

Lippings & Facings

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 must be hardwood with a minimum density of 530kg/m³ for FD30 applications and 640kgs/m³ for FD60 applications. Hardwood for lippings must 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.

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 must be used for FD60 applications.**

For some load bearing recessed hardware items the use of double lippings is recommended. (Refer to **Section 9 - Hardware for further information**).

NOTE: Recessed double lippings to receive hardware are limited to the area of the particular item of hardware see Fig. 3.9 & 3.19 for details.

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 Section 15 - Appendix - 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 Pt.1. 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 'Q' Mark FD30 (BS476 Pt.22) applications are as follows:

SQUARE - 6~15mm thick with maximum 2mm profiling at corners of lippings.

ROUNDED - 8~17mm thick profiled to suit the minimum radius necessary for the door hanging device.

REBATED - At meeting stiles and at the junction with overpanels - 20 ~ 25mm 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/m³, bonded with urea formaldehyde, polyurethane or PVA adhesives.

Q FD60 Fire Doors

The minimum lipping specifications for 'Q' Mark FD60 (BS476 Pt.22) applications are as follows:

SQUARE - 8 ~ 15mm thick with maximum 2mm profiling at corners of lippings.

ROUNDED - 10 ~ 17mm thick profiled to suit the minimum radius necessary for the door hanging device.

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/m³, bonded with urea formaldehyde or polyurethane adhesives.

General Purpose & FD30 Lippings

Lippings - General:

3mm pencil round illustrated.



Fig. 3.1

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 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 hardware items. (See Section 9 - Hardware).

The recommended minimum density for hardwood lippings for fire rated doorsets is 530kg/m³ @ 15% moisture content. (See Section 7 - Doorframes).

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

Max. 2.5° chamfer 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- Pt.1 it may be necessary to apply a leading edge to the doors.

NOTE: 2° leading edge illustrated.

Lippings - General:

Fig. 3.3

Max. 2.5° chamfer for 'Q' Mark doors.



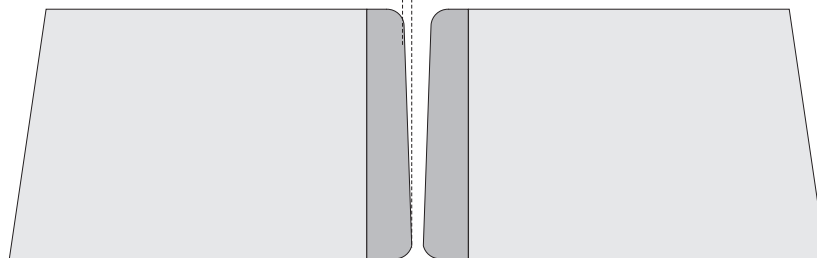
Slightly rounded closing stiles: The same effect can be achieved by slightly rounding the closing stiles. The important thing being that the closing of the door should clear the frame during operation without detriment to operating gaps described in BS4787 - Pt.1.

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

Meeting Stiles - Operational Adjustments:

Fig. 3.4

Max. 2.5° chamfer for 'Q' Mark doors.

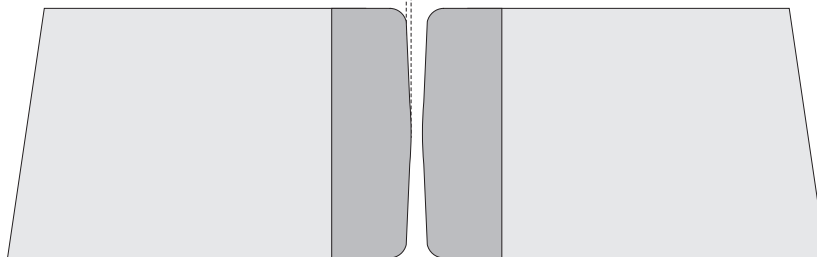


Splayed Meeting Stiles - To achieve correct operation of the doors while maintaining operating gaps to the dimensions recommended by reference to BS4787 - Pt.1 it may be necessary to splay the edges of the doors.
Generally Fire doors should be capable of being opened and closed simultaneously.

