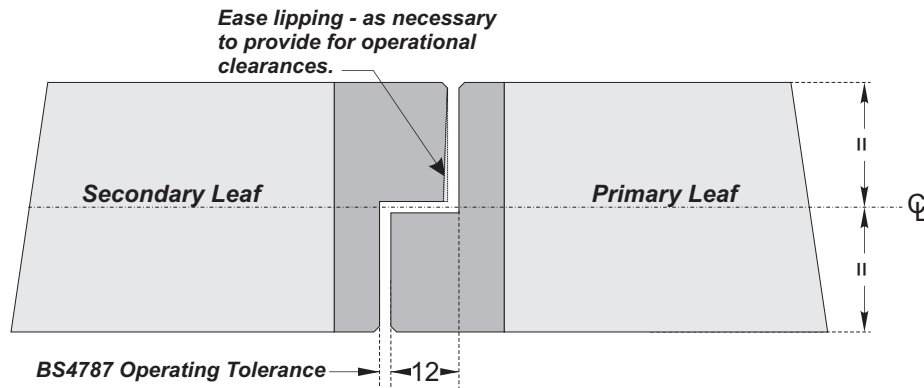
**Hanging Stiles : Double Action Doors -**

The radius to the hanging stiles for double action doors will generally be determined by the design of the hanging device with lippings rounded to suit the pivot centre. A 50mm radius to the door edges with a 52mm radius scallop to the frame will suit most applications. The recommended lipping thickness is 8 ~ 17mm for this application.

**NOTE:** For Closing and Meeting stiles use 'Slightly Rounded Closing/Meeting Stile' Details

**General Purpose & FD30 Lippings**
**Rebated Meeting Stiles:**

Fig. 3.7


**Rebated meeting Stile Detail:**

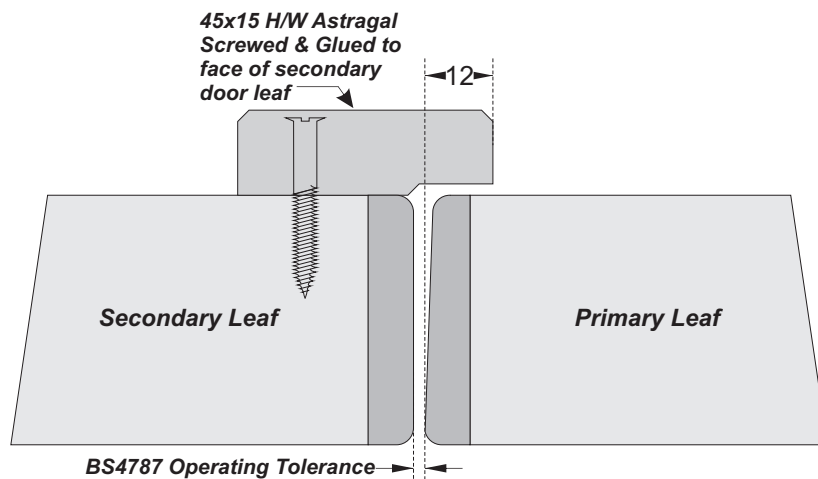
The use of rebated meeting stiles is not recommended for fire doors that should generally provide for simultaneous opening. However, there are occasions where sequential opening is necessary, perhaps to provide for additional performances. (e.g. Acoustic performance).

Where the astragal detail (shown below) is not acceptable, (perhaps for aesthetic reasons), rebated meeting stiles may be used.

**NOTE: For fire door applications rebated meeting stiles should not be used where the door leaf is rebated to a flush overpanel.**

**Meeting Stile Astragals:**

Fig. 3.8


**Astragal Detail:**

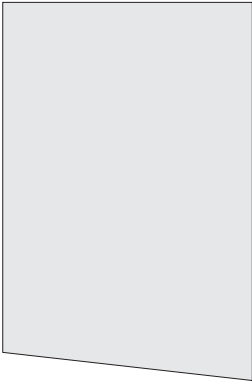
Generally fire doors should be capable of opening simultaneously. However, where additional performances are required, (e.g. Acoustic performances) it may be necessary to provide for sequential opening (e.g. To provide for a mounting for seals).

