TEST REPORT

No. 0255-24-TR-01

Fire resistance of latched, Fire rated palm strand board design, double leaf + vision panel with Palm strand board frame made according to technical documentation No. J00006-STD-FR-PSB-103

according to:

- EN 1363-1:2020
- EN 1363-2:2001
- EN 1634-1:2014+A1:2018

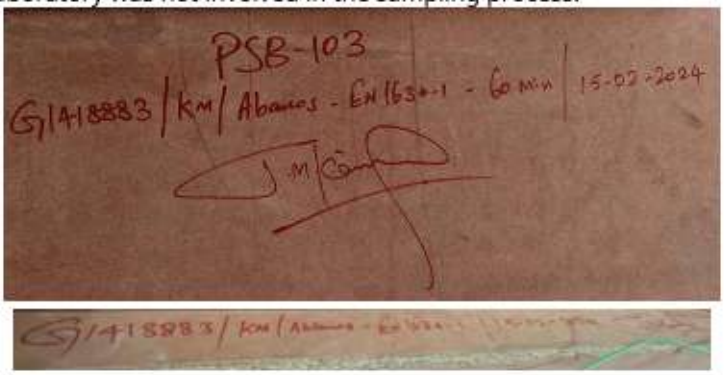
Date of issue: 02 May 2024

ACCREDITED
Testing Laboratory
TL 1038

مختبر الإمارات للسلامة
EMIRATES SAFETY LABORATORY

1. EXCLUSIVE SUMMARY

Test method:	EN 1363-1:2020 – *Fire resistance tests - Part 1: General requirements*. EN 1363-2:2001 – Fire resistance tests - Part 2: Alternative and additional procedures. EN 1634-1:2014+A1:2018 – *Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware – Part 1: Fire resistance test for door and shutter assemblies and openable windows.*
Name and address of the testing laboratory:	Emirates Safety Laboratory, Al Warsan III, Dubai, United Arab Emirates.
Date of specimen(s) delivery:	20th February, 2024
Date of specimen(s) installation:	20th – 21st February, 2024
Date of testing:	23rd February, 2024
Name and address of the test sponsor:	Abanos Furniture & Decoration Industry, LLC P O Box 114480, Dubai, UAE
Name and address of the manufacturer/supplier:	Door and Frame Assembly – Abanos Furniture & Decoration Industry, LLC P O Box 114480, Dubai, UAE Door and Frame Core – Al Talah Board Manufacturing Co. LTD Abu Dhabi Free Zone (KIZAD), Plot no KHIA4-05 Taweelah, Abu Dhabi, United Arab Emirates
Identification of the test specimen:	A wooden double door was installed in a high-density rigid supporting construction, with the hinges/locks on the exposed side. (Opening towards the furnace).
ESL Identification of the test specimen(s):	0255-24-01
Description of sampling procedure including date if applicable:	Test specimens were selected, marked and signed by Mr. Kamil Mohammed from Intertek Middle East (Certification Body) on February 15th, 2024 as shown below and delivered to ESL by the test sponsor. The results apply to the specimens as received. The Laboratory was not involved in the sampling process.



2. TEST CONDITIONS

Heating temperature of the test element:	Standard temperature-time curve was maintained within its allowable limits according to EN 1363-1. The temperature inside the furnace during the test was measured at a distance of 100mm from the surface of the test element. Heating conditions are shown in Graphs 1 and 2.
Furnace pressure:	Differential pressure in the furnace measured at a height of 0.5m above the level of furnace floor was maintained according to EN 1363-1. The pressure probe was located 330mm above the door sill level of the specimen. The pressure level during the test is shown in Graph 3.
Ambient temperature:	Measured during the test at a distance of 2000mm away from the unexposed face of the specimen, at the commencement of the test was 23.5°C.

3. DESCRIPTION OF THE TEST SPECIMEN

Constructional details of the double door set dimensions in below table are presented in the technical documentation enclosed to this report.

Table 1

Measurement	Nominal (mm)	Measured by ESL (mm)
Width of the door leaves	2202	2203
Width of the active door leaf	1100	1102
Width of the inactive door leaf	1100	1102
Height of the active door leaf	2420	2420
Height of the inactive door leaf	2420	2422
Door frame (w x h)	2280 x 2464	2283 x 2465
Door leaf Thickness	54	55.60
Weight of the active door leaf	126.5 kg	130.8 kg
Weight of the inactive door leaf	126.5 kg	132 kg

3.1. Description

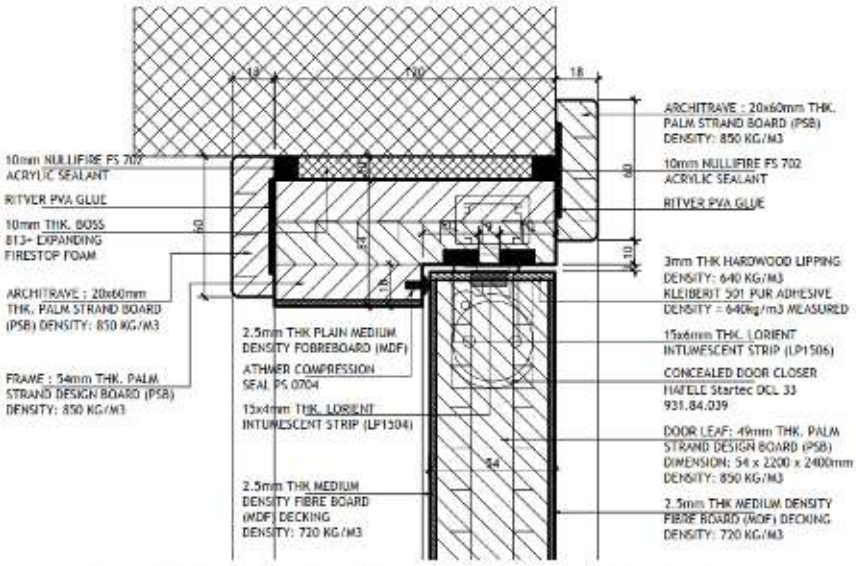


Figure 1. Cross-section of the upper section of the specimen

The door leaf of the test specimen was made out of 49 mm thick palm strand board (PSB) of 880kg/m3 density, enclosed by 2.5 mm, medium density fibreboard (MDF) decking of 720 kg/m3 density, 3x54mm Beechwood lipping of 640 kg/m3, was fixed along its perimeter using Kleiberit 501 PUR Adhesive glue from Kleiberit.

The doorset frame of 54x120 mm cross section was made from PSB of 880 kg/m3 density, with a layer of MDF at the maximum cross-section of the frame.

The architrave of dimension 20x60mm was fixed onto the door frame on both sides using ø1.5x34mm nails (measured by ESL) with 390mm spacing, see figure 1.

3.1.1. Doorset glazing:

The glazing of the door leaves consisted of 5mm thick glass pane Keralite®R type E 240 fire rating of dimensions 200x1500mm, produced by Vetrotech Saint-Gobain. The glass pane was fixed into the door leaf opening using a 1.5 mm thick Z-profile steel frame (25x23x20mm) made of Galvanized iron (G.I.) see figure 2 and 3

On the perimeter of the door leaf cutout, between the glazing frame and the door leaf core, a 9mm thick calcium silicate lipping produced by Firepro Soben International, was fixed to the core by the means of using PW1612 PVA waterproof glue produced by Ritver. Between the glazing frame and the door leaf core, a 2 mm thick interdent liner LX 5402 type of intumescent strips were applied (dimensions of 23x2mm and 50x2mm – see figure 2 and 3.

Glazing frames were clamped onto the glass using 20x4mm Kerafix 2000 type gasket, produced by Rolfkhun GmbH, and fixed to the door leaf by means of Ø4x38mm Stainless steel screws - 3pcs on the top and 3pcs on the bottom horizontal (with 146mm spacing, measured by ESL) and 11pcs on each of the vertical sides (with 147mm spacing, measured by ESL)

In addition, a setting block (Flammi 12) of 4x10mm produced by Rolfkhun with a density of 900 kg/m^3 was placed only at the bottom of the glass.

Distance of the glazing from the door leaf edges (measured by ESL):
450 mm from the vertical door leaf edge
374 mm from the bottom door leaf edge

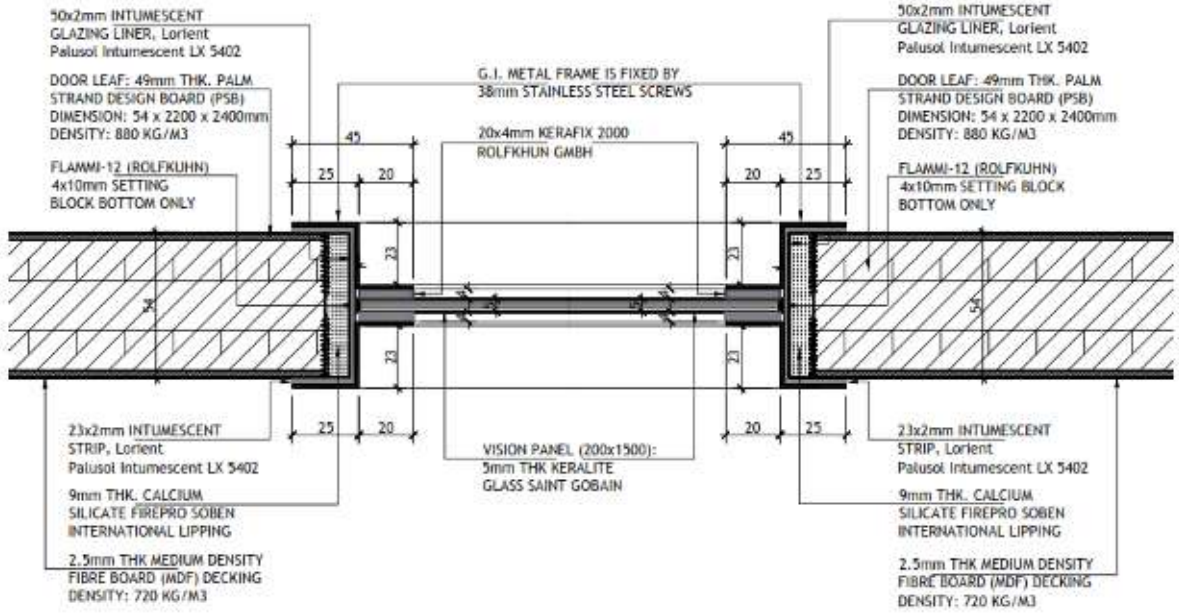


Figure 2. Vision panel detail

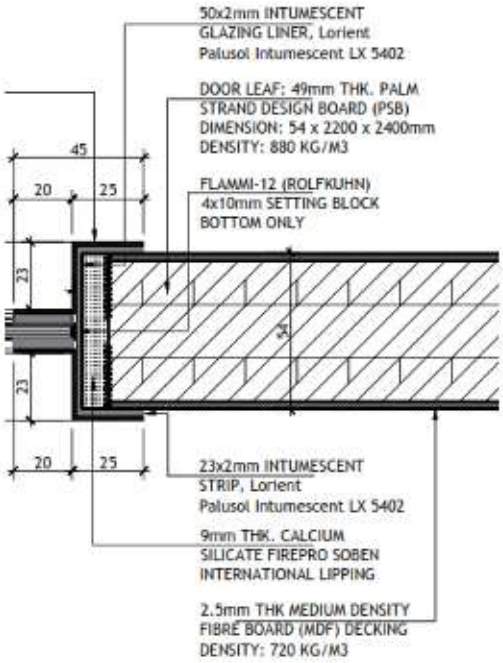


Figure 3. Vision panel detail

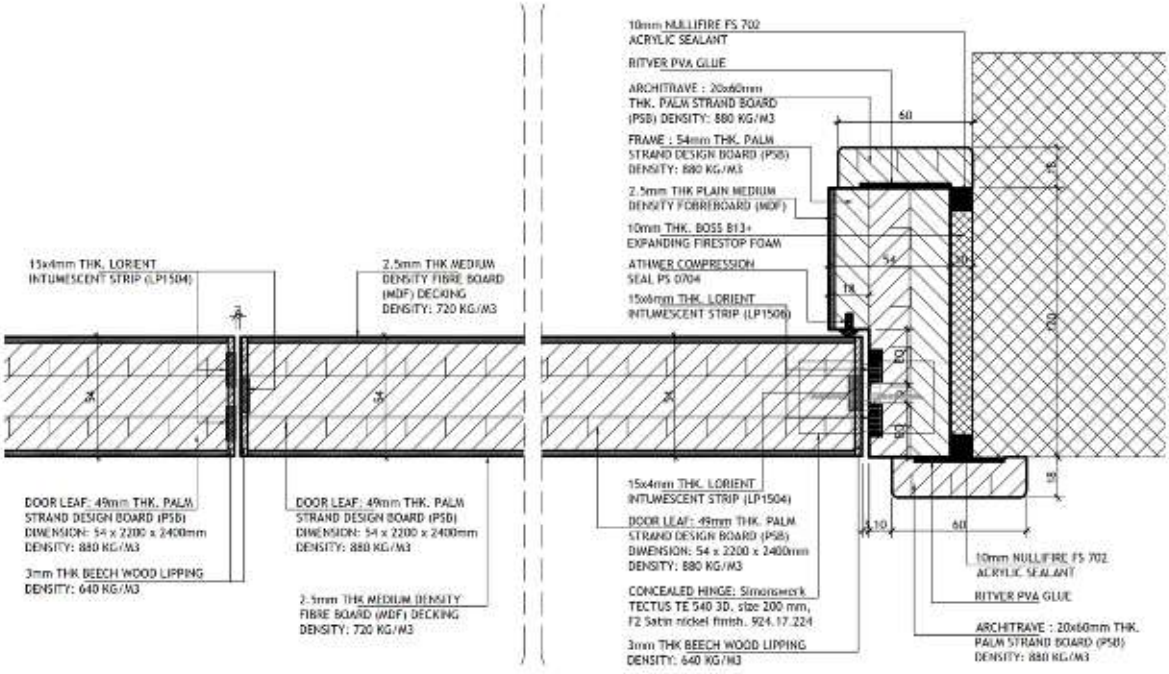


Figure 4. Meeting stile and hinge jamb detail

Doorset gaskets:

- 2 pcs of 15x6mm PVC encapsulated LP1506 type fire seal, produced by Lorient – see Photo 2 – door frame rebate.
- 1 pc of 15x4mm PVC encapsulated LP type fire seal, produced by Lorient – see Photo 2 –vertical and the top horizontal edges of the door leaf
- At the meeting stile, 2pc of 15x4mm PVC encapsulated LP1504 type fire seal at the active door leaf and 1 pc of the same fire seal at the inactive door leaf. See photo 1.
- 1pc Athmer compression seal PS 0704 (rubber gasket) – see photo 2 – door frame rebate.

Photo 1. Meeting stile of the door leaf

Photo 2. Door frame rebate and door top edge

3.2. Door Hardware

Table 2

Lock and handle		
Manufacturer		HAFELE
Ref no.	Lock	911.02.145
	Handle	903.92.076
Type		Mortise lock
Quantity		1
Length of Latch throw		12 mm (measured by ESL)
Fixing Method		The lock was installed on the active door leaf at a height of 1028 mm from the bottom edge of the door leaf (measured by ESL), with 2mm thick intumescent fire protection kit.

Lock and handle	
	The handle was located at 1045 mm from the bottom edge of the active door leaf. (Measured by ESL)

Table 3

Lock cylinder	
Manufacturer	HAFELE
Ref no.	916.96.076
Type	Profile cylinders.
Quantity	1
Fixing Method	The lock cylinder was fixed at a height of 965 mm from the bottom edge of the active door leaf. (measured by ESL).

Table 4

Door Closer	
Manufacturer	HAFELE
Ref no.	931.84.039
Type	Concealed door closer
Quantity	2
Fixing Method	The door closer were fixed as per the manufacturer's instruction. 2mm thick intumescent fire protection kit was installed.

Table 5

Hinges	
Manufacturer	HAFELE
Ref no.	TE 540 3D
Type	Concealed hinges
Quantity	8 (4 Nos. on each leaf)
Fixing Method	The hinges were fixed c/c from the centre of the bottom edge of the door leaf. Inactive leaf : 200 mm, 870 mm, 1550 mm and 2220 mm (measured by ESL) Active leaf : 200 mm, 875 mm, 1553 mm and 2225 mm (measured by ESL) Installed with 1mm thick intumescent fire protection kit.

Table 6

Flush bolt	
Manufacturer	HAFELE
Ref no.	911.82.004
Quantity	2
Fixing Method	Fixed at the top and bottom of the inactive door leaf. Flush bolt latch: Top – 16.1 mm (measured by ESL)

Table 7

Drop seal	
Manufacturer	Lorient
Ref no.	LAS 8001 SI
Quantity	2
Fixing Method	Fixed at the bottom of both door leaf, with 2 mm thick intumescent fire protection kit.

Note: The information provided in section 3.1 has been compiled based on the information received from test sponsor unless stated differently.

