General:

Doors are glazed primarily for the safety of users of a building. However, glazing is often used as a means for expressing aesthetic considerations.

Flamebreak™ provides for a stable core construction that offers wide scope for glazing.

It would be an almost impossible task for one manufacturer or supplier to test every conceivable variation in glass type and beading system. This section sets out some options but other options may be considered subject to supporting fire test / assessment documentation.

NOTE 1: Further general information with regard to glass and glazing systems for fire rated door assemblies can be obtained by reference to 'A Guide to Best Practice in the Specification and Use of Fire Resistant Glazed Systems' (2011) published by the GGF (Glass & Glazing Federation).

NOTE 2: Proprietary glazing systems can only be used under 'Q-Mark' certification where they are included within the scope of certification for use with FLAMEBREAK™ based doors.

NOTE 3: Unless otherwise approved for the particular glazing system, all timber beading used for fire rated door assemblies must be straight grained, joinery quality hardwood, free from knots, splits and checks and with a density of not less than 640kg/m3. (Excluding Beech - *Fagus Sylvatcia*) ***.*** ***See page 6.2.***

Glass Types:

Generally glass will fall into one of two categories:

Uninsulated: Glass in this category would include 6mm Georgian Wired e.g. Pilkington's Pyroshield 2; Borosilicate glass e.g. Shott Glass Pyran; Ceramic glass e.g. Southern Ceramics Firelite. These glass types have the potential to provide for integrity performances referred to in this manual when used with appropriate intumescent beading systems but they do not stop the transfer of heat from the fire side to the non fire side of the door.
To reduce the risk of ignition on the non fire side of the door due to heat transmission, the bead profiles should generally be splayed unless there is fire test / assessment data to support the use of non splayed beads.

Insulated: Glass in this category is generally made up of multiple layers of float glass interleaved with clear hydrated sodium silicate intumescent material.
Glass types in this category include: Pyrobel (AGC Flat Glass Europe) and Pyrostop (Pilkington Glass Ltd.)

NOTE: These glass types should be handled and fitted with care and in strict conformity with the glass manufacturers recommendations. Exposure of the edges of the glass can cause a breakdown in the intumescent interlayers visible as discolouration on the face of the glass.

Wood doors, including doors made using Flamebreak™ cores provide for insulating properties that generally equal the integrity performance when used as flush doors. Unless used with insulating glass types, the insulation performance is generally reduced when doors are glazed.
BS 476 Pt.22 provides for tests of fully insulated or partially insulated specimens.
For fully insulated performances an insulating glass must be used to prevent the temperature on the non fire face from rising above *(average)* 140°C above ambient temperature or 180°C above ambient temperature at any point.
For partially insulated specimens the 140°C average may be exceeded to an unspecified level over an area not exceeding 20% of the area of the test specimen.
If full insulation is required, the insulation performance of the glass should be at least equal to the insulation performance of the door construction. However, for most applications, an insulation performance equal to 50% of the integrity performance is satisfactory.
Where the insulation performance of the glass is 50% *(or more)* than the integrity performance of the door, the risk of ignition on the non fire face of the door due to heat transmission is considerably reduced providing for greater scope in the design of the bead profile.

BS 6206 (BS EN 12600) Safety Class:

In addition to fire performances, consideration must also be given to the BS 6206 Safety Performance. The Safety Class will vary according to the location of the glass aperture in the door leaf *(assembly)*. *(See Building Regulations - [England & Wales] - Approved Document 'K')*. In addition, certain projects *(e.g. Schools)* may require special Safety Class requirements.

NOTE: Building Regulations (England & Wales) Approved Document 'K' makes reference to BS 6206 and BS EN 12600 safety classes. Impact performances determined by reference to BS EN 12600 may be substituted for the BS 6206 Classes by reference to the following:

BS6206		***BS EN 12600***
Class 'A'	***=***	***Class 1***
Class 'B'	***=***	***Class 2***
Class 'C'	***=***	***Class 3***

General Notes:

NOTE 1: Building Regulations - (England & Wales) - Approved Document 'K' requires that a safety glass (BS 6206 Class C for pane widths up to 900mm - Class B for pane widths over 900mm) is used for the glazing of doors up to a height of 1500mm above floor level.

NOTE 2: Building Regulations - (England & Wales) - Approved Document 'B' (Table A4 note 5) requires that fire-resisting glass should be marked with the manufacturer and product name.

NOTE 3: BS 6262-4:2005 (clauses 7.1 & 7.2) requires that safety glass should be indelibly marked to be visible after beading.

Beading Systems for Fire Doors:

To perform correctly, the glass must be retained in a beading system that incorporates intumescent sealing.

NOTE: All glass types must be fitted fully in accordance with the manufacturers tested details and installation requirements, particularly in respect of edge cover and expansion clearance.

FD30:

Fire performances up to FD30, generally require beading using Min. 640kg/m^3 @ 15% moisture content hardwood. Bolection bead *(splayed beads with nibs that extend over the face of the door)* may be used with either non insulating or insulating glass types. Flush beads *(square section glazing beads that do not project beyond the face of the door)* are generally limited for use with insulating and partially insulated glass types. *(See details)*

FD60:

Fire performances up to FD60, generally require beading using Min. 640kg/m^3 @ 15% moisture content hardwood. *(Excluding Beech - Fagus Sylvatcia).* Bolection bead *(splayed beads with nibs that extend over the face of the door)* may be used with either non insulating or insulating glass types. Flush beads *(square section glazing beads that do not project beyond the face of the door)* are generally limited for use with insulating glass types. *(See details)*

Propriety Intumescent Glazing Systems:

Various Intumescent Seal manufacturers offer propriety systems for glazing fire doors.

WARNING: It is important to ensure that the system selected for beading fire doors has been tested or assessed to the required level of performance in a wood door. Test / assessment data relating to the beading of metal doors or glazed screens should not be applied to wood doors.

Manufacturers / suppliers offering Intumescent Glazing Systems for use with fire doors include:

Norsound Ltd.
Lorient Polyproducts Ltd.
Mann McGowan Ltd.
Intumescent Seals Ltd.
Sealmaster Ltd.
Pyroplex Ltd.

These systems should be used strictly in accordance with the seal manufacturers fitting instructions.

Dimensions and Margins:

When glazing doors manufactured from FLAMEBREAK™ cores for fire door applications, the total clear glass area of the glazing must not exceed the area permitted by reference to this manual.

WARNING: Maximum approved glazed areas given by reference to page 6.5 are reduced where required by reference to the glazing systems data.

Further, the glass apertures must be located to ensure an adequate margin between the nearest edge of the door and the sight line of the aperture in the door to receive glazing and between the sight line of adjacent glazing apertures.

NOTE: This data is constantly changing as a consequence of on going fire test programmes.

Bead Fixings:

FD30: Generally beads must be fixed using Min. 50mm long x 2mm diameter steel pins or 40mm long No.6~8 screws, inserted at 35~40° to the vertical at no more than 50mm from each corner and at 150mm max. centres. The use of Pneumatically fired pins is permitted, see page **6.3** for further details.

FD60: Generally beads must be fixed using Min. 60mm long x 2mm diameter steel pins or 60mm long No.6~8 screws, inserted at 35~40° to the vertical at no more than 50mm from each corner and at 150mm max. centres. The use of Pneumatically fired pins is permitted, see page **6.3** for further details.

NOTE 1: Fixings for beading must pass from the bead fixing position through to a point that is beyond the centre thickness of the door leaf.

NOTE 2: Where removable screw fixed beads are required, (e.g. provision for glass replacement) the screws should be to one face only, steel cups & screws should be used for this purpose. The non removable bead can be fixed using screw or pin fixing as described above. Glass replacement must only be carried out by a qualified glazier.

NOTE 3: Any damaged intumescent glazing system or hardwood beading must be replaced using the same system as originally used when replacing damaged glass.

Security:

Some specifications require a security performance in addition to a fire performance. The bead may be designed to restrict removal from one face by use of a combined lining and bead. The combined lining / bead must be glue and screw fixed *(with the reinforcing screw fixing located centre thickness of the door)* such that there are no visible fixings on the secure face. A removable pinned or screw fixed bead can then be applied to the non secure face.

NOTE: Laminated glass providing for security performances use polymer interlayers and not intumescent interlayers. These glasses are generally not suitable for use with fire rated doorsets.

Technical Support:

Where design requirements describe glazing that falls outside of the scope of the assessed applications envelopes described in this manual for any particular performance, details of the requirement should be forwarded for further comment to:

Pacific Rim Wood Ltd.,
Ground Floor Suite, Block B,
The Old Kelways
Somerton Road
Langport,
Somerset TA10 9SJ
Tel: +44 (0) 1458 252 305
E-mail: enquiries@prwuk.com

Pneumatically Fired Pins - Approved Specifications:

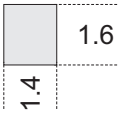
Timber glazing bead otherwise conforming with approved material specifications and fixing positions may be fixed using pneumatically fired pins conforming to the following specifications:

Minimum length:
FD30 applications = 50mm
FD60 applications = 60mm

Fig. 6.1

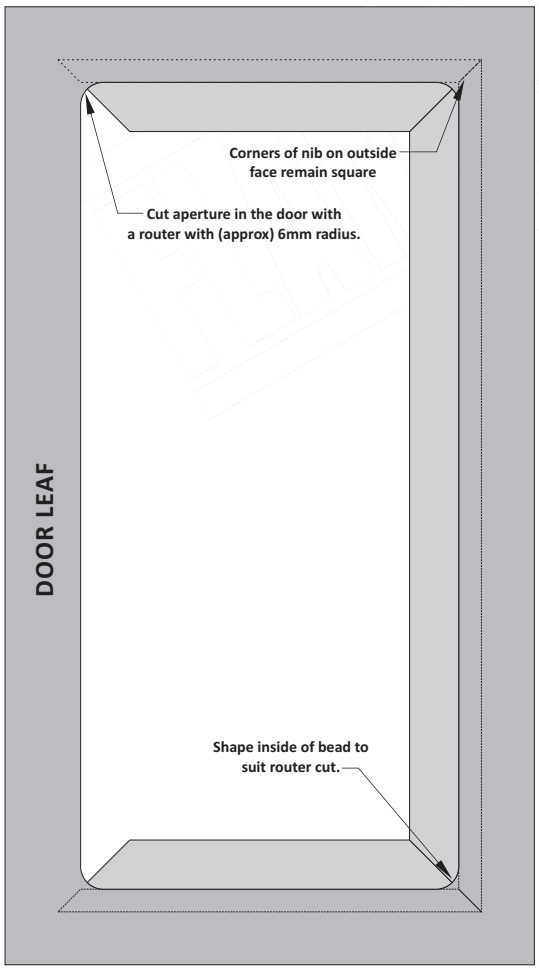
Round and oval pins:
Minimum Standard Wire Gauge (SWG) = 16.
Minimum cross section area = 2.03mm²
Minimum linear dimension in any direction = 1.6mm.

Rectangular Pins:
Minimum Standard Wire Gauge (SWG) = 16.
Minimum cross section area = 2.24mm²
Minimum linear dimension in any direction = 1.4mm.



Recommended Aperture preparation and Beading for Laminate *(and brittle material)* faced Doors:

Fig. 6.2



FLAMEBREAK™ is essentially a wood based product. Whereas this material demonstrates a high degree of stability, some movement can be expected where the core is subjected to significant changes in environmental conditions and in particular, where such changes take place over a short period of time.

When used with plastic laminates *(or facing materials with similar properties)*, differential movement between the facing material and the core can lead to stresses that may become evident by cracking of the facing material with the cracks generally originating from apertures in the face of the door.