The astragal detail is recommended for maximum performance where these considerations apply and may be used without adverse influence on existing fire test / assessment data.

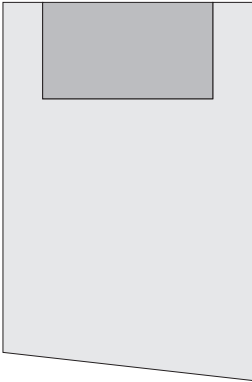
**NOTE: Astragals can be applied to both door leaves and may be profiled for aesthetic effect.**

**Q Top & Bottom Door lippings:** *Fig. 3.9*

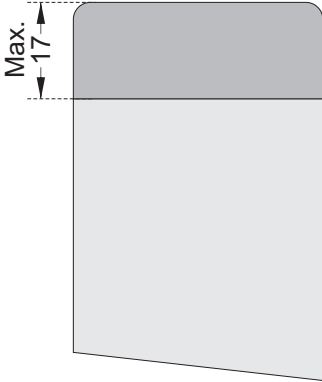
**a/ = Not lipped.**



**b/ Hardwood insert to receive pivot fixings**



**c/ Top and /or bottom lippings 6 ~ 17mm thickness.**



**Q Top & Bottom Lippings :**

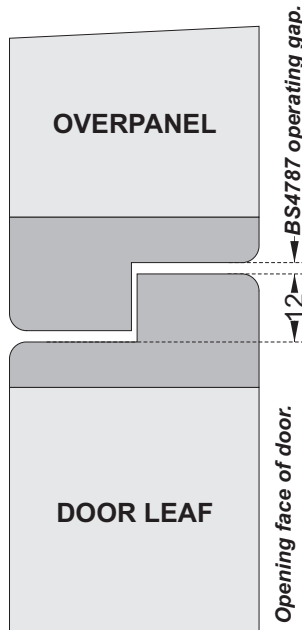
**a/** The use of top and bottom lippings is optional. However, the use of top and bottom edge lippings is recommended for use where doorsets are likely to be used in areas that may be subject to occasional wet cleaning OR, where used in high humidity areas.

**b/** When used with load bearing hanging devices e.g. pivot fixings, it is recommended that a hardwood insert of a size to suit the particular item of hardware is securely adhered to the door core to provide for optimum fixings.

**c/** For FD30 fire door applications the lipping thickness should not be less than 6mm with a maximum thickness of 17mm.

**NOTE:** A hardwood insert to receive top and bottom hardware fittings is not necessary where 17mm lippings are used.

**Q Rebated Door / Overpanel:** *Fig. 3.10*



**Q Rebated Door / Overpanel:**

Rebating of the door to the overpanel is not essential, and not recommended, for single leaf doorsets. Rebates are necessary for single action pairs of doors with overpanels. The lipping thickness at the top of the door and bottom of the overpanel should not exceed 20mm thickness with a 12mm rebate located centre thickness of the door.

**NOTE:** For fire door applications rebating to overpanels is not approved where rebated meeting stiles are used.

## General Purpose & FD60 Lippings

### Lippings - General:

*Fig. 3.11*

3mm pencil round illustrated.



The profiling of lipping edges is recommended to provide for the following:

a/ Reduced risk of injury to users in the event of accidental contact.

b/ Improved resistance to impact.

c/ The profiling will act as a lead when used with smoke or acoustic sealing systems thus enhancing seal life.

d/ Provides for improved adhesion of paint and lacquer finishes.

### LIPPINGS:

Lippings should be in hardwood of 8mm minimum thickness.

Lippings must be applied to the two vertical edges.

Use of top and bottom lippings is recommended but not essential, except when used with certain hardware items. ( See Section 9 Ironmongery).

The recommended minimum density for hardwood lippings for FD60 fire rated doorsets is 640kgs/M3 @ 15% moisture content. (See Section 7 Frame materials).

