

Warringtonfire
Holmesfield Road
Warrington
Cheshire
WA1 2DS
United Kingdom
T: +44 (0)1925 655116
W: www.warringtonfire.com

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Title:

The Fire Resistance
Performance Of An
Insulated, Sliding Doorset
When Tested In
Accordance With BS 476:
Part 22: 1987, Clause 6

WF Report No:

399104



Prepared for:

PC Henderson Limited,
Durham Road,
Bowburn,
Durham,
DH6 5NG.

Date:

14th December 2018



0249

Summary

Objective To determine the fire resistance performance of an insulated sliding doorset when tested in accordance with BS 476: Part 22: 1987, Clause 6.

Sponsor **PC Henderson Limited,**
Durham Road, Bowburn, Durham, DH6 5NG.

Summary of the Tested Specimens The doorset comprised a 44 mm thick graduated density chipboard leaf with 8 mm thick hardwood lippings to the vertical edges. The leaf had overall dimensions of 2315 mm high by 930 mm wide. The leaf was housed in an aluminium pocket frame with a softwood liner kit. The pocket frame incorporated two pairs of aluminium uprights with noggins and tie backs. The aluminium framing was formed from 55 x 20 mm extruded aluminium sections. The leaf was hung off an aluminium header track on a steel hanger with silicone rubber wheels. The threshold of the leaf ran on a plastic floor guide with the blade running centrally along a channel routed in the base of the leaf. The softwood liner encased the head and formed the uprights / jambs. The door assembly was housed in a timber frame partition, clad on both faces with two layers of 12.5 mm Fireline plasterboard. The doorset was held closed by an internal self-closing mechanism for the test duration.

Test Results:

Integrity 45 minutes*

Insulation 45 minutes*

*The test was discontinued after a period of 45 minutes.

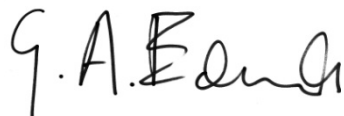
Date of Test 12th July 2018

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Signatories



Responsible Officer
D. Fitzsimmons*
Senior Technical Officer



Approved
G. Edmonds*
Senior Technical Officer

* For and on behalf of **Warringtonfire**.

Report Issued

Date : 14th December 2018

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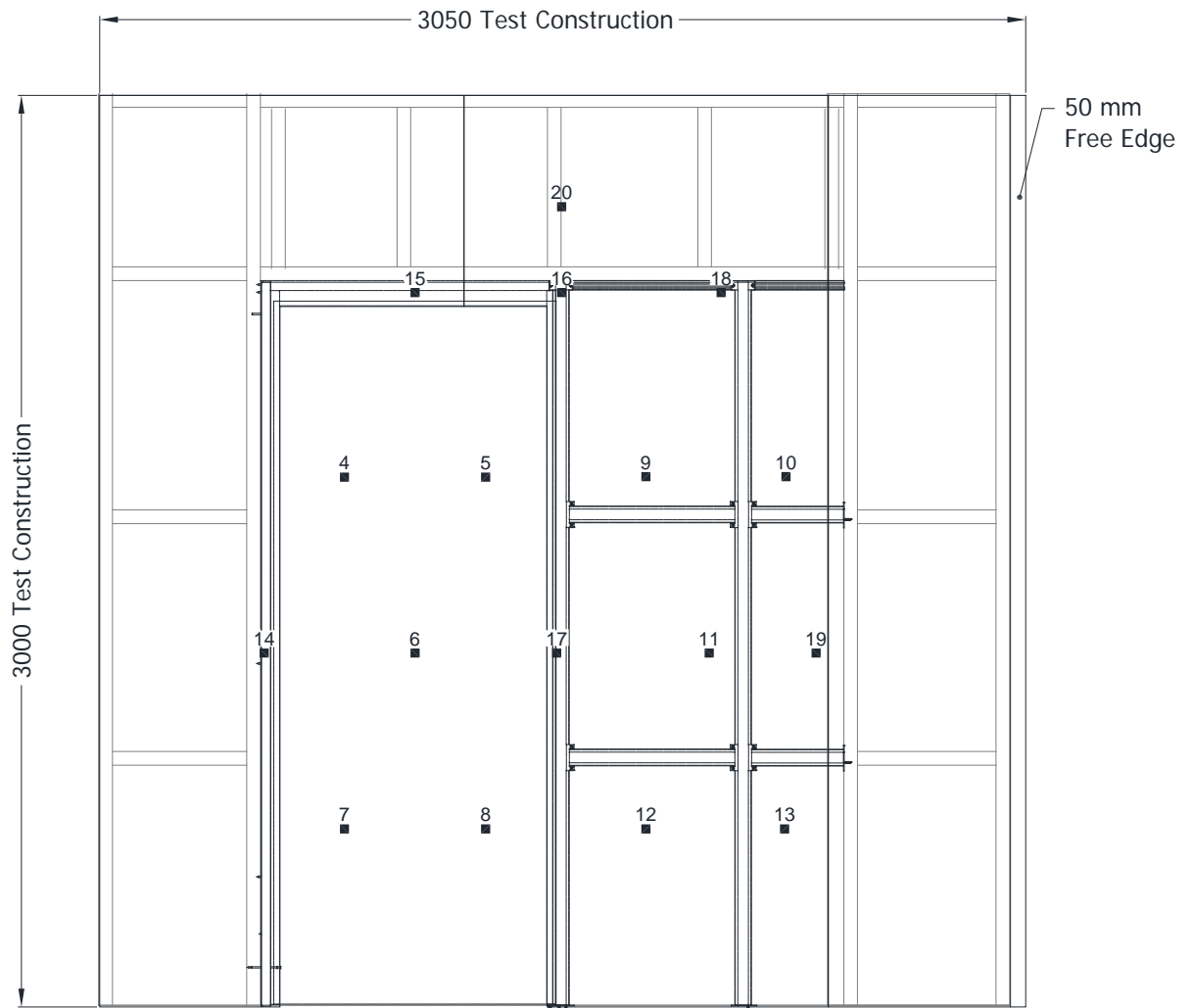
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Test Procedure

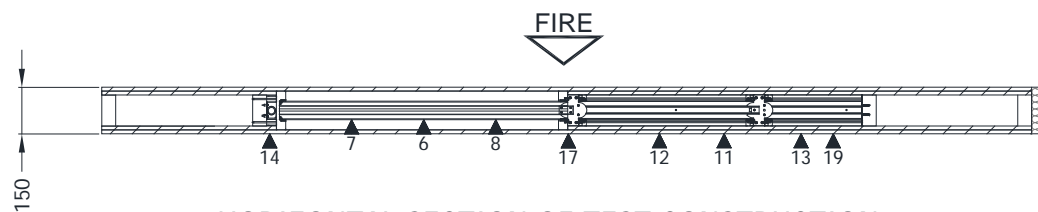
Introduction	<p>The doorset was of an insulated construction, the test was therefore conducted in accordance with Clause 6 of BS 476: Part 22: 1987 'Methods for determination of the fire resistance of non-loadbearing elements of construction' respectively. This test report should be read in conjunction with that Standard and with BS 476: Part 20: 1987, 'Methods for determination of the fire resistance of elements of construction (general principles)'.</p> <p>The specimen was judged on its ability to comply with the performance criteria for integrity and insulation, as required by BS 476: Part 22: 1987, Clauses 6.</p>
Fire Test Study Group/EGOLF	<p>Certain aspects of some fire test specifications are open to different interpretations. The Fire Test Study Group and EGOLF have identified a number of such areas and have agreed Resolutions which define common agreement of interpretations between fire test laboratories which are members of the Groups. Where such Resolutions are applicable to this test they have been followed.</p>
Instruction to test	<p>The test was conducted on the 12th July 2018 at the request of PC Henderson Limited, the test sponsor.</p> <p>Mr. P Cunningham, representatives of the test sponsor witnessed the test.</p>
Test Specimen Construction	<p>A comprehensive description of the test construction is given in the Schedule of Components. The description is based on a detailed survey of the specimens and information supplied by the sponsor of the test.</p>
Installation	<p>The doorset assembly and partition wall were constructed and installed between the 8th and the 12th of July 2018. Representatives of Warringtonfire conducted the build.</p>
Sampling	<p>Warringtonfire was not involved in the sampling or selection of the tested specimen or any of the components.</p>
Conditioning	<p>The specimen's storage, construction, and test preparation took place in the test laboratory over a total combined time of 4 days. Throughout this period both the temperature and the humidity of the laboratory were measured and recorded as being within a range of from 20°C to 29°C and 34.5% to 60% respectively.</p>