Meeting Stiles - Slightly Rounded:

Fig. 3.5

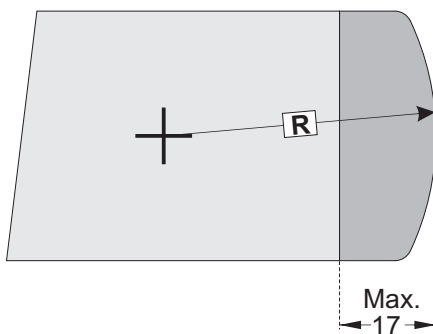
Max. 2.5° chamfer for 'Q' Mark doors.



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 doorstep face*) of the door should clear the adjacent door during operation without detriment to operating gaps described in BS4787 - Pt.1 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 -

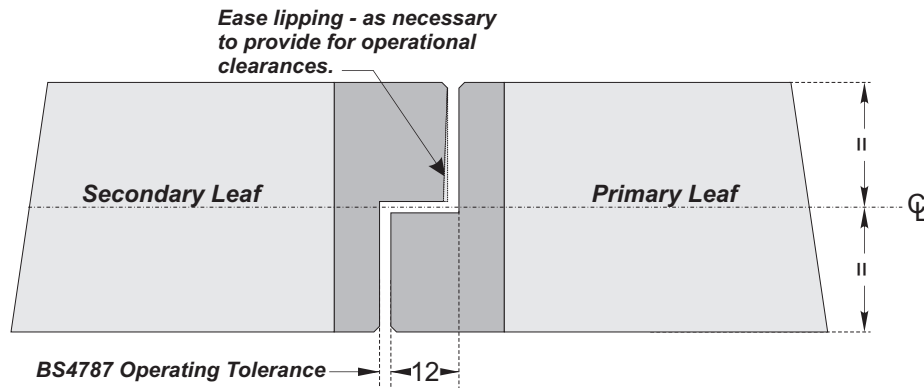
The radius to the hanging stiles for double action doors will generally be determined by the design of the hanging device with lippings rounded to suit the pivot centre. A 50mm radius to the door edges with a 52mm radius scallop to the frame will suit most applications. For fire door applications the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

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

R = Minimum radius necessary to suit pivot fixings.

Rebated Meeting Stiles:

Fig. 3.7


Rebated meeting Stile Detail:

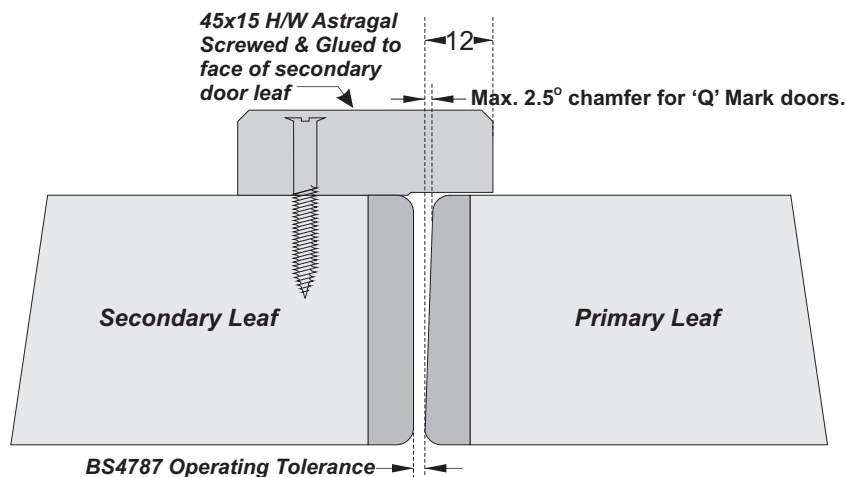
The use of rebated meeting stiles is not recommended for fire doors that should generally provide for simultaneous opening. However, there are occasions where sequential opening is necessary, perhaps to provide for additional performances. (e.g. Acoustic performance).

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/ Top and /or bottom lippings 6 ~ 17mm thickness. b/ Hardwood insert to receive pivot fixings c/ = Hardwood insert with lipping

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 in severe duty locations 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 plus a maximum of 50mm (*not full door width*) is securely adhered to the door core to provide for optimum fixing of the hardware device. The hardwood insert should not be greater than 15mm in depth and when fitted, should provide for a minimum margin of 8mm on either face. For fire door applications the insert blocks should be bonded on all contact faces using adhesives approved for the application of lippings.

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

NOTE: Use of a hardwood insert to receive top and bottom hardware fittings is optional 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 flush overpanels unless astragals or other devices are used to prevent swing through.