The risk of this occurrence can be significantly reduced where the corners of the apertures are left rounded. This can be achieved in two ways:

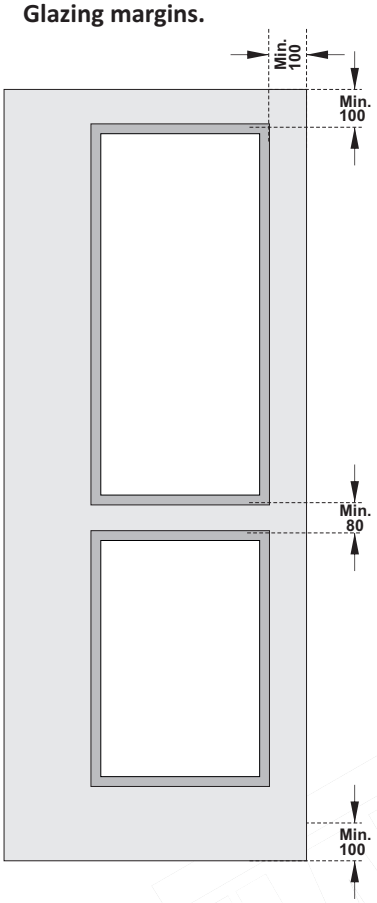
1/ When used with a bolection bead, round the back of the beads at the corners to match the router cut in the aperture. ***(The appearance of the cover nib on the face of the door remains square).***

2/ Subject to sufficient bead nib cover, line the aperture with a suitable 3mm material *(say plywood)* to create square corners to receive the beading.

NOTE: This detail is not approved for 'Q-Mark' fire door applications.

NOTE: When used with flush beads, it is recommended that the aperture is lined with hardwood with the corners of the lining shaped to match the routered corners in the door leaf.

FD30 - 'Q-Mark' approved Glazing margins. *Fig. 6.3*



FLAMEBREAK™ 660 & FF660

FD30 Glazing Rules:

- The maximum recommended area for glazing is 0.72m$^{2.}$ ***(subject to maintenance of minimum margin requirements).***
- The recommended minimum margins for locating apertures to be not less than 100mm from any edge of the door.
- Where multiple apertures are used, the separation between of each glazed aperture must not be less than 80mm.
- Multiple apertures are acceptable provide the total glazed area does not exceed the maximum approved area for the particular application.
- The aperture shape is not restricted providing that glazing systems and beading are compatible with that shape.

WARNING: The maximum permitted aperture dimension may be reduced according to the selected glass type and glazing system. See 'Q-Mark' approved Glass Types and Glazing systems for FD60 applications.

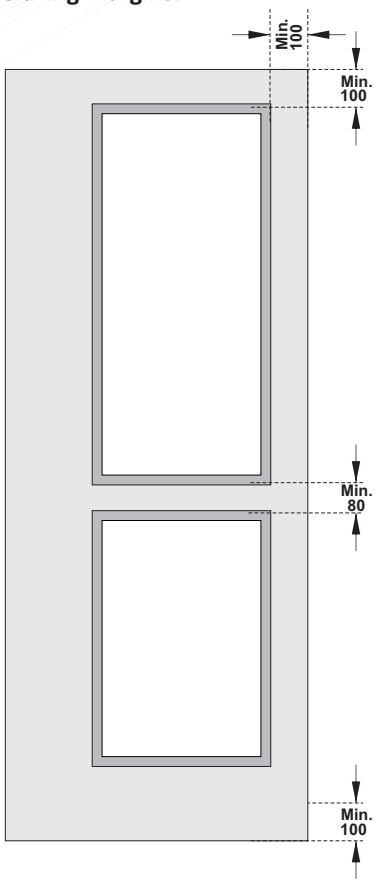
FLAMEBREAK™ 430, 630 & FF630

FD30 Glazing Rules:

- The maximum approved area for glazing is 1.15m$^{2.}$ ***(subject to maintenance of minimum margin requirements).***
- The recommended minimum margins for locating apertures to be not less than 100mm from any edge of the door.
- Where multiple apertures are used, the separation between each glazed aperture must not be less than 80mm.
- Multiple apertures are acceptable provide the total glazed area does not exceed the maximum approved area for the particular application.
- The aperture shape is not restricted providing that glazing systems and beading are compatible with that shape.

WARNING: The maximum permitted aperture dimension may be reduced according to the selected glass type and glazing system. See 'Q-Mark' approved Glass Types and Glazing systems for FD30 applications.

FD60 - 'Q Mark' approved Glazing margins. *Fig. 6.4*



FD30 Approved Glass Types			Max. Approved Glazed Area	Nom. Thickness
Q	1	PYROSHIELD 2 - Pilkington Glass Ltd.	1.15m²	6&7 mm
Q	2	PYRAN S - Schott Glass Ltd.	1.15m²	6mm
Q	3	PYROSTEM - Pyroguard UK Ltd.	1.15m²	6mm
Q	4	PYROGUARD EW30 - CGI Ltd.	0.87m²	7mm
Q	5	PYROBELITE 7 - AGC Flat Glass Europe.	1.15m²	7mm
Q	6	PYRODUR 30-104 - Pilkington Group Ltd.	1.15m²	7mm
Q	7	PYRODUR 60-10 - Pilkington Group Ltd.	1.15m²	10mm
Q	8	PYROGUARD EW MAXI - Pyroguard UK Ltd.	0.52m²	11mm
Q	9	PYRANOVA 15-s2.0 - Schott Glass Ltd.	1.15m²	11mm
Q	10	PYROBELITE 12 - AGC Flat Glass Europe.	1.15m²	12mm
Q	11	PYROSTOP 30-10 - Pilkington Group Ltd.	1.15m²	15mm
Q	12	PYROBEL 16 - AGC Flat Glass Europe.	1.15m²	16mm

FLAMEBREAK™
FD30 'Q-Mark' Approved Glass Types:

This table lists the 'Q-Mark' approved glass types for use with FLAMEBREAK™ FD30 fire door constructions that may be used with all suitable approved glazing systems.

Additional glass type options for FD30 applications requiring the use of dedicated glazing systems are listed on page **6.6.**

Further glass types may be used in reliance upon further fire test / assessment data to be provided by the glass manufacturer *(supplier)* and, where the glass type is approved for use in timber doors.

It is essential to use the correct beading system to suit the fire performance and the glass type.

NOTE: Users must consult glass suppliers / manufacturers to determine heat radiation, insulation and impact resistance properties together with any other glass performance attributes that may be required for particular projects.

FLAMEBREAK™
FD60 'Q-Mark' Approved Glass Types:

This table lists the 'Q-Mark' approved glass types for use with FLAMEBREAK™ FD60 fire door constructions that may be used with all suitable approved glazing systems

Additional glass type options for FD60 applications requiring the use of dedicated glazing systems are listed on page **6.6**.

Further glass types may be used in reliance upon further fire test / assessment data to be provided by the glass manufacturer *(supplier)* and, where the glass type is approved for use in timber doors.

It is essential to use the correct beading system to suit the fire performance and the glass type.

NOTE: Users must consult glass suppliers / manufacturers to determine heat radiation, insulation and impact resistance properties together with any other glass performance attributes that may be required for particular projects.

FD60 Approved Glass Types			Max. Approved Glazed Area	Nom. Thickness
Q	1	PYROSHIELD 2 - Pilkington Group Ltd.	0.72m²	6&7 mm
Q	2	PYRAN S - Schott Glass Ltd.	0.72m²	6mm
Q	3	PYROSTEM - Pyroguard UK Ltd.	0.6m²	6mm
Q	4	PYRODUR 60-10 - Pilkington Group Ltd.	0.72m²	10mm
Q	5	PYROBELITE 12 - AGC Flat Glass Europe.	0.72m²	12mm
Q	6	CONTRAFLAM - Vetrotech Saint Gobain	0.72m²	14mm
Q	7	PYROSTOP 30-10 - Pilkington Group Ltd.	0.72m²	15mm
Q	8	PYROBEL 16 - AGC Flat Glass Europe.	0.72m²	16mm

FD30 'Q-Mark' Approved Glass Types with Dedicated Glazing Systems:

The glass types listed below are 'Q Mark' approved for use with FLAMEBREAK™ FD30 fire door constructions only when used with the dedicated glazing systems listed in the following table.

FD30 Approved Glass Types			Max. Approved Glazed Area	Nom. Thickness	Dedicated Glazing System
Q	13	PYROCLEAR 30-001 - Pilkington Group Ltd.	0.43m²	6mm	Pilkington Pyroclear Glazing System

FD60 'Q' Mark Approved Glass Types with Dedicated Glazing Systems:

The glass types listed below are 'Q-Mark' approved for use with FLAMEBREAK™ FD60 fire door constructions only when used with the dedicated glazing systems listed in the following table.

FD60 Glass Type			Max. Approved Glazed Area	Nom. Thickness	Dedicated Glazing System
Q	9	PYROCLEAR 60-001 - Pilkington Group Ltd.	0.72m²	6mm	Pilkington Pyroclear Glazing System
Q	10	PYROSTOP 60-101 - Pilkington Group Ltd.	0.72m²	23mm	Pilkington Pyrostop Glazing System
Q	11	PYROGUARD 60-23 - Pyroguard UK Ltd.	0.72m²	23mm	Lorient Flexible Fig. 1
Q	12	PYROBEL 25 - AGC Flat Glass Europe.	0.72m²	25mm	AGC Pyrobel 25 Glazing System

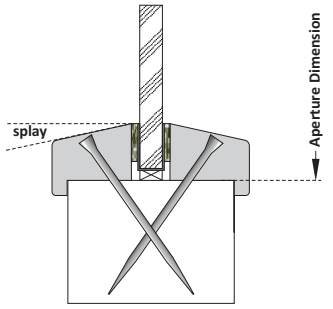
NOTE: This manual illustrates 'Q-Mark' approved glazing systems for use with FLAMEBREAK™ FD30 & FD60 fire rated door. However this information is published for guidance only and reference must be made to glazing system supplier / manufacturer details that take precedence over the details shown in this manual in the event of any conflict.

Splayed Section Hardwood Glazing Bead - FD30 - General

Hardwood Splayed Bolection Bead

- Generally Hardwood splayed bolection beads are approved for use with FD30 Glass Types 1 ~ 12 ***(See page 6.5)*** when used with approved FD30 glazing systems. ***(See page 6.9).***
- Unless otherwise approved timber for glazing beads *(including aperture linings where applicable)* must be hardwood, straight grained, joinery quality, free from knots, splits and checks.
- Unless otherwise approved, glazing bead must be retained in position with min. 50mm long x 2mm dia. steel pins and / or min. 40mm long No. 6 ~ 8 screws, inserted at 35~40° to the vertical. Fixings must be located within 50mm from each corner and otherwise located equi-spaced at not more than 150mm centres.
- Pneumatically fired pins otherwise complying with the specifications defined by reference to page ***6.3***. may be used.

Fig. 6.5



Splayed Flush Bead:

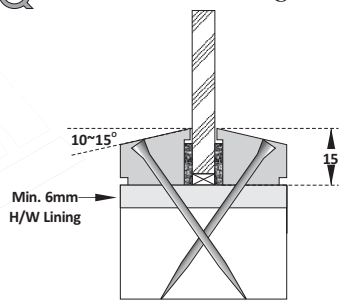
A splayed flush bead may be used with Sealmaster Ltd. Fireglaze 30 and Intumescent Seals Ltd Therm-A-Strip ***(See page 6.9)*** glazing systems subject to the following:

- ***The aperture in the door must be lined using min. 6mm thickness hardwood of min. 640kg/m³ density (@ 15% moisture content).***
- ***The profile of the bead shall generally be the same as that approved for the corresponding bolection bead detail.***

It is important to maintain splay angle shown for approved glazing systems when used with non insulating glass.