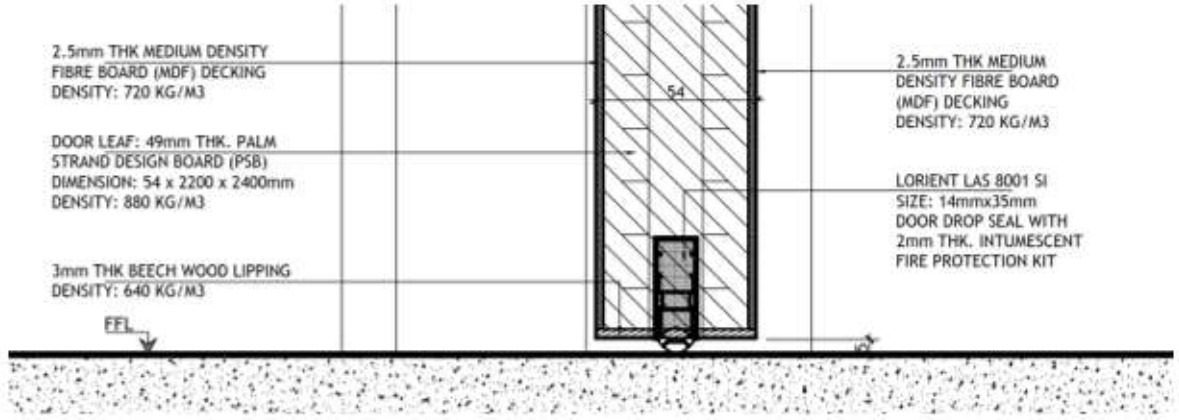


Figure 5. Bottom edge detail

3.3. Installation

The doorset was installed in the supporting construction with a 10 mm gap on the perimeter of the door frame filled with 813+ fire retardant foam produced by BOSS products and fixed with 8 pcs of 8 x 120 mm screws with plastic plugs (5pcs on each vertical side only). In addition, the foam was covered on both sides with FS702 Intumastic fire resistant acrylic sealant from Nullifire to a depth of 10 mm. and covered then by the architrave with an adhesive produced by Ritver and secured using 1.5 mm x 34 mm nails.
(Information based on ESL observation during the installation, also refer figure 3)

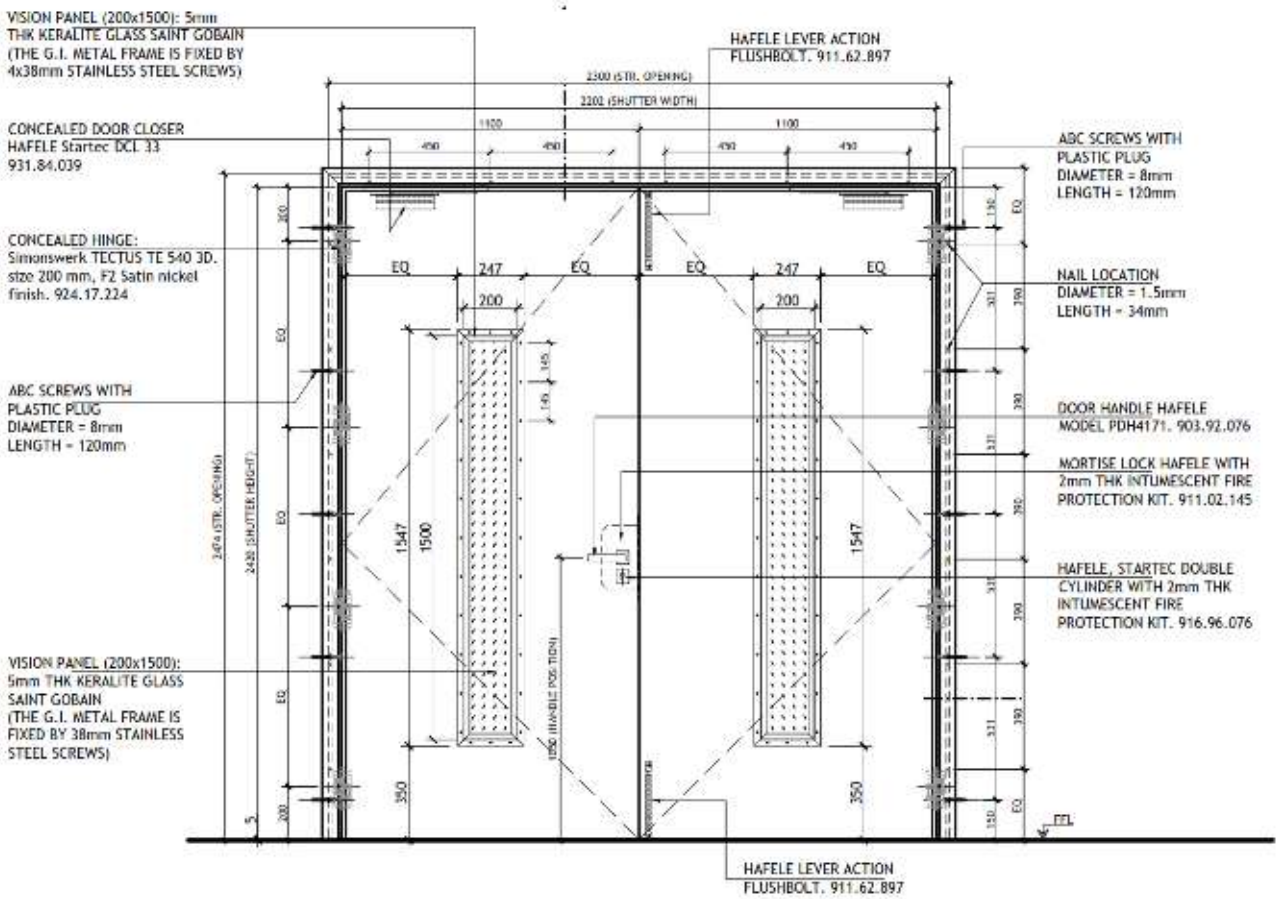


Figure 6. General Layout of the doorset.

3.4. Description of the supporting construction

The door set was installed within a rigid standard supporting construction (according to EN 1363-1 standard) made of 150mm thick concrete blocks having a stated density of 1250kg/m^3 ±200 kg/m^3 with a structural opening of size 2300mm x 2474mm (w x h). The supporting construction filled the test frame of dimensions 4240x42400mm, made of a steel H-profile. The whole construction was used to close the furnace. Supporting construction was conditioned until it was deemed satisfactory by the Laboratory as per relaxation given in Appendix A of EN 1634-1.

3.5. Verification

Verification of the test element(s) was performed before the test, during the assembly and after the test. It included visual inspection of constructional details and its assembly method as well as assessment of dimensions' conformity with technical documentation.

Note: The information provided in section 3.1 has been compiled based on the information received from test sponsor unless stated differently.

4. PRE-TEST PREPARATION

4.1. Conditioning

The door set was installed by the manufacturer from 20-Feb-2024 to 21-Feb-2024 in the previously conditioned supporting construction. The test specimen was conditioned for 1 day afterwards under following conditions:

- relative humidity: min RH (%): 36.8, max RH (%): 63.5,
- temperature: min temp. (°C): 22.1, max temp. (°C): 27.3.

4.2. Operability test

The test element(s) prior to the fire resistance test and after conditioning was submitted to operability according to EN 16034:2014, by operating 25 cycles of opening to 90° and fully closed of the door leaf. The arm of the door closer is fixed to the door frame.

4.3. Closing force measurements

The maximum closing force of the doorset was measured prior to the test, to an opening distance of 100mm, was 45 N.

4.4. Gaps measurements

Gaps measurements made in ESL laboratory are shown in Table 8.

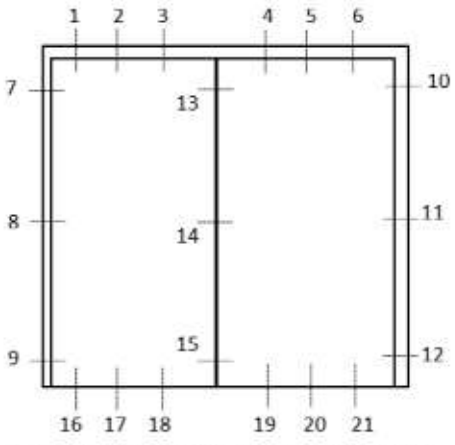


Figure 7. Gap measurement location

Table 8

No.	Exposed side (mm)	No.	Exposed side (mm)
1	3.2	12	3.0
2	2.8	13	1.7
3	3.3	14	3.0
4	2.3	15	3.1
5	2.7	16	6.6
6	2.8	17	4.8
7	2.4	18	5.7
8	2.3	19	5.1
9	2.5	20	5.9
10	3.1	21	5.6
11	2.2		

4.4.1. Maximum Permitted Gaps

Maximum permitted gaps are shown in Table 9.

Table 9

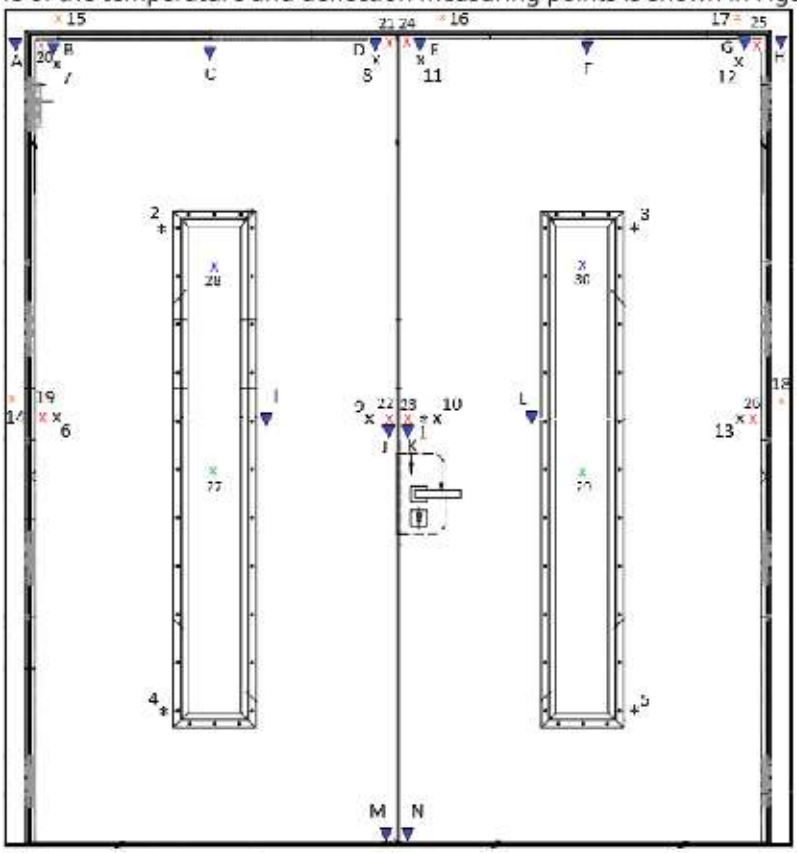
GAPS		Measurements, mm		
		Average	Maximum	Permitted gap size
Along the horizontal edges	At the top	2.4	3.3	4.9
	At the bottom	5.6	6.6	8.1
Along the vertical edges	Hinge side	2.6	3.1	4.8
	Non-hinge side	2.6	3.1	4.9

4.5. Final settings

Prior to the fire resistance test, the test specimen(s) was subjected to a final closing involving opening the leaf to a distance of approximately 300 mm and returning it to the closed position. The door was latched but not locked and the key was removed from the lock. The door closer is as per normal application on site, connected and operational.

4.6. Arrangement of temperature and deflection measurement points

The positioning scheme of the temperature and deflection measuring points is shown in Figure 5.

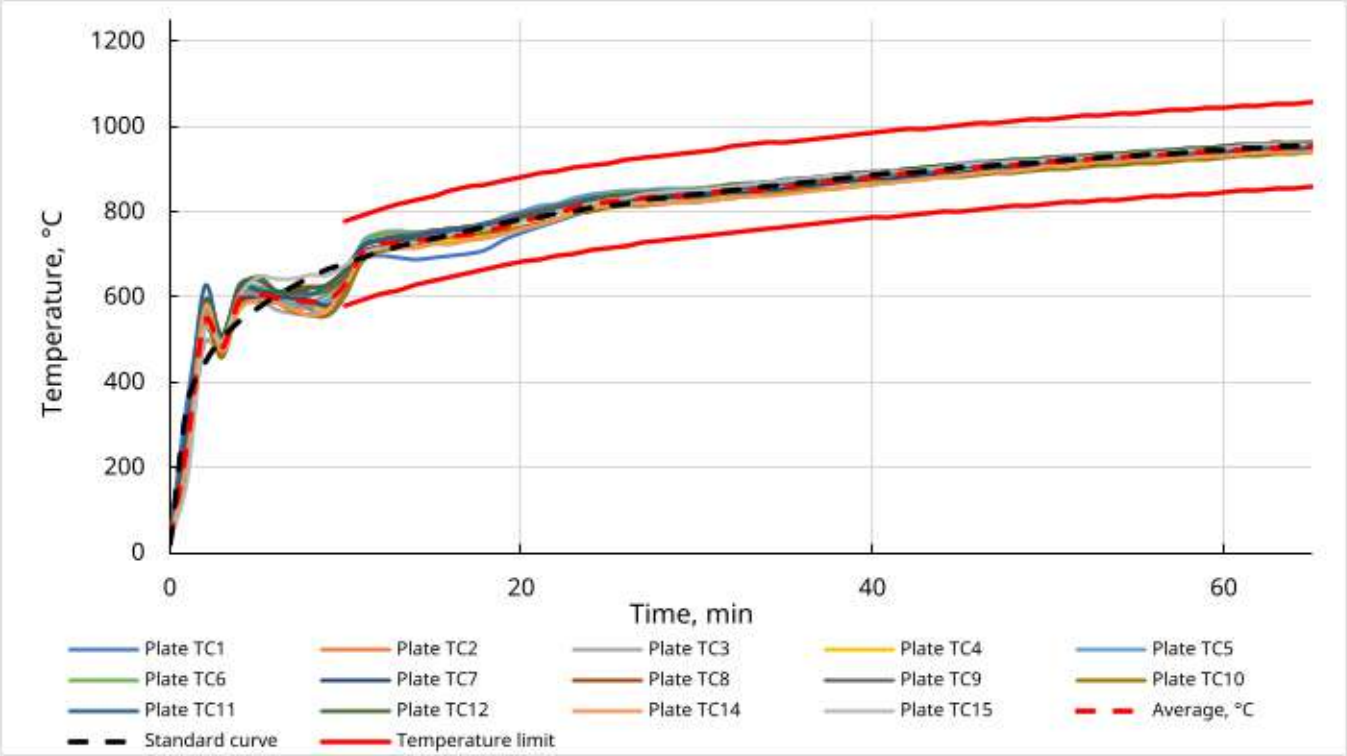


* - Temperature measuring point (standard procedure – average temperature).
x – Temperature measuring point (standard procedure – maximum temperature).
X - Temperature measuring point (frame).
X - Temperature measuring point (Standard procedure discrete area – average temperature).
X - Temperature measuring point (Standard procedure discrete area – maximum temperature)
X – Temperature measuring point (supplementary procedure).
▼ – Deflection measuring point.

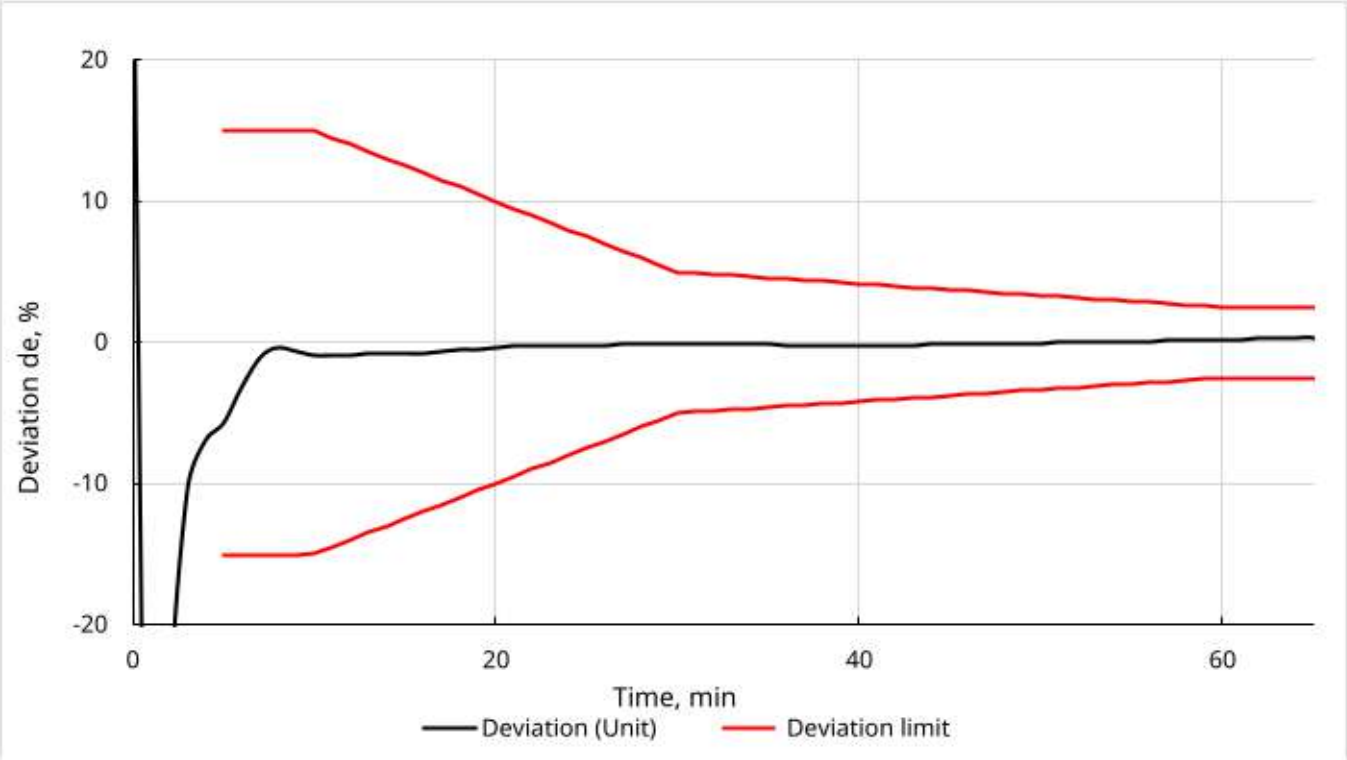
Figure 8. Scheme of the temperature and deflection measuring points on the unexposed side of the door set.

