7 Glazing

7.1 General

The testing conducted on the Flamebreak 30 design has demonstrated that the design is capable of tolerating glazed apertures, whilst providing a margin of over performance. Glazing is therefore acceptable within the following parameters.

The maximum assessed glazed area for all configurations is 1.15m². The glazing system must be one of the following tested proprietary systems:

7.2 Assessed Glazing Systems

Glazing System	Manufacturer	Max. Area (m^2)
1. Fireglaze 30	Sealmaster Ltd.	1.15
2. Firestrip 30	Hodgsons Sealants Ltd.	1.15
3. Therm-A-Strip 30	Intumescent Seals Ltd.	1.15
4. Pyroglaze 30	Mann McGowan Ltd.	0.72
5. Norsound Vision 30[1]	Norsound Ltd.	1.15
6. Norsound Universal 30[2]	Norsound Ltd.	1.15
7. 8193	Pyroplex Ltd.	0.72
8. 30049	Pyroplex Ltd.	0.72
9. 30054	Pyroplex Ltd.	0.72
10. System 36/6	Lorient Polyproducts Ltd.	0.72
11. System 36/6 Plus	Lorient Polyproducts Ltd.	0.72
12. Flexible Figure 1	Lorient Polyproducts Ltd.	0.72

Notes:

1. See section 7.7 below for additional scope.
2. See section 7.8 below for additional scope.

7.3 Assessed Glass Products

Glass Type	Manufacturer	Thickness (mm)	Max. Area (m^2)
1. Pyroshield	Pilkington Group Ltd.	6 & 7	1.15
2. Pyroshield 2	Pilkington Group Ltd.	6 & 7	1.15
3. Pyran S	Schott Glass Ltd.	6	1.15
4. Pyrostem	CGI Ltd.	6	1.15
5. Pyroclear 30-001[1]	Pilkington Group Ltd.	6	0.43
6. Pyroguard EW30	CGI Ltd.	7	0.87
7. Pyrobelite 7	AGC Flat Glass UK	7	1.15
8. Pyrodur 30-104	Pilkington Group Ltd.	7	1.15
9. Pyrodur 60-10	Pilkington Group Ltd.	10	1.15
10. Pyroguard EW MAXI	CGI Ltd.	11	0.52
11. Pyranova 15-S2.0	Schott UK Ltd.	11	1.15
12. Pyrobelite 12	AGC Flat Glass UK	12	1.15
13. Pyrostop 30-10	Pilkington Group Ltd.	15	1.15
14. Pyrobel 16	AGC Flat Glass UK	16	1.15

Notes:

1. Pilkington Pyroclear is limited to 0.43m^2 and may only be utilised with the tested glazing system as described in section 7.5 below.
2. All glass types must be fitted strictly in accordance with the manufacturer's tested details/installation requirements.
3. Glass types 10 - 14 are full insulating in terms of the criteria set out in BS 476: Part 20: 1987.

7.4 Glazing Beads & Installation

Glazing beads must be from hardwood as specified in the following table:

Material	Profile	Min. Density (kg/m^3)	Application
Hardwood	Splayed	640	All proprietary systems detailed in 7.2 and appendix B
Hardwood	Square	640	Proprietary systems 1, 2 & 3 as specified in 7.2 and glass types 6 - 14 as specified in 7.3

See appendix B for square and splayed bead profile options. A 6 – 10mm thick square aperture liner is permitted for use with square beads providing it is constructed from hardwood of minimum density 640kg/m^3 and glued in position using an adhesive type specified for the lippings (see section 12).

It is permitted to use a flush bead (i.e. a bead with no bolection return) with a chamfer providing all other details meet the specification given for the square bead option in the table above.

Glazing beads must be retained in position with 50mm long x 2mm diameter steel pins or 40mm long No. 6 - 8 screws, inserted at 35 - 40º to the vertical, at no more than 50mm from each corner and at 150mm maximum centres. Pneumatically fired pins are acceptable providing they meet the specification given above.