Test Construction

Figure 1- General Elevation of Thermocouple Positions



GENERAL ELEVATION OF THERMOCOUPLE POSITIONS
UNEXPOSED FACE



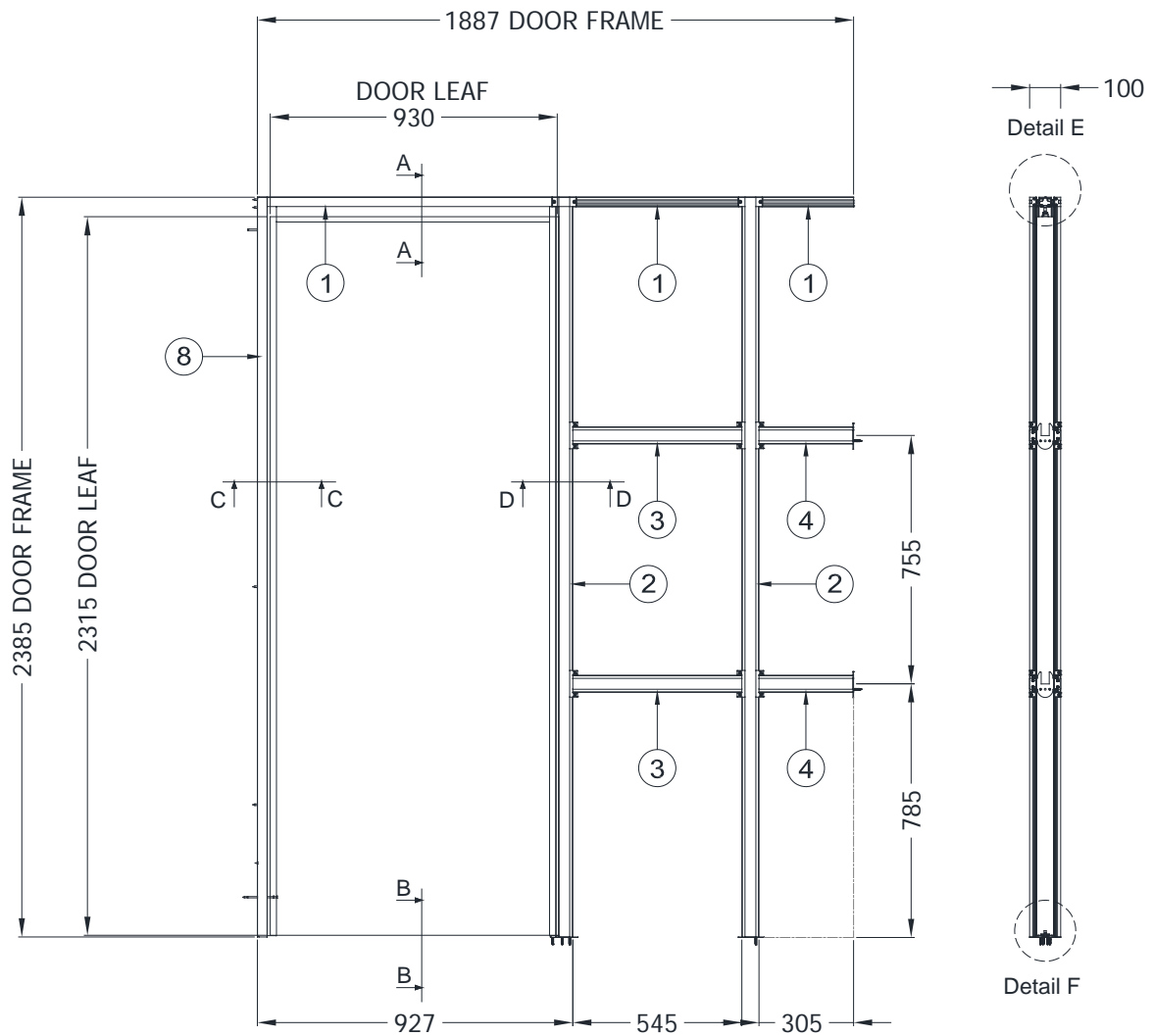
HORIZONTAL SECTION OF TEST CONSTRUCTION

THERMOCOUPLE KEY

■/▲ Positions of thermocouples

Do not scale. All dimensions are in mm

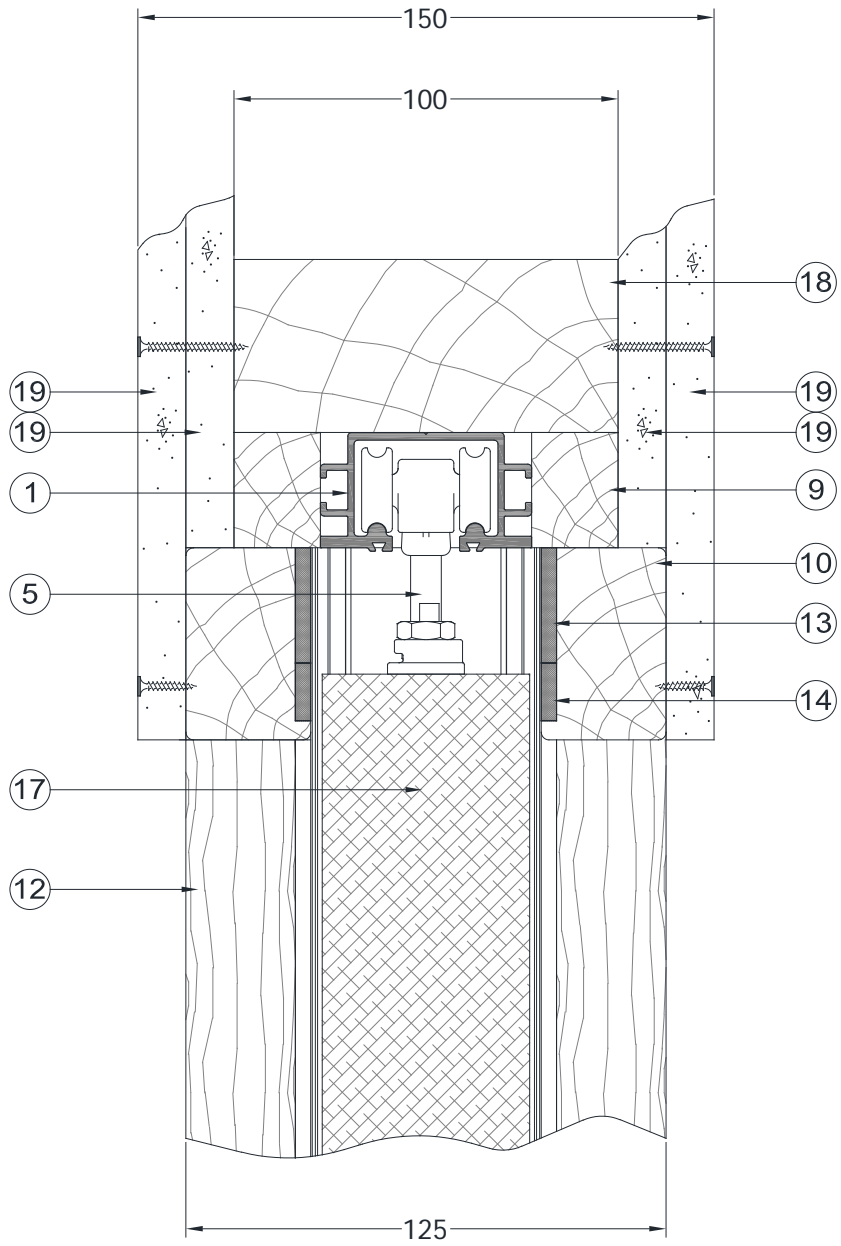
Figure 2 – Doorset - General Elevations



GENERAL ELEVATIONS OF DOORSET
UNEXPOSED FACE