5. TEST RESULTS

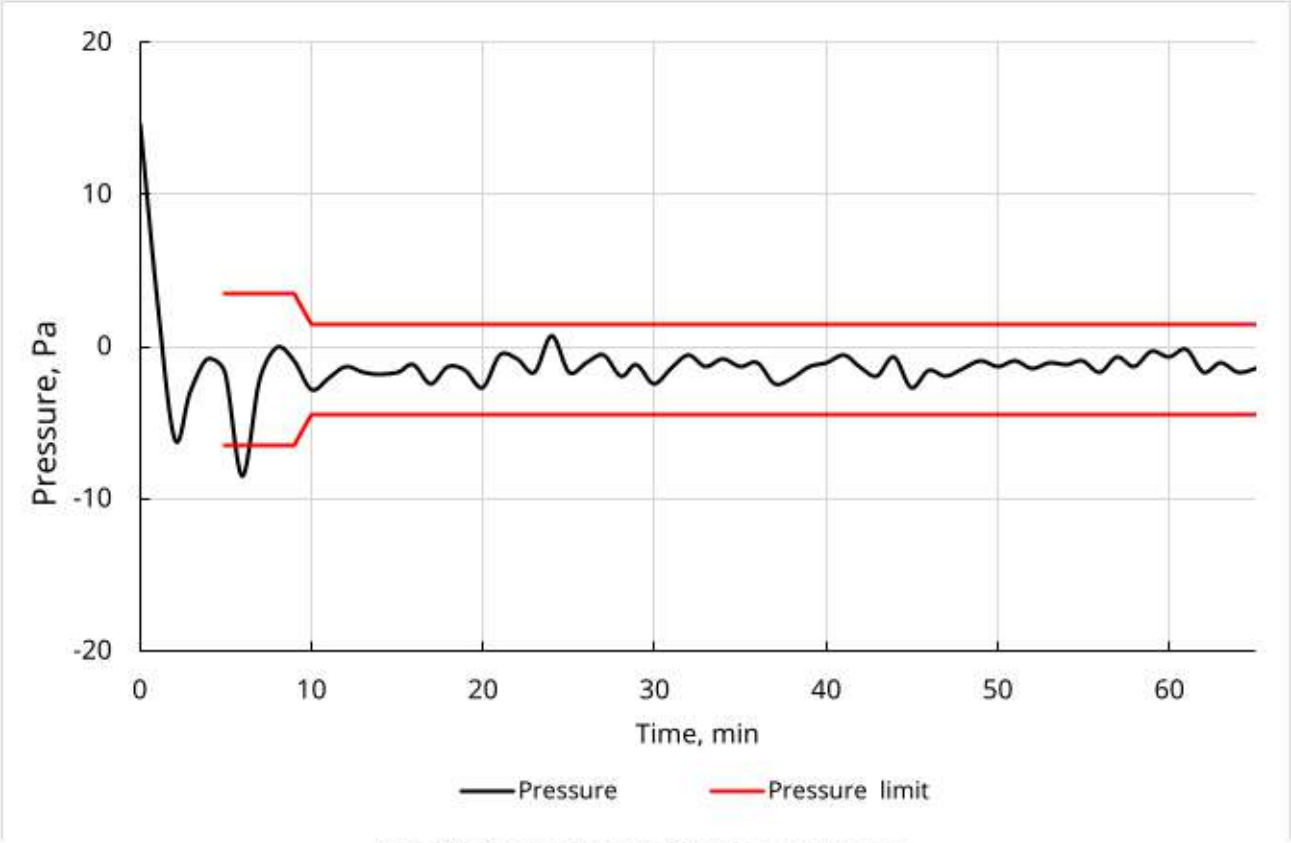
5.1. Furnace conditions



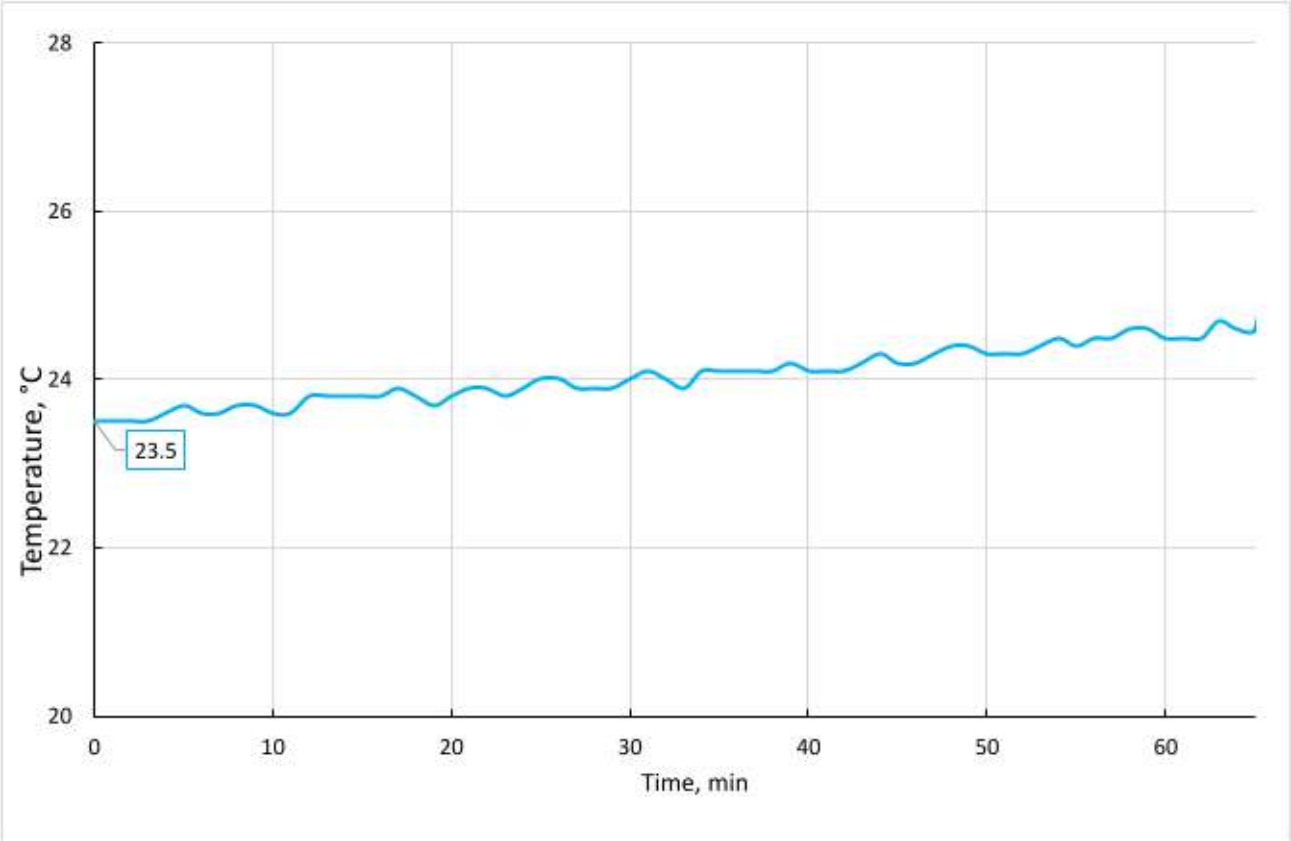
Graph 1. Temperature in the furnace during the test



Graph 2. Deviation d_e with tolerance limits during the test



Graph 3. Pressure inside the furnace during the test



Graph 4. Ambient temperature during the test

5.2. Fire test results

5.2.1. Observations

Table 10. Observations of the test specimen during the test.

Time, (min)	OBSERVATION
0	Commencement of the test
2	Smoke flowing through the meeting stile.
4	Smoke through the sill.
6	Glass has started to darken.
16	Top half of the meeting stile and mid height has visible discoloration due to hot gas.
25	Discoloration above the horizontal edge of the vision panel frame
45	No changes were observed.
52[44]	Sustained flaming at the top left corner of the vision panel frame. Integrity failure
65	Flaming at the top right corner of the test specimen. End of test

5.2.2. Deflection measurements

Deflection measurements are shown in Table 11.

Table 11.

	Time (min.)	*Deflection at the measuring point, mm*													
		A	B	C	D	E	F	G	H	I	J	K	L	M	N
„+" Deflection towards the furnace	10	+2	+1	-1	+2	+2	+6	0	-5	+7	+7	+7	+7	-14	-3
	20	+2	+1	+5	-3	+2	+5	-4	-4	+10	+6	+6	+12	-14	-4
„-" Deflection outwards the furnace	30	+2	+4	+4	+5	+4	+12	-1	-4	+6	+10	+8	+9	0	-5
	40	+1	0	+2	+3	+2	+4	0	+2	+1	+8	+8	+10	+1	-5
	50	/1	/1	/1	/1	/1	+4	/1	/1	/1	/1	/1	/1	/1	/1
	55	/1	/1	/1	/1	/1	/1	/1	/1	/1	/1	/1	/1	/1	/1
	60	/1	/1	/1	/1	/1	/1	/1	/1	/1	/1	/1	/1	/1	/1

/1 – measurements where not taken due to safety concerns on some deflection points and after 50+ minutes onward

5.2.3. Temperature rise & radiation measurements on the unexposed side of the door

Temperature rise on the unexposed side of door set is shown in table 12 and 13.

Table 12. Temperature rise on the unexposed side of the doorset

Time	Standard Procedure																		Supplementary Procedure								Right vision panel		left vision panel	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
0	-0.6	-0.8	-0.8	-1.0	-1.2	-1.1	-0.4	-0.4	-0.7	-0.9	-0.7	-0.5	-0.7	-0.9	-0.5	-0.5	-0.5	-1.1	-0.8	-0.4	-0.3	-0.9	-0.7	-0.5	0.0	-0.7	5.9	5.4	5.9	2.1
1	-0.3	-0.2	-0.7	-0.4	-1.2	-0.8	-0.2	0.7	2.5	-0.9	0.2	-0.5	-0.8	-0.8	-0.3	1.0	-0.4	-1.1	-0.5	-0.1	0.9	2.7	-0.5	1.7	0.1	-0.7	56.9	64.0	65.8	68.7
2	-0.1	0.8	-0.6	0.5	-1.1	-0.4	0.1	2.0	4.2	-0.7	0.5	-0.4	-0.7	-0.4	0.1	2.2	-0.3	-1.2	-0.2	0.5	2.5	4.7	-0.2	4.2	0.3	-0.6	152.8	171.5	176.6	127.2
3	-0.1	1.2	-0.6	0.5	-1.1	-0.4	0.1	1.8	2.5	-0.7	0.1	-0.5	-0.7	-0.5	0.0	0.9	0.1	-1.1	-0.1	0.8	2.6	3.7	-0.1	2.8	0.8	-0.6	229.5	241.0	266.0	259.9
4	-0.1	1.6	-0.4	0.5	-1.0	-0.6	0.2	1.6	1.6	-0.4	0.1	-0.3	-0.6	-0.6	0.1	0.7	0.2	-1.1	-0.3	0.9	2.4	3.4	0.1	2.2	1.3	-0.5	276.1	282.6	314.5	307.0
5	0.0	2.0	-0.2	0.7	-1.0	-0.5	0.2	1.3	1.3	-0.4	0.0	-0.3	-0.6	-0.5	0.2	0.8	0.4	-1.1	-0.2	1.3	2.9	3.1	0.4	2.4	1.7	-0.5	325.2	336.9	367.2	366.0
6	0.1	2.8	0.2	1.1	-0.8	-0.4	0.3	1.1	1.1	-0.2	0.2	-0.3	-0.4	-0.5	0.3	0.9	0.6	-1.1	-0.1	1.8	3.4	3.1	0.8	3.0	2.2	-0.4	413.6	430.4	462.6	458.4
7	0.3	3.6	0.4	1.7	-0.6	-0.2	0.6	1.3	1.0	0.0	0.3	-0.1	-0.3	-0.3	0.6	1.3	0.7	-1.0	0.1	2.3	4.3	3.3	1.2	3.7	3.1	-0.4	465.3	471.7	495.9	485.9
8	0.4	4.2	0.6	2.2	-0.6	-0.1	0.8	1.5	1.0	0.0	0.4	0.0	-0.4	-0.3	0.7	1.4	0.9	-1.0	0.1	2.7	5.3	3.6	1.7	4.3	3.6	-0.2	464.8	477.3	483.8	469.6
9	0.5	4.9	1.1	2.7	-0.5	0.0	0.9	1.5	1.2	0.3	0.5	0.2	-0.3	-0.3	0.8	1.6	1.1	-0.9	0.1	3.2	6.2	4.9	2.0	4.8	4.1	-0.1	460.2	478.0	475.4	456.8
10	0.6	5.6	1.1	3.2	-0.5	0.0	1.0	1.6	1.3	0.4	0.7	0.4	-0.2	-0.5	1.0	1.7	1.3	-0.9	0.1	3.7	6.9	6.3	2.5	5.2	4.7	-0.1	477.8	492.5	488.8	470.2
11	0.9	6.3	1.5	3.7	-0.3	0.2	1.3	1.8	1.8	0.5	0.8	0.4	-0.2	-0.3	1.2	2.0	1.5	-0.9	0.2	4.2	7.8	8.3	2.8	5.6	5.2	-0.1	498.1	509.4	507.2	491.0
12	1.3	6.7	1.7	4.1	0.0	0.3	1.5	1.9	1.8	0.8	1.0	0.5	0.2	-0.3	1.4	2.2	1.7	-0.7	0.3	4.6	8.5	9.5	3.5	6.1	5.7	0.3	515.2	523.6	524.9	508.2
13	1.6	7.2	1.6	4.7	0.1	0.7	1.6	1.9	1.9	1.2	1.2	0.5	0.2	0.0	1.6	2.6	1.8	-0.7	0.6	5.2	9.4	10.8	4.2	6.6	6.3	0.4	530.6	535.9	545.0	522.4
14	1.8	7.7	1.7	5.2	0.3	0.8	1.8	2.2	2.1	1.4	1.5	0.8	0.4	0.0	1.7	2.7	1.8	-0.7	0.7	5.7	10.8	11.6	4.8	7.1	6.8	0.7	545.2	544.0	568.2	534.1
15	1.9	8.2	2.1	5.4	0.3	0.8	2.1	2.4	2.2	1.5	1.6	0.9	0.4	0.1	1.8	2.9	1.9	-0.6	0.7	6.4	11.5	13.3	5.3	7.7	7.6	0.7	555.9	551.1	586.7	542.3
16	2.2	8.3	2.1	5.6	0.4	0.9	2.1	2.6	2.1	1.6	1.8	1.1	0.5	-0.1	1.9	3.1	2.1	-0.7	0.8	7.2	12.5	13.5	6.2	8.4	8.4	1.0	567.7	557.3	604.7	552.3
17	2.3	8.8	2.3	6.2	0.6	1.1	2.3	2.8	2.1	1.8	2.1	1.2	0.6	0.1	2.2	3.4	2.2	-0.7	0.9	7.7	13.2	15.4	6.6	9.0	9.1	1.2	583.0	567.3	620.7	564.4
18	2.5	9.4	2.4	6.9	0.8	1.4	2.7	2.8	2.4	2.1	2.3	1.5	0.7	0.1	2.3	3.6	2.4	-0.7	1.2	8.5	13.8	17.1	7.0	9.5	9.7	1.3	594.8	576.5	634.9	574.4
19	3.2	9.5	2.6	6.7	1.0	1.4	2.8	3.5	2.4	2.1	2.5	1.9	1.0	0.1	2.5	3.6	2.7	-0.7	1.3	9.3	14.3	17.7	8.4	10.2	10.7	1.7	604.5	585.5	647.5	582.5
20	3.5	10.2	3.0	7.3	1.2	1.7	3.0	3.7	2.8	2.4	2.8	2.2	1.3	0.3	2.8	4.0	2.9	-0.6	1.6	10.2	15.2	18.8	9.3	11.0	11.7	2.0	612.1	595.1	653.9	590.3
21	3.6	10.9	3.4	8.1	1.4	2.0	3.4	3.8	4.6	2.7	3.1	2.5	1.4	0.3	2.8	4.0	2.7	-0.6	1.9	10.8	15.9	16.9	9.4	11.8	12.4	2.3	617.4	598.4	656.1	597.7