- ***A small rebate (not exceeding 2x2mm) may be used to the bead or the lining accommodate door thickness tolerances.***

Fig. 6.6



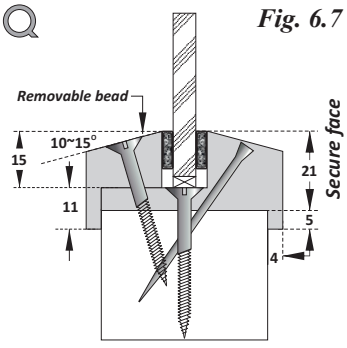
Sealmaster Fireglaze 30 illustrated.

Improved Security Bead:

A combined bead and lining can be used with all approved FD30 glass types and glazing systems ***(See pages 6.5 & 6.9)*** to deny access to fixings from one side of the door leaf for improved security applications.

- ***The aperture in the door must be lined using min. 26mm thickness combined bead and lining in hardwood otherwise complying with Fig. 6.5 requirements.***
- ***The combined beading and lining is bonded to the aperture in the door using adhesives approved for lippings and reinforced using screw fixings located centre thickness of the door.***
- ***The bead to the non secure face is fixed as described by reference to Fig. 6.5.***

Fig. 6.7



Hodgsons Firestrip 30 illustrated

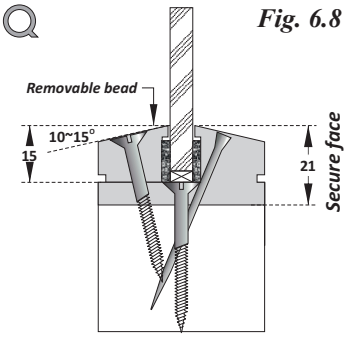
Splayed Flush Security Bead:

The splayed flush bead system illustrated in ***Fig. 6.6*** may also be adapted *(using Sealmaster Ltd. Fireglaze 30 or Intumescent Seals Ltd Therm-A-Strip glazing systems)* to provide for improved security applications by using a combined lining / bead to the secure face.

- ***Lining / bead fixing must comply with Fig. 6.6 requirements.***

NOTE: Glass types with insulating properties FD30 Glass Types 8~13 by reference to page 6.5 may use intumescent interlayers to provide for performances under fire attack. These glass types are not intended to provide for any particular security performance. The security enhancement resulting from the use of designs indicated by reference to Figs. 6.7 & 6.8 results simply from the denial of access to bead fixings from the secure face.

Fig. 6.8



Sealmaster Fireglaze 30 illustrated.

Square Section Hardwood Glazing Bead - FD30 - General

Fig. 6.9

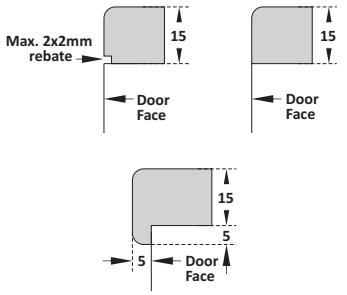
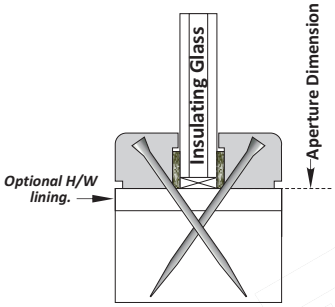


Fig. 6.10



Sealmaster Fireglaze 30 illustrated.

Hardwood Flush & Square Beads:

- The use of flush beading systems using square section beads is approved when using *Sealmaster Ltd. Fireglaze 30*, *Intumescent Seals Ltd. Therm-A-Strip* and *Hodgsons Sealants Ltd Firestrip 30* in conjunction FD30 Glass Types *7 ~ 12* only. ***See FD30 Glass Types - page 6.5.***

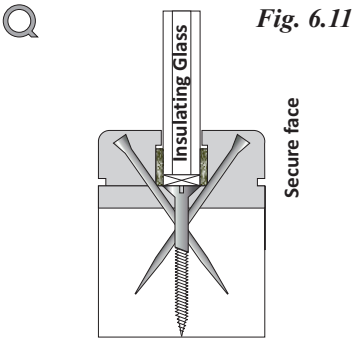
- Maximum aperture dimensions remain as described for the particular glass type or glazing system. ***See pages 6.5 & 6.9 for 'Q-Mark' approved maximum aperture dimensions for FD30 applications.***

- Whereas it is not essential for fire performance reasons, it is recommended that apertures are lined with hardwood when using square section flush beads, particularly where a 2x2mm feature rebate is used. In any event apertures must be lined when using flush beading systems where the doors are likely to be used in a high humidity environment or are likely to be subjected to wet cleaning.

- Timber used to manufacture the glazing bead and method of fixing remains as described by reference to page ***6.7*** for *Hardwood Splayed Bolection Beads*.

Square Section Hardwood Glazing Bead - FD30 - Security

Fig. 6.11



Sealmaster Fireglaze 30 illustrated.

Square Flush Security Bead:

The splayed flush bead system illustrated in ***Fig. 6.8*** may also be adapted for improved security applications using square beads with glass types that provide for an insulation performance by using a combined lining / bead to the secure face.

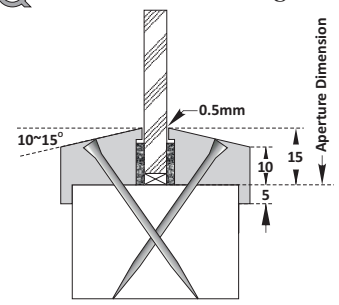
Lining / bead fixing must comply with ***Fig.6.7*** requirements. ***(See page 6.7)***

NOTE: Thicker glass types with insulating properties listed by reference to page 6.5 may use intumescent interlayers to provide for performances under fire attack. These glass types are not intended to provide for any particular security performance. The security enhancement resulting from the use of designs indicated by reference to Fig. 6.11 results simply from the denial of access to bead fixings from the secure face.

Approved FD30 Glazing Systems - General

*(See pages **6.18 ~ 6.24** for approved Norsound Ltd. Glazing Systems)*

Fig. 6.12



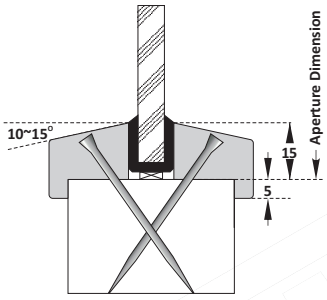
Sealmaster Fireglaze 30 illustrated

Intumescent Seals Ltd. - *'Therm-a-Strip'*
Sealmaster Ltd. - *'Fireglaze 30'*

- Hardwood glazing bead to be splayed 10~15°.
- Bead to be fixed using 40mm long x 2mm dia. steel pins *OR* 40mm long No.6~8 screws inserted at 35~40° to the vertical bead at no more than 50mm from each corner and at 150mm maximum centres.
- Pneumatically fired pins otherwise complying with the specifications defined by reference to page ***6.3***. may be used.

Maximum approved glazed area - Therm-A-Strip = 1.15m²
Maximum approved glazed area - Fireglaze 30 = 1.15m²

Fig. 6.13



Lorient System 36 illustrated

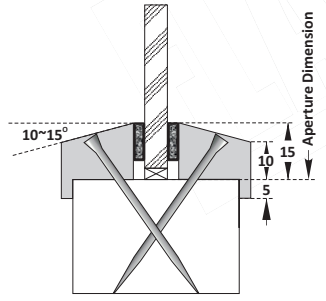
Lorient Polyproducts Ltd. -*36/6 Plus'* Glazing Channel
Pyroplex Ltd. - R*8193 Glazing Channel*

- Hardwood glazing bead to be splayed 10~15°.
- Bead to be fixed using 40mm long x 2mm dia. steel pins *OR* 40mm long No.6~8 screws inserted at 35~40° to the vertical bead at no more than 50mm from each corner and at 150mm maximum centres.
- Pneumatically fired pins otherwise complying with the specifications defined by reference to page ***6.3***. may be used.

NOTE: Suitable for use with circular apertures

Maximum approved glazed area - System 36 = 0.72m²
Maximum approved glazed area - Pyroplex 8193 = 0.72m²

Fig. 6.14



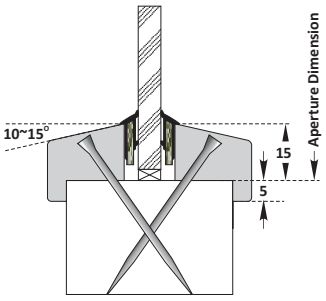
Hodgsons Firestrip 30 illustrated

Mann McGowan Ltd. - *Pyroglaze 30*
Hodgsons Sealants Ltd. - *Firestrip 30*

- Hardwood glazing bead to be splayed 10~15°.
- Bead to be fixed using 40mm long x 2mm dia. steel pins *OR* 40mm long No.6~8 screws inserted at 35~40° to the vertical bead at no more than 50mm from each corner and at 150mm maximum centres.
- Pneumatically fired pins otherwise complying with the specifications defined by reference to page ***6.3***. may be used.

Maximum approved glazed area - Pyroglaze 30 = 0.72m²
Maximum approved glazed area - Firestrip 30 = 1.15m²

Fig. 6.15



Pyroplex 30054 illustrated

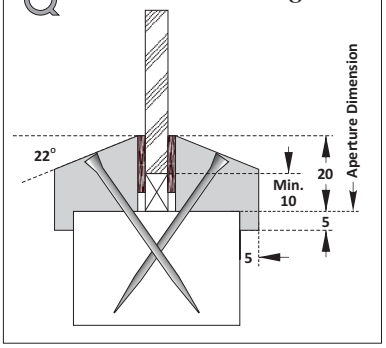
Lorient Polyproducts Ltd. - *'System FF1'*
Pyroplex Ltd. - *System 30049*
Pyroplex Ltd. - *30054 Glazing Gasket.*

- Hardwood glazing bead to be splayed 10~15°.
- Bead to be fixed using 40mm long x 2mm dia. steel pins *OR* 40mm long No.6~8 screws inserted at 35~40° to the vertical bead at no more than 50mm from each corner and at 150mm maximum centres.
- Pneumatically fired pins otherwise complying with the specifications defined by reference to page ***6.3***. may be used.