Do not scale. All dimensions are in mm

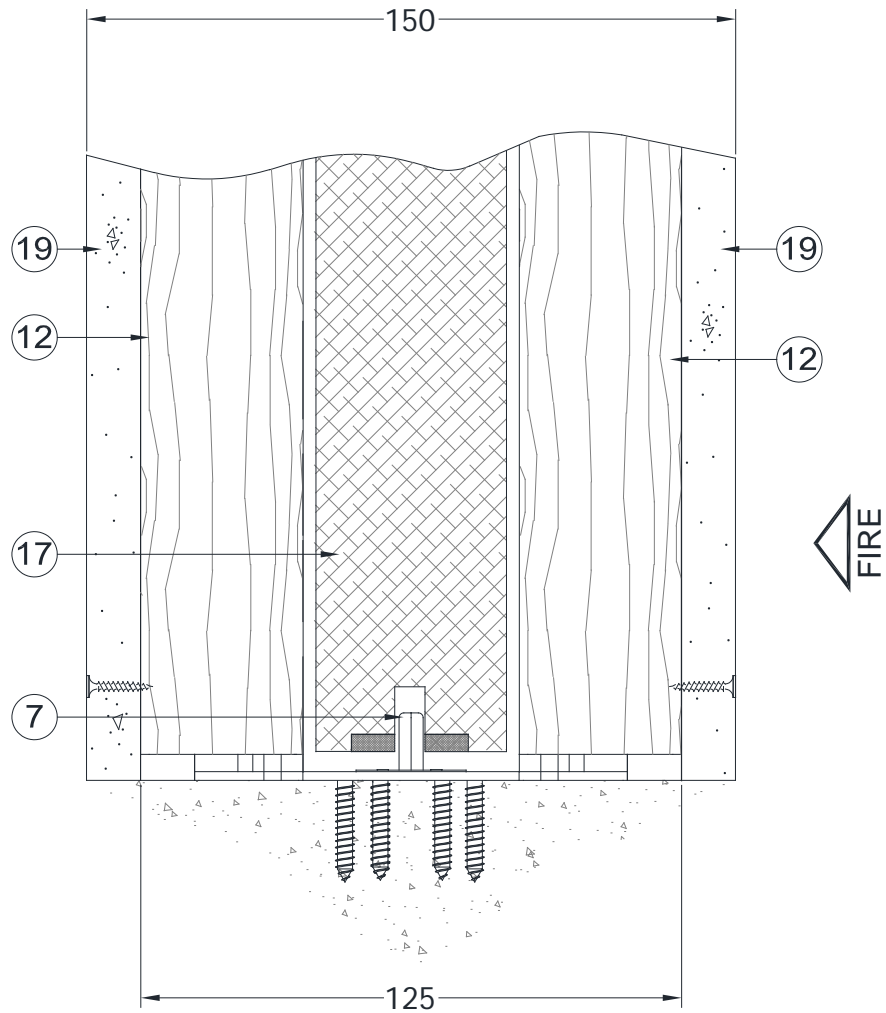
Figure 3 – View A-A



**VIEW A-A - TYPICAL SECTION THROUGH
HEAD OF DOORSET**

Do not scale. All dimensions are in mm

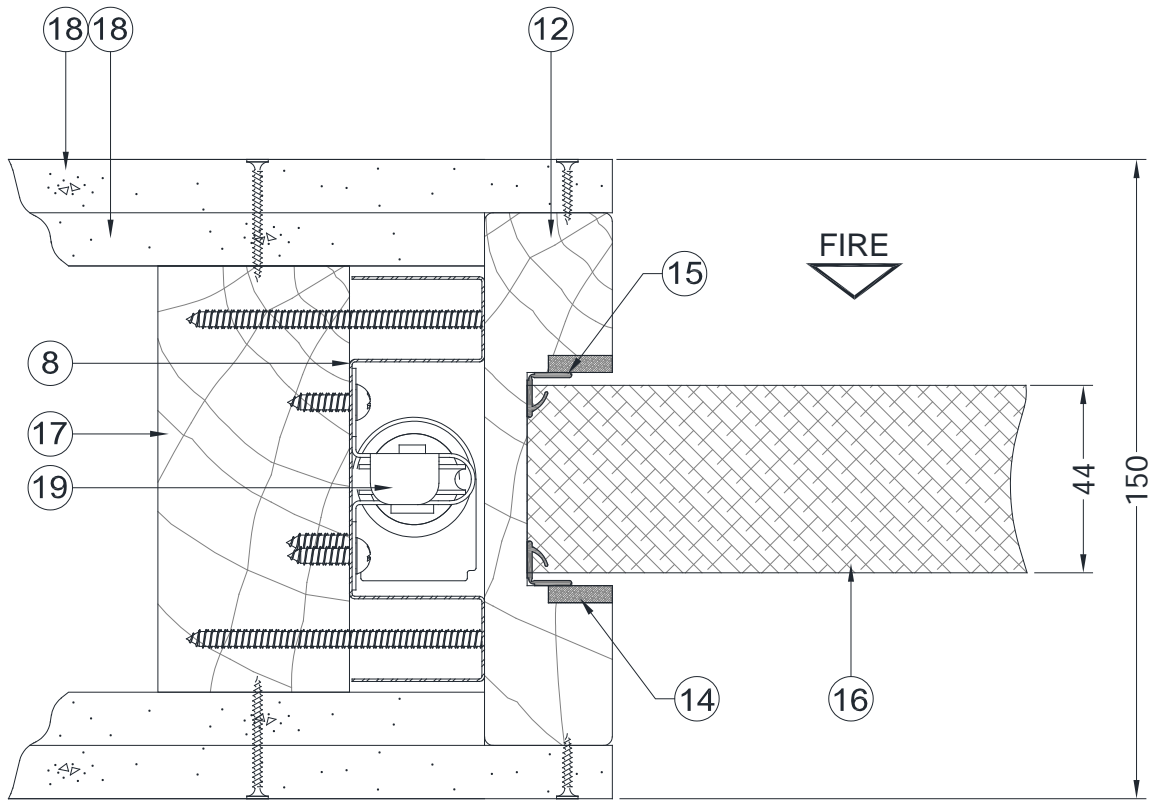
Figure 4 – View B-B



VIEW B-B - TYPICAL SECTION THROUGH
BASE OF DOORSET

Do not scale. All dimensions are in mm

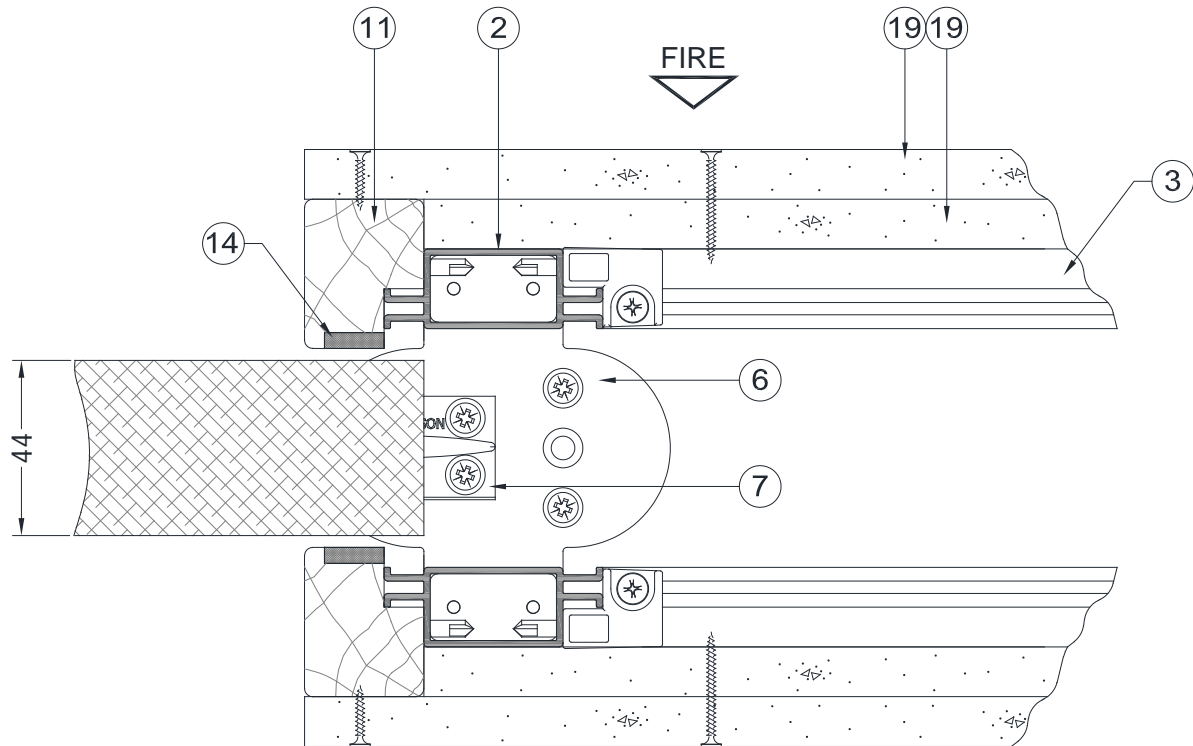
Figure 5 – Details of Door Frames and Leaves