For fire door applications the lipping thickness at the top of the door and bottom of the overpanel must not exceed 25mm 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:

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. 3.11

LIPPINGS:

Lippings must 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 - Hardware).

The recommended minimum density for hardwood lippings for FD60 fire rated doorsets is 640kg/m³ @ 15% moisture content. (See Section 7 - Frame materials).

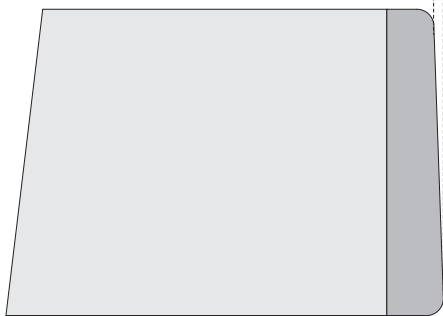
Lippings may be bonded to the core using Urea Formaldehyde or Polyurethane adhesives.

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

Lippings - General:

Fig. 3.12

Q Max. 2.5° chamfer for 'Q' Mark doors.



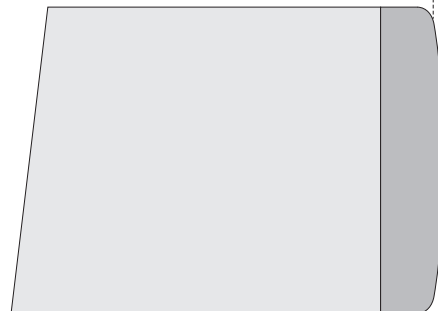
Splayed Closing Stile - To achieve correct operation of the doors while maintaining operating gaps to the dimensions recommended by reference to BS4787 - Pt.1 it may be necessary to apply a leading edge to the doors.

NOTE: 2° leading edge illustrated.

Lippings - General:

Fig. 3.13

Q Max. 2.5° chamfer for 'Q' Mark doors.



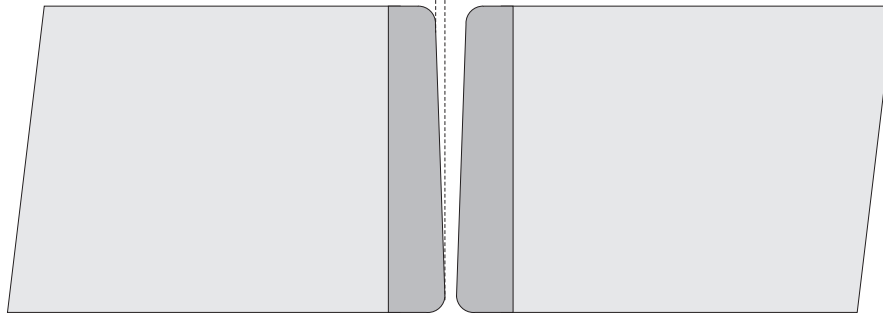
Slightly rounded closing stiles: The same effect can be achieved by slightly rounding the closing stiles. The important thing being that the closing stile of the door should clear the frame during operation without detriment to operating gaps described in BS4787 - Pt.1.

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

Q Meeting Stiles - Operational Adjustments:

Fig. 3.14

Q Max. 2.5° chamfer for 'Q' Mark doors.

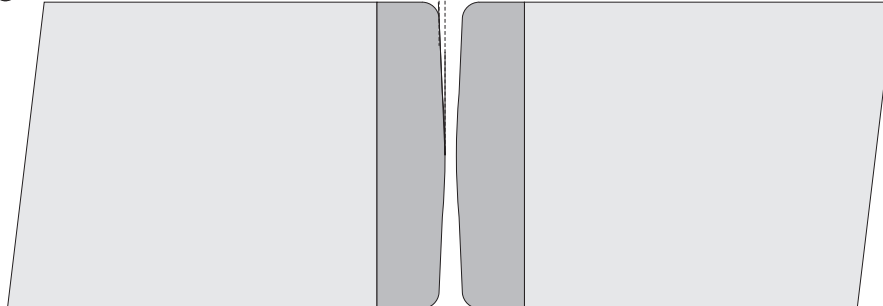


Splayed Meeting Stiles - To achieve correct operation of the doors while maintaining operating gaps to the dimensions recommended by reference to BS4787 - Pt.1 it may be necessary to splay the edges of the doors.
Generally Fire doors should be capable of being opened and closed simultaneously.