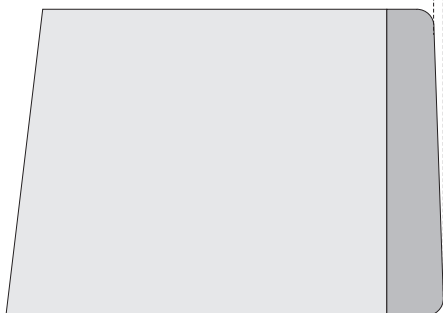
Lippings may be bonded to the core using Urea Formaldehyde or polyurethane adhesives.

Where shaped lippings for double action hanging stiles or rebates are required, the lipping thickness should be increased.

### Lippings - General:

*Fig. 3.12*

Max. 2mm for 'Q' Mark doors.



**Splayed Closing Stile** - To achieve correct operation of the doors while maintaining operating gaps to the dimensions recommended by reference to BS4787 it may be necessary to splay the edges of the doors.  
**NOTE: 2° bevel illustrated.**

### Lippings - General:

*Fig. 3.13*

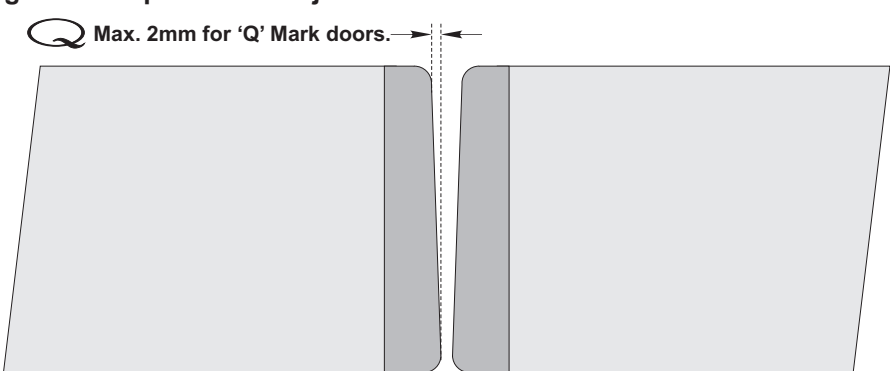
Max. 2mm for 'Q' Mark doors.



**Slightly rounded closing stiles:** The same effect can be achieved by slightly rounding the closing stiles. The important thing being that the closing stile of the door should clear the frame during operation without detriment to operating gaps described in BS4787.

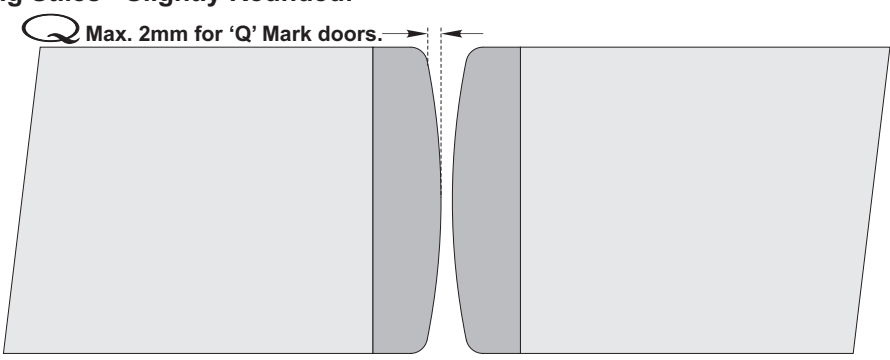
**NOTE: This is the recommended closing stile detail for double action doors.**

**Meeting Stiles - Operational Adjustments:** *Fig. 3.14*



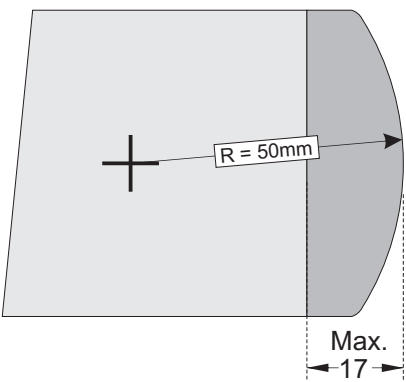
**Splayed Meeting Stiles** - To achieve correct operation of the doors while maintaining operating gaps to the dimensions recommended by reference to BS4787 it may be necessary to splay the edges of the doors.  
Generally Fire doors should be capable of being opened and closed simultaneously.