TYPICAL SECTION THROUGH VIEW C-C

Do not scale. All dimensions are in mm

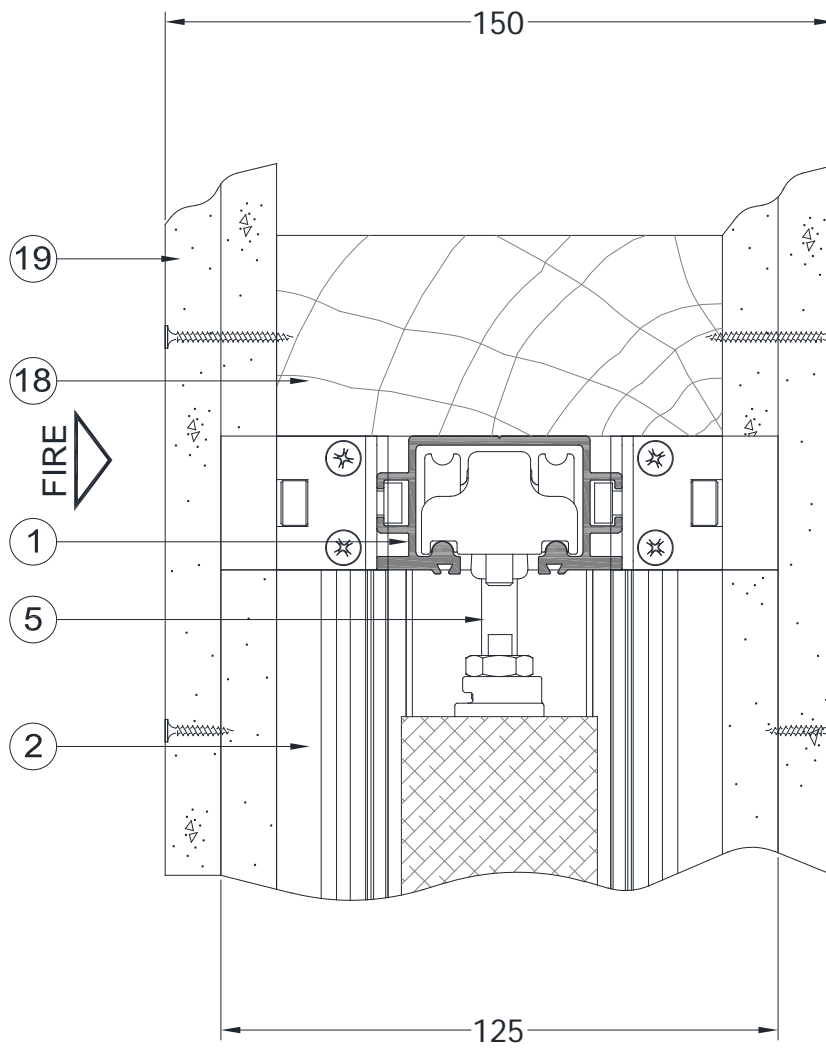
Figure 6 – View D-D



TYPICAL SECTION THROUGH VIEW D-D

Do not scale. All dimensions are in mm

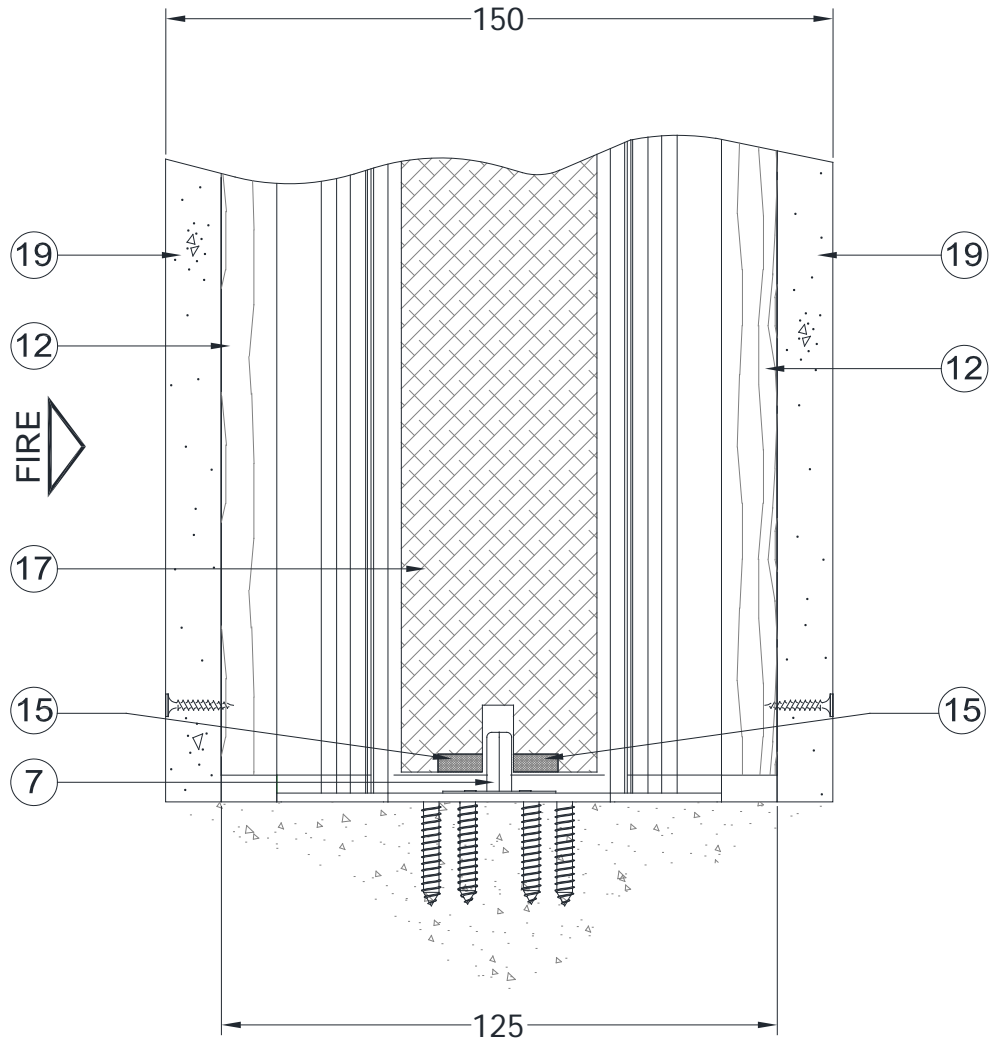
Figure 7 – Detail E-E



DETAIL E-E

Do not scale. All dimensions are in mm

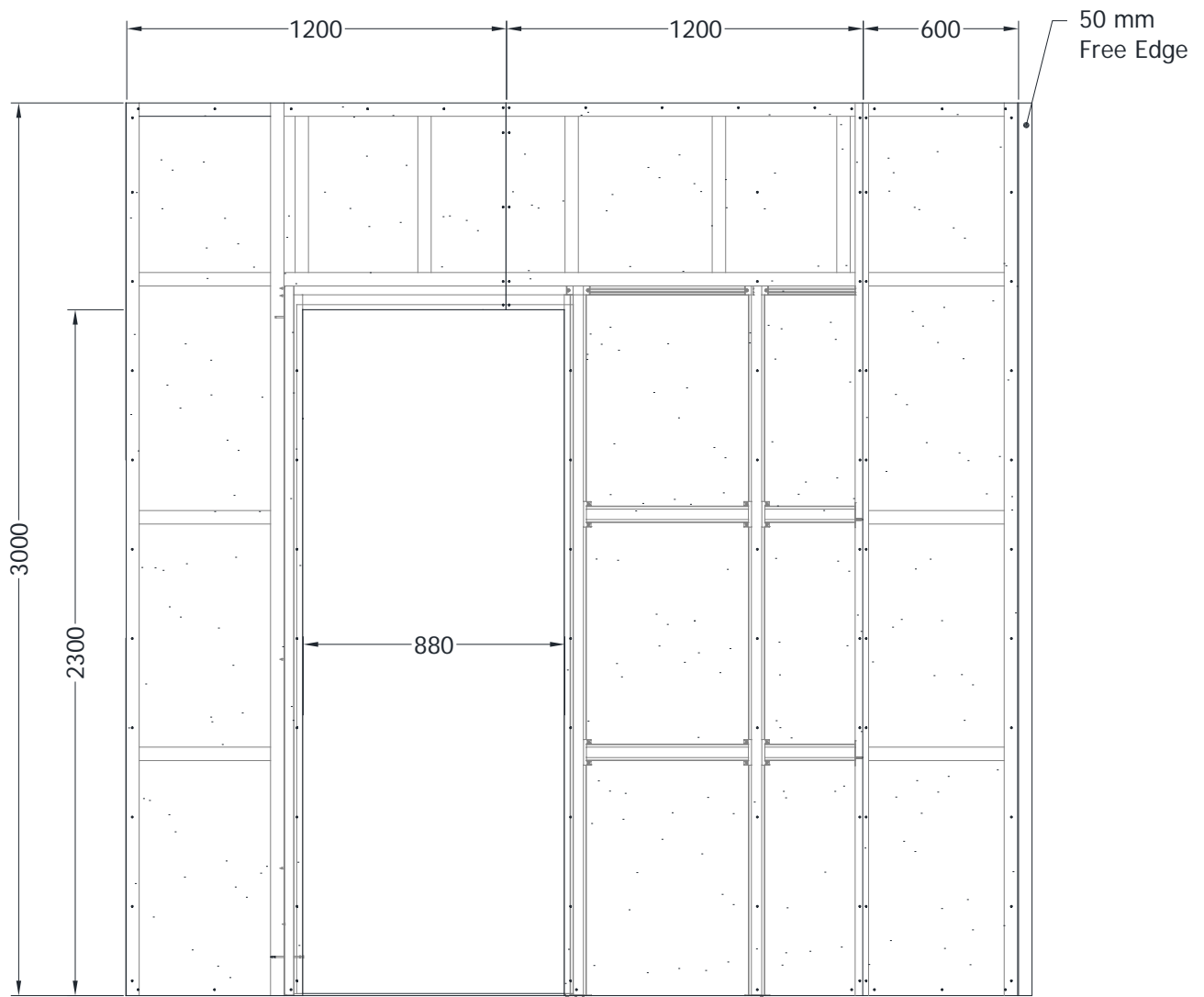
Figure 8 – Detail F-F



DETAIL F-F

Do not scale. All dimensions are in mm

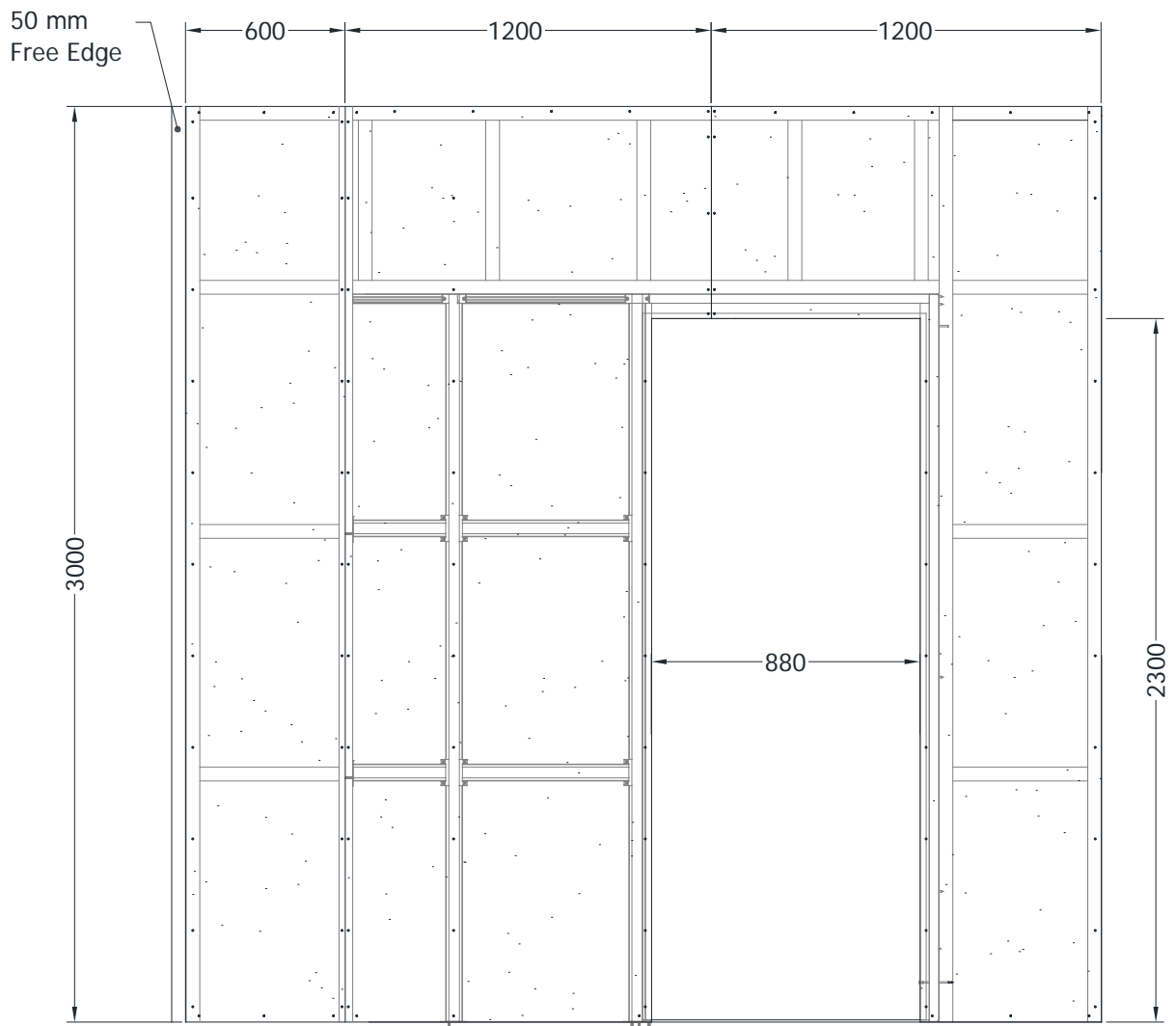
Figure 9 – Details of Board Positions – Unexposed Face