Maximum approved glazed area - Lorient FF1 = 0.72m²
Maximum approved glazed area - Pyroplex 30049 = 0.72m²
Maximum approved glazed area - Pyroplex 30054 = 0.72m²

Dedicated FD30 Glazing Systems

Fig. 6.16



6mm Pyroclear 30-001 - Pilkington Pyroclear Glazing System

- Hardwood glazing bead to be splayed 22°.
- Bead to be fixed using 50mm long x 2mm dia. steel pins *OR* 50mm long No.6~8 screws inserted at 45° to the vertical bead at no more than 50mm from each corner and at 150mm maximum centres.
- The glass must be fitted allowing for 10mm expansion on all edges.
- Pneumatically fired pins otherwise complying with the specifications defined by reference to page ***6.3***. may be used.
- This glass type is limited for use with the following glazing systems:

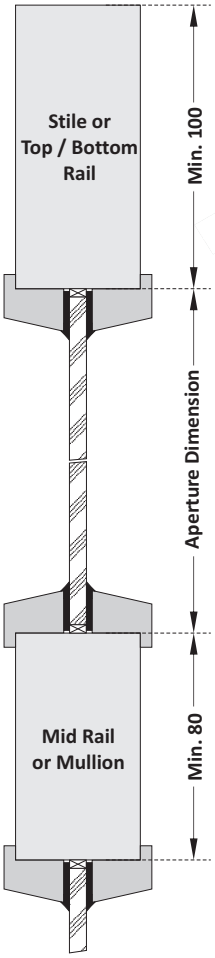
***Pyroglaze 30** (Fig.6.14), **Pyroplex 30049**, (Fig.6.15),*
***Lorient System 36 Plus** (Fig.6.13) & **Lorient FF1** (Fig. 6.15).*

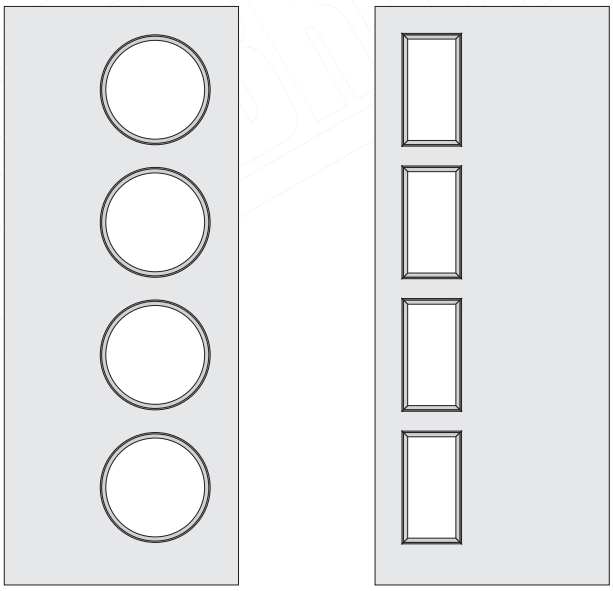
Maximum approved glazed area - Pyroclear 30-001 = 0.43m²

FD30 Multi Aperture Glazing

Multi Aperture Glazing

Fig. 6.17



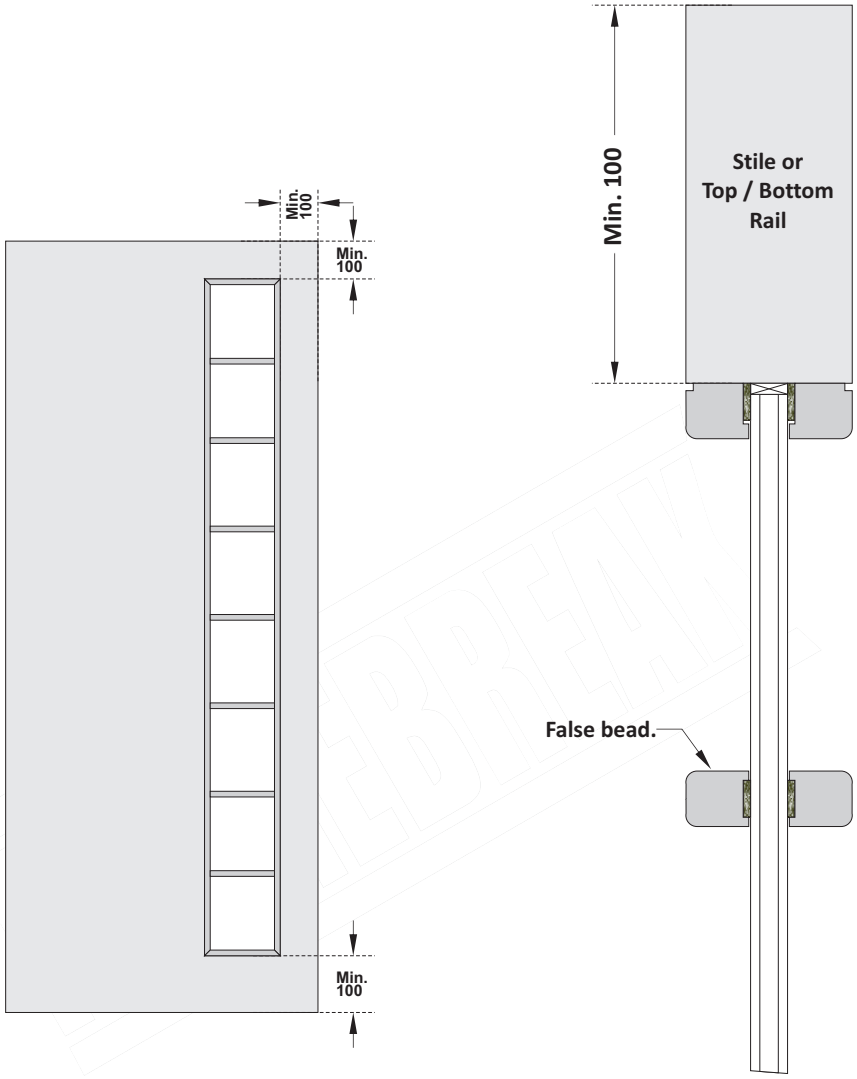


- Subject to limitations with respect of glazed areas and use of suitable glazing systems, there are no limits with regard to the quantity or shape of glazed apertures.
- The minimum dimension from any edge of the door to the nearest sight line of the aperture must not be less than 100mm.
- The dimension between adjacent apertures must not be less than 80mm.

FD30 Multi Aperture Glazing

Multi Aperture Glazing - Option 2.

Fig. 6.18



The appearance of multi aperture glazing can be created by the use of a single sheet of glass used with false beads that are bonded to the glass with an intumescent mastic / silicon, or an 0.5~2mm thick self adhesive intumescent tape / strip.

Mechanical fixings *(screws / pins)* must not be used for fixing the false beads.

This detail is approved for use with FD30 Glass Types 5 ~ 13 only - ***See page 6.5 .***

NOTE: This option is limited for use with the following glazing systems.

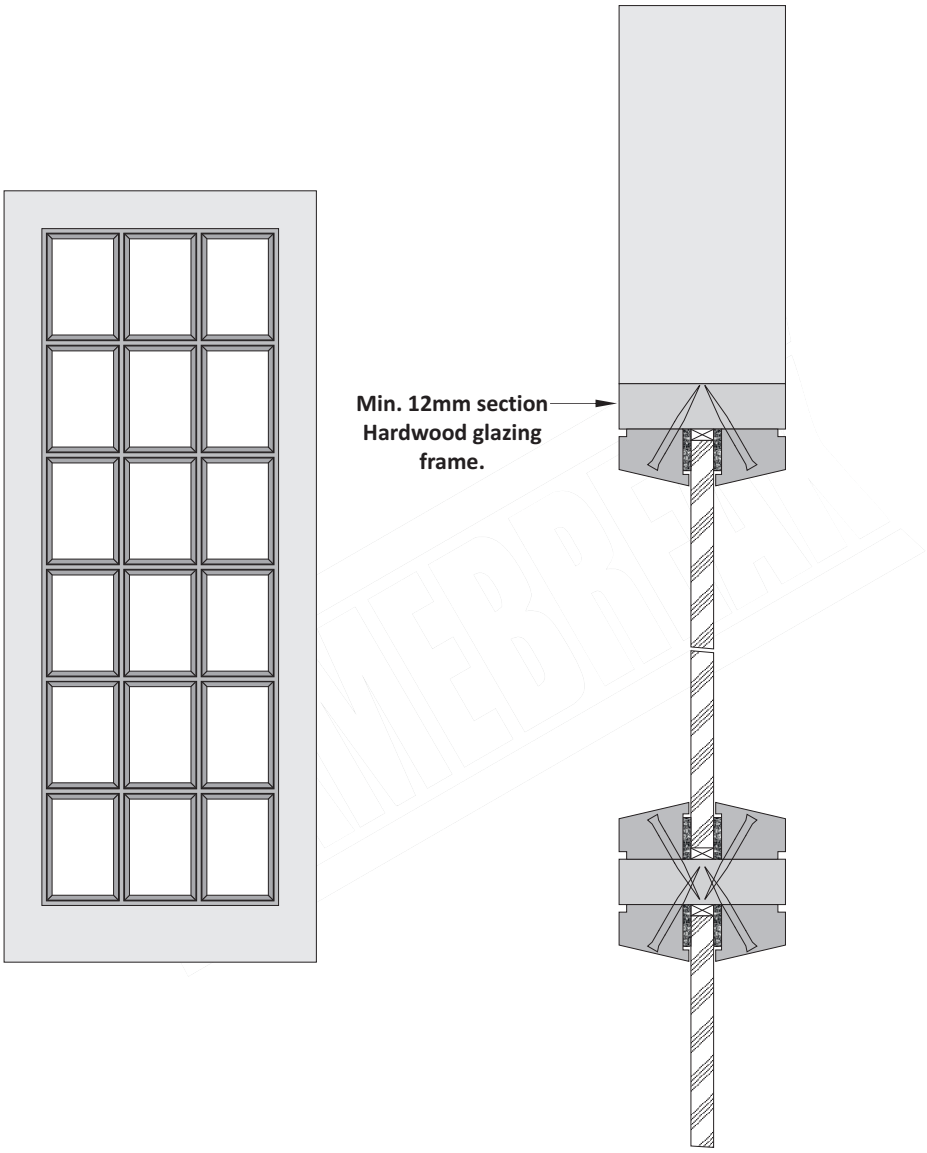
Glazing System	Manufacturer
Therm-A-Strip 30	Intumescent Seals Ltd.
Fireglaze 30	Sealmaster Ltd.
Firestrip 30	Hodgsons Sealants Ltd.
Envirograf Product 77 - G10/10	Intumescent Seals Ltd.

NOTE: Seals for bonded glazing beads must be a minimum 10mm wide x 0.5 ~ 3mm thick. Preformed strip systems listed above may be self adhesive and grooved into the rear of glazing bars.

Multi Aperture Glazing - *Not fire rated.*

Fig. 6.19

Multi Aperture Glazing 3.
NOT SUITABLE FOR FIRE DOOR APPLICATIONS



Glazing is often used in doors to provide for a means for achieving aesthetic objectives.

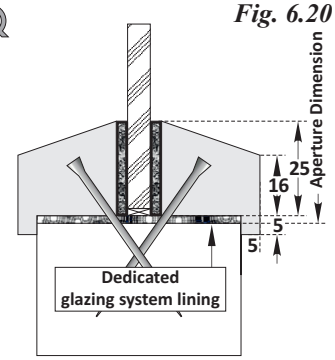
FLAMEBREAK™ provides for a stable door core product for this purpose.

Hardwood glazing frames can be created to suit almost unlimited pattern designs with beading fixed to the glazing frame.

NOTE: This detail is <u>not</u> approved for 'Q-Mark' fire door applications.

Splayed Section Hardwood Glazing Bead - FD60 - General

Fig. 6.20



Typical FD60 Glazing System

Hardwood Splayed Bolection Bead

- Generally Hardwood splayed bolection beads are approved for use with FD60 Glass Types 1 ~ 8 ***(See page 6.5)*** when used with approved FD60 glazing systems. ***(See page 6.15).***
- Unless otherwise approved timber for glazing beads *(including timber aperture linings where applicable)* must be Min. density 640kg/m³ hardwood, - ***(Excluding Beech*** - *Fagus Sylvatcia)* - straight grained, joinery quality, free from knots, splits and checks.
- Unless otherwise approved, glazing bead must be retained in position with min. 60mm long x 2mm dia. steel pins and / or min. 60mm long No. 6 ~ 8 screws, inserted at 35~40° to the vertical. Fixings must be located within 50mm from each corner and otherwise located equi-spaced at not more than 150mm centres.
- Pneumatically fired pins otherwise complying with the specifications defined by reference to page ***6.3***. may be used.