**Meeting Stiles - Slightly Rounded:** *Fig. 3.15*



**Slightly rounded Meeting stiles:** The same effect can be achieved by slightly rounding the closing stiles. The important thing being that the closing face (frame doorstop face) of the door should clear the adjacent door during operation without detriment to operating gaps described in BS4787 when opened or closed in any order.  
**NOTE:** This is the recommended 'standard' meeting stile arrangement for double action pairs of doors.

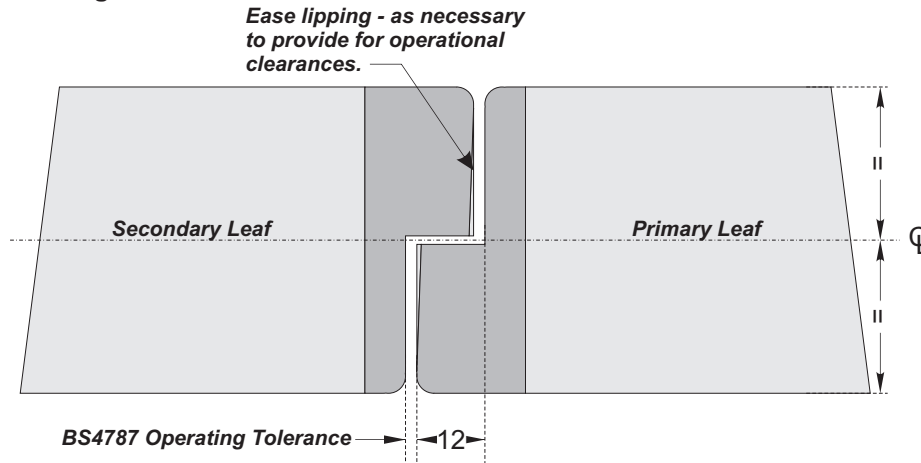
**Hanging Stiles - Double Action Doors:** *Fig. 3.16*



**Hanging Stiles : Double Action Doors -**  
The radius to the hanging stiles for double action doors will generally be determined by the design of the hanging device with lippings rounded to suit the pivot centre. A 50mm radius to the door edges with a 52mm radius scallop to the frame will suit most applications. The recommended lipping thickness is 10 ~ 17mm for this application.  
**NOTE:** For Closing and Meeting stiles use 'Slightly Rounded Closing / Meeting Stile' Details

**General Purpose & FD60 Lippings**
**Rebated Meeting Stiles:**

Fig. 3.17


**Rebated meeting Stile Detail:**

The use of rebated meeting stiles is not recommended for fire doors that should generally provide for simultaneous opening. However, there are occasions where sequential opening is necessary, perhaps to provide for other performances. (e.g. Acoustic performance).

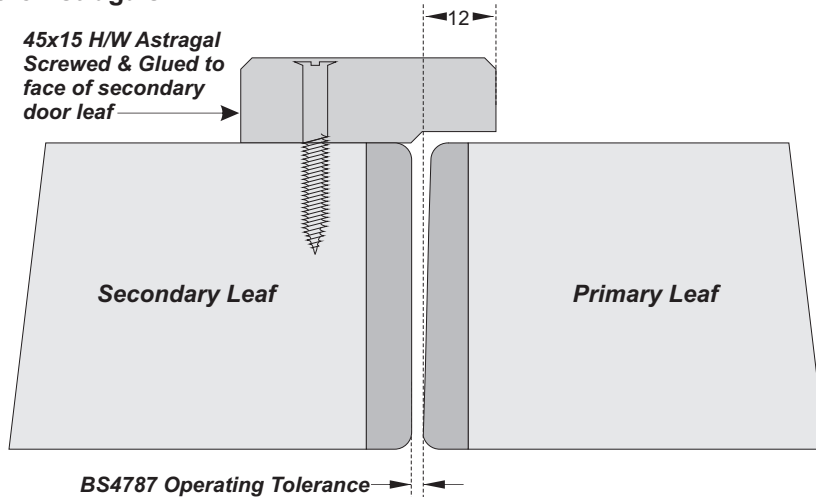
Where the astragal detail (shown below) is not acceptable, (perhaps for aesthetic reasons), rebated meeting stiles may be used for Non fire rated locations.