Glazed openings must not be less than 100mm from any door edge. Multiple apertures are acceptable within the permitted glazed area, with a minimum dimension of 80mm between apertures. Aperture shape is not restricted, providing the glazing system and beads are compatible with that shape.

False timber beads may be bonded to the glass face with an intumescent mastic/silicon, or a 0.5 - 2mm thick self-adhesive intumescent tape/strip. Suitable glass for this application is restricted to types 6 - 14.

Timber for glazing beads must be straight grained, joinery quality, free from knots, splits and checks.

Sectional drawings detailing the tested and approved proprietary glazing systems are contained in appendix B.

7.5 Pyroclear 30-001 (6mm thick) – Pilkington Group Ltd.

The following limitations will apply to Pilkington Pyroclear 30-001 glass type listed in section 7.3 above:

1. Hardwood (min. density 640kg/m³) glazing beads, 25mm high x 22mm deep with a 22º chamfer and a 5mm x 5mm bolection return.

2. Beads must be retained in position with 50mm long x 2mm diameter steel pins or 50mm long No. 6 - 8 steel screws, inserted at 45º to the vertical, at no more than 50mm from each corner and at 150mm maximum centres. Pneumatically fired pins are acceptable providing the pins meet the specification given above.
3. The glazing system is limited to systems 4, 8, 10 or 12 from section 7.2 above.
4. The glass must be fitted with maximum 10mm edge cover and allowing for 10mm expansion on all edges.
5. Aperture shape is not restricted, providing the glazing system and beads are compatible with that shape.
6. Timber for glazing beads must be hardwood, straight grained, joinery quality, free from knots, splits and checks.
7. Glazed openings must not be less than 100mm from any edge, with a minimum dimension of 80mm between apertures.
8. Multiple apertures are permitted, subject to point 7 above.

7.6 Improved Security Bead

A combined bead and lining can be used to deny access to fixings from one side of the door leaf to improve security.

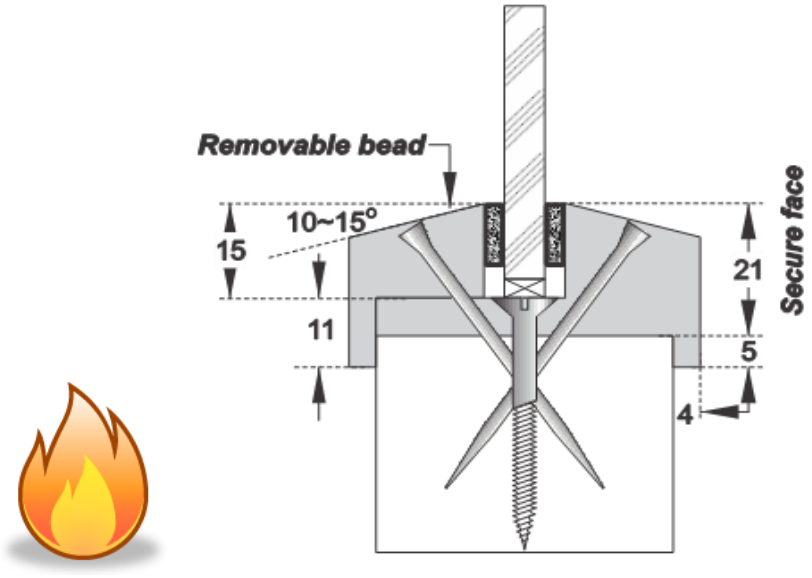
All glazing details are to meet the specification given in sections 7.1 - 7.5 unless otherwise stated below.

The aperture in the door must be lined using minimum 26mm thickness combined bead and lining in hardwood of minimum 640kg/m^3 density.

The combined bead and lining is bonded to the aperture in the door using the adhesive types approved for lippings (see section 12) and reinforced using No. 6 – 8, 50mm long screw fixings located centre thickness of the door at 200mm centres.

The beads must be retained in position with 50mm long x 2mm diameter steel pins or 50mm long No. 6 - 8 screws, inserted at 35 - 40º to the vertical. Fixings must be at 150mm maximum centres and no more than 50mm from each corner. Pneumatically fired pins are acceptable providing the pins meet the specification given above. The bead profile must be appropriate for the glazing system selected.