Q Meeting Stiles - Slightly Rounded:

Fig. 3.15

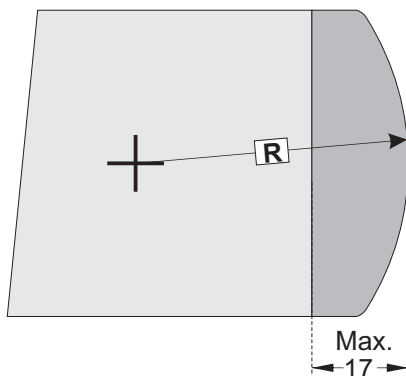
Q Max. 2.5° chamfer for 'Q' Mark doors.



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- Pt.1 when opened or closed in any order.
NOTE: This is the recommended 'standard' meeting stile arrangement for double action pairs of doors.

Q Hanging Stiles - Double Action Doors:

Fig. 3.16



Hanging Stiles : Double Action Doors -

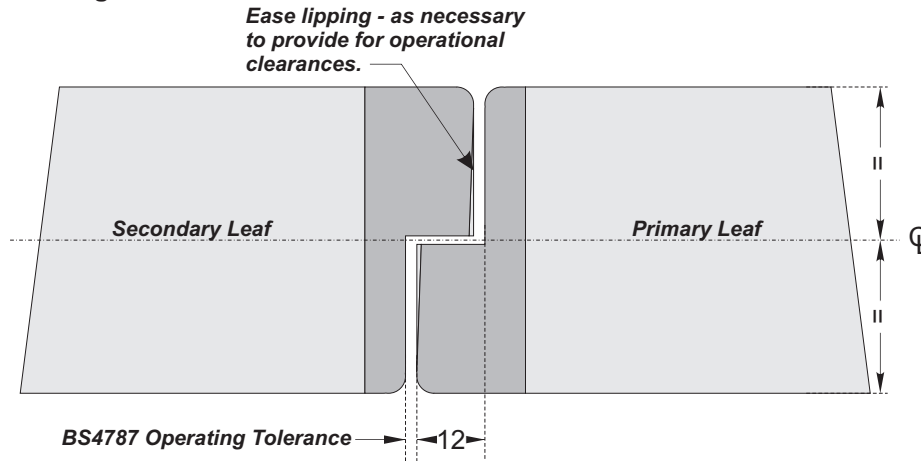
The radius to the hanging stiles for double action doors will generally be determined by the design of the hanging device with lippings rounded to suit the pivot centre. A 50mm radius to the door edges with a 52mm radius scallop to the frame will suit most applications. The recommended lipping thickness is 10 ~ 17mm for this application.

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

R = Minimum radius necessary to suit pivot fixings.

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).

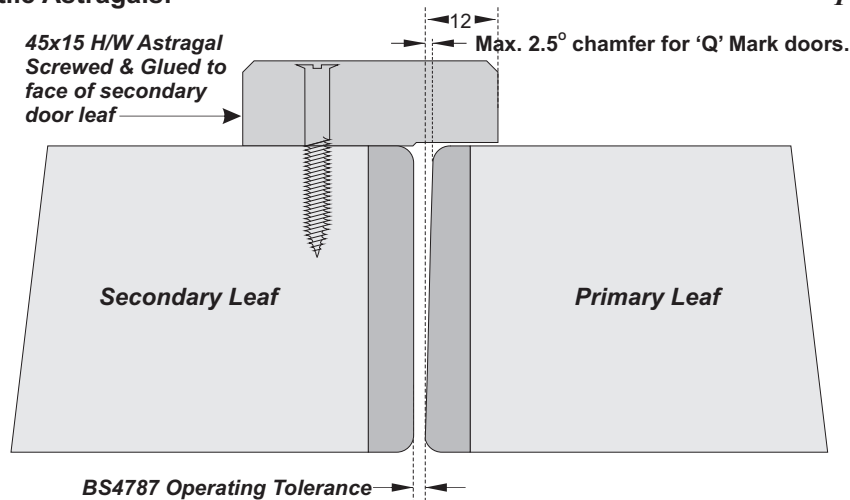
Where the astragal detail (shown below) is not acceptable, (perhaps for aesthetic reasons), rebated meeting stiles may be used for Non fire rated locations.

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[®] - 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.

