



CERTIFICATE OF APPROVAL

No CF 185

This is to certify that, in accordance with
TS00 General Requirements for Certification of Fire Protection Products
The undermentioned products of

ASSA ABLOY LIMITED

Portobello, School Street, Willenhall,
WV13 3PW, United Kingdom

Tel: 01626 834252 Fax: 01626 833166

Have been assessed against the requirements of the Technical Schedule(s)
denoted below and are approved for use subject to the conditions
appended hereto:

CERTIFIED PRODUCT

Lorient System 90 PLUS Glazing
Channels

TECHNICAL SCHEDULE

TS25 Fire Resistant Glass,
Glazing Systems and Materials

Signed and sealed for and on behalf of Warringtonfire Testing and Certification Limited

Paul Duggan
Certification Manager

Issued: 20th May 1999
Reissued: 5th December 2025
Valid to: 10th December 2030



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LORIENT SYSTEM 90 PLUS GLAZING CHANNELS

This certification is provided to the client for their own purposes and we cannot opine on whether it will be accepted by Building Control authorities or any other third parties for any purpose.

This Certificate of Approval relates to the contribution to fire resistance of Lorient System-90 PLUS fire resisting glazing system when used in timber screens, timber door leaves and mineral composite door leaves, for periods of up to 120 minutes integrity, as defined in BS 476: Part 22: 1987 subject to the under mentioned conditions.

This product is approved on the basis of:

- i) Initial type testing.
- ii) A design appraisal against TS25.
- iii) Certification of quality management system to ISO 9001: 2008.
- iv) Inspection and surveillance of factory production control
- v) Audit testing

This Certificate of Approval must be read in conjunction with CERTIFIRE Technical Schedule TS25, Fire Resistant Glass, Glazing Systems and materials

Lorient System-90 PLUS Fire Resistant Glazing Method

Lorient System 90-PLUS glazing method consists of four essential elements:

1. A primary hollow channel profile extruded from rigid PVC, into which is fixed sodium silicate based intumescent material in a standard manner.
2. A secondary Sodium silicate based intumescent material, used as a lining around the perimeter of the aperture to be glazed.
3. Retaining beads, hardwood or steel, of a specific design.
4. Screw fixings, via the retaining timber beads or through bolt fixings through the steel beads.

The combined elements are used at the perimeter of a pane of fire resisting glass to provide an effective seal between the glass and substrate within a screen or door leaf.

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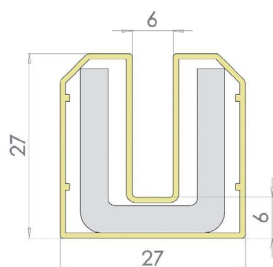


Figure 1

Figure 1, showing item referenced LG2727, shows the dimensions of the primary hollow channel. This shall be used in conjunction with the other elements listed above to form the complete system

Figure 2

A typical arrangement of Lorient System-90 PLUS in a timber screen will include only screw-fixed retaining beads. Standard woodscrews shall be used, No. 8s, 45 mm long at maximum of 200 mm fixing centres.

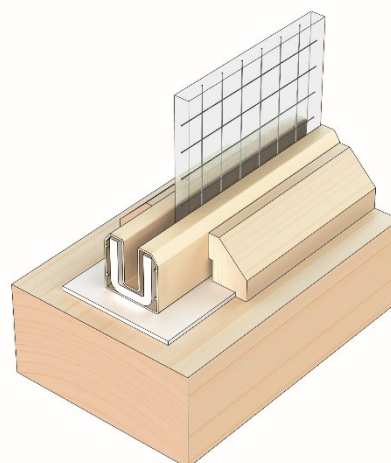
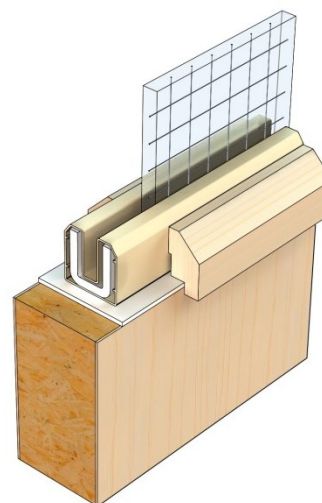


Figure 3

Figure 3 shows a typical arrangement of Lorient System-90 PLUS in a timber door leaf which will also include screw-fixed retaining beads as above.



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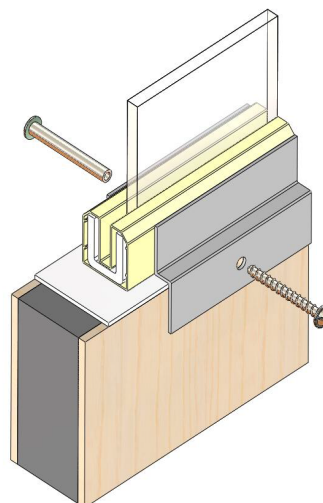
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Figure 4 shows a typical arrangement of Lorient System-90 Plus, when used in a mineral composite door leaf, to provide integrity of up to 120 minutes. The beads should be steel 'Z' sections and fixed with sleeved through bolts, 50 mm in from each corner and at no more than 200 mm fixing centres.