Square Section Hardwood Glazing Bead - FD60 - General

Fig. 6.21

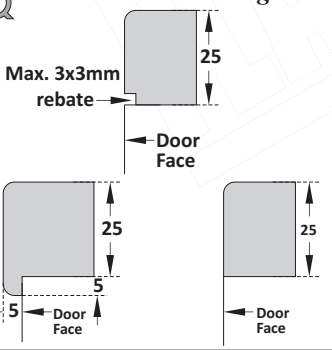
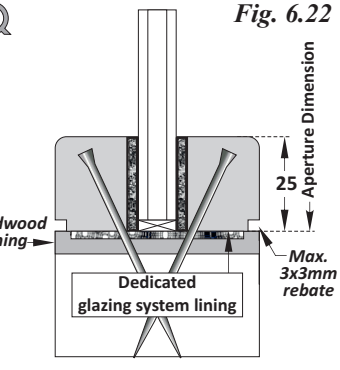


Fig. 6.22



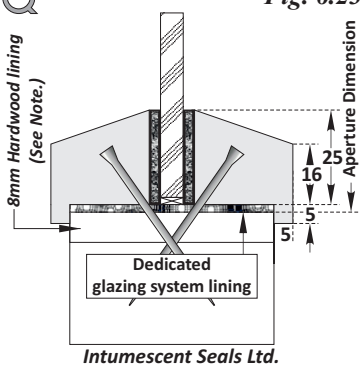
Flush & Square Beads:

- The use of flush beading systems using square section beads is approved when using *Sealmaster Ltd. Fireglaze 60*, *Intumescent Seals Ltd. Therm-A-Glaze 60 and Lorient Polyproducts Ltd. System 90 Plus* with FD60 glass types 4 ~ 8 only. ***(See page 6.5)***
- Maximum aperture dimensions remain as described for the particular glass type or glazing system. ***See pages 6.5 & 6.15 for 'Q' Mark approved maximum aperture dimensions for FD60 applications.***
- Apertures must be lined with 6 ~ 10mm thickness min. 640kg/m³ density hardwood - ***(Excluding Beech*** - *Fagus Sylvatcia)* - when using square section flush beads with the liner glued into position using a UF *(Urea Formaldehyde)* adhesive. The hardwood aperture liner may be recessed to receive intumescent *(or similar)* liners required by the particular glazing system.
- Timber used to manufacture the glazing bead and method of fixing remains as described by reference to page ***6.14*** - ***Fig. 6.23*** for *Hardwood Splayed Bolection Beads*. ***See above.***

Approved FD60 Glazing Systems - General

*(See pages **6.18 ~ 6.24** for approved Norsound Ltd. Glazing Systems)*

Fig. 6.23



Intumescent Seals Ltd.
Therm-A-Glaze60 illustrated

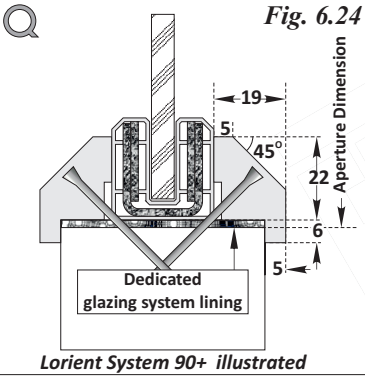
Intumescent Seals Ltd. - *Therm-A-Glaze 60*
Sealmaster Ltd. - *Fireglaze 60*
Pyroplex - *Pyroplex System FG60*
Mann McGowan Ltd. - *Pyroglaze 60*

- These systems must be used with its dedicated intumescent lining to the aperture *(Refer to manufacturers details).*
- Bead to be fixed using 60mm long x 2mm dia. steel pins *OR* 60mm long No.8 screws inserted at 35~40° to the vertical at no more than 50mm from each corner and at 150mm maximum centres.
- Excluding Pyroplex FG 60 (*where beads must be secured using 60mm long steel screws*). Pneumatically fired pins otherwise complying with the specifications defined by reference to page ***6.3***. may be used.

Maximum approved glazed area - Therm-A-Glaze 60 = 0.72m²
Maximum approved glazed area - Fireglaze Mastic = 0.72m²
Maximum approved glazed area - Pyroglaze 60 = 0.72m²
Maximum approved glazed area - Pyroplex System FG60 = 0.64m²

NOTE: Min. 640kg/m³ 8mm Hardwood - (Excluding Beech - *Fagus Sylvatcia*) - aperture lining must be used with Pyroplex System FG60.

Fig. 6.24



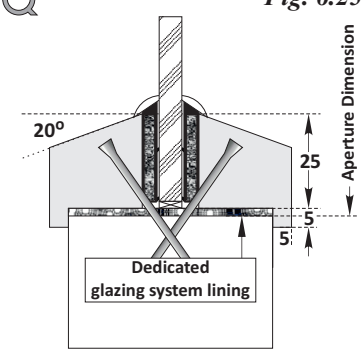
Lorient System 90+ illustrated

Lorient Polyproducts Ltd. - *'System 90 PLUS'*

- This system must be used with its dedicated intumescent lining to the aperture *(Refer to manufacturers details).*
- Bead to be fixed using 60mm long x 2mm dia. steel pins OR 60mm long No.8 screws inserted at 45° to the vertical bead at no more than 50mm from each corner and at 150mm maximum centres.
- Pneumatically fired pins otherwise complying with the specifications defined by reference to page ***6.3***. may be used.

Maximum approved glazed area - System 90 PLUS = 0.72m²

Fig. 6.25



Lorient System RF1 illustrated

Lorient Polyproducts Ltd. - *Lorient RF1*

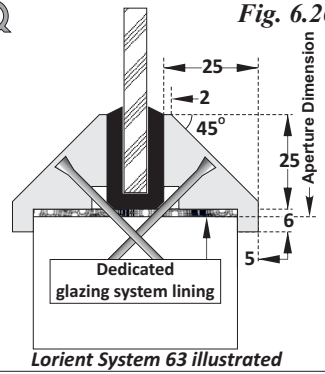
- This system must be used with its dedicated intumescent lining to the aperture *(Refer to manufacturers details).*
- Bead to be fixed using 60mm long x 2mm dia. steel pins OR 60mm long No.8 screws inserted at 45° to the vertical bead at no more than 50mm from each corner and at 150mm maximum centres.
- Pneumatically fired pins otherwise complying with the specifications defined by reference to page ***6.3***. may be used.

Maximum approved glazed area - Lorient RF1 = 0.72m²

Approved FD60 Glazing Systems - General

*(See pages **6.18 ~ 6.24** for approved Norsound Ltd. Glazing Systems)*

Fig. 6.26



Lorient System 63 illustrated

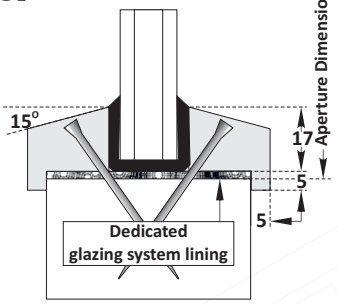
Lorient Polyproducts Ltd. - *'System 63' Flexible Gasket*

- This system must be used with its dedicated intumescent lining to the aperture *(Refer to manufacturers details).*
- Bead to be fixed using 60mm long x 2mm dia. steel pins *OR* 60mm long No.8 screws inserted at 45° to the vertical bead at no more than 50mm from each corner and at 150mm maximum centres.
- Pneumatically fired pins otherwise complying with the specifications defined by reference to page ***6.3***. may be used.

Maximum approved glazed area - Lorient System 63 = 0.72m²

NOTE: Only suitable for use with circular apertures and Pyroshield 2 glass.

Fig. 6.27



Lorient System 36 Plus illustrated

Lorient Polyproducts Ltd. - *'System 36 Plus' Flexible Gasket*

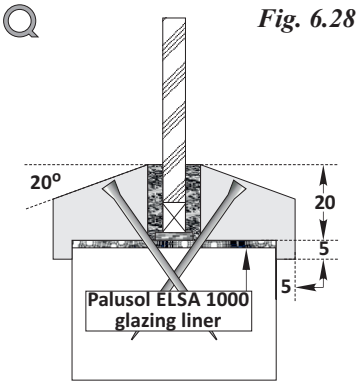
- This system must be used with its dedicated intumescent lining to the aperture *(Refer to manufacturers details).*.
- Bead to be fixed using 60mm long x 2mm dia. steel pins *OR* 60mm long No.8 screws inserted at 35~40° to the vertical bead at no more than 50mm from each corner and at 150mm maximum centres.
- Pneumatically fired pins otherwise complying with the specifications defined by reference to page ***6.3***. may be used.

Maximum approved glazed area - Lorient System 36 Plus = 0.72m²

Only suitable for use 14 ~ 16mm thickness glass types See page 6.5.

Dedicated FD60 Glazing Systems

Fig. 6.28



Pilkington Pyroclear Glazing

6mm Pyroclear 60-001 - Pilkington Pyroclear Glazing System

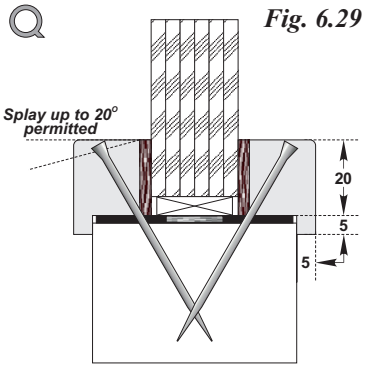
- 25x25mm Hardwood bead - ***(Excluding Beech -*** *Fagus Sylvatcia)* - straight grained, joinery quality, free from knots, splits and checks. 5x5mm bolection with 20° chamfer.
- Beads must be retained in position using 50mm long 2mm dia. steel pins or 50mm long # 6~8 steel screws inserted at 45° to the vertical within 50mm from each corner and at 150mm maximum centres.
- Aperture lined with 54x2mm Palusol ELSA 1000 glazing liner with additional 10x2 Interdens located on top of the liner and central in the thickness of the door between beads.
- The glass must be fitted to allow for an 8mm expansion on all edges.
- 20x5 Kerafix Flexit seal compressed to 4mm fitted between the bead and the glass on both faces.

NOTE: Minimum approved dimension between adjacent apertures for multi aperture applications = 100mm

Maximum approved glazed area Pyroclear 60-100 Glazing = 0.72m²

Dedicated FD60 Glazing Systems

Fig. 6.29



23mm Pyrostop Glazing

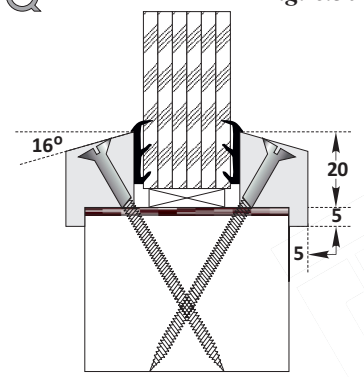
23mm Pyrostop 60-101 - Pilkington 23mm Pyrostop Glazing System

- 25x17.5mm Hardwood bead - ***(Excluding Beech** - Fagus Sylvatcia)* - straight grained, joinery quality, free from knots, splits and checks. 5x5mm bolection square or with a chamfer up to 20°.
- Beads must be retained in position using 60mm long # 6 ~ 8 steel screws inserted at 30° to the vertical within 50mm from each corner and at 150mm maximum centres.
- 52x2mm Norsound 5202 flexible aperture liner fitted around the perimeter of the aperture.
- 20x3mm Hodgsons Sealants Firestrip 60 between the bead and face of the glass on both sides.