Rebates may be equal as detail Fig. 3.17 or off-set as illustrated for rebated door / overpanel junctions - See Fig. 3.20.

**NOTE: This detail is not approved for FD60 'Q' Mark applications with 54mm Strebord<sup>®</sup> - See Section 4 - Intumescent Sealing.**

**Meeting Stile Astragals:**

Fig. 3.18


**Astragal Detail:**


Generally fire doors should be capable of opening simultaneously. However, where additional performances are required, (e.g. Acoustic performances) it may be necessary to provide for sequential opening (e.g. To provide for a mounting for seals).

The astragal detail is recommended for maximum performance where these considerations apply and may be used without adverse influence on existing fire test / assessment data.

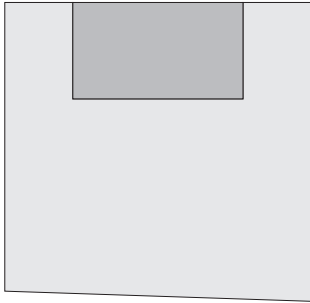
**NOTE: Astragals can be applied to both door leaves and may be profiled for aesthetic effect.**

**Q Top & Bottom Door lippings:** *Fig. 3.19*

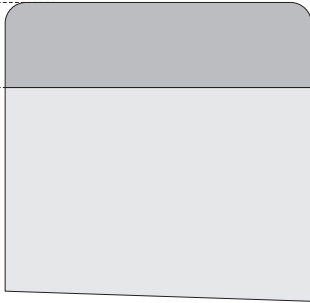
a/ = Not lipped.



b/ Hardwood insert  
to receive pivot fixings



c/ Top and /or bottom  
lippings 8 ~ 15mm thickness.



**Q Top & Bottom Lippings :**

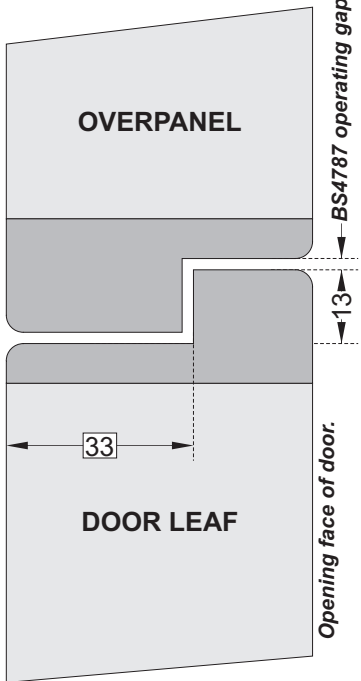
a/ The use of top and bottom lippings is optional. However, the use of top and bottom edge lippings is recommended for use where doorsets are likely to be used in areas that may be subject to occasional wet cleaning OR, where used in high humidity areas.

b/ When used with load bearing hanging devices e.g. pivot fixings, it is recommended that a hardwood insert of a size to suit the particular item of hardware is securely adhered to the door core to provide for optimum fixings.

c/ For FD60 fire door applications the lipping thickness should not be less than 8mm with a maximum thickness of 15mm.

**NOTE: A hardwood insert to receive top and bottom ironmongery fittings is not necessary where 15mm lippings are used.**

**Q Rebated Door / Overpanel:** *Fig. 3.20*



**Q Rebated Door / Overpanel:**

Rebating of the door to the overpanel is not essential, and not recommended, for single leaf doorsets. Rebates are necessary for single action pairs of doors with overpanels.

The lipping thickness at the top of the door and bottom of the overpanel should 20 ~ 25mm thickness with a 13mm rebate located off centre thickness of the door as illustrated.

**NOTE: For fire door applications rebating to overpanels is not approved where rebated meeting stiles are used.**