مختبر الإمارات للسلامة
EMIRATES SAFETY LABORATORY

Time	Standard Procedure																		Supplementary Procedure								Right vision panel		left vision panel	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
22	4.1	11.7	3.8	8.8	2.0	2.3	3.8	3.9	4.9	3.2	3.5	2.8	2.2	0.3	2.9	4.2	2.6	-0.1	2.2	11.6	17.3	14.5	10.1	12.6	13.3	3.2	622.6	606.4	661.1	602.8
23	4.8	12.3	4.3	9.6	2.4	2.9	4.2	4.3	5.3	4.0	3.9	3.3	2.6	0.6	3.0	4.4	2.7	-0.1	2.7	12.4	18.2	14.3	11.0	13.6	14.1	3.7	627.3	614.8	666.0	609.2
24	5.5	13.1	4.6	10.0	2.8	3.4	4.7	4.6	5.5	4.3	4.3	3.7	2.6	0.8	3.1	4.6	2.7	-0.2	3.3	13.2	20.1	14.4	11.8	14.7	14.9	4.0	632.6	622.2	670.2	618.1
25	5.6	13.6	4.8	10.7	3.2	3.6	5.1	4.9	5.9	4.7	4.7	4.1	3.1	0.7	3.3	4.7	2.9	0.0	3.7	14.2	20.6	15.1	12.4	15.8	15.7	4.6	638.3	630.4	674.8	624.2
26	6.0	14.6	5.4	11.2	3.4	4.2	5.6	5.1	6.2	5.0	5.1	4.7	3.4	0.9	3.5	4.9	3.0	-0.1	4.1	15.0	21.5	15.9	13.0	16.6	16.6	5.2	643.9	637.4	679.8	629.5
27	6.5	15.3	6.0	11.9	3.8	4.7	6.1	5.9	7.0	5.5	5.6	5.2	3.7	1.0	3.7	5.2	3.2	-0.1	4.5	15.7	22.8	16.3	14.0	17.5	17.5	5.7	649.3	642.7	683.0	635.7
28	7.1	16.0	6.6	12.6	4.1	5.1	6.6	7.0	7.9	5.9	6.0	5.8	4.2	1.0	3.9	5.1	3.4	-0.1	5.1	16.6	24.2	17.3	15.1	18.5	18.7	6.3	654.9	652.0	687.3	640.7
29	7.8	17.0	7.2	13.2	4.5	5.8	7.3	8.7	9.1	6.5	6.5	6.5	4.6	1.0	4.1	5.4	3.5	-0.1	5.7	17.5	25.0	18.9	15.8	19.7	19.8	7.0	659.8	655.2	689.9	645.7
30	8.4	17.7	8.0	14.0	5.0	6.6	8.1	10.0	9.4	7.1	7.0	7.4	5.2	1.2	4.3	3.4	3.6	-0.1	6.5	18.5	25.9	20.6	16.5	21.1	21.0	7.8	665.5	659.4	692.4	649.2
31	9.2	18.8	8.9	14.8	5.5	7.2	9.0	10.6	10.4	8.0	7.8	8.2	5.8	1.2	4.4	1.7	3.7	0.1	7.4	19.5	27.0	22.3	17.5	21.7	22.4	8.7	670.6	662.7	695.0	653.6
32	11.3	19.4	9.8	15.5	6.5	8.0	9.7	11.4	11.3	9.0	8.7	9.3	6.9	1.2	4.4	1.1	3.8	0.2	8.5	20.5	28.1	23.5	18.9	22.7	23.3	9.9	675.0	668.3	692.1	657.7
33	12.8	20.5	11.1	16.7	7.6	9.2	10.8	12.1	12.4	10.7	9.6	10.3	8.0	1.5	4.8	1.0	3.8	0.4	9.7	21.8	29.4	24.3	20.9	23.8	24.8	11.1	678.0	671.3	1/	661.1
34	14.1	21.6	12.3	17.8	8.2	10.5	11.9	12.7	13.0	11.6	10.8	11.4	8.9	1.9	4.9	1.1	4.0	0.5	11.1	22.8	30.5	25.0	22.0	24.6	25.9	12.3	680.4	675.0	1/	664.7
35	15.1	23.0	13.4	18.8	8.8	11.5	12.9	13.0	13.1	12.7	11.8	12.6	9.9	1.8	5.1	1.0	4.0	0.5	12.2	23.7	32.2	25.5	23.1	25.4	27.1	13.6	682.8	677.1	1/	668.1
36	16.7	24.0	14.7	19.8	9.8	12.6	14.0	13.4	13.1	13.7	13.0	13.7	11.0	1.9	5.3	2.1	4.2	0.6	13.1	24.8	33.9	25.9	24.1	26.6	28.3	14.9	686.4	678.5	1/	670.7
37	18.0	25.1	15.8	20.7	10.6	13.7	15.1	14.0	13.4	14.7	14.2	14.9	11.9	1.8	5.4	12.7	4.5	0.6	14.1	25.9	34.9	26.5	25.1	27.5	29.5	15.9	688.5	681.2	1/	674.8
38	19.5	25.9	17.0	21.5	11.8	14.7	16.1	15.0	14.0	16.0	15.4	16.0	13.0	1.9	5.6	22.3	4.5	0.3	15.2	26.9	35.7	27.2	26.1	28.6	30.9	17.1	687.2	684.5	1/	678.8
39	20.4	27.2	18.1	22.8	12.7	15.7	17.1	15.7	14.6	16.9	16.5	17.1	13.9	1.9	5.9	22.0	4.5	-0.1	16.3	28.0	36.6	28.2	27.3	29.6	32.1	18.3	690.7	685.8	1/	689.0
40	21.9	28.1	19.4	23.9	13.8	16.9	18.1	16.9	15.4	18.0	17.6	18.2	14.9	1.9	6.0	24.2	4.7	-0.3	17.3	29.0	37.4	29.0	28.2	30.4	33.0	19.5	697.1	687.4	1/	696.5
41	23.1	29.0	20.4	24.8	14.8	17.7	19.2	17.8	16.2	18.9	18.7	19.3	15.8	2.0	6.2	24.3	4.9	-0.2	18.2	29.9	37.8	29.7	28.9	31.2	34.3	20.6	703.8	693.1	1/	703.1
42	24.3	29.5	21.4	25.2	16.4	18.6	20.1	18.6	17.1	20.5	19.9	20.3	17.0	1.9	6.3	27.9	5.2	-0.4	19.3	30.9	38.7	30.5	29.9	32.9	35.1	22.0	708.1	698.4	1/	709.0
43	25.7	30.5	22.9	26.8	17.7	19.5	21.1	19.6	18.0	21.3	21.0	21.3	18.4	2.1	6.6	26.1	5.2	0.0	20.3	32.0	40.2	31.5	30.9	33.3	35.9	23.7	712.8	701.5	1/	713.0
44	26.3	31.8	23.8	28.0	18.0	20.9	22.2	20.5	20.0	22.7	22.1	22.4	19.0	2.3	6.8	1.6	5.4	-0.3	21.5	33.0	41.6	33.4	32.1	34.0	37.4	24.6	717.3	705.0	1/	713.0
45	27.8	32.9	24.7	29.0	18.4	22.1	23.1	21.8	20.6	23.4	23.2	23.6	19.7	2.9	7.1	0.5	5.7	-0.4	22.8	34.0	42.7	33.6	32.7	34.7	38.2	25.5	722.5	708.7	1/	724.8
46	28.4	33.8	25.8	29.8	19.4	22.9	24.1	22.6	21.2	24.1	24.0	24.6	20.6	2.7	7.4	0.5	5.9	-0.6	23.5	34.9	45.0	34.1	33.6	35.6	38.8	26.3	728.3	712.3	1/	699.3

مختبر الإمارات للسلامة
EMIRATES SAFETY LABORATORY

Time	Standard Procedure																		Supplementary Procedure								Right vision panel		left vision panel	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
47	29.1	34.8	26.7	30.8	19.4	23.7	25.1	23.5	22.2	25.0	24.9	25.6	21.3	2.7	7.5	0.3	6.0	-0.3	24.4	35.8	46.8	35.3	34.4	36.3	40.5	27.2	732.0	715.9	1/	691.1
48	30.1	35.7	27.8	31.6	19.3	24.5	25.9	24.4	22.9	25.8	25.8	26.7	21.9	2.7	7.8	-0.3	6.4	-0.1	25.3	36.7	48.5	35.9	34.9	37.4	41.3	28.1	734.1	717.4	1/	740.1
49	30.6	36.7	29.0	32.3	19.4	25.7	27.0	25.6	23.7	26.6	26.7	28.0	22.7	2.8	8.0	0.0	6.6	-0.1	26.4	37.6	50.1	36.9	35.7	37.9	42.9	29.1	736.3	720.7	1/	732.7
50	31.7	38.0	31.2	33.3	19.7	27.1	28.2	26.5	24.8	27.5	27.5	29.4	23.6	2.9	8.3	0.3	6.8	0.3	27.7	38.9	51.5	38.4	36.9	38.5	44.5	30.2	740.9	722.5	1/	687.6
51	33.0	39.6	34.5	34.2	20.7	29.5	29.5	27.7	25.9	28.5	28.6	31.4	24.5	3.0	8.7	0.3	7.2	0.4	29.5	40.1	52.7	40.9	38.0	39.3	48.0	31.3	745.3	725.4	1/	633.0
52	34.4	42.4	39.3	35.4	22.0	34.2	31.0	28.8	27.7	30.0	29.6	35.2	26.1	3.1	9.0	0.6	7.6	0.9	33.5	41.9	54.2	45.2	39.7	40.5	51.9	33.0	748.8	729.9	1/	669.2
53	36.3	46.6	45.2	36.2	22.8	39.9	32.8	30.2	29.3	31.3	30.7	41.9	27.2	3.1	9.2	1.1	7.7	0.9	39.6	45.2	55.6	49.7	41.0	41.7	54.8	34.1	754.5	732.5	1/	628.9
54	38.1	52.3	50.3	38.3	23.9	44.9	34.8	31.6	31.9	32.4	31.7	50.1	28.5	3.5	9.8	0.8	7.8	1.0	45.0	49.4	57.0	53.2	42.7	42.8	56.8	35.6	757.3	736.2	1/	636.9
55	39.6	60.1	54.2	42.8	24.7	48.7	37.3	33.7	36.4	34.2	32.8	55.4	32.7	3.7	10.1	0.7	8.3	0.9	49.5	54.1	58.1	55.1	44.3	44.1	58.3	39.2	762.7	740.0	1/	673.3
56	44.4	64.9	56.6	53.2	24.8	51.3	40.8	36.4	41.7	40.9	34.1	58.3	40.7	3.8	10.5	0.9	8.8	0.9	52.6	57.3	59.2	56.4	50.0	46.0	59.8	47.1	765.4	742.6	1/	664.5
57	51.2	68.7	58.6	59.7	25.5	53.2	45.1	40.4	45.6	47.7	35.5	59.7	47.3	4.2	11.1	0.8	9.0	1.0	54.6	58.3	60.3	58.0	56.5	48.0	61.1	52.9	768.8	746.4	1/	642.5
58	55.1	73.2	60.1	62.3	28.4	54.4	49.5	44.5	48.8	51.8	37.5	60.4	51.8	4.4	11.6	0.7	9.6	1.1	55.4	60.0	61.8	59.8	60.6	50.4	62.4	56.5	772.3	748.2	1/	620.8
59	57.2	75.6	61.2	63.6	34.1	55.1	53.2	48.0	51.5	53.9	41.1	60.6	54.4	4.7	11.9	-0.4	10.3	1.4	55.8	58.8	62.9	61.0	63.3	53.0	63.7	58.8	776.7	752.0	1/	653.4
60	58.7	75.6	62.2	64.4	41.7	55.8	56.2	51.6	53.5	55.3	47.4	61.0	55.7	5.0	12.6	0.1	11.0	1.3	56.1	57.2	64.2	62.3	65.0	57.2	65.2	60.0	778.7	753.7	1/	694.5
61	59.2	74.4	62.6	64.3	47.0	56.3	58.1	54.7	54.7	56.1	52.6	61.5	56.0	5.2	13.2	0.5	12.0	1.5	56.5	72.5	65.4	63.5	65.8	61.3	66.9	60.5	778.4	754.8	1/	629.9
62	59.6	73.2	62.5	64.1	51.1	57.0	59.2	56.8	56.5	56.5	55.9	62.2	55.8	5.4	14.4	0.6	12.2	1.7	56.9	122.7	67.3	64.3	65.7	61.7	70.8	60.9	784.1	757.8	1/	669.5
63	59.8	71.9	62.5	63.7	53.8	57.8	60.3	58.3	57.6	56.7	58.0	63.2	55.6	5.7	15.9	0.6	12.5	1.7	57.5	158.8	67.7	64.9	65.5	63.1	72.5	60.6	787.7	763.1	1/	667.3
64	59.9	71.1	62.2	63.6	55.1	58.5	61.1	59.4	58.4	57.1	59.2	64.8	54.4	5.4	16.9	0.8	13.0	1.9	58.1	172.6	68.3	66.8	65.4	63.6	75.0	59.9	790.5	765.5	1/	607.8
65	59.8	70.9	62.2	63.1	35.0	59.5	63.1	59.9	58.9	57.1	59.9	66.9	54.9	5.5	19.9	0.8	15.3	1.9	58.8	176.8	68.7	70.5	65.3	64.9	80.3	59.3	794.7	768.4	1/	534.1

1/ - Readings were disregarded due to the damage of the thermocouple due to the radiation from the vision panel.

Table 13. Temperature rise and radiation of the doorset

Time	ΔT_{avg} Avg.	pts.: Std.	pts.: supp	pts.: Frame	Radiation	Discrete Area 1 AVG	Discrete Area MAX standard
	1-5,	1-13,	1-26	14-18			
	°C	°C	°C	°C	Kw/m²	°C	°C
0	0.4	0.9	0.9	-0.3	-0.2	4.0	5.9
1	0.4	0.9	0.9	-0.4	0.13	62.8	68.7
2	0.4	0.9	0.9	-0.2	0.49	140.0	176.6
3	0.5	4.3	4.3	-0.3	0.38	244.7	266.0
4	0.4	11.8	11.8	0.1	0.49	291.6	314.5
5	0.5	9.3	9.3	0.1	0.76	345.6	367.2
6	0.6	15.4	15.4	0.1	1.27	436.0	462.6
7	0.6	11	11	0.2	1.27	475.6	495.9
8	0.5	7.4	7.4	-0.2	1.2	467.2	483.8
9	0.5	5.4	5.4	-0.2	1.32	458.5	478.0
10	0.5	4.3	4.3	-0.3	1.45	474.0	492.5
11	0.9	8.4	8.4	0.3	1.55	494.5	509.4
12	1	13.6	13.6	0.5	1.77	511.7	524.9
13	1	14.8	14.8	0.7	1.84	526.5	545.0
14	1	11.2	11.2	0.5	1.89	539.6	568.2
15	1	15.8	15.8	0.2	2.08	549.1	586.7
16	1	13.3	13.3	0.1	2.2	560.0	604.7
17	1.1	16.7	16.7	0.3	2.22	573.7	620.7
18	1.4	21.9	21.9	0.8	2.22	584.6	634.9
19	1.3	17.3	17.3	0.4	2.34	593.5	647.5
20	1.3	11.7	11.7	0.2	2.37	601.2	653.9
21	1.5	12	12	0.2	2.63	607.5	656.1
22	1.6	8.7	8.7	0.1	2.51	612.7	661.1
23	1.9	8.9	9.4	0.3	2.64	618.3	666.0
24	2.2	10.7	10.8	0.5	2.68	625.3	670.2
25	2.4	9.4	11.1	0.4	2.8	631.2	674.8
26	2.8	8.4	11.8	0.4	2.99	636.7	679.8
27	3	7.2	11.9	0.3	3.17	642.5	683.0
28	3.3	6.5	12.1	0.4	3.3	647.8	687.3
29	3.7	6	12.6	0.5	3.24	652.7	689.9
30	4.1	5.9	13.5	0.6	3.31	657.3	692.4
31	4.6	6.3	15.1	0.7	3.36	662.1	695.0
32	5.2	6.8	16.4	0.9	3.49	666.4	692.1
33	5.7	7.5	17.6	0.9	3.41	669.5	678.0
34	6.3	8.5	19.3	1.1	3.14	672.5	680.4
35	7.1	9.7	19.1	1.1	3.6	675.4	682.8
36	7.9	10.7	20.4	1.2	3.73	678.5	686.4

Time	ΔT_{avg} Avg.	pts.: Std.	pts.: supp	pts.: Frame	Radiation	Discrete Area 1 AVG	Discrete Area MAX standard
	1-5,	1-13,	1-26	14-18			
	°C	°C	°C	°C	Kw/m²	°C	°C
37	8.9	11.9	22.2	1.4	3.7	681.7	1002.1
38	9.8	13	23.1	1.5	3.7	683.0	1155.1
39	10.7	14.5	24.2	1.7	3.84	689.9	690.7
40	11.6	15.6	25.8	1.9	4.02	696.8	1115.0
41	12.7	16.7	27.2	2	4.08	703.4	703.8
42	13.7	17.9	30.6	2.3	4.1	708.5	709.0
43	14.7	19	31.6	2.6	4.11	712.9	713.0
44	15.7	20.1	34.5	2.7	4.19	715.1	717.3
45	16.6	21.1	37.4	3.1	4.47	723.7	724.8
46	17.5	21.9	41.5	3.4	4.14	713.8	728.3
47	18.4	22.8	42.9	3.4	4.28	711.6	732.0
48	19.1	23.6	44.9	3.7	4.48	737.1	740.1
49	20	24.4	46.6	4	4.6	734.5	736.3
50	20.8	25.4	47.6	4.3	4.78	714.2	740.9
51	21.5	26.3	49.7	4.7	4.87	689.1	745.3
52	22.3	27.1	51.5	5	4.97	709.0	748.8
53	23.2	28	57.3	5.3	4.71	691.7	754.5
54	24	28.8	61.9	5.8	4.91	697.1	757.3
55	24.9	29.7	63.5	6.2	5.12	718.0	762.7
56	25.8	30.8	65.2	6.8	5.2	714.9	765.4
57	26.8	34.2	67.5	7.7	5.41	705.7	768.8
58	28.1	64.2	68.8	8.8	5.48	696.5	772.3
59	29.9	66.6	69.4	9.8	5.45	715.0	776.7
60	32.3	67.5	69.5	11	5.43	736.6	778.7
61	35	68.9	70.8	12	5.69	704.1	778.4
62	38.5	69.7	71.3	12.8	5.78	726.8	784.1
63	42.9	69.2	71.3	13.8	5.94	727.5	787.7
64	47.9	68.6	232.2	15.9	6.17	699.2	790.5
65	52	69.3	194.2	15.4	0.29	664.4	794.7

6. PHOTOGRAPHS

6.1. Unexposed side view of the test specimen

Photo 3. Before the test.

Photo 4. At the end of the test

6.2. Exposed side view of the test specimen

Photo 5. Before the test.

Note: Due to the complete burning the door set, it was not possible to retain them after the test. Extinguishment was exercised right after the test.

7. SUMMARY OF TEST RESULTS

Results of the fire resistance test of Fire rated palm strand board design, double leaf + vision panel with Palm strand board frame are presented in tables 1-14, figure 1-8, graphs 1-4 and photos 1-5, refer only to the construction described in clause 3 of herein test report.

Table 14. Summary of the test results

Performance criteria	Description of the criterion requirements	Time and location of criterion failure	Test result
Integrity	Sustained flaming	**52 minutes** and at the top left corner of vision panel of active leaf	**51 minutes**
	Gaps disqualifying the product	No failure	
	Ignition of the cotton pad	No failure	
Insulation ***(Standard procedure)***	Average temperature rise (≤140 °C)	No failure	**2 minutes**
	Maximum temperature rise (≤180°C)	No failure	
	Maximum temperature rise at the door frame (≤360°C)	No failure	
Insulation ***(Supplementary procedure)***	Maximum temperature rise (≤180°C)	No failure	
Insulation ***(Supplementary procedure)***	Maximum temperature rise (≤180°C)	No failure	
Discrete area Insulation **(Vison panel's glass)**	Average temperature rise (≤140 °C)	3 minutes	
	Maximum temperature rise (≤180°C)	3 minutes at TC 27, 28, 29 and 30	
Radiation	5 kW/m2 | 10 kW/m2 | 15 kW/m2 | 20 kW/m2 | 25 kW/m2 55 min | - | - | - | -	No failure	**51 minutes**
	Note: As per clause 5.2.4 of EN 13501-2, the classification shall be given by the time for which the maximum value of radiation, measured as specified in the test standard, does not exceed a value of 15 kW/m2.		
Maximum Radiation			6.17 kW/m2 at 64 minutes
Maximum Deflection			+12mm on point F at 30 minsutes and -14mm on point 10 minutes
Duration of the test: 65 Minutes			

EN 1363-1 describes the privilege of the integrity failure against the insulation: insulation" shall automatically be assumed not to be satisfied when the "integrity" criterion ceases to be satisfied (EN 1363-1; Clause 11.4.2.). The same rule may be used to define the test results for the Radiation criterion, as the radiation classification cannot stand without integrity.

Because of the nature of fire resistance testing and the consequent difficulty in quantifying the uncertainty of measurement of fire resistance, it is not possible to provide a stated degree of accuracy of the result.

This report details the method of construction, the test conditions and the results obtained when the specific element of construction described herein was tested following the procedure outlined in EN 1363-1. Any significant deviation with respect to size, constructional details, loads, stresses, edge or end conditions other than those allowed under the field of direct application contained in the EN 1634-1 standard is not covered by this test report.

8. FIELD OF DIRECT APPLICATION OF TEST RESULTS

8.1. General

This is valid for the direct field of application of the test results of "Fire rated palm strand board design, double leaf + vision panel with Palm strand board frame", in which the following changes can be made, according to clause 13 of EN1634-1:2014+A1:2018

The field of direct application defines the allowable changes to the test specimen following a successful fire resistance test. These variations can be applied automatically without the need for the sponsor to seek additional evaluation, calculation or approval.

8.2. Materials and construction

8.2.1. General

Unless otherwise stated in the following text, the materials and construction of the doorset shall be the same as that tested. The number of leaves and the mode of operation (e.g. sliding, single action or double action) shall not be changed.