This construction also applies to the typical arrangement of Lorient System-90 Plus, when used in a timber based door leaf with a minimum thickness of 64mm, for durations up to 90 minutes integrity. In this instance, however, the through bolts shall be positioned 50 mm in from each corner and at no more than 150 mm fixing centres.

Figure 4



System 90 PLUS as applied to timber framed screens

This Certificate of Approval relates to the following glasses when used in conjunction with System-90 PLUS Glazing methods at the maximum sizes shown in Table 1 below:

Table 1 - Acceptable glass sizes for timber framed screens

Glass	Maximum Pane dimension (mm) at any aspect ratio less than 1:1	Maximum Pane dimension (mm) at an aspect ratio of 1:1	Maximum Pane Area (m ²)
Firelite	2420 or 1077	1460 by 1460	2.15
Pyroshield Safety	1000 by 1000	1000 by 1000	1.00
Pyran S	2420 or 1077	1460 by 1460	2.15

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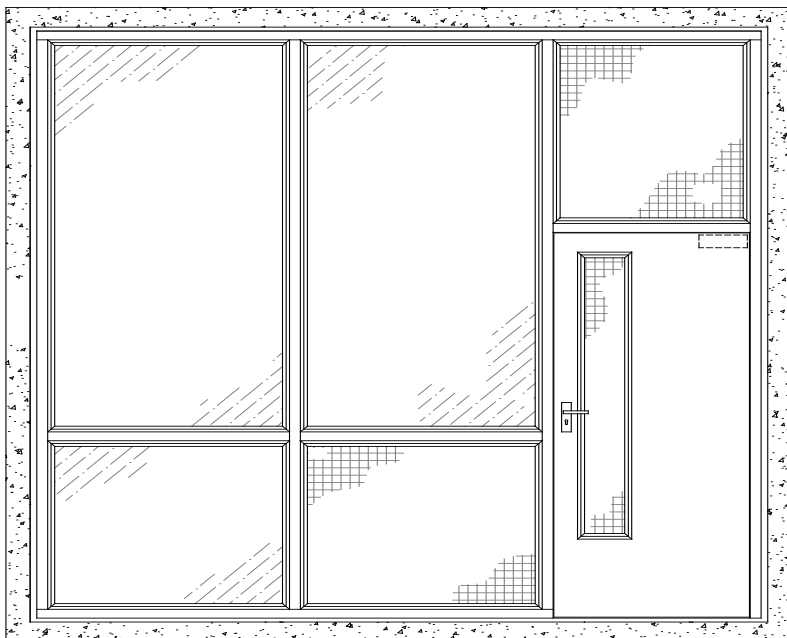
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The above table applies to hardwood framed screens, in cladding multi-paned assemblies with shared mullions and transoms, with the option of incorporated door sets (see Figure 5 below for typical arrangement).

Figure 5



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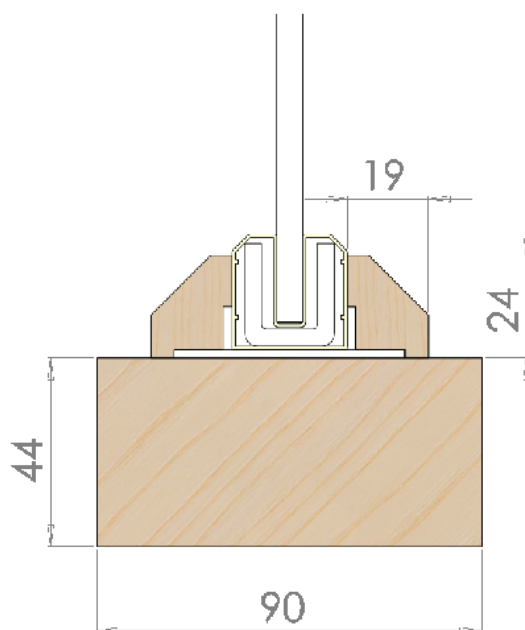
LORIENT SYSTEM 90 PLUS GLAZING CHANNELS

Figure 6 shows the tested dimensions for framing members and manufactured from hardwood of minimum density 650 kg/m³. Where alternative timbers are to be used, other hardwoods of the same density or higher may be used, with the exception of Ash.

The tested size of the framing member was 94 mm deep by 44 mm high at 650 kg/m³ density. The acceptable minimum size is 70 mm deep by 44 mm high at the same or greater density.

No variations in retaining bead profile are allowable other than with or without bolection detail and alternative timber species of minimum density 650 kg/m³. Ash is not permitted.