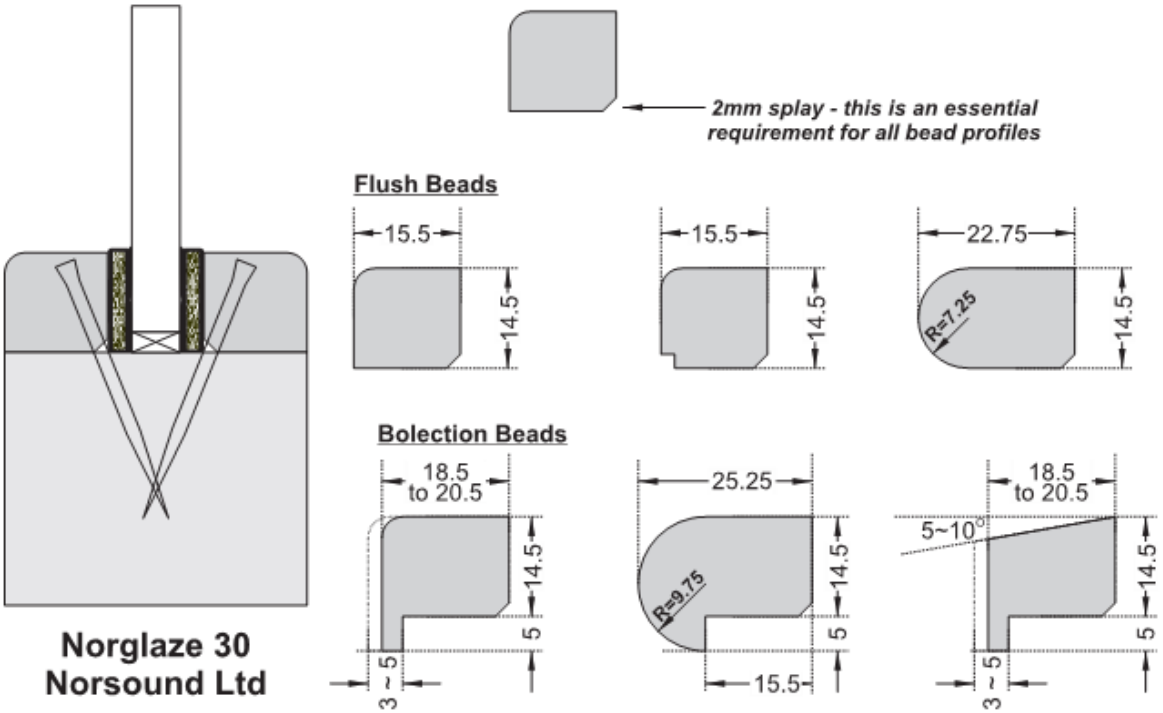
See diagram below for details:



7.7 Norsound Ltd. – Norsound Vision 30B & 30T

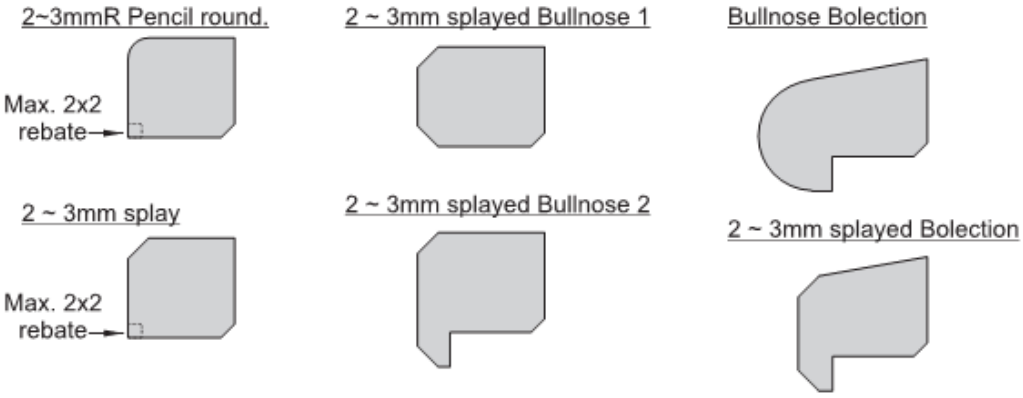
The Norsound Ltd. glazing system tested in IF12011 has the following scope of application in addition to that described in sections 7.2 – 7.5.