8.2.2. Specific restrictions on materials and construction

8.2.2.1. Timber construction

The thickness of the door panel(s) shall not be reduced but may be increased.

The door panel thickness and/or density may be increased provided the total increase in weight is not greater than 25 %.

For timber-based board products (e.g. particle board, blockboard, etc.), the composition (e.g. type of resin) shall not change from that tested. The density shall not be reduced but may be increased.

The cross-sectional dimensions and/or the density of the timber frames (including rebates) shall not be reduced but may be increased

8.2.2.2. Glazed construction

For glazed constructions, the type of glass and the edge fixing technique, including type and number of fixings per metre of perimeter, shall not be changed from those tested.

The number of glazed apertures and each of the dimensions (width and height) of glass in each pane

included within a test specimen may be:

— decreased in proportion with size reductions; or

— decreased by a maximum of 25 % for integrity only and/or radiation control constructions and for insulation specimens where the unexposed surface temperature for both the construction and the glazing have been maintained for the classification period; or

— reduced for doorsets, without restriction, providing that the total area of the tested pane(s) is less than 15 % of the door leaf or side/over panel area.

The number of glazed apertures and each of the dimensions of glass in each pane included within a test specimen shall not be increased.

The distance between the edge of glazing and the perimeter of the door leaf, or the distance between glazed apertures shall not be reduced from those incorporated in test specimens. Other positioning within the door can only be modified if this does not involve the removal or re-positioning of structural members relative to the glazing.

8.2.3. Decorative finishes

8.2.3.1. Paint

As unfinished test specimens were tested then Where the paint finish is not expected to contribute to the fire resistance of the door, (alternative)paints are acceptable and may be added to door leaves or frames for which unfinished test specimens were tested. Where the paint finish contributes to the fire resistance of the door (e.g. intumescent paints) then no change shall be permitted

8.2.3.2. Decorative laminates

Decorative laminates and timber veneers up to 1,5 mm thickness may be added to the faces (but not the edges) of doors that satisfy the insulation criteria (normal or supplementary procedure).

Doorset subjected to the herein Field of Direct Application of Test Results did not satisfy the insulation criteria. Therefore, additional decorative laminates and timber veneers up to 1,5 mm thickness are not permitted.

Decorative laminates and timber veneers applied to door leaves that do not satisfy the insulation criteria (normal or supplementary procedure) and/or those in excess of 1,5 mm thickness shall be tested as part of the test specimen. For all doorsets tested with decorative laminate faces, the only variations possible shall be within similar types and thicknesses of material (e.g. for colour, pattern, supplier).

8.2.4. Fixings

The number of fixings per unit length used to attach doorsets to supporting constructions may be increased, but shall not be decreased and the distance between fixings may be reduced but shall not be increased.

8.2.5. Building hardware

The number of hinges and dog bolts may be increased but shall not be decreased.

NOTE 1 The number of movement restrictors such as locks and latches are not covered by direct application.

As the doorset has been tested with a door closing device fitted and with the retention force applied, then the doorset may be provided only with that closing device.

NOTE 2 Interchange of building hardware is not covered by the field of direct application.

8.3. Permissible size variations

8.3.1. General

Doorsets of sizes different from those of tested specimens are permitted within certain limitations, but the variations are dependent on product type and the length of time that the performance criteria are fulfilled.

The increase and decrease of dimensions permitted by the field of direct application are applicable to the overall size and to each door leaf, each side panel and each over panel independently.

In accordance with clause 13.2.2.3 of EN 1634-1, the dimensions (width and height) of any glass pane cannot be increased

8.3.2. Test periods

The amount of variation of size permitted is dependent on whether the classification time was just reached (Category 'A') or whether an extended time (Category 'B') in accordance with the values shown fulfilled before the test was concluded.

The test specimen fulfilled integrity criteria **for 51 minutes only**. Therefore **Category 'B'** is not achieved.

Table 15. Category B overrun requirements

Classification time (min) *(Category 'A')*	All performance criteria fulfilled for at least minutes *(Category 'B')*
45	52

8.3.2.1. For size variations

No increase is allowed.

Unlimited reductions from the tested specimen are permitted, with the exception presented below in clause 8.3.4.

8.3.2.2. Other changes

For smaller doorset sizes, the relative positioning of movement restrictors (e.g. hinges and latches) shall remain the same as tested or any change to the distances between them will be limited to the same percentage reduction as the decrease of test specimen size.

8.3.2.3. Timber constructions

The number, size, location and orientation of any joints in the timber framing shall not be changed.

8.3.2.4. Gaps

Table 16. Maximum allowable gaps

GAPS		Measurements, mm		
		Average	**Maximum**	**Permitted gap size**
Along the horizontal edges	At the top	2.4	3.3	4.9
	At the bottom	5.6	6.6	8.1
Along the vertical edges	Hinge side	2.6	3.1	4.8
	Non-hinge side	2.6	3.1	4.9

The minimum size of the primary gaps may be reduced.

The permitted gap size may be different for different parts of the door

8.4. Supporting constructions

The Fire resistance of a doorset tested in 150mm thick high-density rigid standard supporting construction (normal concrete blocks), as specified in EN 1363-1, can be applied to a doorset mounted in the same manner in a wall provided the density and the thickness of the wall are equal to or greater than that in which the door was tested.

Installation within the wall made of AAC blocks is not permitted.

8.4.1. Specific rules for hinged or pivoted doorsets

For timber door leaves hung in timber frames, the result of the test in a rigid standard supporting construction is applicable to that door assembly mounted in a flexible construction of the minimum 150mm total thickness with boards applied from both sides and having fire resistance established in a separate test.

9. TEST WITNESSES

Test sponsor representative(s) witnessing the test.	Alireza Tabatabaei	Representative of Intertek Middle East
	Mariappan	Representative of Al Talah Board Furniture & Decoration Industry
	Anselmo Tabadero	Representative of Abanos Furniture & Decoration Industry

10. ATTACHMENTS

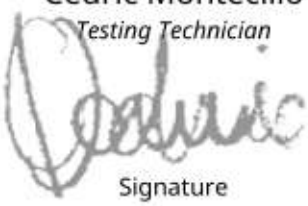
Technical documentation/drawing No.:

- J00006-STD-FR-PSB-103

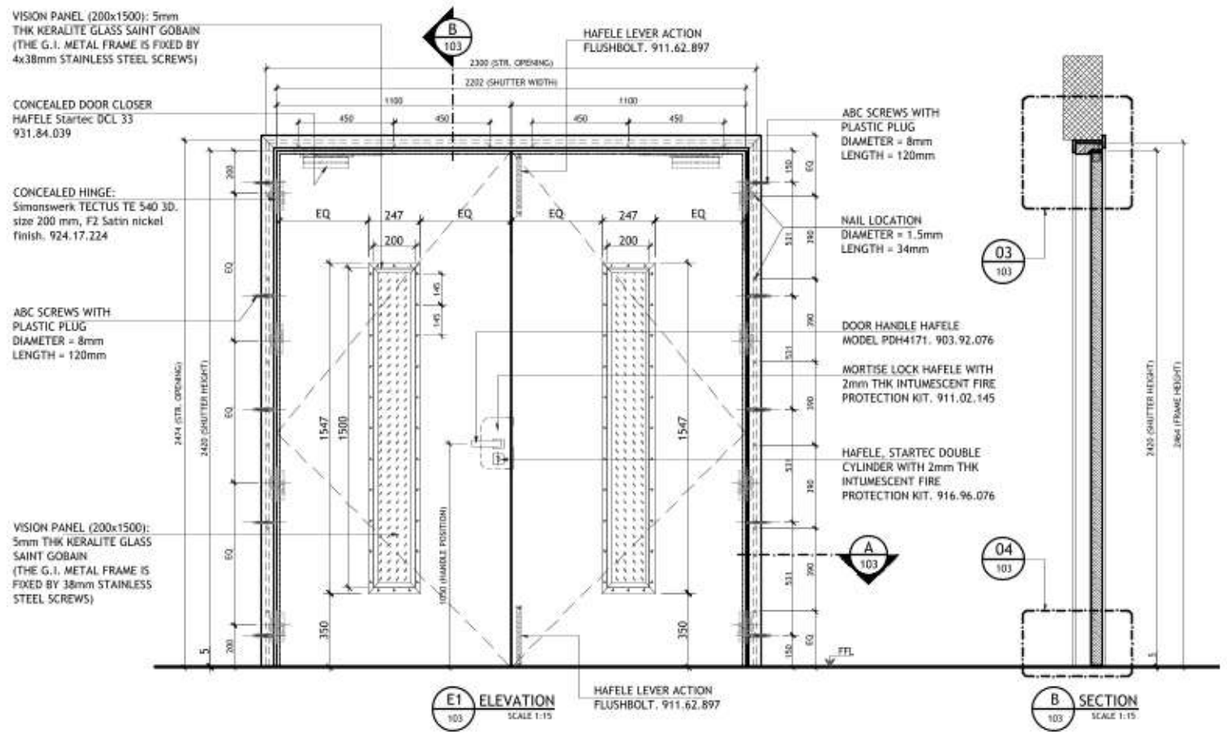
Other documents

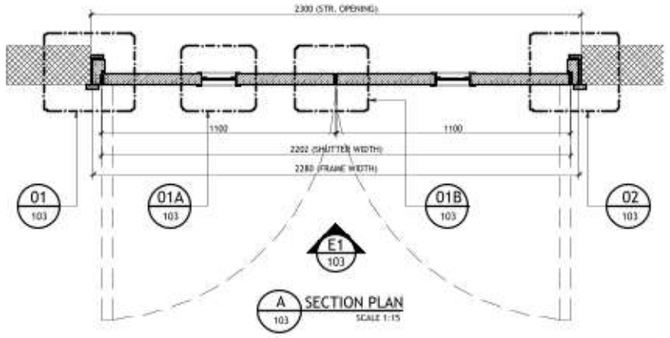
- TE540 3D Hinge
- Flammi 12 TDS
- PSB Board TDS
- Hardwood (beechwood) lipping TDS
- Medium density fibreboard MDS TDS
- Manual Flush Bolt TDS
- Kerafix tapes -2000 TDS
- FS702 TDS
- Lorient LP1506 TDS
- Lorient LP1504 TDS
- Lorient LAS 8001 SI TDS
- Lorient LAS 8001 SI protection kit TDS
- DCL 33 Door closer TDS
- BOSS 813+ TDS
- PS 0740 S Athmer TDS
- Intumescent Fire Protection kits TDS.
- Profile cylinder TDS
- Mortice lock TDS
- PDH4171 TDS
- KERALITE R TDS
- LX5402/4402 TDS
- FP-900 Firepro
- Ritver adhesive TDS
- Kleiberit 501adhesive TDS

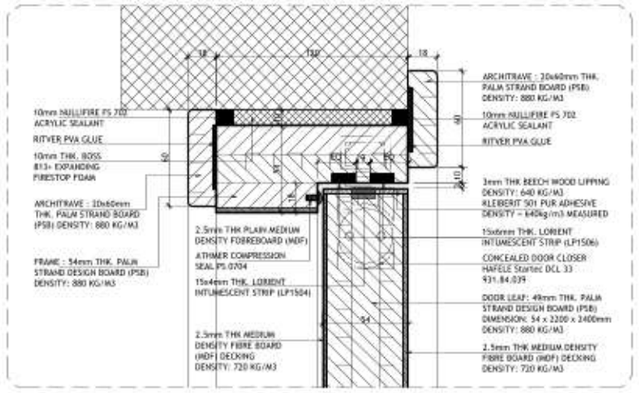
11. SIGNATORIES

Prepared by	*Reviewed by*	*Authorized by*
Cedric Montecillo	Subramaniam Shivalingham	Sebastian Ukleja
Testing Technician	*Fire Resistance Testing Engineer*	*Testing Manager*
		
Signature	Signature	Signature

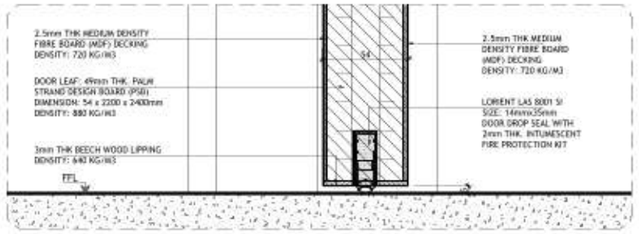
--END OF REPORT--





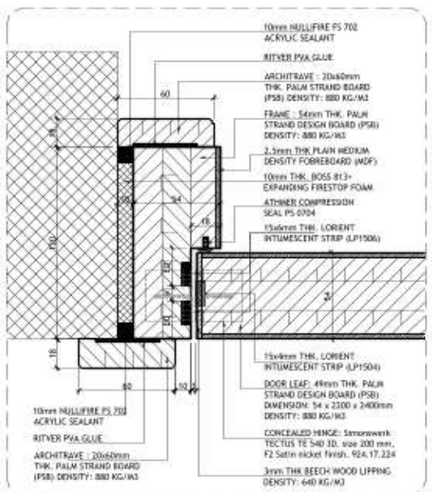


03 SPOT DETAIL SCALE = 1:2

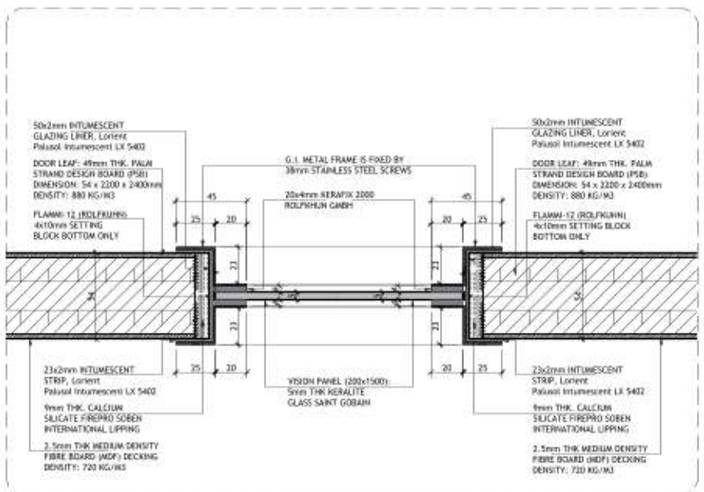


04 SPOT DETAIL SCALE = 1:2

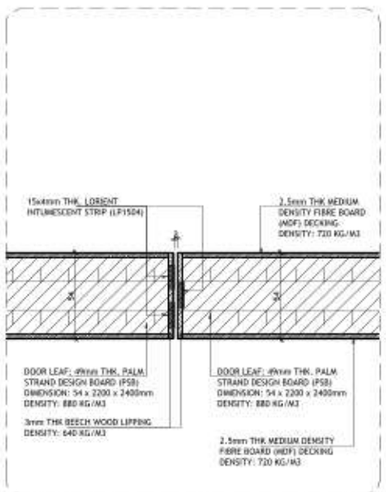
Article No.	Hardware Description	Image
924.17.224	Door hinge, Simonswerk TECTUS TE 540 3D, concealed, for flush doors up to 120 kg 3D adjustable, size 200 mm, F2 Satin nickel finish.	
931.84.039	Hafele Startec DCL 33 Overhead Concealed Door closer. EN 2—4 in accordance with EN 1154, with guide rail, Silver coloured, Certified in compliance with EN 1154:1996/A1:2002	
911.02.145	Mortise lock, for hinged doors, Startec, grade 3, profile cylinder, backset 55 mm for fire resistant/smoke control doors, Forend: 24 mm, square, satin stainless steel	
903.92.076	Door handle set, Stainless steel, Startec, model PDH4171, grade 4 Rose, PC set, door thickness 38—55 mm, Satin, Tested in accordance with DIN EN 1906:2010. 7mm thick Rose and Escutcheon.	
916.96.076	Euro profile double cylinder non master keyed, 70mm, nickel plated.	
	LORIENT LAS 8001 SI, SIZE: 14mmx35mm DOOR DROP SEAL WITH 2mm THK. INTUMESCENT FIRE PROTECTION KIT	



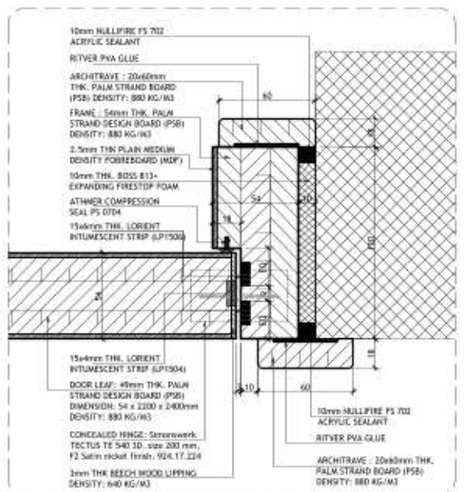
01 SPOT DETAIL SCALE = 1:2



01A VISION PANEL DETAIL SCALE = 1:2



01B MEETING STYLE DETAIL SCALE = 1:2



02 SPOT DETAIL SCALE = 1:2

NOTES:-

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE NOTED.
2. FINISH AS PER APPROVED SAMPLE.

Rev.	Date	Description.	By
05	30-04-24	FOR APPROVAL	SJ
04	25-04-24	FOR APPROVAL	SJ
03	15-04-24	FOR APPROVAL	SJ
02	22-02-24	FOR APPROVAL	SJ
01	06-02-24	FOR APPROVAL	SJ

CLIENT

ABANOS

CONSULTANT

.

MAIN CONTRACTOR

.