Figure 6



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LORIENT SYSTEM 90 PLUS GLAZING CHANNELS

System-90 PLUS applied to timber or composite mineral based door leaves for 60 minutes integrity

This Certificate of Approval relates to the following glasses when used in conjunction with System-90 PLUS Glazing method at the maximum sizes shown in Table 2:

Table 2 - Acceptable glass sizes for door leaves (60 minutes)

Glass	Maximum pane height (mm)	Maximum pane width (mm)	Maximum Pane Area (m ²)
Firelite	720	720	0.43
Pyroshield Safety	720	720	0.43
Pyran S	720	720	0.43
Firelite Pyroshield Safety Pyran S	1600	200	0.32

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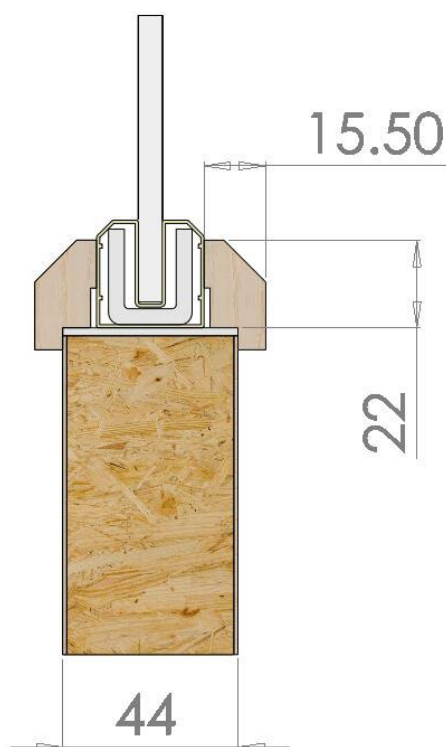
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This Certificate of Approval relates to timber based door leaf constructions consisting of timber faces coupled with timber, other cellulosic or composite mineral cores of not less than 44 mm overall leaf thickness.

Figure 7



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The System-90 PLUS glazing method may be fitted in the manner described in this Certificate of Approval, to previously tested door leaves provided that the particular aspects of the door assembly are maintained. These are described below but are not exhaustive:

In this way the proposed installation of the Lorient System-90 PLUS glazing method is not expected to affect the performance of the leaf.

No variations in the retaining bead profile are allowable other than with or without bolection detail and alternative timber species of minimum density 650Kg/m³. Ash is not permitted.

1. The doorset, including door frame and associated building hardware, should have achieved at least 60 minutes integrity when tested or subsequently assessed by one of the laboratories approved by CERTIFIRE as acceptable for this purpose to BS 476: Part 22: 1987.
2. If the proposed doorset is to be used in double-leaf configuration, the test or assessment evidence should be applicable to double-leaf configurations.
3. Likewise, if the proposed doorset is to be used in the unlatched configuration the available evidence should be applicable to unlatched doorsets.
4. The proposed doorset should also have included a glazed aperture or apertures of the intended size and area and number.
5. When used to glaze CERTIFIRE approved doorsets which have smaller apertures than allowed in this certificate, the aperture sizes specified in the doorset certificate shall take precedence.

In this way the proposed installation of the Lorient System-90 PLUS glazing method is not expected to affect the performance of the leaf.

No variations in the retaining bead profile are allowable other than with or without bolection detail and alternative timber species of minimum density 650 kg/m³. Ash is not permitted.

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System-90 PLUS applied to, minimum 64mm thick, timber based door leaves for 90 minutes integrity and composite mineral based door leaves for 90 or 120 minutes integrity

Where 90 minutes or 120 minutes integrity is required the construction shown in Figure 4 shall be used. The sizes of the aperture shall be limited to that tested within the doorset, or as shown within Table 3 (90 minutes timber leaves), Table 4 (90 minutes composite mineral based leaves) & Table 5 (120 minutes composite mineral based leaves) below, and advice should be sought from CERTIFIRE on the specific suitability of the application. (Approval for Pyran S and Firelite only.) When used to glaze doorsets which are approved with smaller apertures than allowed in this certificate, the aperture sizes specified in the doorset approval shall take precedence.

This approval relates to on going production. Product and/or its immediate packaging is identified with the manufacturer's name, the product name or number, the CERTIFIRE name or name and mark, together with the CERTIFIRE certificate number and application when appropriate.

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Table 3 - Acceptable glass sizes for timber based door leaves of minimum 64mm thickness (90 minutes)

Glass	Maximum pane height (mm)	Maximum pane width (mm)	Maximum Pane Area (m ²)
Firelite or Pyran S	600	600	0.36
Firelite or Pyran S	1400	500	0.7

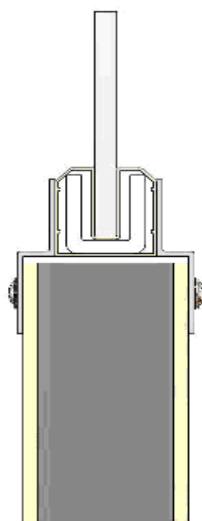
Table 4 - Acceptable glass sizes for composite mineral based door leaves (90 minutes)

Glass	Maximum pane height (mm)	Maximum pane width (mm)	Maximum Pane Area (m ²)
Firelite or Pyran S	500	400	0.2
Firelite or Pyran S	1600	200	0.32

Table 5 - Acceptable glass sizes for composite mineral based door leaves (120 minutes)

Firelite or Pyran S	500	400	0.2
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Figure 8



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Paul Rogers

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