The Norsound Vision 30B is illustrated below:

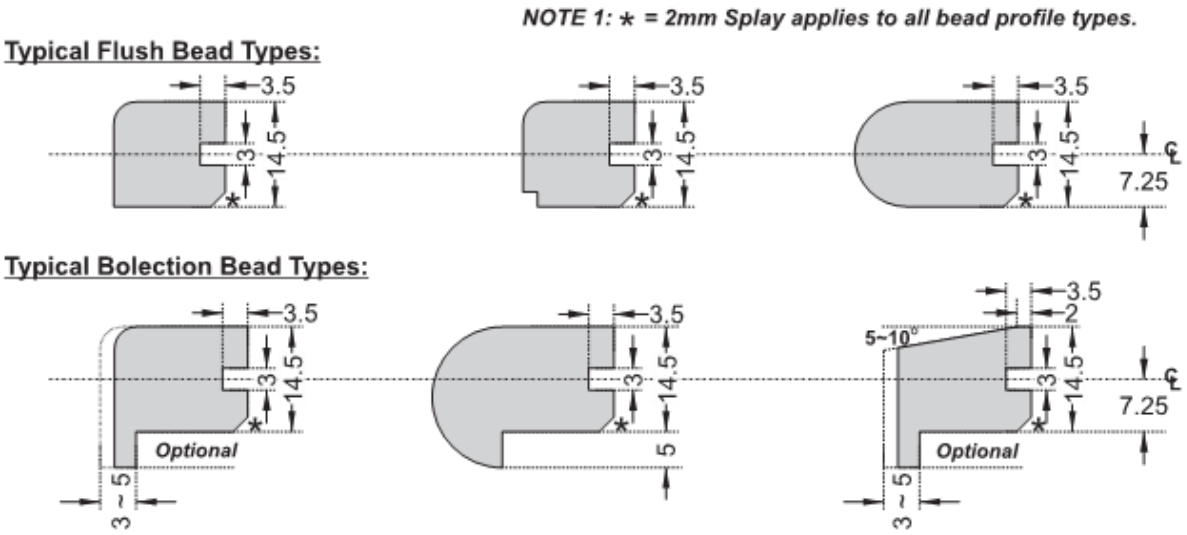


Alternative Bead Profiles

Note: When used with flush beads the maximum approved glass thickness for use in 44mm thickness doors is 8mm.



The Norsound Vision 30T glazing system may utilise the same range of bead shapes, as illustrated below:



Notes:

1. Bead height must be nominally 14.5mm.
2. The intumescent seal component of Norsound Vision 30B and 30T is 15mm high and is required to project 0.5mm above the sightline of the bead.
3. The position of the groove in the rear of the bead is therefore critical for installation of Norsound Vision 30T.
4. Bolection returns should be a minimum of 5mm high, and a minimum of 3mm thick (projecting from the leaf face).
5. Glazing beads must be retained in position with minimum 40mm long x 1.5mm diameter steel pins, or minimum 40mm long No. 6 – 8 screws, inserted at 35 - 40° to the vertical, at no more than 40mm from each corner and at maximum 150mm centres.
6. Pneumatically fired pins are acceptable providing the pins meet specification given above.

