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Title

Field of Application for:

The Warm Springs Composite Products Range of Doorsets

For 60, 90 and 120 minutes Fire Resistance

Report No.:

Chilt/A12138 Revision B

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Prepared for:

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The version/revision stated on the front of this Field of Application supersedes all previous versions/revisions and must be used to manufacture doorsets from the stated validity date on this front cover. Previous revisions of the Field of Application cannot be used once an updated Field of Application has been issued under a new revision.

7 Door Frame Construction

7.1 Details for Frame 1

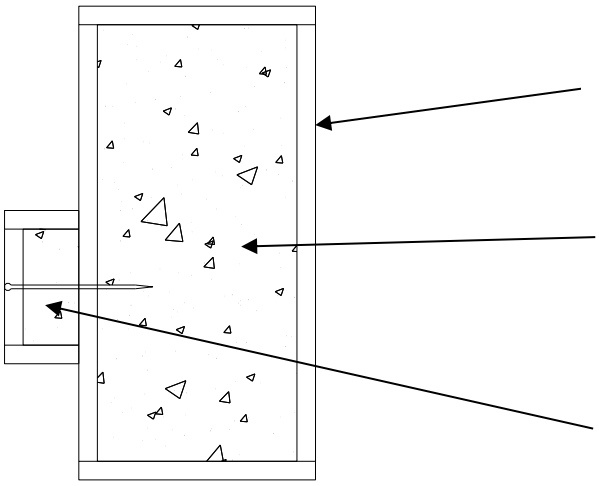
The testing conducted on WSCP door designs has demonstrated that they are capable of being fitted in frames based on Tectonite, with two options for timber cladding. In all instances the door leaf must remain in parallel to the tectonite section within the frame construction for the full thickness if the leaf.

The door frames listed below are the minimum size and density which have been successfully tested and assessed by this report. The frame must be constructed to meet the following specification for single frames, where applicable.

Frame specification			
Frame type	Material	Minimum section size (mm)	Minimum density (kg/m^3)
1a	WSCP Tectonite with veneers to the visible faces of the frame. The veneer can be optionally applied to the rear of the frame. Veneers may be MDF or hardwood, of 2-4mm thick. The use of Beech (*Fagus sylvatica*) is NOT permitted.	Overall: 98 (d) x 45 (w) (excluding stop) Tectonite component: 94 (d) x 43 (w) Hardwood or Tectonite stop: 12 (w) (planted on)	Tectonite: 1000 +55 / -10 Hardwood: 680
1b	WSCP Tectonite & hardwood composite with 4mm hardwood facing to the reveal All door frame timber must meet or exceed class J30 as specified in BS EN 942: 2007 (subject to adequate repair of any defects). The use of Beech (*Fagus sylvatica*) is NOT permitted.	Overall: 112 (d) x 47 (w) (excluding stop) Tectonite component: 71 (d) x 43 (w) Hardwood comprising either: 40 (d) x 47 (w) or 2no. layers 20 (d) x 47 (w) Hardwood or Tectonite stop: 12 (w) (planted on)	Tectonite: 1000 +55 / -10 Hardwood: 680

Note:

1. Minimum section size is subject to size of hardware.
2. It is permitted to fix the stop through the rear of frame with a suitable fixing penetrating the stop by 8mm.
3. A planted T-Stop stop is acceptable as depicted below.