**ELEVATION OF BOARD POSITIONS
UNEXPOSED FACE**

Do not scale. All dimensions are in mm

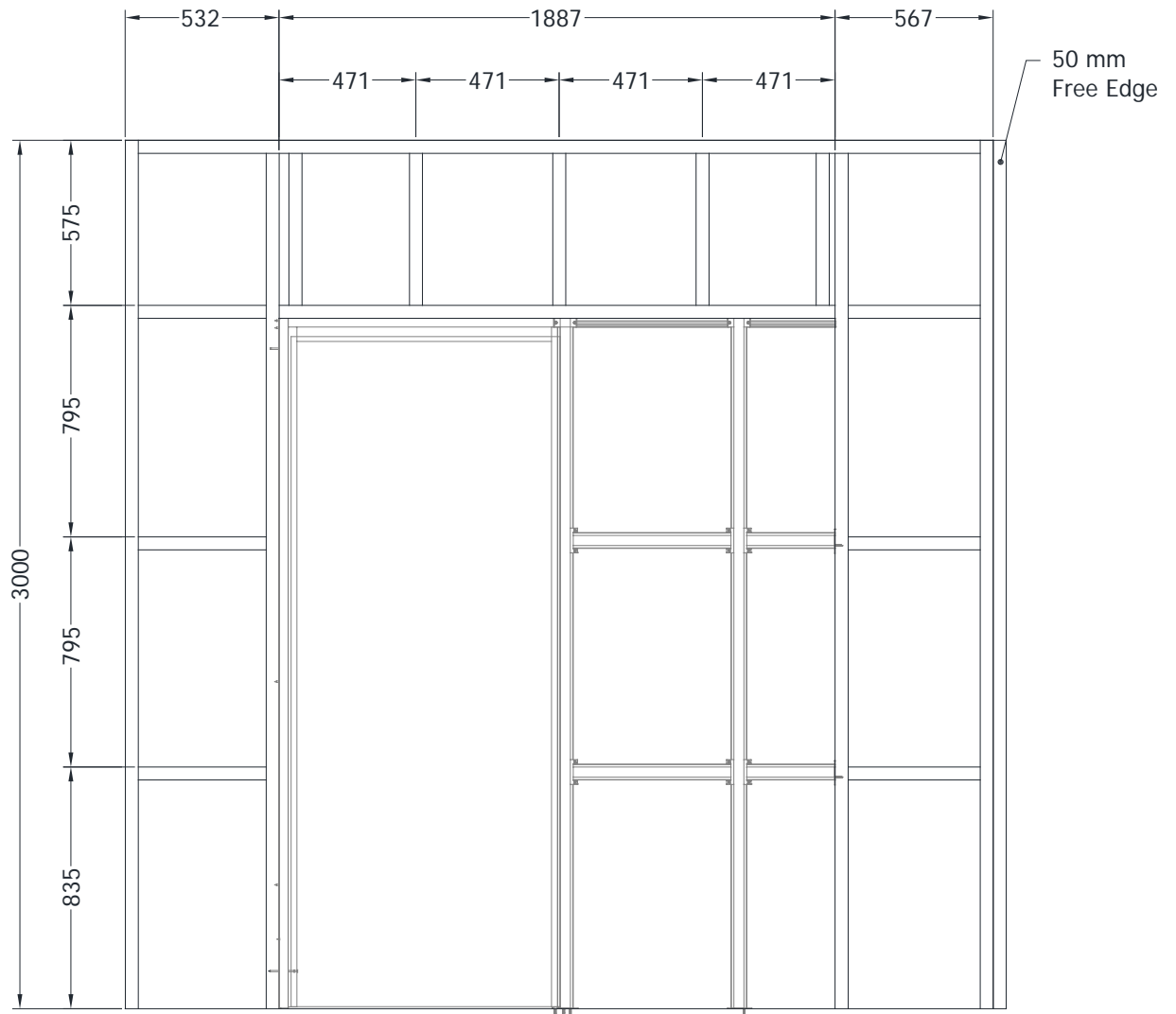
Figure 10 – Details of Board Positions – Exposed Face



ELEVATION OF BOARD POSITIONS
EXPOSED FACE

Do not scale. All dimensions are in mm

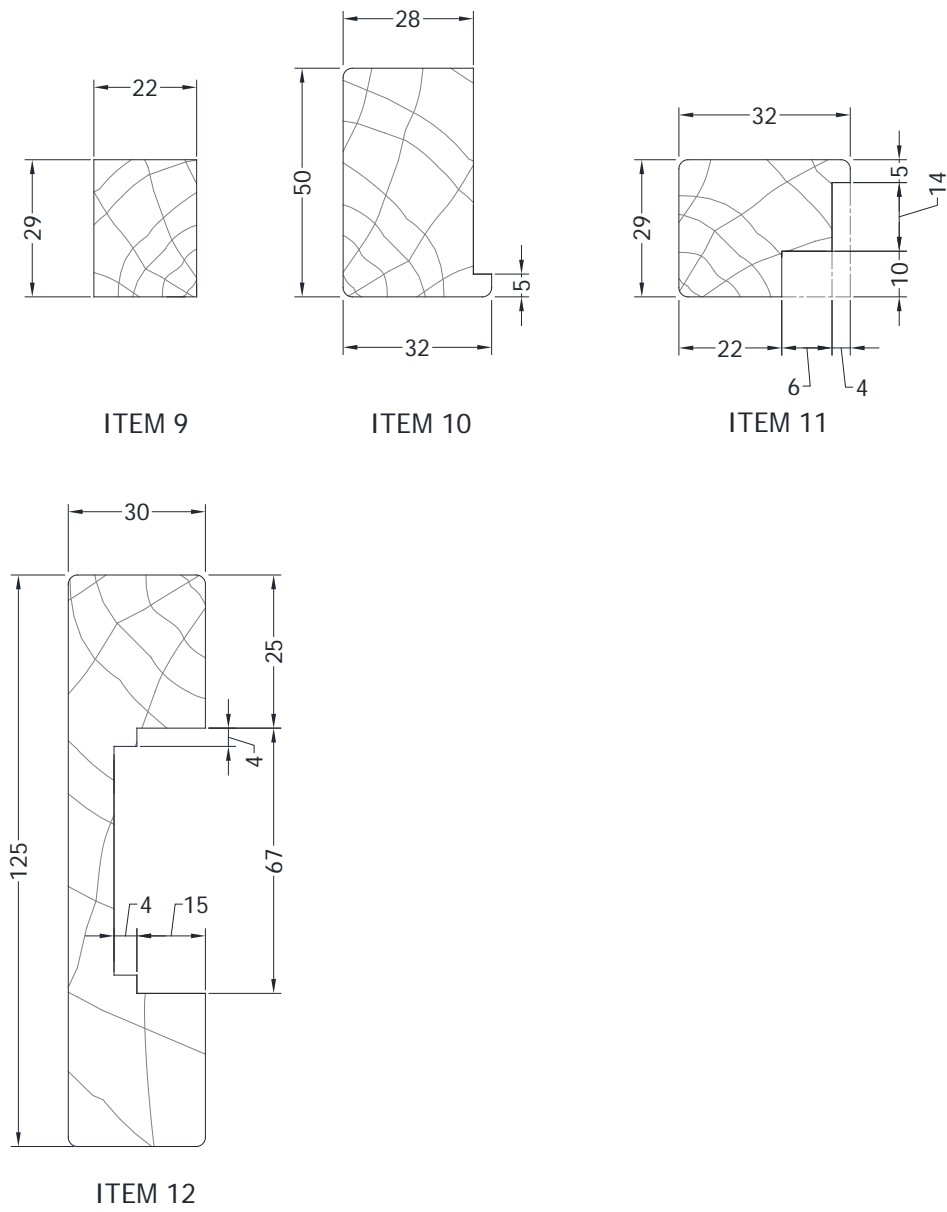
Figure 11 – Details of Timber Stud Partition



ELEVATION OF FRAME CONSTRUCTION
UNEXPOSED FACE

Do not scale. All dimensions are in mm

Figure 12 – Details of Timber Liner Kit



DETAILS OF LINER KIT

Do not scale. All dimensions are in mm

Schedule of Components

(Refer to Figures 1 to 14)
 (All values are nominal unless stated otherwise)
 (All other details are as stated by the sponsor)

<u>Item</u>	<u>Description</u>
Aluminium Pocket Door Frame (items 1 – 8)	
1. Header Track	
Material	: Extruded Aluminium
Overall size	: 55 mm x 30 mm x 1887 mm
Fixing method	: Screwed
Fixings	
i. type	: No. 8 x 1" wood screws.
ii. material	: Steel
iii. size	: 25 mm long by 4.8 mm diameter.
Centres	: 6 off, spaced nominally at 300 mm centres
2. Long Upright	
Material	: Extruded Aluminium
Overall size	: 55 mm x 20 mm x 2300 mm
Fixing method	: Fixed with plastic brackets
Fixings	
i. type	: M6 x 20 cap head screws.
ii. material	: Steel
iii. size	: 20 mm long by 6 mm diameter.
Centres	: 8 off, 2 screws per bracket, located at the junction of the Long upright and Header track
3. Noggin	
Material	: Extruded Aluminium
Overall size	: 55 mm x 20 mm x 545 mm
Fixing method	: Fixed with plastic brackets
Fixings	
i. type	: Self-tapping screws
ii. material	: Steel
iii. size	: 25 mm long by 4.2 mm diameter.
Centres	: 4 off per Noggin, 2 screws per bracket, located at the junction of the Noggin and Long upright
4. Tie back	
Material	: Extruded Aluminium
Overall size	: 55 mm x 20 mm x 305 mm
Fixing method	: Fixed with plastic brackets
Fixings	
i. type	: Self-tapping screws
ii. material	: Steel
iii. size	: 25 mm long by 4.2 mm diameter.
Centres	: 4 off per Noggin, 2 screws per bracket, located at the junction of the Noggin and Long upright