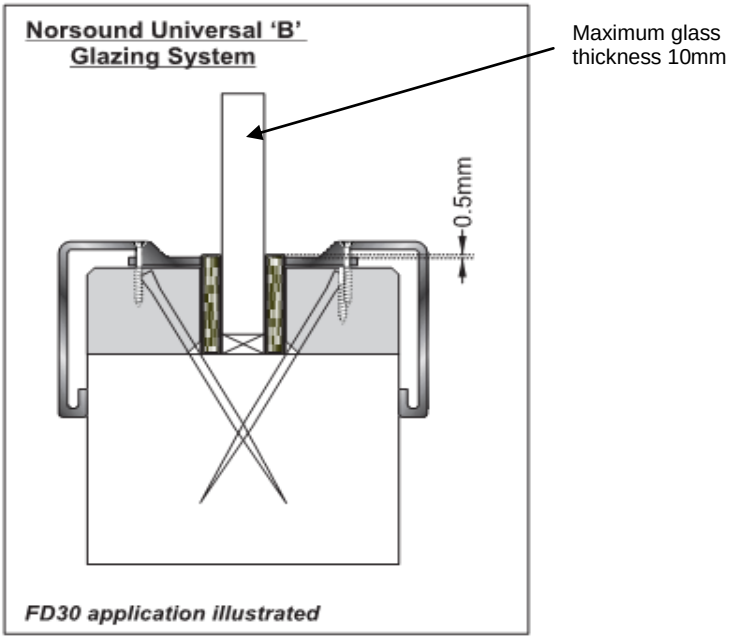
The bead type and permitted glass types must meet the following specification:

Bead Shape	Material	Min. Density (kg/m^3)	Permitted Glass Types
Square flush	Straight grained, joinery quality softwood or hardwood, free from knots, splits and checks	450	1 - 8 excluding 5 (see section 7.3)
	MDF	700	
Bolection	Straight grained, joinery quality softwood or hardwood, free from knots, splits and checks	450	1 – 12 excluding 5 (see section 7.3)
	MDF	700	

7.8 Norsound Ltd. – Norsound Universal 30B & 30T

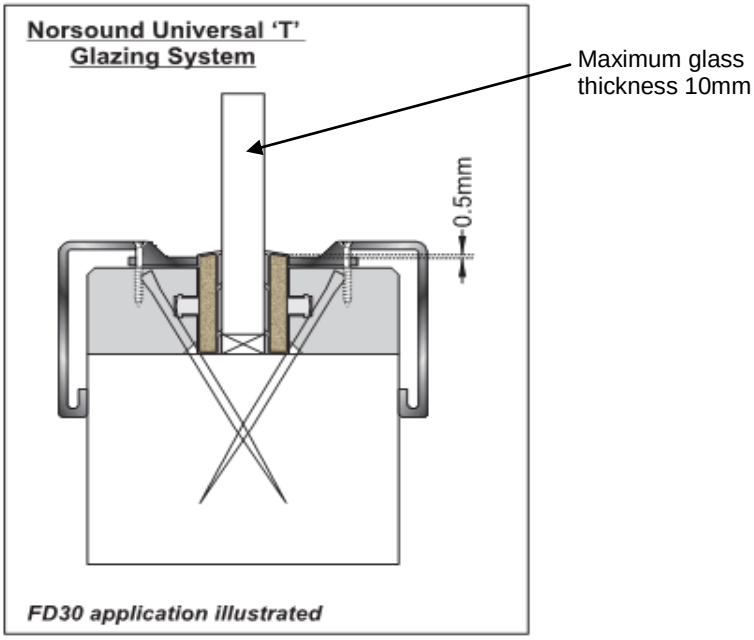
The Norsound Ltd. Universal glazing system has the following scope of application in addition to that described in sections 7.2 – 7.5.

The Norsound Universal 30B is illustrated below:



The Norsound Universal 30T glazing system has the following scope of application in addition to that described in sections 7.2 – 7.5.