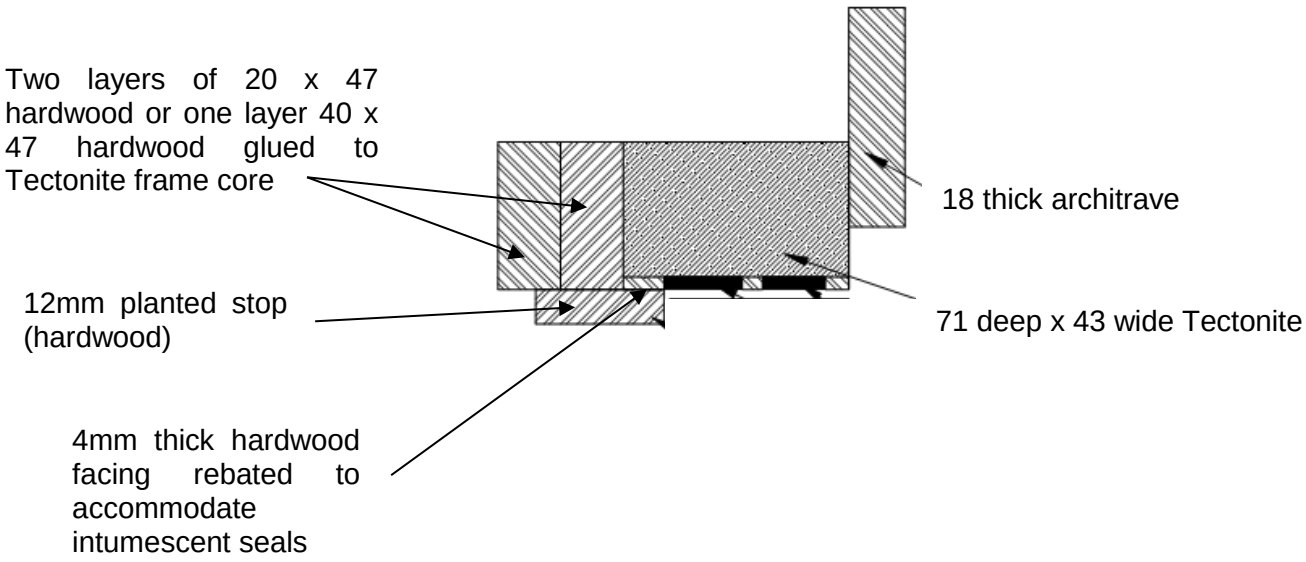


2 to 4mm hardwood or MDF veneer may be applied on all faces of the door frame

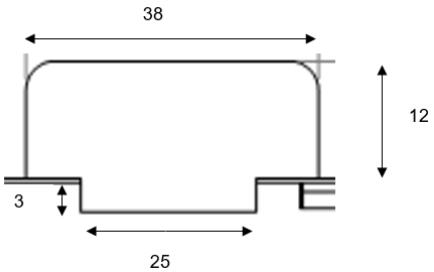
94mm (w) x 43mm (t) section of Tectonite

12mm deep planted or rebated stop (hardwood or Tectonite). The stop may be fixed by screwing through the rear of the frame. The fixing must penetrate the stop to a depth of 8mm

Frame Option 1a as detailed within in the table above.



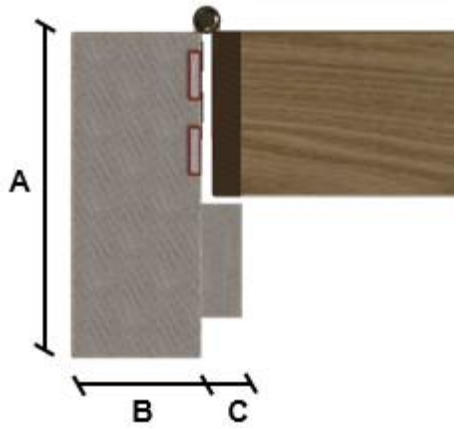
Frame Option 1b as detailed within the table above.



T-Stop with a 25mm (w) x 3mm (d) tongue to locate into a groove on the face of the frame. The stop is machined to have a slightly narrower end than the groove in the frame to give a snug fit. The stop is then mechanically fixed using pins or screws. The T-Stop may be constructed of hardwood or Tectonite meeting the specification in the table above for 60, 90 or 120 minutes fire resistance

7.1.1 Standard frame detail

The diagram below is for illustration purposes only and shows detail of the standard frame construction, for specific constructional images of permitted frame types for frame option 1 refer to the images in section 7.1. Minimum section is permitted in two sizes subject to which of the two frame options are being utilised (i.e. frame option 1a or frame option 1b).