NOTE: Minimum approved dimension between adjacent apertures for multi aperture applications = 100mm

Maximum approved glazed area = 0.72m²

Fig. 6.30



23mm Pyroguard Glazing

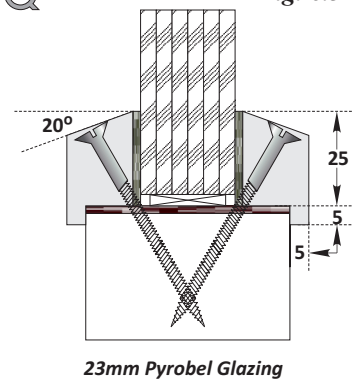
23mm Pyroguard - Lorient 23mm Pyroguard Glazing System

- 25x18mm Hardwood bead - ***(Excluding Beech** - Fagus Sylvatcia)* - straight grained, joinery quality, free from knots, splits and checks. 5x5mm bolection with a 16° chamfer.
- Beads must be retained in position using 70mm long # 6 ~ 8 steel screws inserted at 30~45° to the vertical within 50mm from each corner and at 150mm maximum centres.
- 54x2mm Lorient Polyproducts Ltd. glazing liner fitted around the perimeter of the aperture.
- 13x3.5mm Lorient Polyproducts Ltd. Flexible Figure 1 glazing gasket fitted between the bead and the glass on both faces.

NOTE: Minimum approved dimension between adjacent apertures for multi aperture applications = 100mm

Maximum approved glazed area = 0.72m²

Fig. 6.31



23mm Pyrobel Glazing

AGC Flat Glass Europe 25mm Pyrobel - 25mm Pyrobel Glazing System

- 30x16.5mm Hardwood bead - ***(Excluding Beech** - Fagus Sylvatcia)* - straight grained, joinery quality, free from knots, splits and checks. 5x5mm bolection with a 20° chamfer.
- Beads must be retained in position using 60mm long # 6 ~ 8 steel screws inserted at 30° to the vertical within 50mm from each corner and at 150mm maximum centres.
- 54x2mm Sealmaster GL60 intumescent glazing liner fitted around the perimeter of the aperture.
- 25x2mm Superwool X607 fitted between the bead and the glass on both faces.

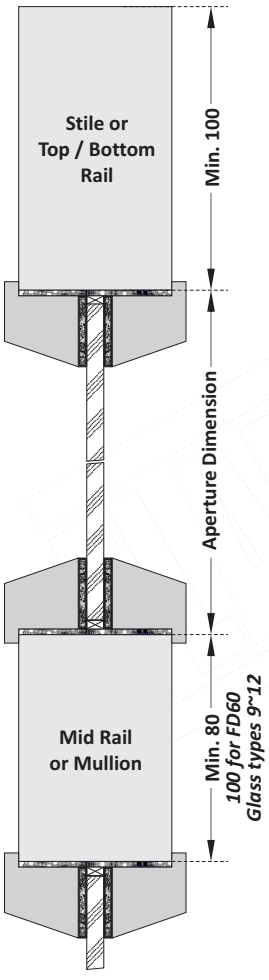
NOTE: Minimum approved dimension between adjacent apertures for multi aperture applications = 100mm

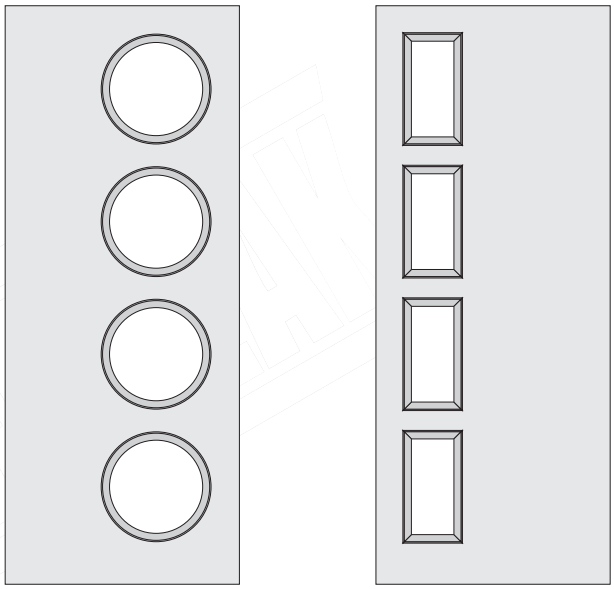
Maximum approved glazed area = 0.72m²

FD60 Multi Aperture Glazing

Multi Aperture Glazing

Fig. 6.32





- Subject to limitations with respect of glazed areas and use of suitable glazing systems, there are no limits with regard to the quantity or shape of glazed apertures.
- The minimum dimension from any edge of the door to the nearest sight line of the aperture should not be less than 100mm.

NOTE: For some glass types using dedicated glazing systems the margin between adjacent apertures in multi aperture doors is increased from 80mm to 100mm.

- For FD60 glass types 1 ~ 8 (***See page 6.5***) the dimension between adjacent apertures should not be less than 80mm.
- For FD60 glass types 9 ~ 12 (***See page 6.6***) the dimension between adjacent apertures should not be less than 100mm.

Norsound Vision 30 Glazing Systems

Fig. 6.33

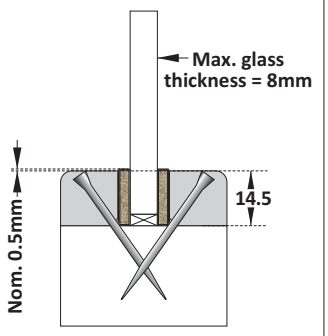
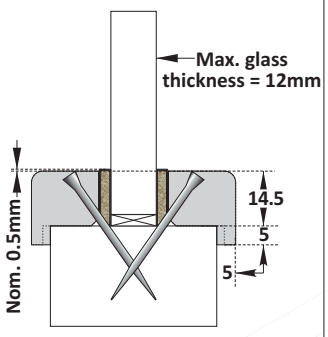


Fig. 6.34



Refer to Norsound Ltd. for further guidance & patent information concerning Norsound Glazing Systems

Norsound Vision 30B & 30T

- The Norsound Vision 30 systems, using a square section flush bead detail can be used with FD30 Glass Types 1 ~ 6. ***(See page 6.5)***.
- Where bolection bead profiles are used the Norsound Vsion 30 systems can be used with FD30 Glass Types 1 ~ 10. ***(See page 6.5).***
- The bead material must satisfy the following specifications:
Straight grained joinery quality Softwood or Hardwood, free from knots, splits or checks. Min. density = 510kg/m³. ***OR*** *MDF Min. density 700kg/m³.*
- The bead height must be nominally 14.5mm. For bolection style beads, the bolection returns should be a minimum of 5mm high and project a minimum of 3mm from the leaf face
- The 15mm high Norsound Vision 30 intumescent seal component is required to project Nom. 0.5mm above the sight line of the bead.
- Glazing beads must be retained in position with min. 40mm long x 1.5mm dia. steel pins, *OR* 40mm long No. 6~8 screws, inserted at 35~40° to the vertical at not more than 40mm from each corner, otherwise equi-spaced between at not more than 150mm centres.
- Pneumatically fired pins are acceptable providing the pins meet the specification given by reference to page ***6.3***.
- Norsound Vision 30B seals are fixed to the beads using self adhesive tape. The Norsound Vision 30T seals are fixed using a 'plug in' system into the bead that must be accurately profiled to receive the seal. The 30T seal has been specifically designed to allow for the seal to be fitted to the beading before final cutting for size and mitre jointing.

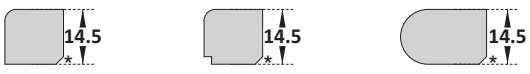
Maximum approved glazed area = 1.15m²

Norsound Vision 30B Bead Profiles

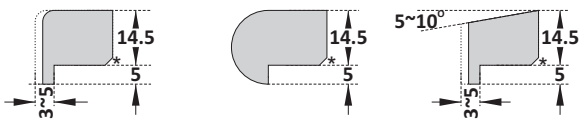
Fig. 6.35

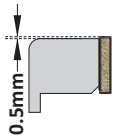
∗ *= 2mm splay applicable to all bead profiles*

Typical Flush Bead Types:



Typical Bolection Bead Types:





The Norsound Vision 30'B' intumescent seal is affixed to the face of the bead with self adhesive tape. It is important to ensure that the seal projects above the bead by Nom. 0.5mm.

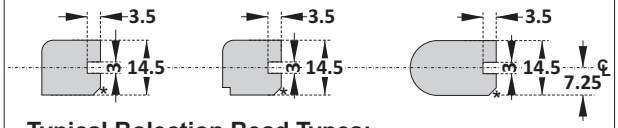
Beads can be to any profile provided that they are not smaller than the minimum dimensions shown in this detail with the 14.5mm height being a critical dimension.

Norsound Vision 30T Bead Profiles

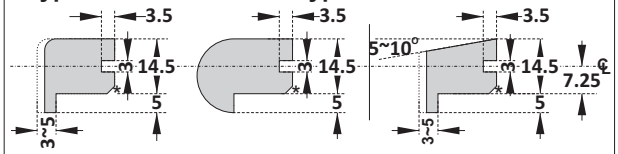
Fig. 6.36

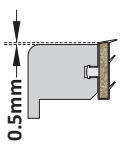
∗ *= 2mm splay applicable to all bead profiles*

Typical Flush Bead Types:



Typical Bolection Bead Types:





The Norsound Vision 30 'T' intumescent seal is fixed to the bead using a plug in feature. It is important to ensure that the seal projects above the bead by Nom. 0.5mm.

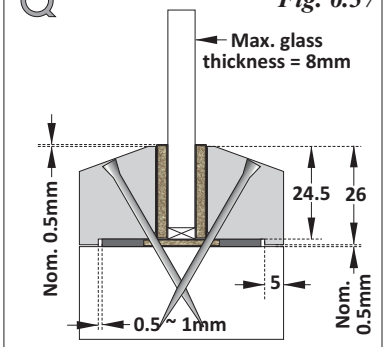
Beads can be to any profile provided that they are not smaller than the minimum dimensions shown in this detail with the 14.5mm height being a critical dimension.

Norsound Vision 60 Glazing Systems

Norsound Vision 60B & 60T

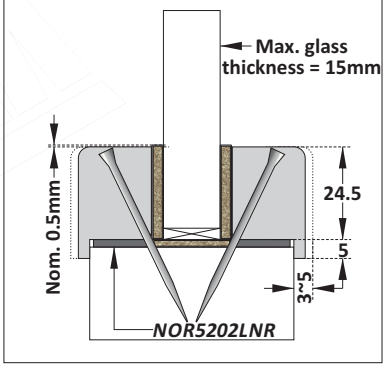
- The Norsound Vision 60 systems, using a square section flush bead detail can be used with FD60 Glass Types 1 ~ 3. ***(See page 6.5)***.
- Where bolection bead profiles are used the Norsound Vision 60 systems can be used with FD60 Glass Types 1 ~ 3 and 5 ~ 8 ***(excluding type 4)***. ***(See page 6.5).***
- The bead material must satisfy the following specifications:
Straight grained joinery quality Hardwood, - ***(Excluding Beech -*** *Fagus Sylvatcia****)*** *- free from knots, splits or checks. Min. density = 640kg/m³.*
- For flush style beads, the bead height must be nominally 26mm with a minimum rebate of 1.5mm. For bolection style beads, the bolection returns must be a minimum of 5mm high and project a minimum of 3mm from the leaf face.
- The 25mm high Norsound Vision 60 intumescent seal component is required to project Nom. 0.5mm above the sight line of the bead.
- Apertures must be lined using the Norsound 5202LNR aperture liner fitted centrally in the door leaf thickness. The aperture liner can be reduced in width from the standard 52x2mm to a minimum of 42mm wide with the reduction being carried out equally on both edges of the liner.
- When used with flush style beads, a nominal gap of 0.5mm must be allowed between the bead and the aperture in the door leaf.
- Glazing beads must be retained in position with min. 50mm long x 2mm dia. steel pins, *OR* 50mm long # 6~8 steel screws, inserted at 35~40° to the vertical at not more than 50mm from each corner, otherwise equi-spaced between at not more than 150mm centres.