PROJECT

CERTIFICATION/TEST REPORT FOR EN & UL

SUB- CONTRACTOR

ABANOS
INTERIOR FIT OUT & JOINERY
P.O. BOX 114480, DUBAI, TEL: +971 4 8996111, FAX : +971 4 8859966
E-mail: mail@abanos.ae, Web: www.abanos.ae

DRAWING TITLE

FIRE RATED DOOR DETAIL (PSB DESIGN BOARD) DOUBLE LEAF+VISION PANEL DOOR WITH PSB FRAME (EN - 60 Min. FIRE RATED DOOR)

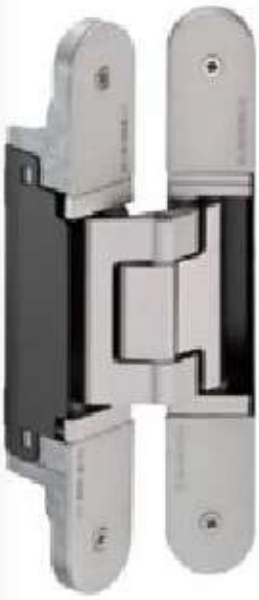
DRAWN BY	CHK.	APPD.	DATE
SJ	.	.	11.01.2024

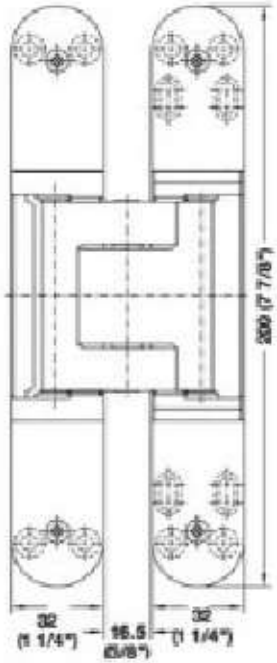
SCALE	DRAWING NO.	REV.
1:15 @ A3	J00006-STD-FR-PSB-103	05

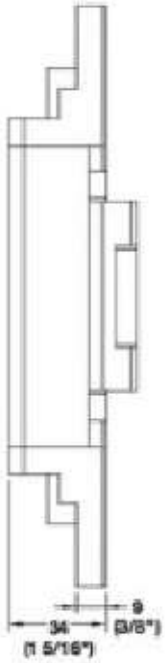
TECTUS

> Used in door frames made out of hollow metal or wood in flush interior doors
> Maintenance-free slide bearings
> Suitable for left and right hand applications
> UL listed for 20 minute rated fire doors (maximum door size: 4' x 8' for a single door, 8' x 8' for a pair of doors)

→ TE 540 3D



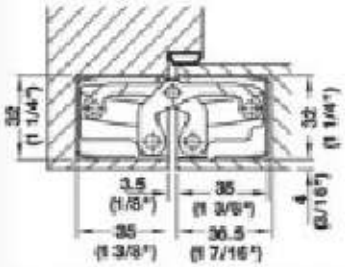




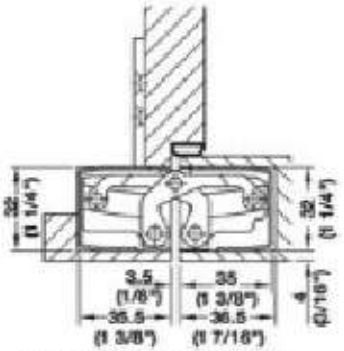
> Door weight: max. 120 kg (264 lbs.)
> Door thickness: min. 40 mm (1 9/16")
> Opening angle: max. 180°
> Router bit Ø: 24 mm (15/16")
> Router guide Ø: 30 mm (1 3/16")
> Adjustment: three-dimensionally adjustable:
Height and width: ± 3 mm (1/8")
Depth: ± 1.0 mm (1/16")
> Material: Aluminum die-cast

Finish	SW	Item No.
stainless steel look	126	924.17.225
satin chrome look	124	924.17.223
satin nickel look	125	924.17.224
matt deep black (RAL9005)	107	924.17.237
bronze metallic	166	924.19.250
rustic umber	156	924.19.216
satin nickel	144	924.19.271
polished nickel	038	924.19.269
polished brass	030	924.19.281
bronze finish dark	176	924.17.261
traffic white (RAL9016)	070	924.19.201
bronze finish	174	924.19.210
satin chrome	146	924.19.242
bronze finish light	175	924.19.274
satin brass	047	924.19.285

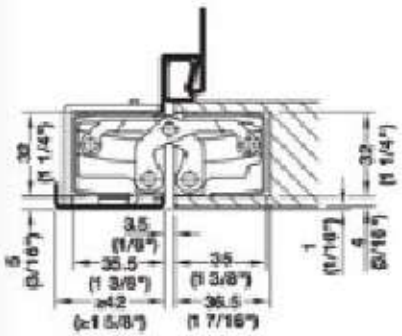
Mounting



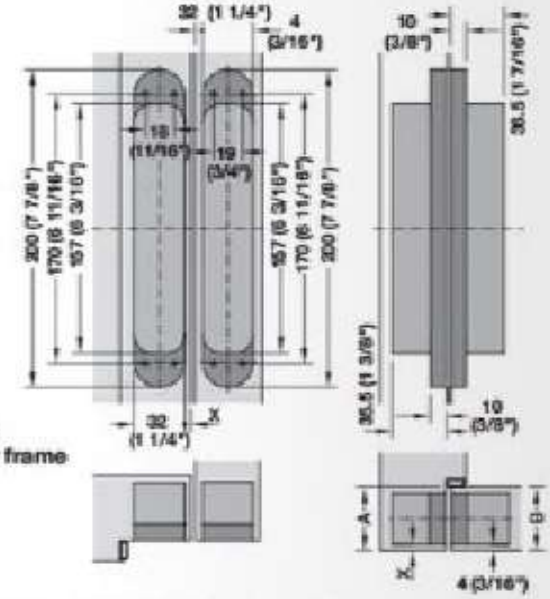
Mounted to a wood door frame



Mounted to a wood door jamb together with a mounting plate



Mounted to a hollow metal frame with a receiver element



Milling template for a wood door frame

Calculation of the milling dimensions:
A = Rabbet depth excluding seal clearance
B = Door thickness
A – B + 3 = Dimension X
The result has to fall between 3 mm (1/8") and maximum 5 mm (3/16").
For hollow metal frame applications X = 5 mm (3/16")

Mounting plates	page 4.51
Receiving elements	page 4.52

Flammi 12

Material of building material classification E (non flammable) according to DIN EN 13501-1

Product Description

Flammi 12 is an impregnating glazing block whose basic material is based on inorganic oxides; it does not contain any artificial mineral fibres. The material has very good mechanical properties.

Application Areas

- Fire protection doors from wood, steel or aluminium
- Fire protection glazing
- Applications in construction of chimneys, stoves and ovens
- As heat shield

Technical Data

Composition:	Construction material on the basis of inorganic oxides
Material structure:	Hard material
Raw density [kg/m³]:	875 to 1020
Temperature resistance [°C]:	1100
Impregnation [g/m²]:	40 to 80

Supplied Forms

Length:	80 mm
Widths:	8 mm, 10 mm, 12 mm, 14 mm, 18 mm, 20 mm, 22 mm, 24 mm, 26 mm, 29 mm, 40 mm
Thicknesses:	3 mm, 4 mm, 5 mm

Special formats are available on request. The product is manufactured on the basis of the general tolerance DIN ISO 2768-1.

Please read the safety data sheet!

Note

DesertBoard.
By Al Talah Board Manufacturing Co. LTD

WORLD'S FIRST WOODEN BOARD MADE FROM DATE PALM WASTE

ABOUT DESERTBOARD

ABOUT OUR LABS

Desert Board has effectively pledged its reputation as the market leader in the quality of Strand board manufacturing and product innovation. Our labs are equipped with State-of-the-art process control instrumentation, advanced automation, and quality control systems.

With constant strive for success, the Testing Laboratory works with our Research and Development laboratory endlessly to ensure the quality of our product is comparable to the best available in the market at all times.

With the efforts of our laboratories and our management's innovation, we have produced a board that complies with the European Standards EN30:2006 and certified by various local and global entities as a sustainable solution for a better future.

ABOUT OUR PLANT

With special functions and advanced technologies, our plant can be classified is as state-of-the-art. Being the first plant in the world that can transform palm waste into functional palm strand boards, we can ensure that we can lead the market and the industry with confidence.

Our plant is certified by ISO 9001:2015, ISO 14001:2015, and ISO 45001:2018, and our processes are certified by the Forest Stewardship Council, Emirates Green Building Council, and a United Nations signatory of the Global Compact initiative and Climate Neutral Now.

Our plant is equipped with high-efficiency wood dust filtration systems, which are installed for the main manufacturing process as well as at various transfer points to avoid dust emissions into the atmosphere. The plant is controlled by a Central Control Room with built-in software and the latest technologies to recycle up to 80% of wood dust generated during the board manufacturing process for energy production.

DesertBoard.
By Al Talah Board Manufacturing Co. LTD

WORLD'S FIRST WOODEN BOARD MADE FROM DATE PALM WASTE

PALM STRAND BOARD

PSB

Palm Strand Board

DESCRIPTION

PSB is an Environmentally-friendly wooden board made from palm waste materials, making it a 100% sustainable board suitable for a wide range of applications. PSB Design is made from PSB Structural boards sandwiched between high destiny fiberboards that provide a smooth finish and increase the board's durability.

These boards were developed to meet the exacting Al Sa'fat Green Building System and Japanese Industrial Standards (JIS) for formaldehyde emissions. This superior grade F also known as Super E0 (SE0) with Formaldehyde Emissions not exceeding 0.05 mg/kg, has formaldehyde levels similar to natural wood, giving you assurance in the best controls available.

FEATURES

- 100% Sustainable
- Environmentally Friendly
- Zero Emissions
- High-Strength & Durable
- Load-Bearing Capabilities
- Superior Screw Withdrawal
- Sutiable in Humid Areas
- Variation of Finishes

APPLICATIONS

PSB is a wood-based panel suitable for furnitures, kitchen cabinets and wooden structures such as wall decors, booths, floors and panelling and many more.

- Furnitures
- Kitchen Cabinets
- Booths & Stands
- Panelling

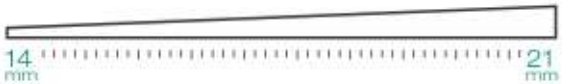
PSB

Palm Strand Board

MEASURMENTS

PSB comes in various sizes and thinkness, the standard size for the board is:

2438 mm x 1219 mm (8 ft. x 4 ft.)



TESTS

PSB has been tested by Internal and Third-Part Labratories to ensure the quality of the boards.

PROPERTY	TEST	UNIT	VALUE
Foremaldehyde release	EN 717-1	mg/kg	< 0.05
Moisture Content	EN 322	%	3.16
Density	EN 323	kg/m³	816.4
Modulus Elasticity	EN 310	N/mm²	3592.50
Tensile Strength Prependicular to the plane	EN 319	N/mm²	0.96
Bending Strength	EN 310	N/mm²	19.55
Thickness Swelling 2 hours	EN 317	%	3.2
Thickness Swelling 24 hours	EN 317	%	7.78
Screw Withdrawal	EN 320	N	1543
Tolerance on Nominal Dimensions (Thickness)	EN 324	mm	± 0.5
Tolerance on Nominal Dimensions (Length-Width)	EN 324	mm/m	± 0.2
Tolerance on Nominal Dimensions (Squareness)	EN 324	mm/m	± 0.2
Tolerance on Nominal Dimensions (Edge Straightness)	EN 324	mm/m	± 0.2

CERTIFICATIONS

PSB Design has been tested by Dubai Central Laboratory and other 3rd party laboratories. It has been certified by Dubai Municipality as per Al Sa'fat Green Building System and is in compliance with the European Standards EN300:2006, and BS EN 717-1:2004.

Technical Information > Timber Species Database > Beech, European

Fagus sylvatica
Also known as: European Beech

Wood type	Hardwood
Environmental	Not listed in CITES. Believed available from well-managed sources. Check certification status with suppliers.
Distribution	Europe, especially central Europe and Britain.
The Tree	Beech has been called the mother of the forest, since without it in mixed broad-leaved forests, other hardwood timber trees would have greater difficulties for survival. The rain drip from beech destroys many soil-exhausting weeds, its shade prevents over-evaporation of moisture from the soil, and its heavy crop of leaves provides humus to the soil. In close forest, it can reach a height of 45m with a clear bole of 1 5m but on average this is usually about 9m with a diameter averaging 1.2m occasionally more.
The Timber	Normally, there is no clear distinction by colour between sapwood and heartwood, the wood being very pale brown when freshly cut, turning reddish-brown on exposure, and deep reddish-brown under the influence of steaming treatment commonly applied in parts of the Continent before shipment. Some logs show an irregular, dark reddish-coloured kern or heart, caused it is believed, by the effect of severe frosts, and occurring more frequently in Continental beech. The wood is typically straight grained, with a fine, even texture, but varying in density and hardness according to the locality of growth. Thus beech from central Europe, notably that from Yugoslavia (Slavonian), and that from Romania is milder and lighter in weight, about 672 kg/m³, than beech from Britain, Denmark and northern Europe, which weighs about 720 kg/m³ when dried.
Drying	Although it dries fairly rapidly and fairly well, beech is moderately refractory, tending to warp, twist, check and split, and shrink considerably. It therefore requires care both in air drying and kiln drying.
Strength	Green beech has general strength properties roughly equal to those of oak, but after drying, most values increase, and beech is stronger than oak in bending strength, stiffness and shear by some 20 per cent, and considerably stronger in resistance to impact loads.
Working Qualities	Good - * Red heart extremely difficult to work. Beech varies somewhat in its ease of working and machining according to growth characteristics and dried condition. Thus fairly tough material, or badly dried stock may tend to bind on the saw, or burn when cross-cut, or, if distorted due to drying provide difficulties in planing. On the whole, however it works fairly readily, and is capable of a good smooth surface. Beech turns well, takes glue readily, and takes stains and polish satisfactorily. It produces excellent veneer.
Durability	Not durable
Treatability	Easy
Moisture Movement	Large
Density (mean, Kg/m³)	720 ( )
Texture	Fine
Availability	Readily available at timber merchant
Price	Low
Chemical Properties	Excellent bending properties
Use(s)	Joinery - Interior, Furniture, Flooring
Colour(s)	Pink/pale red, Reddish brown (after steaming), White/cream

TECHNICAL DATA REPORT

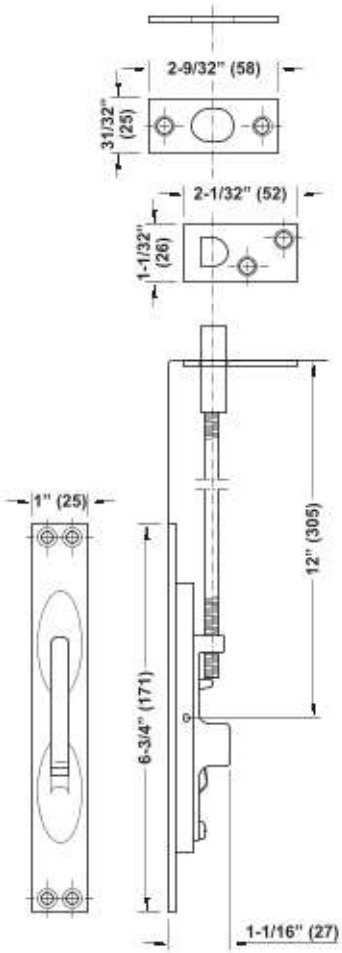
PLAIN MDF – 1220mm x 2440mm

Properties	Unit	Range of Thickness				
Thickness Tolerance (within panel)	mm	2.5-4 (+/-0.2)	>4-6 (+/-0.2)	>6-12 (+/-0.2)	>12-19 (+/-0.2)	>19-30 (+/-0.2)
Size Tolerance (within panel)	mm	+/-2mm max in length and width				
Squareness	mm	+/-2mm				
Density	Kg/m^3	770-800	750-800	710-760	690-720	680-710
Density Profile @ core	%	85	85	80	80	75
Internal Bond	N/mm^2	0.65	0.65	0.60	0.55	0.50
Modules of Rupture	N/mm^2	30	25	22	20	18
Modules of Elasticity	N/mm^2	n/a	2700	2500	2200	2000
Surface Soundness	N	2600	2600	2400	2400	2200
Screw Holding ➢ Face ➢ Edge	 N N	 n/a n/a	 n/a n/a	 n/a n/a	 1000 800	 900 600
Thickness Swelling (24hr)	%	35	30	15	12	10
Water Absorption (24hr)	%	60	50	30	25	20
Dimensional Stability (rh35-85%) ➢ Length/Width ➢ Thickness	 % %	 0.5 6	 0.5 6	 0.5 6	 0.4 5	 0.4 5

(ACCORDING TO EUROPEAN STANDARD EN622-5:1997)

دانوب لمواد البناء ش م ح
DANUBE
No.1 building materials company
Danube Building Materials FZCO

Model BM610



- Area of application: For metal doors – To manually secure the inactive leaf on pairs of doors
- Material: Brass and steel
  Brass and stainless steel
- Bolt throw: 3/4" (19 mm) Bolt head allows for 1/2" (13 mm) adjustment
- Bolt backset: 3/4" (19 mm)
- Threaded bolt length: Ships standard with 12" (305 mm), suitable for doors up to 96" (2438 mm) in height
- Fire Rating: 3 h
- Standard: Conforms to ANSI/ BHMA A156.16

Supplied with
1 Set of fasteners
1 Strike plate

	Finish	Cat. No.
Manual Flush Bolt	626 (US26D)	911.82.004
	630 (US32D)	911.82.003

Packing: 2 pieces

Accessories
→ Top Bolt Extension

	Thread length	Suitable for	Cat. No.
Top Bolt Extension	24" (610 mm)	Doors up to 108" (2743 mm) in height	911.82.008
	36" (914 mm)	Doors up to 120" (3048 mm) in height	911.82.009

Packing: 1 piece

Note
DP630 dust-proof strike recommended to prevent dirt from blocking bottom strike.

Dust-Proof Strike Model DP630 ▶AHAS 3.10

Kerafix® 2000

Material of building material classification B2 (normal flammability) according to DIN 4102-1
Classification E (normal flammability) according to DIN EN 13501-1

General test certificate P-3074/3439-MPA BS

Product Description

Kerafix® 2000 is based on a chemical mix of calcium magnesium silicate; it ensures excellent thermal and physical stability up to 1200 °C. Special features: Kerafix® 2000 is a bio-soluble high temperature glazing tape.

Application Areas

- Fire protection glazing as heat insulation
- Sealing material for industrial and domestic appliances
- Additional insulation for aluminium holding furnaces
- Expansion joints

Technical Data

Composition:	Insulating construction material on the basis of a chemical mix of calcium-magnesium-silicate
Material structure:	Light, flexible and compressible roll material
Raw density [kg/m³]:	200 to 300
Temperature resistance [°C]:	1200
Melting point [°C]:	Above 1330
Tensile strength [N/mm²]:	From ca. 0,35
Thermal conductivity [W/mK]:	0,10 (at 400 °C)

Supplied Forms

Kerafix® 2000 classic / premium:	Widths:	8 mm to 1000 mm				
Kerafix® 2000 classic:	Length:	10000 mm				
	Thicknesses:	1 mm to 10 mm (white) / 2 mm to 6 mm (black)				
Kerafix® 2000 premium:	Lengths:	26000 mm	22000 mm	16000 mm	10000 mm	10000 mm
	Thicknesses:	2 mm	3 mm	4 mm	5 mm	6 mm

Kerafix® 2000 is available in rolls or strips. The product is manufactured on the basis of the general tolerance DIN ISO 2768-1.