Frame variation 1a:

A: Frame depth = 98mm minimum

B: Frame width = 45mm minimum

C: Stop width = 12mm minimum

Frame variation 1b:

A: Frame depth = 112mm minimum including a 72mm Tectonite core

B: Frame width = 47mm minimum

C: Stop width = 12mm minimum

7.1.2 Multi Piece Tectonite frames

It is not permitted to produce the framing elements from multiple pieces. The each of the jambs and head must be constructed from a single length of material.

7.2 Details for Frame 2

The testing conducted on WSCP door designs has demonstrated that they are capable of being fitted in frames based on hardwood.

Test reference RF12178A, was tested with a 640 kg/m^3 hardwood frame and achieved 121 minutes. This is used in support of the 60 and 90 minute applications, when considering the requested change in intumescent material. As follows:

Tested: 1No 20x4mm WSCP PVC encased graphite type 7mm from the opening face and 1No 25x4mm WSCP PVC encased graphite type 33mm from the opening face.

Proposed: 2No 22x4mm WSCP PVC-seal, PVC encased graphite type, 7mm and 37mm from the opening face.

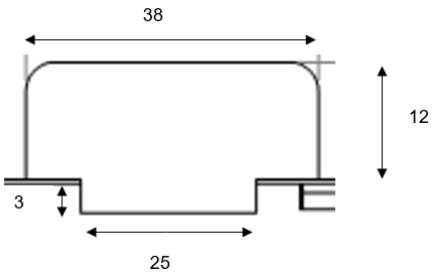
The performance of the proposed intumescent specification has been tested within CFR1410311 which achieved 200 minutes with the Tectonite frame option, based on the over performance achieved it has been possible to consider the application of the proposed intumescent specification used in the framing option, up to 90 minutes fire resistance only detailed below.

The door frames listed below are the minimum size and density which have been successfully tested and assessed by this report. The frame must be constructed to meet the following specification for single acting frames, where applicable.

Frame specification			
Material	Minimum section size (mm)	Minimum density (kg/m^3)	Suitable for fire resistance duration
Hardwood: All door frame timber must meet or exceed class J30 as specified in BS EN 942: 2007 (subject to adequate repair of any defects). The use of Beech (*Fagus sylvatica*) is NOT permitted.	Frame: 90 (d) x 38 (w) (excluding stop) Hardwood Stop: 12 (w) (planted on)	640	60 and 90 minutes

Note:

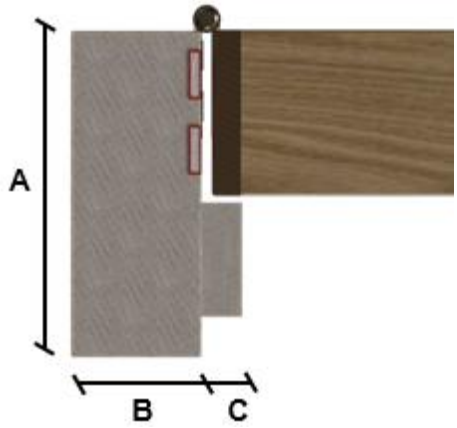
1. Minimum section size is subject to size of hardware and the use of transomed overpanel (see frame details below).
2. It is permitted to fix the stop through the rear of frame with a suitable fixing penetrating the stop by 8mm.
3. A planted T-Stop stop is acceptable as depicted below.



T-Stop with a 25mm (w) x 3mm (d) tongue to locate into a groove on the face of the frame. The stop is machined to have a slightly narrower end than the groove in the frame to give a snug fit. The stop is then mechanically fixed using pins or screws. The T-Stop may be constructed of hardwood or Tectonite meeting the specification in the table above for 60 or 90 minutes fire resistance

7.2.1 Standard frame detail

The diagram below shows detail of the standard frame construction. Minimum section is permitted in two sizes subject to hardware size and the use of transom overpanel.