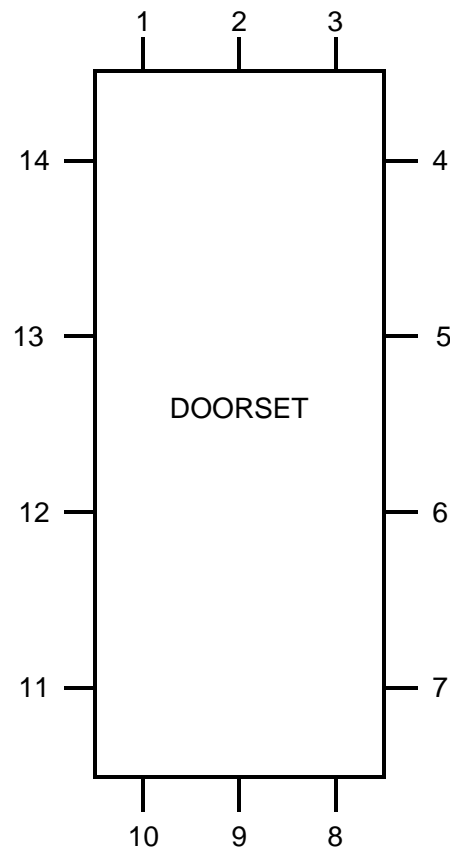
<u>Item</u>	<u>Description</u>
5. Hangers	
Material	: Galvanised steel body and silicone rubber wheels
Overall size	: 58 mm x 17 mm body with 2 No. 22 mm diameter x 8 mm wheels
Fixing method	: 2 No. brackets screwed to the head of the door leaf
Fixings	
i. type	: No. 8 x 1" wood screws.
ii. material	: Steel
iii. size	: 25 mm long by 4.8 mm diameter.
Centres	: 2 off per bracket, spaced equally across the head of the door leaf
6. Floor Bracket	
Material	: Extruded Aluminium
Overall size	: 100 mm x 83 mm x 4 mm
Fixing method	: Screwed
Fixings	
i. type	: No. 8 x 1" wood screws.
ii. material	: Steel
iii. size	: 25 mm long by 4.8 mm diameter.
Centres	: 3 off per bracket, brackets spaced nominally at 600 mm centres
7. Floor Guide Assembly	
Material	: Plastic
Overall size	: 13 mm x 5 mm Blade
Fixing method	: Screwed
Fixings	
i. type	: No. 8 x 1" wood screws.
ii. material	: Steel
iii. size	: 25 mm long by 4.8 mm diameter.
Centres	: 4 off per unit, 1 No. unit fixed to the floor bracket
8. Trucking Channel	
Material	: Galvanised steel
Overall size	: 95 mm x 31 mm x 2355 mm
Fixing method	: Screwed
Fixings	
i. type	: No. 8 x 1" wood screws.
ii. material	: Steel
iii. size	: 25 mm long by 4.8 mm diameter.
Centres	: 4 off per unit, equally spaced
Softwood liner kit (items 9 – 12)	
9. Track Packer	
Material	: Softwood
Overall size	: 29 mm x 22 mm x 1845 mm
Fixing method	: Screwed
Fixings	
i. type	: SS 1 & 3/4 " x 8G wood screws
ii. material	: Steel
iii. size	: 44 mm long by 4.8 mm diameter.
Centres	: 4 off per unit, equally spaced along the head of the door leaf

<u>Item</u>	<u>Description</u>
10. Header	
Material	: Softwood
Overall size	: 32 mm x 50 mm x 1765 mm
Fixing method	: Screwed
Fixings	
i. type	: 10G x 4" wood screws
ii. material	: Steel
iii. size	: 100 mm long by 6 mm diameter.
Centres	: 3 off per unit, equally spaced along the head of the door leaf, butted underneath the Track packer
11. Non brush upright	
Material	: Softwood
Overall size	: 32 mm x 29 mm x 2347 mm
Fixing method	: Screwed
Fixings	
i. type	: 4.8 x 45 mm Self-tapping drilling screws
ii. material	: Steel
iii. size	: 45 mm long by 4.8 mm diameter.
Centres	: 3 off per unit, equally spaced fixed to the aluminium long upright (item 2)
12. Non brush jamb upright	
Material	: Softwood
Overall size	: 123 mm x 30 mm x 2347 mm
Fixing method	: Screwed
Fixings	
iv. type	: SS 1 & 3/4 " x 8G wood screws
v. material	: Steel
vi. size	: 44 mm long by 4.8 mm diameter.
Centres	: 3 off per unit, equally spaced fixed to the Trucking channel (item 8)
13. Intumescent Seal	
Manufacturer	: Pyroplex Ltd
Reference	: Rigid Box Seal (CF 355)
Material	: Graphite intumescent strip within a polyvinyl chloride, PVC, carrier
Overall size	: 30 mm x 4 mm
Fixing method	: Self-adhered into grooves within rebate of frame
14. Intumescent Seal	
Manufacturer	: Pyroplex Ltd
Reference	: Rigid Box Seal (CF 355)
Material	: Graphite intumescent strip within a polyvinyl chloride, PVC, carrier
Overall size	: 15 mm x 4 mm
Fixing method	: Self-adhered into grooves within rebate of frame
15. Intumescent Seal	
Manufacturer	: Pyroplex Ltd
Reference	: Rigid Box Seal (CF 355)
Material	: Graphite intumescent strip within a polyvinyl chloride, PVC, carrier
Overall size	: 10 mm x 4 mm
Fixing method	: Self-adhered into grooves within a rebate to the base of the Door Leaf

<u>Item</u>	<u>Description</u>
16. Acoustic Smoke Seal	
Manufacturer	: Deventer
Reference	: Delta Smoke Seal
Material	: TPE (thermos plastic elastomer)
Overall size	: 10 mm x 10 mm
Fixing method	: Self-adhered into grooves within rebate of frame
17. Door Leaf	
Manufacturer	: Adcas 1997 Ltd
Reference	: FD30 048
Overall thickness	: 44 mm
Construction	
Core	: Chipboard
Facings	:
i. type	: High pressure bonded laminate (HPL)
ii. thickness	: 0.8 mm (nominal)
iii. fixing Method	: Bonded
Adhesive to HPL Facings	
iv. type	: Urea Formaldehyde resin combined with a liquid UX0104 Hardener
v. reference	: Borden F120
vi. curing Method	: Heated press
vii. application method	: Rolled
Lippings	: Hardwood 8 mm thick, to vertical edges only
i. species	: Sapele
ii. density	: 620 ~ 660 kg/m ³ , nominal
Adhesive to lipping	
iii. manufacturer	: Hexion
iv. type	: Urea Formaldehyde resin combined with a liquid UX0104 Hardener
v. reference	: Borden F120
vi. curing Method	: Heated press
vii. application method	: Rolled
18. Timber Frame	
Supplier	: Warringtonfire Ltd
Material	: Softwood, Grade C16
Section Size	: 100 x 45 mm
Surface Finish	: Planed all round
Fixing Method	: Head and bottom rails butt jointed and screwed to vertical studs. The right hand stud, as viewed from the unexposed face, was not fixed to the perimeter of the test frame leaving a nominal 50 mm free edge. The gap between was filled using ceramic wool fibre gasket.
Fixings	
i. type	: Countersunk head wood screws
ii. material	: Steel screws with plastics plugs
iii. size	: 100 mm long by 4.8 diameter
19. Type F Plaster Board	
Manufacturer	: British Gypsum.
Type	: Gyprock Fireline Type F Wallboard to EN 520.
Board size	: 1200 x 3000 mm.
Thickness	: 12.5 mm.
Density	: 800 kg/m ³ (stated).

<u>Item</u>	<u>Description</u>
19. Type F Plaster Board (continued)	
Fixing method	: 2 layers fixed to the head track, vertical stud and base track of the partition and butt jointed. Board joints staggered in relation to the previous layer.
Fixings	
i. manufacturer	: British Gypsum.
ii. type	: Coarse thread, drywall screw.
iii. material	: Galvanised steel.
iv. size (layer 1)	: 2.5 x 25 mm.
v. size (layer 2)	: 2.5 x 50 mm.
Centres	
vi. perimeter of stud partition	: 300 mm - screws adjacent on board joints.
vii. vertical timber studs	: 300 mm - screws adjacent on board joints.
Joint Tape	
viii. manufacturer	: British Gypsum.
ix. reference	: Gyproc Plasterboard scrim tape.
Joint Filler	
x. manufacturer	: British Gypsum.
xi. reference	: Gyproc Joint Filler.
xii. description	: Gypsum based material for filling and finishing joints in plasterboard systems.
20. Self-Closing Mechanism	
Material	: Plastic / Aluminium
Overall size	: 730 mm x 21 mm diameter
Fixing method	: Fixed to the Trucking channel
Fixings	
vii. type	: 38 mm x 8G screw
viii. material	: Steel
ix. size	: 38 mm long by 4.8 mm diameter.
Centres	: 2 off per unit, equally spaced fixed to the Trucking channel (item 8)

Doorset Clearance Gaps



View from unexposed face

Gap Dimension Measured From The Unexposed Face													
1	2	3	4	5	6	7	8*	9*	10*	11	12	13	14
4.7	5.0	6.4	4.7	6.7	8.0	3.7	13.0	11.7	11.2	1.0	3.2	3.1	2.6
Mean		4.5		Maximum			8.0		Minimum			2.6	

Gap Dimensions Measured From The Exposed Face													
1	2	3	4	5	6	7	8*	9*	10*	11	12	13	14
3.6	2.5	3.3	2.5	0.9	1.8	4.7	n/a	n/a	n/a	3.7	0.9	1.7	2.1

* Dimension not included in calculations

Gap not measured

DO NOT SCALE
ALL DIMENSIONS ARE IN mm

Instrumentation

General	The instrumentation was provided in accordance with the requirements of the Standard.
Furnace	The furnace was controlled so that its mean temperature complied with the requirements of BS 476: Part 20: 1987, Clause 3.1. using nine mineral insulated thermocouples distributed over a plane 100 mm from the surface of the test construction.
Thermocouple Allocation	Thermocouples were provided to monitor the unexposed surface of the specimen. The output of all instrumentation was recorded at no less than one minute intervals as follows:
Thermocouples 4 to 8	At five positions on the unexposed surface of the doorset, one approximately at the centre and one at approximately the centre of each quarter section of the doorset.
Thermocouples 9 to 13	At five positions on the unexposed face of the partition over the pocket void, one approximately at the centre and one at approximately the centre of each quarter section of the pocket void area.
Thermocouple 14, 15 and 17	At three position around the perimeter of the Doorset on the on the unexposed face of the partition
Thermocouples 16 and 18	On the unexposed face of the partition, at two position corresponding to the hanger track in the pocket void
Thermocouple 19	On the unexposed face of the partition at a position corresponding to perimeter edge of the pocket void, at mid-height.
Thermocouple 20	On the unexposed face of the partition at approximately mid-span, in-between the top of the doorset and the top of the partition.
	The locations and reference numbers of the various unexposed surface thermocouples are shown in Figure 1.
Roving Thermocouple	A roving thermocouple was available to measure temperatures on the unexposed surface of the specimens at any position which might appear to be hotter than the temperatures indicated by the fixed thermocouples.
Integrity Criteria	Cotton pads and gap gauges were available to evaluate the impermeability of the specimens where relevant.
Furnace Pressure	After the first five minutes of testing and for the remainder of the test, the furnace atmospheric pressure was controlled so that it complied with the requirements of BS 476: Part 20: 1987, Clause 3.2.2 (including allowance for transient occurrences in-line with Clause 12(l)). The calculated pressure differential relative to the laboratory atmosphere at the top of the clear opening was 11 (± 2) Pa equating to 0 Pa at a point 1m above the notional floor level.