Executed Variants

Kerafix® 2000 classic:	White / black; adhesive / not adhesive
Kerafix® 2000 premium:	White; with inside adhesive tape for fast and easy installation

Please observe our information for processing and the safety data sheet!
If you want to use this product outdoors please contact our application technology service.

Note

CI/SfB			
		(29)	(k2)
CAW P10 Uniclass JP10:L68114			

Nullifire
Smart Protection

Product Information

Description

FS702 Intumastic is a water-based acrylic sealant which cures to give a firm but flexible fire seal. Suitable for use in various construction joints offering up to 30% movement capability whilst providing an excellent acoustic and air seal.

FS702 is suited for use around non-combustible services, cables, rock fibre insulated non-combustible pipes, using a minimum depth of 25 mm. FS702 has excellent adhesive qualities and can also be used for the bonding and pointing of joints and service penetrations in conjunction with FB750 Intubatt system.

Usage / Purpose

FS702 is suitable for a variety of applications:

- Static & movement linear joints (masonry/flexible wall to masonry/ rigid wall/rigid floor/flexible wall)
- Window & door joints (masonry to timber/steel)
- FB750 to flexible wall/rigid wall/rigid floor
- Cold smoke seal
- Service penetrations sealing: copper & steel pipes, cable bundles / trays / ladders (with and without FI025 Intuflex Insulation Wrap)
- FS702 is also suitable for service movement joints (consult Technical Services).

Traceability & Product Identification

- Nullifire is bringing unique identification technologies to the market, offering architects, specifiers, main contractors, and applicators guaranteed traceability of product on-site. Our traceability technologies are not visible to the naked eye, and do not affect performance or product aesthetics.
- FS702 features Optifire technology, a unique UV technology, activated by exposing the products surface to a UV light source, which offers easy & instant product identification (white colour only).
- FS702 also features Optifire+, a unique pigment technology, visible only with a specific Nullifire detector ; Optifire+ offers lifetime identification, and remains traceable even after a fire.

Colours

White.
Grey is available on request (may be subject to minimum order quantities).

Packaging

Gun Grade:
310 ml cartridges (12 per box/25 per box)
600 ml sausages (12 per box)
400 ml sausages (15 per box)
Trowel Grade: 5 litre bucket

Availability

Direct from Tremco CPG UK Limited (see details on this TDS).

Usage Guidelines

Always read SDS, pre-application guidance and relevant application detail prior to application. Ensure the latest documents are downloaded prior to every project commencement.

Protective Equipment

Use in well ventilated conditions and ensure all recommended protective equipment is worn during handling & use of this product. For full recommendation, refer to safety data sheet.

Necessary Tools

- Sealant caulking gun
- Sealant profiling tool/spatula
- Masking tape (if decorative finish is required to surrounding substrates)

Preparation

- All surfaces must be clean and sound, free from dirt, grease and other contamination.
- Wood, plaster and brick may be damp but not running wet.
- Porous or high gloss surfaces require priming prior to application.
- If a clean line is required on adjoining substrates, masking tape should be used.
- Check specification is suitable for movement, fire rating and gap size required.

FS702

Intumastic Fire Resistant Acrylic Sealant

up to 240 mins

optifire

optifire+

Key Benefits Summary

- **Up to 4 hours fire resistance - Tested to EN 1366-4 and EN 1366-3**
- **Up to 30% movement capability (during fire test)**
- **Suitable for flexible walls and rigid walls & floors**
- **Used for sealing FB750 Intubatt**
- **Acoustics up to 55 dB**
- **Air seal up to 2,000 Pa**
- **Optifire & Optifire+ unique traceability identifiers**

This product is certified to applicable European (EN) standards and UL-EU Mark service requirements. *CERT. N° UL-EU- 01059-CPR*

UL EU

ETA CE
20/1315 Linear Joints
21/0010 Penetrations

UK TA UK CA
22/0062 Linear Joints
22/0064 Penetrations

up to 240 mins

FS702

Intumastic Fire Resistant Acrylic Sealant

Nullifire Smart Protection

Application

- Insert required backing material (refer to performance on backing materials), oversized to joint width to ensure stability, to provide correct depth of seal.
- A light water spray will aid adhesion if a rock mineral fibre backer has been applied.
- Using a sharp knife, cut nozzle of cartridge to bead size and angle required.
- Gun sealant into gap to required depth by applying an even pressure to the trigger.
- Work and tool to a smooth finish immediately with a wet profiling tool or spatula.

Important Information

- Do not use around CPVC pipes ; for this specific application, please use FS719 HP Blue for CPVC.
- If used around Pegler X-Press Carbon Steel pipes, the pipe manufacturer should be consulted, and their recommendations followed.

Coverage

To determine quantity of sealant required, calculate as following example:

$$\frac{\text{Gap Width (mm)} \times \text{Depth (mm)} \times \text{Total Length (m)}}{\text{Volume of Cartridge (ml)}} = \text{N° of cartridges}$$

For further guidance on application methods, and material requirements, please contact Tremco CPG UK Limited Technical Services Department.

Cleaning

Immediately remove all excess sealant and masking tape before cure. Clean tools in warm water. Cured sealant can only be removed mechanically.

Health & Safety Precautions

Safety data sheet must be read and understood before use.

Technical Service

Tremco CPG UK Limited has a team of experienced Technical Sales Representatives who provide assistance in the selection and specification of products. For more detailed information, service and advice, please call Customer Services on 01942 251400.

Guarantee / Warranty

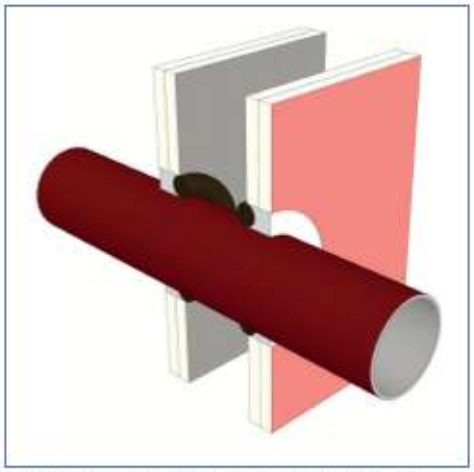
Tremco CPG UK Limited products are manufactured to rigid standards of quality. Any product which has been applied (a) in accordance with Tremco CPG UK Limited written instructions and (b) in any application recommended by Tremco CPG UK Limited, but which is proved to be defective, will be replaced free of charge.

No liability can be accepted for the information provided in this leaflet although it is published in good faith and believed to be correct.

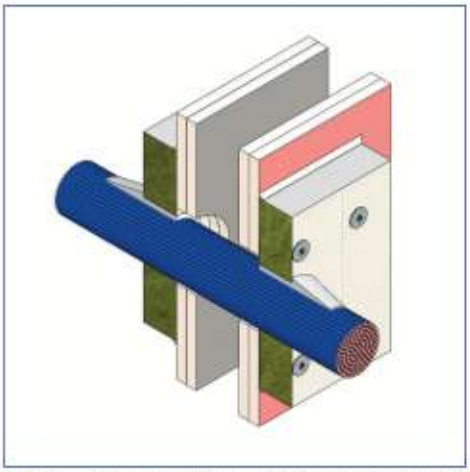
Tremco CPG UK Limited reserves the right to alter product specifications without prior notice, in line with Company policy of continuous development and improvement.

Typical Details

FS702 Intumastic plasterboard to concrete linear gap seal with PE backer rod: EI120



FS702 Intumastic seal for non-combustible pipe penetration through drywall: E120 EI30 (EI120 can be achieved with FI025 Intuflex)



FB750 Intubatt Pattress Fit + FS702 Intumastic seal & bond for cable penetration through drywall: EI120

up to 240 mins

FS702

Intumastic Fire Resistant Acrylic Sealant

Nullifire Smart Protection

Technical information

Property	Test Method	Result
Composition		Water based acrylic sealant
Acoustic Rating	BS EN ISO 10140:2-2010	up to 55 dB
Air Permeability	BS EN ISO 1023:2	Air tight up to 2,000 Pa
Solids Content		78% to 82%
pH Value		8.2 to 9.5
Specific Gravity		1.45 - 1.55
Viscosity		Thixotropic
Shore A Hardness		– 30
Touch Dry	at 20°C	30 minutes
Cure Rate	at 20°C	1 mm/day
Maximum Continuous Service Temperature		70°C - above this temperature discolouration may occur.
Storage	Store in dry conditions between +5°C and +40°C. Product may be left for short periods (not exceeding 72 hours) at temperatures as low as -5°C. Allow product to defrost for 24 hours at +10°C before use.	
Shelf Life	36 months when stored as recommended in original unopened containers.	

Backing Material

This section relates to the change of material used to back a seal or sealant as part of a sealing system for apertures for penetrations of multiple services and linear joint seals. Backing material may not be omitted unless full fill is achieved.

Backing Material	Effect	Comment
Polyethylene / Polyurethane Rod	= or +	May be replaced by mineral wool
Glass Wool	= or +	May be replaced by stone wool or ceramic wool
Stone Wool	= or +	May be replaced by ceramic wool
Ceramic Wool (including ceramic alternatives)	=	May only be replaced by alternative material of equivalent material properties, i.e. density, thermal conductivity, melting point, shrinking, reaction to fire classification - for example alkaline earth silicate fibres
Increase in backing material depth	+	Acceptable for class A1 and A2 materials.
Decrease in backing material depth	-	Not acceptable.

TREMCO Construction Products Group

Tremco CPG UK Limited
Coupland Rd, Hindley Green
Wigan WN2 4HT UK

www.tremcocpg.eu
Email: hello@tremcocpg.com
Tel: +44 (0)1942 251400

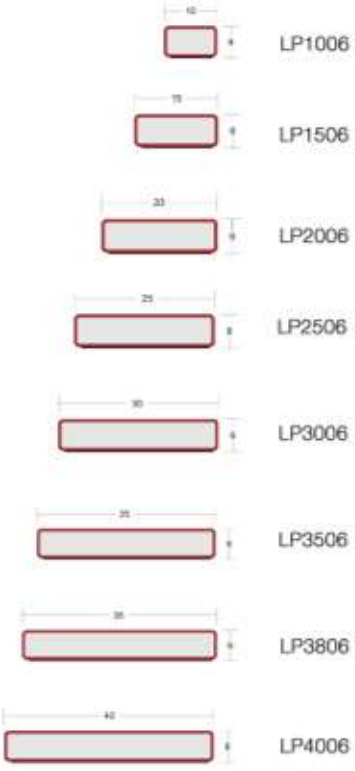
2023-08

LORIENT

Fire Seal

Intumescent fire seal for use where no smoke sealing is required.

- **Key benefits**
  The sodium silicate intumescent material is activated at temperatures of between 100 – 150˚C, forming a rigid foam with a high level of thermal insulation; it expands to 5 – 10 times its original size.
- **Location**
  Fitted into the head and jams of the door frame or alternatively into the top and sides of the door leaf itself.
- **Use with**
  Any smoke seal.
- **Min/max gap size**
  3mm / 4mm.
- **Lengths**
  1m & 2.1m. Other lengths are available to special order.
- **Fixing**
  Our intumescent fire seals have a self-adhesive backing. The adhesive used has been specially selected to provide excellent adhesion on a wide range of materials, including MDF on which it is usually difficult to obtain an effective bond.
- **Finishes**
  Our fire seals are available in a range of standard and special order colours.



certifire
CF341

Lorient Gulf Building Materials Trading LLC
PO Box 127987, Dubai, United Arab Emirates

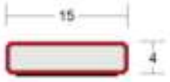
Tel: + 9714 883 7206 Fax: +9714 883 7207 Email: sales@lorientgulf.ae Website: www.lorientgulf.ae

FIRE SEALS

LP1004, LP1504, LP2004, LP2504

Our intumescent fire door seals offer fire protection where no smoke sealing is required. Combine a fire seal with a Batwing® seal for acoustic + smoke containment. Available in a choice of sizes to cover 30 + 60 minute applications, the fire seal also includes integral antimicrobial protection.

LP1004 Fire seal



LP1504 Fire seal

LP2004 Fire seal

LP2504 Fire seal

Fire seal

SYSTEM SPECIFICATIONS

Test evidence
- Fire: BS EN 1634-1: 2008.
- Fire: BS 476-22: 1987.

Performance
- Protects against fire.
- Integral antimicrobial protection.

Size
- 10 x 4mm.
- 15 x 4mm.
- 20 x 4mm.
- 25 x 4mm.
- Other sizes available, please ask for details.

Location
- Single and double leaf doors.

Use with
- Smoke seals and any architectural seals.

Min/max gap size
- 3mm/4mm.

Seal material
- PVC encased sodium silicate.

Standard lengths
- 1m and 2.1m.
- Other lengths to special order.

Fixing
- Heavy duty self-adhesive backing tape.

Finishes
- Available in a range of standard colours, plus woodgrain and metallic finishes for superior aesthetics.

Accreditations

BBA IFC certifire (CF330 & CF341)

T: +44 (0)1626 834252
E: mktg@lorientuk.com

LORIENT

LAS8001 si

HEAVY DUTY 39dB

A slimline, mortised automatic drop seal. It features a high efficiency mechanism, which lifts the seal clear of the floor as soon as the door is opened by a few millimetres; resulting in lower door operating forces. Requires no power connection. Self-levelling on uneven floors; seal height can be adjusted independently of fixing screws.

ID No. 518

LAS8001 si

LAS8001 si (shown with LAS4001)

SYSTEM SPECIFICATIONS

Test evidence
- Acoustic: BS EN ISO 10140-2: 2010 (up to Rw 39dB).
- Smoke: BS EN 1634-3: 2004 & BS 476-31.1: 1983.
- Fire: BS 476: Pt.20/22: 1987 & BS EN 1634-1: 2014.
- Durability: 1 million cycles.

Performance
- Meets smoke requirement: BS 9999: 2017.
- Protects against sound, smoke, fire, draught, light and insects.
- Suitable for wheeled traffic.

Location
- Single swing, single and double leaf doors. For use on both right and left handed doors.

Use with
- Any perimeter seal. Any threshold plate.

Min/max gap size
- 1mm/13mm.

Seal material
- Grey or black silicone rubber.

Standard lengths
- 335mm, 435mm, 535mm, 635mm, 735mm, 835mm, 935mm, 1035mm, 1135mm and 1235mm. Sizes above 1235mm are available on request.
- Note: Each length can be cut back to the next size down. The 335mm can be cut back to 255mm.

Fixing
- Fixing screws are supplied. This seal is mortised. Pre-drilled radiused end plates are supplied which also secure the product in place. (Square end plates available on request).

Adjustment
- Self-levelling on uneven surfaces.

Finishes
- Silver anodised aluminium with silver end plates, and grey silicone rubber gasket.
- Silver anodised aluminium with bronze end plates, and black silicone rubber gasket.

Accreditations

(R27972) (CF5179)

T: +9714 883 7206
E: sales@lorientgulf.ae

LORIENT

DROP SEAL PROTECTION KITS

Lorient provides intumescent protection kits which enable the LAS8001 si drop seal to be fitted in fire resistant door leaves.

These jackets provide fire resistance of 30 minutes or 60 minutes when tested with full size door assemblies and tested in accordance with BS 476-22:1987 and BS EN 1634-1:2014+A1:2018.

30 60

Drop seal protection kit

SYSTEM SPECIFICATIONS

Test evidence

- Fire: BS 476-22:1987.
- Fire: BS EN 1634-1:2014+A1:2018.

Performance

- Can provide up to 30 or 60 minutes fire resistance.

Size

- Lorient can supply intumescent kits to suit standard lengths of LAS8001 si drop seals.

Seal material

- Mono Ammonium Phosphate (MAP) 1mm / 2mm.
- With self-adhesive backing.

Use with

- LAS8001 si drop seal.

Fixing

- Affix the intumescent kit onto the top and two sides of the drop seal.

Preparation

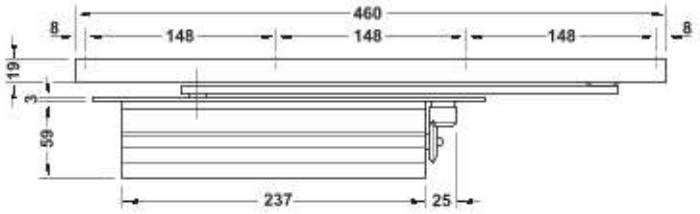
- Prepare the substrate for receiving intumescent hardware protection by ensuring it is clean from dust and oils. We recommend the use of non-solvent based wipes, wipe with a non-lint cloth to ensure surface is completely dry before application.
- Remove self-adhesive backing and dispose of in line with local regulations.
- Apply intumescent hardware protection, ensuring any cut outs and relief section are in alignment with hardware detail. Press firmly.

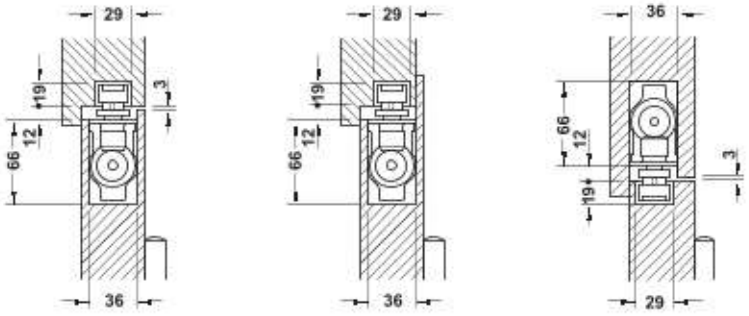
T: +9714 883 7206
E: sales@lorientgulf.ae

www.lorientgulf.ae

LORIENT

DCL 33
EN 2–4





Fire resistance and smoke control

F Tested for fire resistant and smoke control doors.