General Purpose & FD60 Lippings

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

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

b/ Hardwood insert to receive pivot fixings

c/ = Hardwood insert with lipping

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 in severe duty locations 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 plus a maximum of 50mm (*not full door width*) is securely adhered to the door core to provide for optimum fixing of the hardware device. The hardwood insert should not be greater than 15mm in depth and when fitted, should provide for a minimum margin of 8mm on either face. For fire door applications the insert blocks should be bonded on all contact faces using adhesives approved for the application of lippings.

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

NOTE: Use of a hardwood insert to receive top and bottom hardware fittings is optional 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 the lipping at the top edge of the door and bottom of the overpanel may be square or rebated but only in conjunction with square meeting edges.

Door Facings

Door Facings:

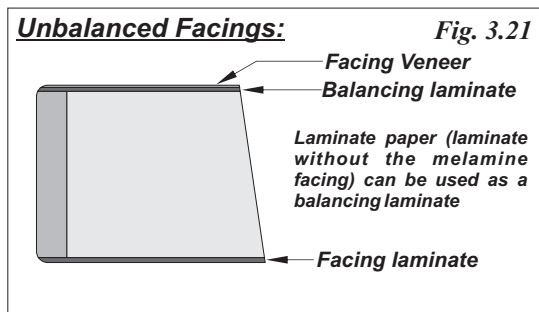
Being of a solid core construction, Strebord® provides for a stable base for the application of door facings using a wide range of materials.

The adhesives used for the application of door facings should be suitable for use with the particular material for bonding onto a wood / chipboard base.

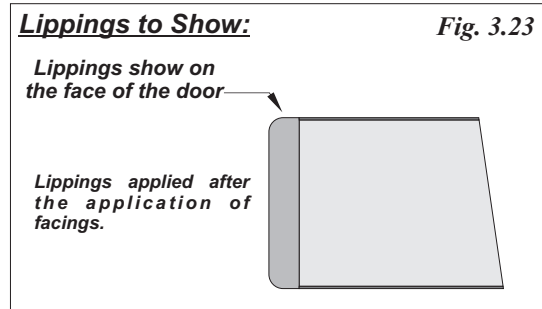
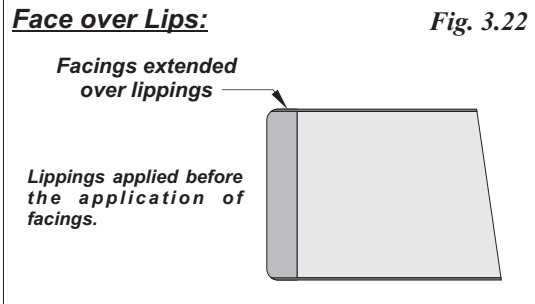
The smooth high density facing of the base Strebord® product can be lightly sanded to permit the application of paint finishes direct onto the core material without the necessity for grain filling or any need to apply painting foils.

As the raw face of Strebord® does not have a directional grain structure, veneers can be laid with a horizontal or vertical grain direction with a minimal risk of splitting of the veneers in the event of changes in environmental conditions.

Where different facing materials are used on each face of the door (e.g. Use of 1.3mm thickness laminate on one face and veneer on the other), it is recommended that consideration is given to the creation of a balanced structure to minimise the risk of distortion resulting from changes in environmental conditions. i.e. for the veneered face it is recommended that a balancing laminate paper is used on the veneered face (to balance the laminate face) before applying the thinner facing veneer. See Fig. 3.21



Facings can be applied after lipping i.e. 'face over lips'. OR, Lippings can be applied after facing the core, 'lippings to show on the face of the door'. See Fig. 3.22 & 23.



Door Facings - Fire Doors:

Whereas for general purpose applications the core may be calibrated to provide for a constant finished door thickness when facing materials have been applied, for fire door applications the calibration should be limited to 1mm (0.5mm from each face).