Test Observations

Time		All observations are from the unexposed face unless noted otherwise.
mins	secs	
		The ambient air temperature in the vicinity of the test construction was 20°C at the start of the test with no variation during the test.
00	00	The test commences.
03	00	Very light Steam/smoke release issues from the head of the door leaf.
05	00	When viewed from the exposed face the partition paper face has ignited. The veneer facing of the door leaf is observed peeling away.
08	33	Light steam/smoke release at the head continues.
20	00	Light steam/smoke release at the head continues.
30	00	Very light discolouring is observed at the top corner of the leading edge of the doorset.
33	39	When viewed from the exposed face the joints in the plaster boards are beginning to open up.
37	00	Discolouring at the head of the leading edge increases as smoke release continues.
40	00	Cotton pad integrity test is performed at top corner of the leading edge, the pad lightly discolours but does not ignite.
41	40	Steam/smoke issuing from the top corner trailing edge.
42	20	Cotton pad integrity test is performed at top corner of the leading edge, the pad lightly discolours but does not ignite.
43	00	A small flicker of flame is observed inside of the frame at the bottom corner at the leading edge.
45	00	Test is discontinued at the clients request.

Test Photographs

The exposed face of the test construction prior to testing



The unexposed face of the test construction prior to the start of the test



The unexposed face of the test construction after a test duration of 15 minutes



The unexposed face of the test construction after a test duration of 30 minutes



The unexposed face of the test construction after a test duration of 45 minutes



The exposed face of the test construction immediately after the test



Temperature and Deflection Data

Mean Furnace Temperature, Together With The Temperature/Time Relationship Specified In The Standard

Time Mins	Specified Furnace Temperature Deg. C	Actual Furnace Temperature Deg. C
0	20	35
2	445	441
4	544	538
6	603	712
8	646	636
10	678	677
12	706	676
14	728	727
16	748	743
18	766	758
20	781	778
22	796	801
24	809	810
26	820	818
28	832	827
30	842	841
32	852	850
34	860	859
36	869	868
38	877	876
40	885	880
42	892	887
44	899	901
45	902	901

Individual And Mean Temperatures Recorded On The Unexposed Surface Of The Doorset

Time Mins	T/C Number 4 Deg. C	T/C Number 5 Deg. C	T/C Number 6 Deg. C	T/C Number 7 Deg. C	T/C Number 8 Deg. C	Mean Temp Deg. C
0	22	22	22	23	22	22
2	22	22	22	23	22	22
4	22	22	22	23	22	22
6	22	23	22	23	22	22
8	22	23	22	23	22	22
10	22	23	23	23	22	23
12	23	23	23	24	23	23
14	23	24	24	24	24	24
16	24	26	25	26	25	25
18	26	27	27	27	27	27
20	28	30	29	29	30	29
22	31	32	32	32	33	32
24	34	35	35	35	36	35
26	37	38	38	38	39	38
28	41	42	41	41	42	41
30	44	45	45	45	46	45
32	48	49	48	48	49	48
34	52	53	51	52	53	52
36	56	57	55	56	57	56
38	60	61	59	60	60	60
40	65	65	62	64	65	64
42	69	70	66	68	68	68
44	73	74	70	72	72	72
45	75	75	72	74	74	74

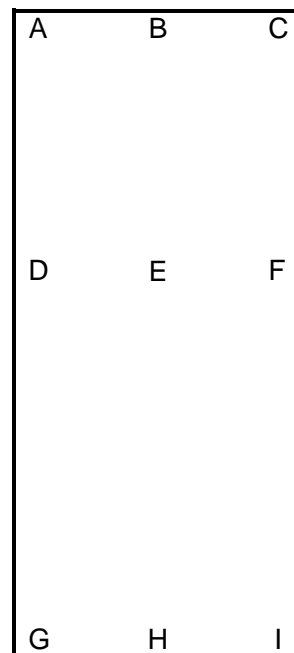
**Individual And Mean Temperatures Recorded On The Unexposed Surface Of The Partition Over
The Pocket Void**

Time Mins	T/C Number 9 Deg. C	T/C Number 10 Deg. C	T/C Number 11 Deg. C	T/C Number 12 Deg. C	T/C Number 13 Deg. C	Mean Temp Deg. C
0	18	22	22	22	22	21
2	19	22	22	22	22	21
4	19	22	22	22	22	21
6	19	22	22	22	22	21
8	20	22	22	22	22	22
10	19	22	22	22	22	21
12	19	23	23	23	22	22
14	20	24	23	23	23	23
16	20	25	24	23	23	23
18	20	26	25	24	24	24
20	20	28	26	25	25	25
22	20	29	27	26	26	26
24	19	31	28	26	26	26
26	20	32	29	27	27	27
28	20	34	30	28	28	28
30	21	36	32	29	29	29
32	21	38	34	31	31	31
34	22	41	36	32	32	33
36	22	44	38	34	34	34
38	21	46	41	36	36	36
40	23	49	44	38	38	38
42	23	52	47	40	40	40
44	24	55	50	42	42	43
45	25	56	51	43	43	44

**Individual Temperatures Recorded Around The Perimeter Of The Doorset And The Pocket Void On
The Unexposed Face Of The Partition And Above The Doorset**

Time Mins	T/C	T/C	T/C	T/C	T/C	T/C	T/C
	Number	Number	Number	Number	Number	Number	Number
	14	15	16	17	18	19	20
	Deg. C	Deg. C	Deg. C	Deg. C	Deg. C	Deg. C	Deg. C
0	22	22	22	21	21	21	23
2	22	22	22	21	21	21	23
4	22	27	22	21	22	21	24
6	22	26	22	21	21	21	24
8	22	27	23	21	22	21	24
10	22	29	23	21	22	21	24
12	22	31	24	21	23	22	25
14	22	34	25	22	24	22	26
16	22	34	26	22	26	23	27
18	23	37	28	22	28	24	29
20	23	39	30	22	30	25	30
22	24	41	31	22	32	26	32
24	24	44	33	23	33	26	35
26	25	41	34	23	35	27	36
28	25	36	36	24	37	29	38
30	26	32	38	24	39	30	41
32	27	30	40	25	41	32	43
34	28	29	42	26	43	34	46
36	29	29	44	28	45	36	48
38	30	29	46	28	47	38	51
40	32	31	48	30	49	41	54
42	33	32	49	31	52	44	56
44	34	32	51	32	53	47	58
45	35	32	52	33	54	48	59

Deflections of the Doorset During he Test

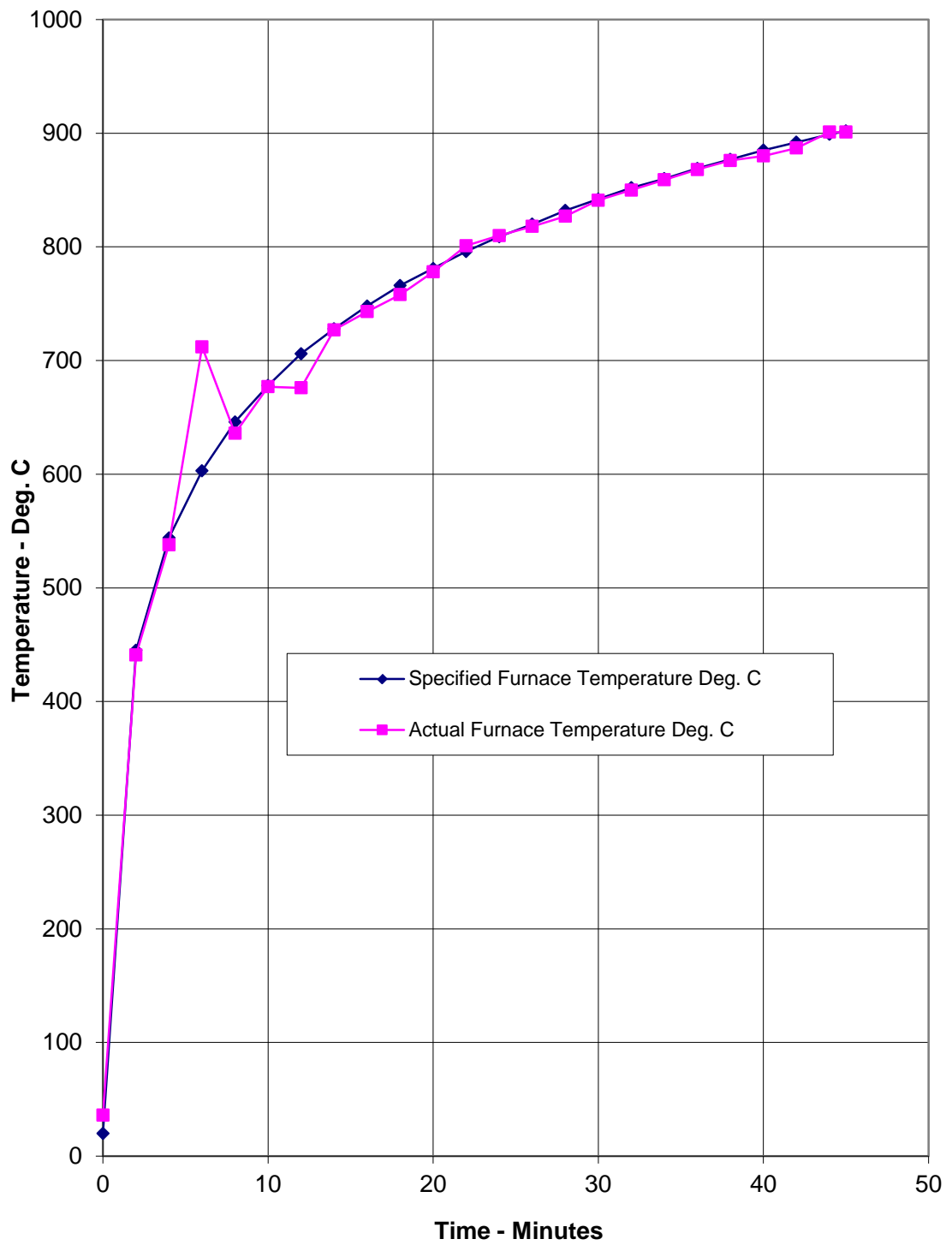


TIME mins	A	B	C	D	E	F	G	H	I
0	0	0	0	0	0	0	0	0	0
5	2	1	1	-1	3	2	-3	0	-3
10	0	3	2	-1	5	3	-3	-3	-3
15	-1	1	2	-3	3	1	-2	-4	-2
20	2	3	1	-3	2	-2	-4	-4	-4
25	-1	-1	0	-3	-1	-4	-4	-4	-5
30	0	-2	-1	-2	-1	-6	-4	-3	-4
35	*	0	-1	-4	-4	-6	-1	-3	-4
40	*	1	3	-4	-6	-5	-1	-5	-4