The Norsound Universal 30T is illustrated below:



Notes:

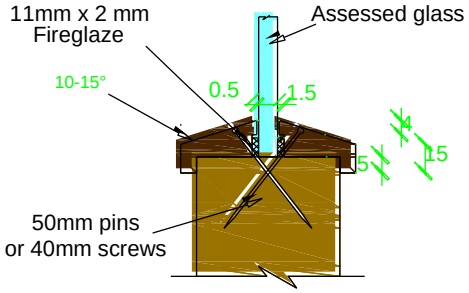
1. Bead height must be nominally 13mm.
2. The intumescent seal component of Norsound Universal 30B & 30T is 15mm high and is required to project 0.5mm above the sightline of the bead.
3. The position of the groove in the rear of the bead is therefore critical for installation of Norsound Universal 30T.
4. Glazing beads must be retained in position with minimum 40mm long x 1.5mm diameter steel pins, or minimum 40mm long No. 6 – 8 screws, inserted at 35 - 40° to the vertical, at no more than 40mm from each corner and at 150mm maximum centres.
5. Pneumatically fired pins are acceptable providing the pins meet the specification given above.
6. The Norsound Universal aluminium section cladding the timber bead must be secured to the core bead by using 3No. 10 – 12mm No.4 grub screws per length.
7. The intumescent seal must project nominally 0.5mm above the sight line of the beading.

The bead material and permitted glass types must meet the following specification:

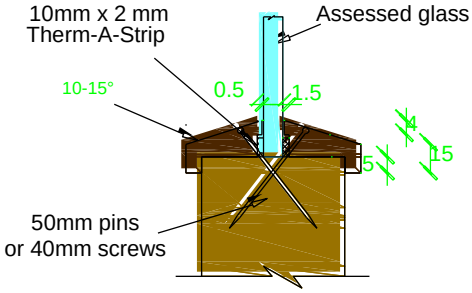
Material	**Min. Density** (kg/m^3)	**Permitted Glass Types**
Straight grained, joinery quality softwood or hardwood, free from knots, splits and checks	450	1 – 9 excluding 5 (see section 7.3)
MDF	700	1 – 9 excluding 5 (see section 7.3)