For Fire Door Applications there are restrictions on the approved thickness of door finishes as follows:

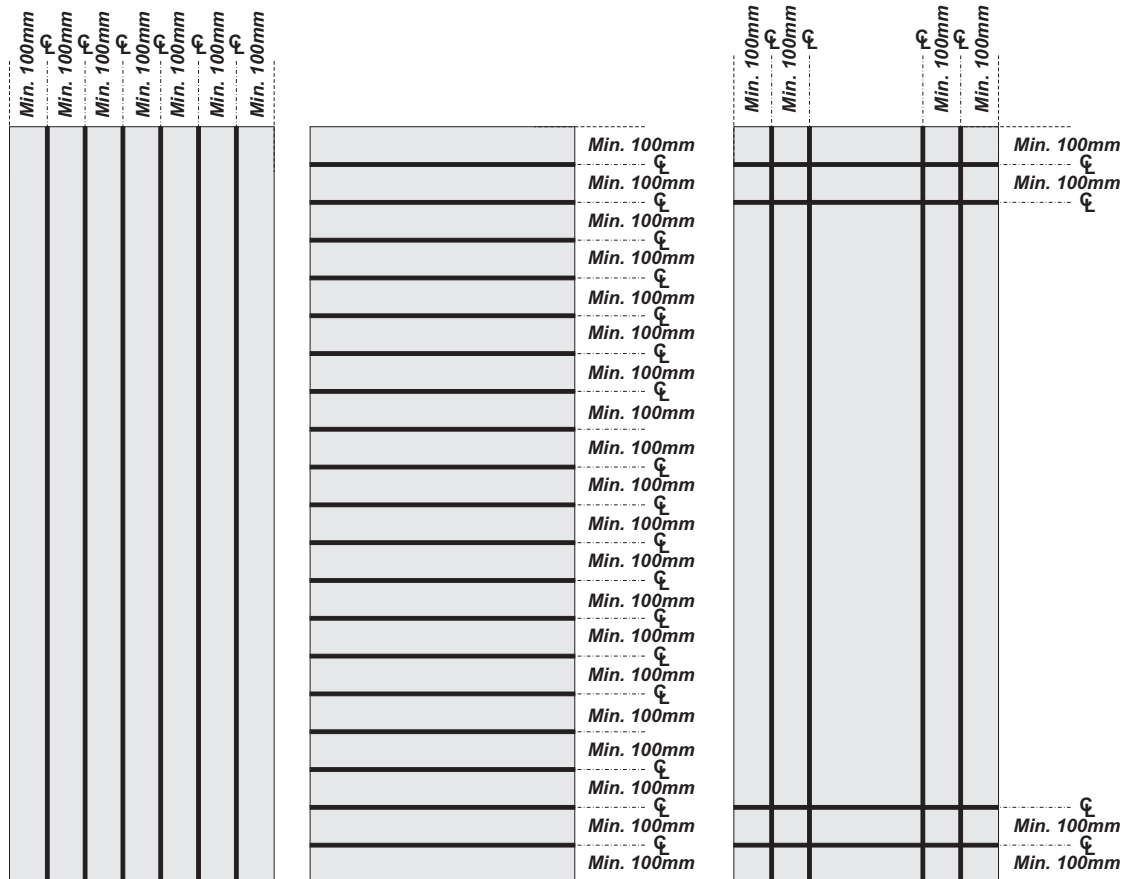
Facing Material	Max. Approved Thickness
Paint	0.5mm
Timber veneer	2mm
PVC / Plastic Laminate	2mm
Cellulosic foils	0.5mm

NOTES:

- **Metallic facings are not approved (except for push / buffer and kick plates) See Section 9 Hardware.**
- **Core calibration is limited to 1mm (0.5mm from each face).**
- **Plastic laminates should not extend over door edges.**
- **Materials must not conceal intumescent seals.**

Decorative Grooves:

Fig. 3.24



Decorative Grooves:

Strebord® based doors, (including doors for fire rated applications) may be face machined to provide for decorative grooves.

The use of decorative grooves is approved for fire door applications for single leaf and double leaf configurations where door leaf dimensions are limited to 2150 x 926mm used with Min. 15x4mm intumescent seal for FD30 and 2No. 15x4mm intumescent seals for FD60. For fire door applications the maximum approved groove width = 10mm with a maximum approved groove depth of 5mm.

Grooves may be painted or stained or may be filled with hardwood strips (or other material e.g. Laminate) to create desired aesthetic effects.

For vertical or horizontal grooving the grooves may extend to the full height or width of the door leaf with an unlimited number of grooves, subject to the minimum approved margins shown in this detail.

Where horizontal and vertical grooves are required for the same door leaf, this decorative feature is limited to 4No. vertical and 4No. horizontal grooves.

Grooves may be extended through to transomed overpanels (not flush overpanels) for storey height doorsets and to the adjacent leaf for pairs of doors.