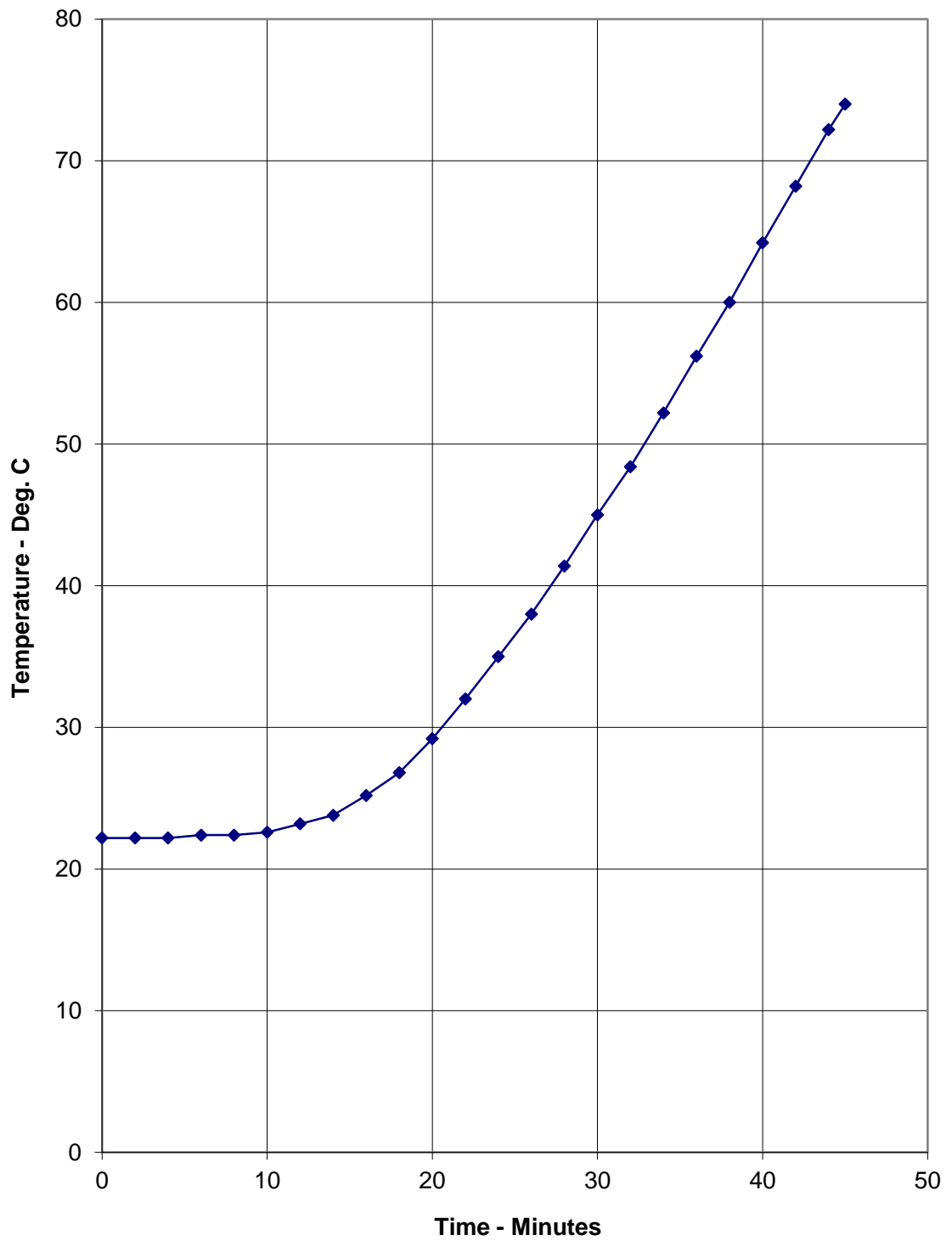
*Laser reading malfunction

Positive values indicate movement towards the furnace chamber

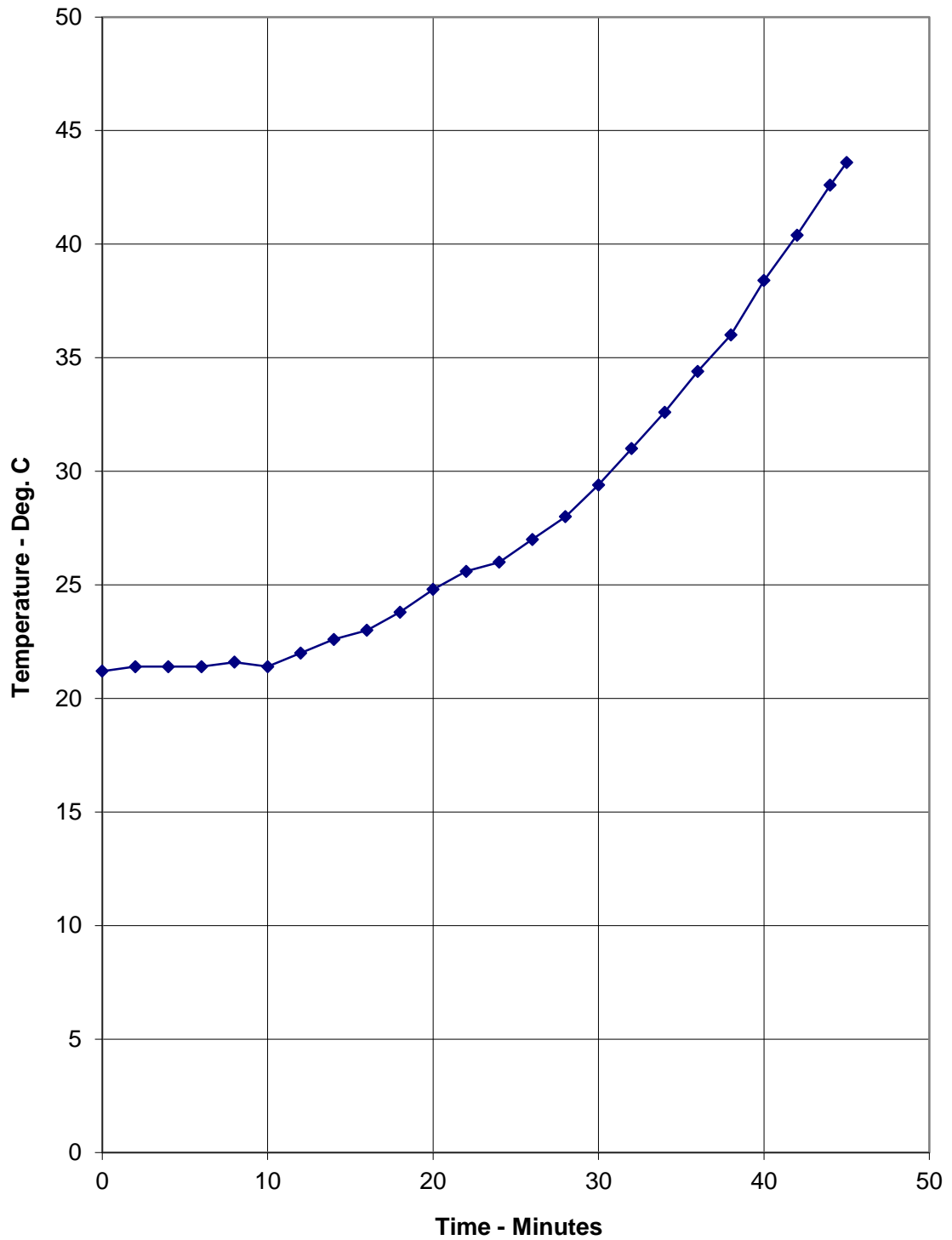
Graph Showing Mean Furnace Temperature, Together With The Temperature/Time Relationship Specified In The Standard



Graph Showing Mean Temperature Recorded On The Unexposed Surface The Doorset



Graph Showing Mean Temperature Recorded On The Unexposed Surface The Partition Over The Pocket Void



Performance Criteria and Test Results

Integrity

It is required that there is no collapse of the specimen, no sustained flaming on the unexposed surface and no loss of impermeability. These requirements were satisfied for the test duration of 45 minutes.

Insulation

It is required that the mean temperature rise of the unexposed surface shall not be greater than 140°C and that the maximum temperature rise shall not be greater than 180°C. Insulation failure also occurs simultaneously with integrity failure. These requirements were satisfied for the test duration of 45 minutes.

On-going Implications

Limitations

The results relate only to the behaviour of the specimen of the element of construction under the particular conditions of test. They are not intended to be the sole criteria for assessing the potential fire performance of the element in use, nor do they reflect the actual behaviour in fires.

The test results relate only to the specimen tested. Appendix A of BS 476: Part 20: 1987 provides guidance information on the application of fire resistance tests and the interpretation of test data. Application of the result to doorsets of different dimensions or supported other than by a masonry wall or incorporating different components should be the subject of a design appraisal.

The tested assembly was deemed to be symmetrical and therefore testing was carried out from one side only.

Review

The specification and interpretation of fire test methods are the subject of ongoing development and refinement. Changes in associated legislation may also occur. For these reasons it is recommended that the relevance of test reports over five years old should be considered by the user. The laboratory that issued the report will be able to offer, on behalf of the legal owner, a review of the procedures adopted for a particular test to ensure that they are consistent with current practices, and if required may endorse the test report.

Conclusions

Evaluation Against Objective An insulated sliding doorset mounted in a timber stud partition has been subjected to a fire resistance test in accordance with BS 476: Part 22: 1987, Clause 6.

The evaluation of the doorset against the requirements of BS 476: Part 22: 1987, Clause 8 showed that it satisfied the requirements for the periods stated below:

Test Results:

Integrity 45 minutes*

Insulation 45 minutes*

*The test was discontinued after a period of 45 minutes.