A: Frame depth = 90mm minimum

B: Frame width = 38mm minimum

C: Stop width = 12mm minimum

Minimum section size when using a transom overpanel:

A: Frame depth = 90mm minimum

B: Frame width = 45mm minimum

C: Stop width = 12mm minimum

7.3 Details for Frame 3

The testing conducted on WSCP door designs has demonstrated that they are capable of being fitted in frames based on hardwood.

Test reference CFR1103111, was tested with a 860 kg/m^3 White Oak frame and achieved 151 minutes. This is used in support of the 120 minute applications, when considering the requested change in intumescent material. As follows:

Tested: 1No 20x4mm WSCP PVC encased graphite type 7mm from the opening face and 1No 25x4mm WSCP PVC encased graphite type 33mm from the opening face.

Proposed: 2No 22x4mm WSCP PVC-seal, PVC encased graphite type, 7mm and 37mm from the opening face.

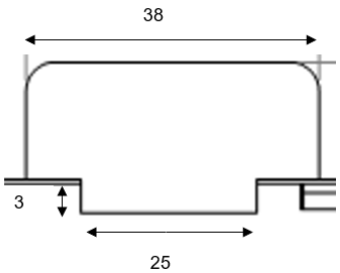
The performance of the proposed intumescent specification has been tested within CFR1410311 which achieved 200 minutes with the Tectonite frame option, based on the over performance achieved it has been possible to consider the application of this intumescent within the below detailed framing option, up to 120 minutes fire resistance.

The door frames listed below are the minimum size and density which have been successfully tested and assessed by this report. The frame must be constructed to meet the following specification for single acting frames, where applicable.

Frame specification			
Material	Minimum section size (mm)	Minimum density (kg/m^3)	Suitable for fire resistance duration
White Oak: All door frame timber must meet or exceed class J30 as specified in BS EN 942: 2007 (subject to adequate repair of any defects). The use of Beech (*Fagus sylvatica*) is NOT permitted.	Frame: 102 (d) x 39 (w) (excluding stop) Hardwood Stop: 13 (w) (planted on)	860	120 minutes

Note:

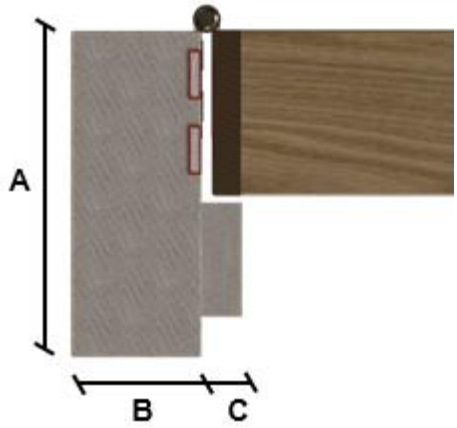
1. Minimum section size is subject to size of hardware and the use of transomed overpanel (see frame details below).
2. It is permitted to fix the stop through the rear of frame with a suitable fixing penetrating the stop by 8mm.
3. A planted T-Stop stop is acceptable as depicted below.



T-Stop with a 25mm (w) x 3mm (d) tongue to locate into a groove on the face of the frame. The stop is machined to have a slightly narrower end than the groove in the frame to give a snug fit. The stop is then mechanically fixed using pins or screws. The T-Stop may be constructed of hardwood or Tectonite meeting the specification in the table above for 120 minutes fire resistance

7.3.1 Standard frame detail

The diagram below shows detail of the standard frame construction. Minimum section is permitted in two sizes subject to hardware size and the use of transom overpanel.



A: Frame depth = 102mm minimum

B: Frame width = 39mm minimum

C: Stop width = 13mm minimum

Minimum section size when using a transom overpanel:

A: Frame depth = 102mm minimum

B: Frame width = 45mm minimum

C: Stop width = 13mm minimum