Fig. 6.37



42x2 NOR5202 LNR liner to aperture.

Fig. 6.38

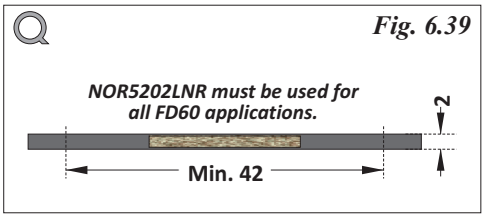


- Pneumatically fired pins are acceptable providing the pins meet the specification given by reference to page ***6.3.***
- Norsound Vision 60B seals are fixed to the beads using self adhesive tape. The Norsound Vision 60T seals are fixed using a 'plug in' system into the bead that must be accurately profiled to receive the seal. The 60T seal has been specifically designed to allow for the seal to be fitted to the beading before final cutting for size and mitre jointing.

Maximum approved glazed area = 0.72m²

Norsound 5202LNR FD 60 Aperture Liner

Fig. 6.39



For FD60 fire door applications the aperture for glazing must be lined with the Norsound NOR5202LNR that must be located centrally in the door thickness. The aperture liner is held in position using self adhesive tape with the fixing reinforced by the bead pin / screw fixings.

The NOR5202LNR is supplied in a standard width of 52mm but can be reduced in width to suit particular application requirements provided that the liner is reduced equally from each edge and that

Refer to Norsound Ltd. for further guidance & patent information concerning Norsound Glazing Systems

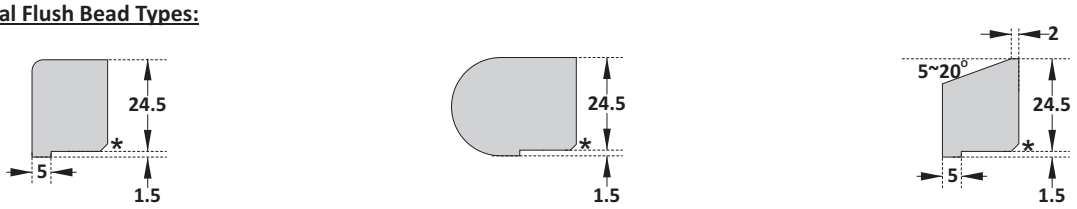
Norsound Vision 60 Glazing Systems

Norsound Vision 60B Bead Profiles

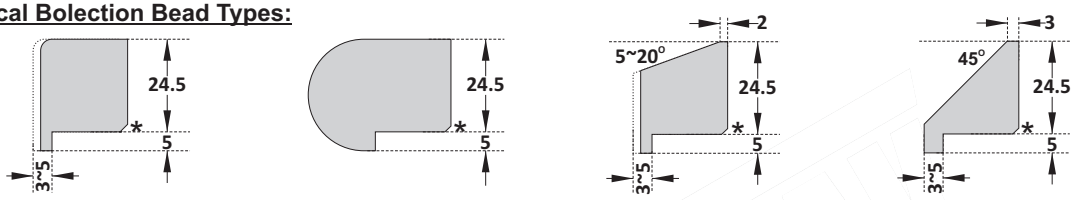
Fig. 6.40

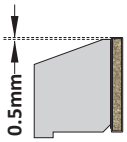
** = 2mm splay applicable to all bead profiles*

Typical Flush Bead Types:



Typical Bolection Bead Types:





The Norsound Vision 60 'B' intumescent seal is affixed to the face of the bead with self adhesive tape. It is important to ensure that the seal projects above the bead by Nom. 0.5mm.

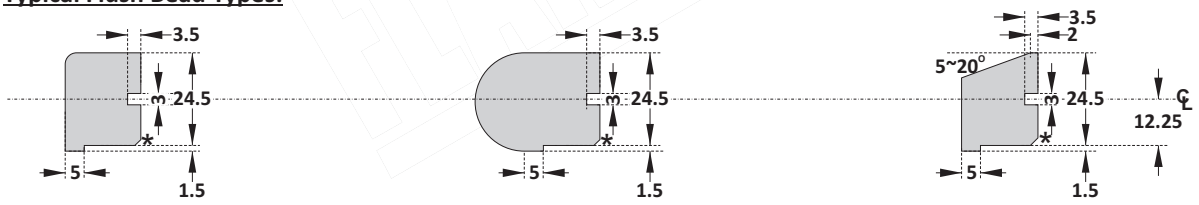
Beads can be to any profile provided that they are not smaller than the minimum dimensions shown in this detail with the 24.5mm height being a critical dimension..

Norsound Vision 60T Bead Profiles

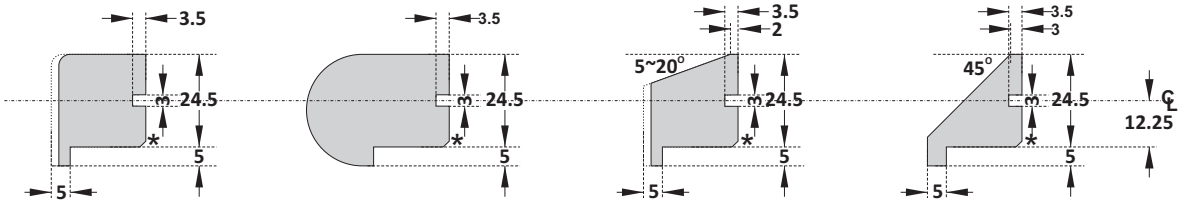
Fig. 6.41

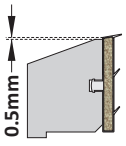
** = 2mm splay applicable to all bead profiles*

Typical Flush Bead Types:



Typical Bolection Bead Types:





The Norsound Vision 60 'T' intumescent seal is affixed to the face of the bead using a 'plug in' feature. It is important to ensure that the seal projects above the bead by Nom. 0.5mm.

Beads can be to any profile provided that they are not smaller than the minimum dimensions shown in this detail with the 24.5mm height being a critical dimension..

Refer to Norsound Ltd. for further guidance & patent information concerning Norsound Glazing Systems

Norsound Vision 60 Glazing Systems

Norsound Vision 60 - *Slimline*

- The Norsound Vision 60 *Slimline* systems, using a square section flush bead detail can be used with FD60 Glass Types 1 ~ 3. ***(See page 6.5)***.

- Where bolection bead profiles are used the Norsound Vision 60 systems can be used with FD60 Glass 1 ~ 3 and 5 ~ 8 ***(excluding type 4)***. ***(See page 6.5).***

- The bead material must satisfy the following specifications:
Straight grained joinery quality Hardwood, - ***(Excluding Beech -*** *Fagus Sylvatcia****)*** *- free from knots, splits or checks. Min. density = 640kg/m³.*

- For flush style beads, the bead height must be nominally 16mm with a minimum rebate of 1.5mm. For bolection style beads, the bolection returns must be a minimum of 5mm high and project a minimum of 3mm from the leaf face

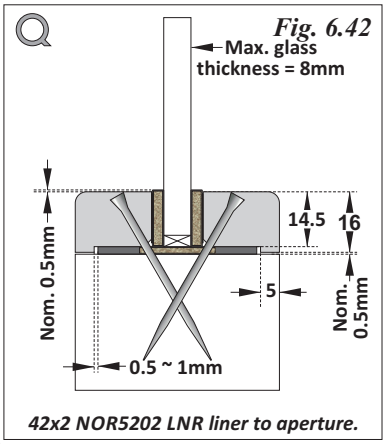
- The 15mm high Norsound Vision 60 Slimline intumescent seal component is required to project Nom. 0.5mm above the sight line of the bead.

- Apertures must be lined using the Norsound 5202LNR aperture liner fitted centrally in the door leaf thickness. The aperture liner can be reduced in width from the standard 52x2mm to a minimum of 42mm wide with the reduction being carried out equally on both edges of the liner.

- When used with flush style beads, a nominal gap of 0.5mm must be allowed between the bead and the aperture in the door leaf.

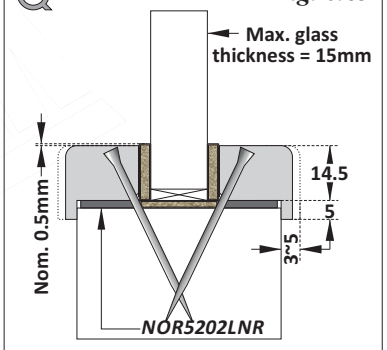
- Glazing beads must be retained in position with min. 50mm long x 2mm dia. steel pins, *OR* 50mm long No. 6~8 screws, inserted at 35~40° to the vertical at not more than 50mm from each corner, otherwise equi-spaced between at not more than 150mm centres.

Fig. 6.42



42x2 NOR5202 LNR liner to aperture.

Fig. 6.43



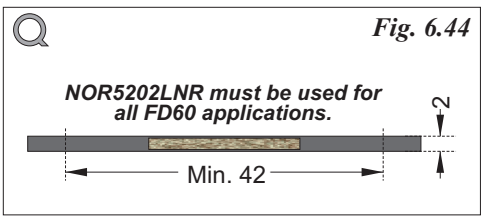
- Pneumatically fired pins are acceptable providing the pins meet the specification given by reference to page ***6.3.***

- Norsound Vision 60B Slimline seals are fixed to the beads using self adhesive tape. The Norsound Vision 60T Slimline seals are fixed using a 'plug in' system into the bead that must be accurately profiled to receive the seal. The 60T Slimline seal has been specifically designed to allow for the seal to be fitted to the beading before final cutting for size and mitre jointing.

Maximum approved glazed area = 0.72m²

Norsound 5202LNR FD 60 Aperture Liner

Fig. 6.44



For FD60 fire door applications the aperture for glazing must be lined with the Norsound NOR5202LNR that must be located centrally in the door thickness. The aperture liner is held in position using self adhesive tape with the fixing reinforced by the bead pin / screw fixings.

The NOR5202LNR is supplied in a standard width of 52mm but can be reduced in width to suit particular application requirements provided that the liner is reduced equally from each edge and that the finished width is not less than 42mm.

Refer to Norsound Ltd. for further guidance & patent information concerning Norsound Glazing Systems

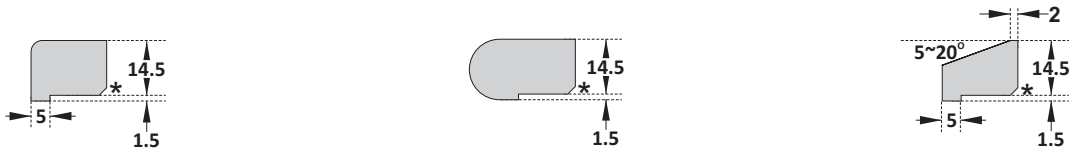
Norsound Vision 60 *Slimline* Glazing Systems

Norsound Vision 60B *Slimline* Bead Profiles

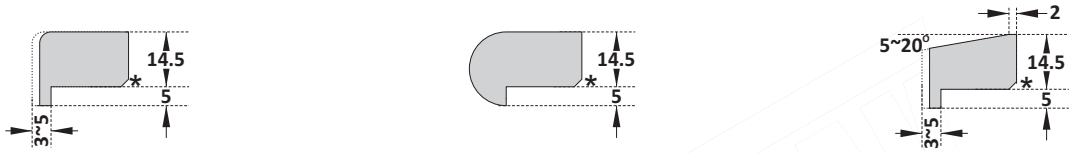
Fig. 6.45

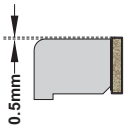
** = 2mm splay applicable to all bead profiles*

Typical Flush Bead Types:



Typical Bolection Bead Types:





The Norsound Vision 60 'B' Slimline intumescent seal is affixed to the face of the bead with self adhesive tape. It is important to ensure that the seal projects above the bead by Nom. 0.5mm.