Appendix B

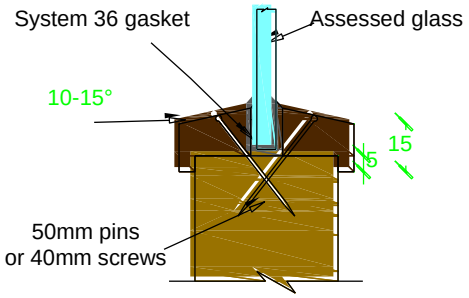
Proprietary 30 Minute Glazing Systems



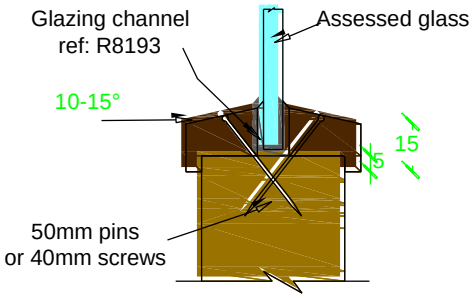
Fireglaze
Sealmaster Ltd



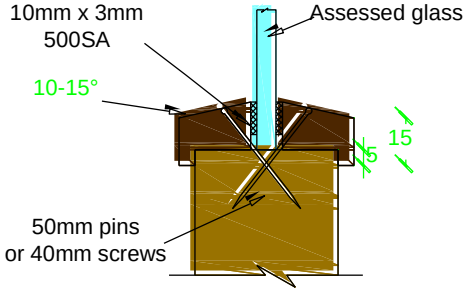
Therm-A-Strip
Intumescent Seals Ltd



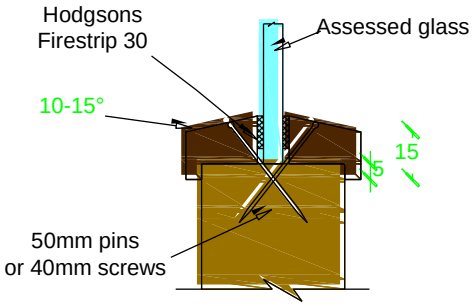
System 36
Lorient Polyproducts Ltd



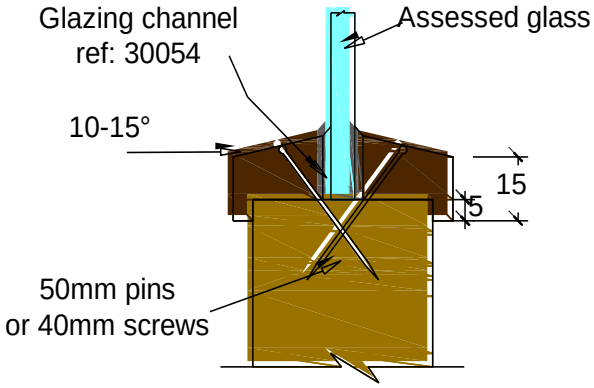
Pyroplex Ltd



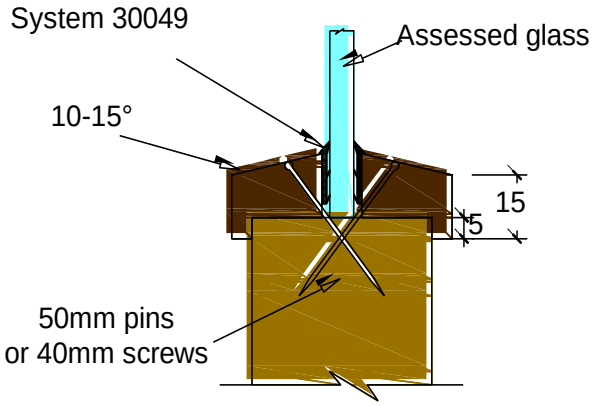
Pyroglaze 30
Mann McGowan Ltd



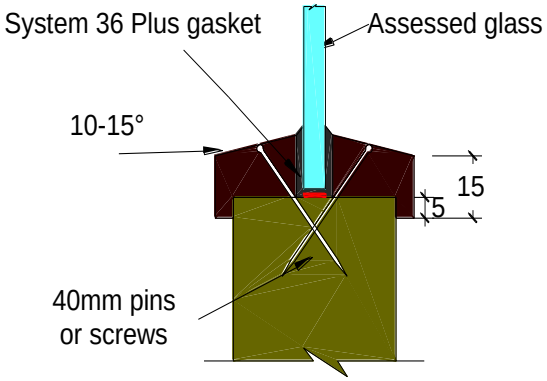
Firestrip 30
Hodgsons Sealants Ltd



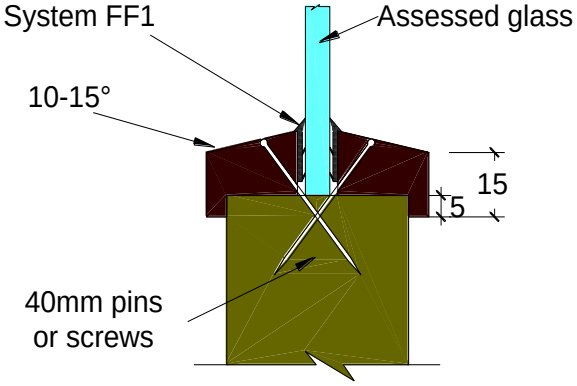
Pyroplex Ltd



Pyroplex Ltd



System 36 Plus
Lorient Polyproducts Ltd

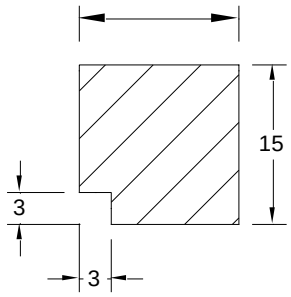


System FF1
Lorient Polyproducts Ltd

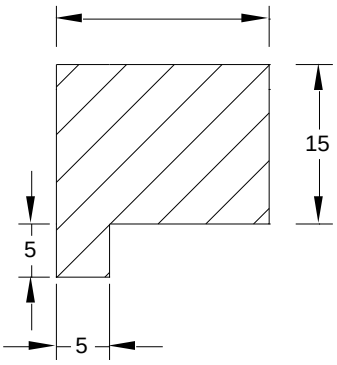
Assessed Square Glazing Bead Profiles

(The following square bead profiles may be used as an alternative to the splayed beads detailed above - refer to section 7 for glazing system and glass restrictions.)

To finish flush with the leaf face



Suited to glass thickness



To finish flush with the leaf face