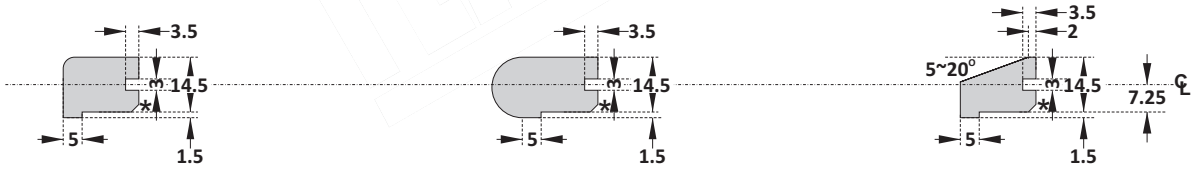
Beads can be to any profile provided that they are not smaller than the minimum dimensions shown in this detail with the 14.5mm height being a critical dimension.

Norsound Vision 60T *Slimline* Bead Profiles

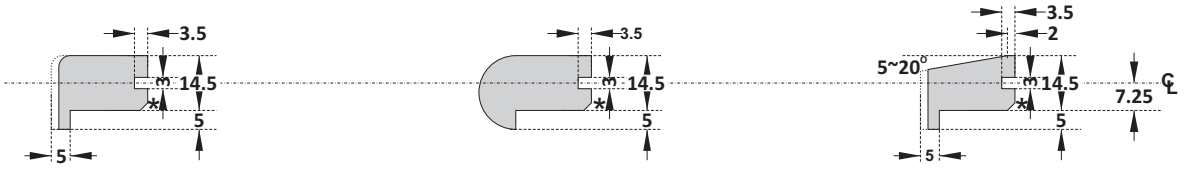
Fig. 6.46

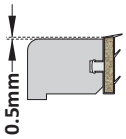
** = 2mm splay applicable to all bead profiles*

Typical Flush Bead Types:



Typical Bolection Bead Types:





The Norsound Vision 60 'T' Slimline intumescent seal is affixed to the face of the bead using a 'plug in' feature. It is important to ensure that the seal projects above the bead by Nom. 0.5mm.

Beads can be to any profile provided that they are not smaller than the minimum dimensions shown in this detail with the 14.5mm height being a critical dimension.

Refer to Norsound Ltd. for further guidance & patent information concerning Norsound Glazing Systems

Norsound Universal Glazing Systems

Norsound Universal - General

The Norsound Universal glazing system provides for identical appearance beading systems for a wide range of performance doors, including fire rated doors from FD20 (*20min.*) through to FD120 (*2hr.*).

The aluminium cladding used with the Norsound Universal glazing systems is available ex stock in an SAA *(Satin Anodised Aluminium)* finish.

Other finishes are available either ex stock or to special order. Finishing options include:

Powder coated - any BS or RAL colour.
Metallic finishes including Bronze, Brass, Chrome etc.
Woodgrain finishes to match any timber species.
Phospherescent that glow in the dark.
Duel or multi colour pattern finishes to suit a Client's particular design requirements.

Norsound Universal - FD30 Application

The Norsound Universal 30 Glazing system is 'Q-Mark' approved for use with FLAMEBREAK™ 430, 630 & FF630 door constructions for FD30 applications, subject to the following:

- The Norsound Universal 30 systems, using a core square flush bead detail can be used with FD30 Glass Types 1 ~ 7. ***(See page 6.5)***.

- The core bead material must satisfy the following specifications:
Straight grained joinery quality Softwood or Hardwood, free from knots, splits or checks. Min. density = 510kg/m³. ***OR*** *MDF Min. density 700kg/m3.*

- The core bead height must be 13mm.

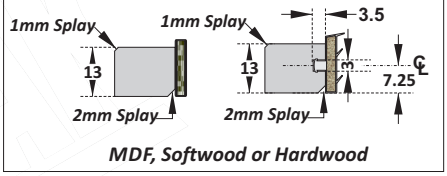
- The 15mm high Norsound Universal 30 intumescent seal component is required to project Nom. 0.5mm above the sight line of the aluminium cladding bead when installed.

- Core glazing beads must be retained in position with min. 40mm long x 1.5mm dia. steel pins, *OR* 40mm long #6~8 steel screws, inserted at 35~40° to the vertical at not more than 40mm from each corner, otherwise equi-spaced between at not more than 150mm centres.

- Pneumatically fired pins are acceptable providing the pins meet the specification given by reference to page ***6.3.***

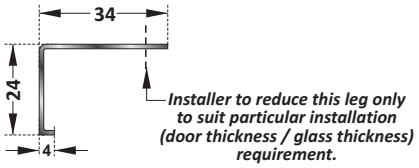
- Norsound Universal 30B seals are fixed to the core beads using self adhesive tape. The Norsound Universal 30T seals are fixed using a 'plug in' system into the bead that must be accurately profiled to receive the seal. The 30T seal has been specifically designed to allow for the seal to be fitted to the core beading before final cutting for size and mitre jointing.

Core Bead Profiles *Fig. 6.47*

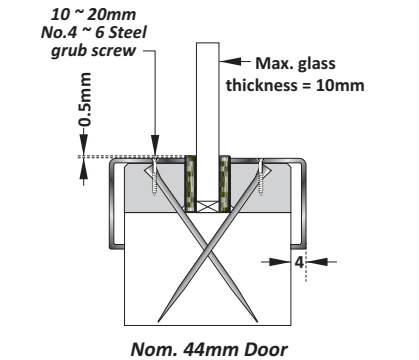


MDF, Softwood or Hardwood

Universal Cladding Profile *Fig. 6.48*



Universal 30B Assembly *Fig. 6.49*



Nom. 44mm Door

- The Norsound Universal aluminium cladding must be secured to the core bead by use of 3No. 10~12mm long # 4 ~ 6 grub screws per length.

Maximum approved glazed area = 1.15m²

Refer to Norsound Ltd. for further guidance & patent information concerning Norsound Glazing Systems

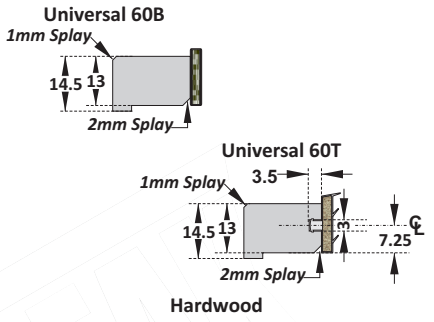
Norsound Universal Glazing Systems

Norsound Universal - FD60 Application

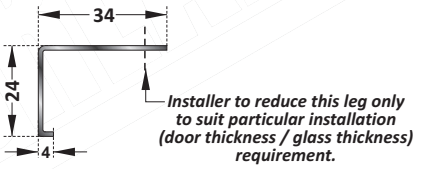
The Norsound Universal 60 Glazing system is 'Q-Mark' approved for use with FLAMEBREAK™ 660 & FF660 door constructions, subject to the following:

- The Norsound Universal 60 systems, using a core square section flush bead detail can be used with FD60 Glass Types 1 ~ 3 and 5 ~ 8 ***(excluding type 4)***. ***(See page 6.5)***.
- The core bead material must satisfy the following specifications: *Straight grained joinery quality Hardwood, -* ***(Excluding Beech -*** *Fagus Sylvatcia****) -free from knots, splits or checks. Min. density = 640kg/m³.***
- The core bead height must be 14.5mm with a 1.5mm rebate.
- The glazing aperture must be lined using the Norsound NOR5202LNR reduced equally from each edge to finish 42x2mm.
- The 15mm high Norsound Universal 60 intumescent seal component is required to project Nom. 0.5mm above the sight line of the aluminium cladding bead when installed.
- Core glazing beads must be retained in position with min. 50mm long x 2mm dia. steel pins, *OR* 50mm long # 6~8 steel screws, inserted at 35~40° to the vertical at not more than 40mm from each corner, otherwise equi-spaced between at not more than 150mm centres.
- Pneumatically fired pins are acceptable providing the pins meet the specification given by reference to page ***6.3.***
- Norsound Universal 60B seals are fixed to the core beads using self adhesive tape. The Norsound Universal 60T seals are fixed using a 'plug in' system into the bead that must be accurately profiled to receive the seal. The 60T seal has been specifically designed to allow for the seal to be fitted to the core beading before final cutting for size and mitre jointing.
- The Norsound Universal aluminium cladding must be secured to the core bead by use of 3No. 10~12mm long # 4~6 grub screws per length.

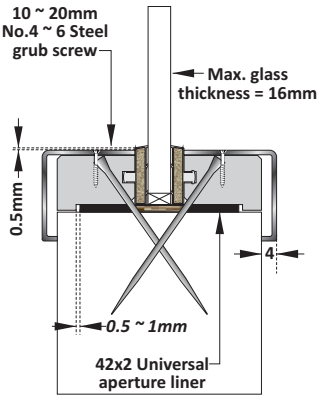
Core Bead Profiles *Fig. 6.50*



Universal Cladding Profile *Fig. 6.51*



Universal 60T Assembly *Fig. 6.52*



Maximum approved glazed area = 0.72m²

Refer to Norsound Ltd. for further guidance & patent information concerning Norsound Glazing Systems

Glass Replacement

Glass Replacement

Glass is perhaps the most vulnerable component of a doorset and may be damaged or broken during transit, installation or later when the building is in use.

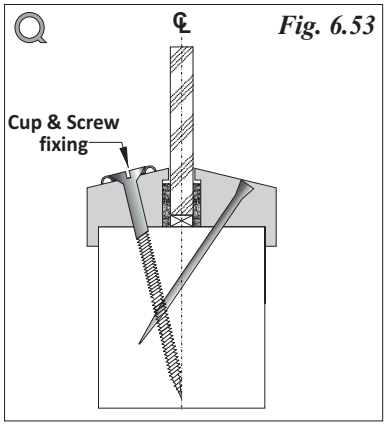


Fig. 6.53

- Provision can be made to ease the replacement of glass by the use of cup and approved screw fixings to one side of the door the bead to the other side being secured with approved pins or screws according to performance.

- Damaged glass must be replaced by a qualified glazier.

- For fire door applications the fixing screws for a removable bead must be of the approved length according to performance and pass to *(or through)* the centre of the thickness of the door.

- When replacing glass in fire rated door assemblies, the replacement glass must be of the same type and thickness as the glass used for the original installation.

- Provided that the intumescent sealing system and hardwood bead is not damaged during removal, the beading system and intumescent sealing system may be refitted. However, in the event of damage, these components must be replaced using the same system that was used for the original installation.

- Documents describing project related glazing provisions in fire doors should be handed over to the Client on hand over of the building for possible reference by the 'Responsible Person' if required to satisfy their duties in accordance with the Regulatory Reform (Fire Safety) Order 2005.