> Area of application:	Door closer and guide rail for concealed installation
> Version:	With hold-open function (optional)
> Adjustment facility:	Closing speed continuously adjustable, latching action continuously adjustable
> Installation:	Suitable for standard installation on door or overhead installation on frame
> Closing force:	2–4 in compliance with EN 1154
> Door width:	≤1,100 mm
> For door thickness:	≥46 mm
> Opening angle:	≤115°
> Hold-open angle:	≤115°
> Mounting:	For DIN left and DIN right hand use
> Standard:	Certified in compliance with EN 1154:1996/A1:2002
> Class:	3 | 8 | 2–4 | 0/1 | 1 | 3

		Silver coloured	Gold coloured	Matt black
DCL 33 Set				
1 DCL 33 without hold-open function	F	931.84.039	931.84.035	931.84.033
1 DCL 33 with hold-open function	–	931.84.269	931.84.238	931.84.233

Intumescent fire protection kit	▶AH 5.35 A
Hold-open device set	▶AH 5.35 A

SOUDAL

Technical Data Sheet

BOSS 813+

Technical data

Basis	Polyurethane
Consistency	Stable foam, thixotropic
Curing system	Moisture curing
Skin Formation (FEICA TM 1014)	9,5 min
Cutting Time (FEICA TM 1005)	50 min
Density**	Ca. 40 kg/m³
Thermal conductivity (λ) (EN 12667)	0,033 W/m.K
Box Yield (FEICA TM 1003)	750 ml yields ca. 34 l of foam
Joint Yield (FEICA TM 1002)	750 ml yields ca. 18 m of foam
Shrinkage after curing (FEICA TM 1004)	< 1 %
Expansion after curing (FEICA TM 1004)	< 1 %
Compressive strength (FEICA TM 1011)	Ca. 70 kPa
Shear strength (FEICA TM 1012)	Ca. 59 kPa
Tensile Strength (FEICA TM 1018)	Ca. 134 kPa
Elongation at Fmax (FEICA TM 1018)	Ca. 14,2 %
Temperature resistance**	-40 °C till +90 °C (cured)

** This information relates to fully cured product.
Soudal NV uses test methods approved by FEICA designed to deliver transparent and reproducible test results, ensuring customers have an accurate representation of product performance. FEICA OCF test methods are available at: http://www.feica.com/our-industry/pu-foam-technology-ocf . FEICA is a multinational association representing the European adhesive and sealant industry, including one-component foam manufacturers. Further information at: www.feica.eu

Product description
Boss 813 FR is a one-component, self-expanding, ready to use PU-foam, which contains HCFC- and CFC-free propellants who are not harmful for the ozonlayer. Boss 813 FR is a PU-foam with fire retardant characteristics according to the European standard EN 1366-4.

Properties
- Fire resistant in a joint (EN 1366-4)
- High filling capacity
- Good adhesion on all surfaces (except PE, PP and PTFE).
- High insulation value, thermal and acoustic
- Very good bonding properties.
- Not UV-resistant

Applications
- Installation of fireproof doors and windows.
- Sealing of fire retardant joints in walls and ceiling.
- As part of the 'Soudal Fire Range' assortment for penetration seals and joints.
- Sealing of all openings in roof constructions.
- Apply of an acoustic baffle
- All foam applications in static joints.

Packaging
Colour: pink
Packaging: 750 ml aerosol (net)

Shelf life
15 months unopened and stored in dry and cool conditions (Between 5 and 25 °C), Upright storage is recommended.

Boss 813 FR

Application method
Shake the aerosol can for at least 20 seconds. Put the adapter on the valve. Moisten surfaces with a water sprayer prior to application. For non-conventional substrates a preliminary adhesion test is recommended. Remove pressure from the applicator to stop. Fill holes and cavities for 1/3, as the foam will expand. Repeat shaking regularly during application. If you have to work in layers repeat moistening after each layer. Fresh foam can be removed using Soudal Gun & Foamcleaner or acetone. Cured foam can only be removed mechanically or with Soudal PU-Remover.

Can temperature: +5 °C - 30 °C
Ambient temperature: +5 °C - 30 °C.
Surface temperature: +5 °C - 35 °C

Health- and Safety Recommendations
Take the usual labour hygiene into account. Always wear gloves and goggles. Remove cured foam mechanically. Never burn away. Consult label and material safety data sheet for more information. When vaporizing (for example with a compressor), additional security measures will be required. Use only in well ventilated areas.

Standards and certificates
- Tested according to standard EN 1366-4 for fire-resistant jointing
- Classification report according to EN 13501-2 by Warrington Exova (report nr. 19660B) and in combination with fire-resistant sealants (19660C)

PS 0704 S

/ door stop-rebated bubble compression seal

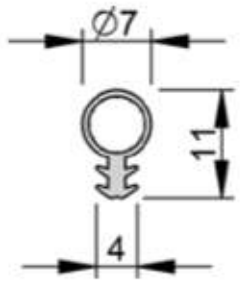
/ large tolerance compensation

/ suitable for sound insulation

/ suitable for smoke sealing

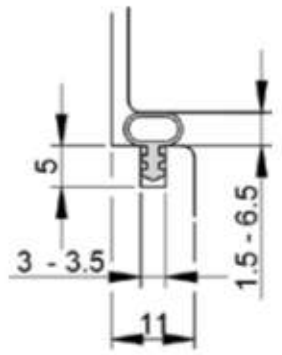
TECHNICAL DATA

Application	timber frame rebates
Gasket material	silicone, self-extinguishing
Working temperature range	-40°C to +180°C



DIMENSIONS

Width x height	7 x 11 mm
Fitting tolerance range	1.5 - 6.5 mm
Standard lengths	100m coil



FIXING

Fixing	into a groove in the door stop

PERFORMANCE & CERTIFICATES

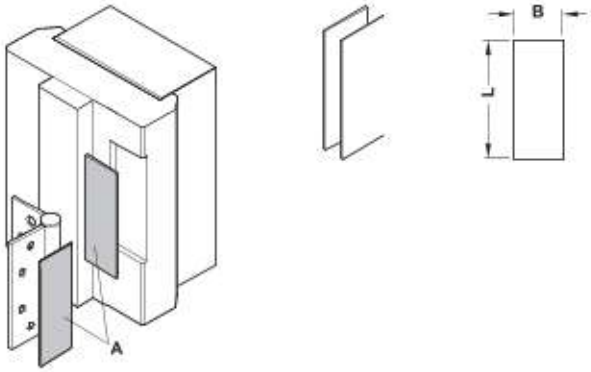
Fire	EN1634-1*

COLORS	ART.NO.
Black	P160057
Brown	P160056
White	P160065
Grey	P160080

*The test value may differ according to the EN 1634-1 test, as the complete door system must be checked.

athmer oHG / Sophienhammer / 59757 Arnsberg / Germany
T +49 2932 477-500 / info@athmer.de / **athmer.com**

Intumescent fire protection kit for door hinges



A = intumescent fire protection kit for door hinges

> Area of application: The material expands substantially when exposed to hot temperatures for protection of door hinges, provides fire resistance of up to 60 minutes
> Version: Shaped pads of intumescent material, cut to size
> Material thickness: 2 mm
> Replaces intumescent wood putty or paste

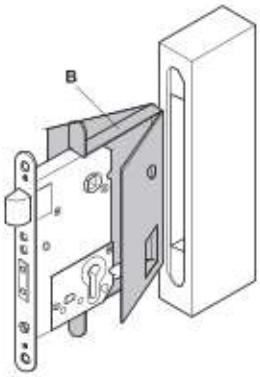
Note
The installation must comply with specifications and testing must have been carried out in accordance with EN 1634 in order to guarantee the fire resisting properties of the door. The applicable national and international guidelines, standards, approvals and other relevant regulations with regard to smoke control and fire resistance also have to be taken into consideration.

Dim. (L x W) mm	Cat. No.
76 x 31	950.11.085
102 x 30	950.11.087
102 x 36	950.11.097
102 x 42	950.11.107
126 x 37	950.11.119
114 x 43	950.11.117
114 x 48	950.11.118

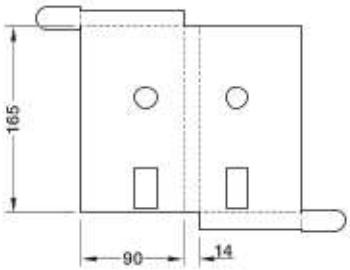
Packing: 1 set

Door hinges ►See product group 04

Intumescent fire protection kit for mortice locks



B = intumescent fire protection kit for mortice locks



> Area of application: The material expands substantially when exposed to hot temperatures for protection of mortice locks, provides fire resistance of up to 30 minutes or 60 minutes (material thickness 2 mm), for standard DIN mortice locks, for backset 55 mm, for distance 72 mm
> Version: Shaped pads of intumescent material, self-adhesive, cut to size
> Replaces intumescent wood putty or paste

Note
The installation must comply with specifications and testing must have been carried out in accordance with EN 1634 in order to guarantee the fire resisting properties of the door. The applicable national and international guidelines, standards, approvals and other relevant regulations with regard to smoke control and fire resistance also have to be taken into consideration.

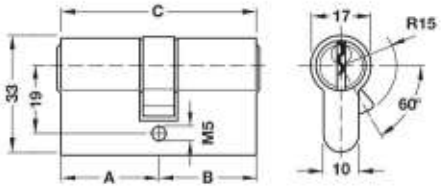
Dim. (L x W) mm	Material thickness mm	Cat. No.
165 x 90	1	950.11.010
165 x 90	2	950.11.011

Packing: 1 set

Door Locks ►See product group 02

2

Double cylinder



- Material: Cylinder housing: Brass
- Closure: Keyed to differ
- Locking system: With 5 pin tumblers

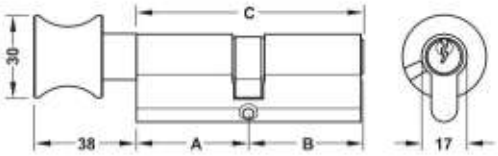
Note
No secured locking.

→ Keyed to differ

Supplied with
1 Double profile cylinder
3 Keys, nickel plated steel
1 Fixing screw

Dim. A mm	Dim. B mm	Dim. C mm	Nickel plated	Polished
30	30	60	916.96.007	
30.5	30.5	61	916.91.000	916.91.020
33	33	66	916.91.040	916.91.070
35	35	70	916.96.076	916.96.081
35.5	35.5	71	916.91.800	916.91.830
40	40	80	916.96.026	916.96.082
43	43	86	916.91.850	

Thumbturn cylinder



- Material: Cylinder housing: Brass
- Closure: Keyed to differ
- Locking system: With 5 pin tumblers

Note
No secured locking.

→ Keyed to differ

Supplied with
1 Profile thumbturn cylinder
3 Keys, nickel plated steel
1 Fixing screw

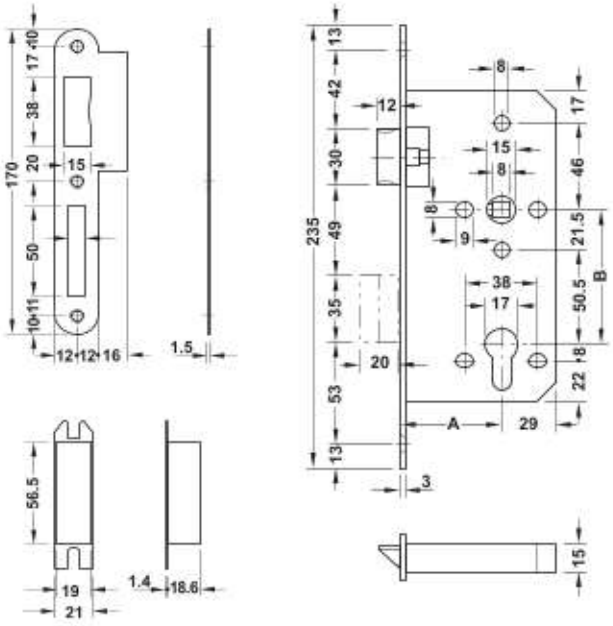
Dim. A mm	Dim. B mm	Dim. C mm	Nickel plated	Polished
30.5	30.5	61	916.91.100	916.91.120
35	35	70	916.96.576	
35.5	35.5	71	916.91.180	916.91.190

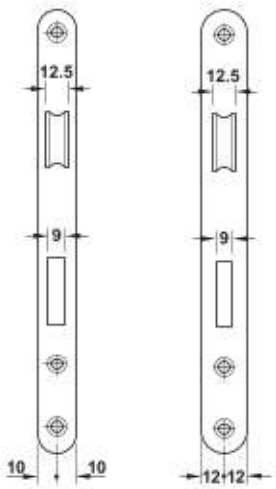
Mortice lock, profile cylinder

F

CAD

2





Forend width 20 mm for rebated doors

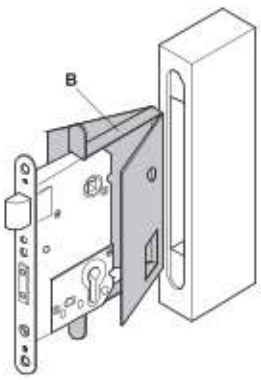
Forend width 24 mm for flush doors

> Area of application:	For rebated or flush doors
> Material:	Forend, latchbolt and deadbolt: Stainless steel, lock case: Steel, deadbolt pocket: Plastic
> Type of locking:	Prepared for profile cylinder
> Deadbolt:	2-turn
> Version:	With key action
> Forend:	Round or square
> Lever follower:	8 mm
> Distance B:	72 mm
> Mounting:	DIN left and DIN right, reversible
> Standard:	Certified in compliance with EN 12209:2003
> Class:	3 X 8 | 1 0 G | 3 B C | 2 0

Supplied with
1 mortice lock
1 flanged striking plate
2 deadbolt pockets

Forend width mm	Finish	Square	Round
Backset A 55 mm			
20	Matt brushed	911.02.143	911.02.151
	Brass coloured PVD coated	911.25.444	911.25.452
	Graphite black PVD coated	911.25.420	911.25.421
24	Matt brushed	911.02.145	911.02.153
	Brass coloured PVD coated	911.25.446	911.25.454
	Graphite black PVD coated	911.25.422	911.25.200
Backset A 60 mm			
24	Matt brushed	911.02.464	911.02.468
Backset A 65 mm			
24	Matt brushed	911.02.480	911.02.484

→ Intumescent fire protection kit for mortice locks

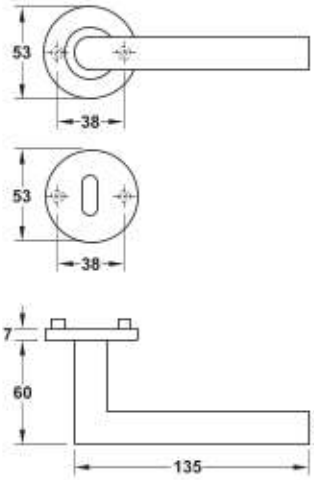


B = intumescent fire protection kit for mortice locks

Dim. (L x W) mm	Material thickness mm	Cat. No.
165 x 90	1	950.11.010
	2	950.11.011

Packing: 1 set

Model PDH4171



> Material: Stainless steel, substructure: Steel
> Bearing: Lever handle pivot-fitted in rose, sprung
> Standard: Certified in compliance with EN 1906:2010
> Class: 4 7 – B 1 4 0 B

	Supplied with		Door thick-ness mm	Satin	Polished	Polished brass coloured, PVD coated
CB set	2 Lever handle aperture parts with handle roses 1 Spindle 8 x 100 mm 1 Pair of CB escutcheons 4 Threaded screws M4 x 60 mm, can be shortened		38–55	903.91.076	903.91.077	903.91.078
PC set	2 Lever handle aperture parts with handle roses 1 Spindle 8 x 100 mm 1 Pair of PC escutcheons 4 Threaded screws M4 x 60 mm, can be shortened	F	38–55	903.92.076	903.92.077	903.92.078
WC set	2 Lever handle aperture parts with handle roses 1 Spindle 8 x 100 mm 1 Pair of WC escutcheons with red/green indicator disc 1 Locking pin 8 x 75 mm 4 Threaded screws M4 x 60 mm, can be shortened		38–55	903.93.076	903.93.077	903.93.078

Individual components	►AH 1.68
Mounting accessories for other door thicknesses	►AH 1.69

KERALITE® R

Fire resistant safety glass for interior and exterior application

CLASSIFICATION

E = Integrity

Ability to withstand fire exposure without transmission of fire to the non-fire side as a result of the passage of flames or hot gases, thereby causing ignition of the non-fire exposed surface or materials adjacent.

PRODUCT FEATURES

Fire resistant glass ceramic

TECHNICAL SPECIFICATIONS

Fire resistance (EN 1363-1)	up to E 240
Reaction to fire (EN 13501-1)	A1
Testing Standard	Tested in accordance with BS EN 1634-1: 2000, UL 9, UL10B, UL10C, NFPA 252, NFPA 257 • UL/NFPA up to 180 minutes • BS EN up to 240 minutes
Maximum Glass Size	Variable, subject to glass make-up, framing material or glazed element type. Consult with your Vetrotech representative.
Thickness tolerance	±0.2 mm
Length tolerance	±2 mm
Hazardous material contained	None

Nominal thickness	5 mm
Glass size per thickness	≤ 1150 mm x 2000 mm
Fire protection	both sides
Weight	13 kg/m^2
Sound reduction R_w (EN 140-3)	32 dB*
Light transmission (EN 410)	89%
Light reflection ρL (exterior/interior)	8%/8%
U value, W/m^{2}K (EN 673)	5,8
g value	0,86
Energy transmission τE	84%
Energy reflection ρE (exterior/interior)	8%/8%

* Reference Value

LX5402/4402

Technical Data Sheet

Palusol Intumescent
Type 100
For use in Glazing Systems

DESCRIPTION

- Palusol® intumescent material consists of a solid sheet of hydrated sodium silicate compound, reinforced with glass fibres and coated on both sides with a barrier film of durable epoxy resin.
- With an activation temperature of 100°C and high degree of char, it creates a secure seal and provides an effective barrier against the spread of smoke and fire as part of the overall construction.

APPLICATION

- May be applied as an intumescent seal within the construction of doors, glazing systems and other construction products where applicable test evidence is available.
- Environmental conditions, the placement of the product and the energy of the heat source may influence the speed or magnitude of the intumescent reaction.

LX4402

LX5402

Lorient Polyproducts Ltd
Endeavour House
Fairfax Road
Heathfield Ind Est
Newton Abbot
Devon
TQ12 6UD UK

LORIENT

Introduction

FP®-900/FirePro® is a high quality laminated calcium silicate board. It does not contain asbestos, sepiolite or other inorganic fibres and is free from formaldehyde. It is a strong and lightweight, non-combustible building board for use in many fire resisting applications up to 240 minutes fire rating performance to international standards including BS, EN, GB, and ISO. FP®-900/FirePro® is made of special fire resistant minerals materials and has undergone a sophisticated process. It is simple to work with and fix, easy to decorate, resistant to the effects of moisture and will not rot and decay. FP®-900/FirePro® is manufactured to ISO 9001 quality management system and ISO14001 environmental management system, and has obtained the Green Product Label Award issued by National Environment Protection Bureau.

Description

FP®-900/FirePro® is off-white in color and has a smooth sanded surface on one side and a slightly textured reverse. It consists of fire rated minerals and calcium silicate matrix reinforced with selected fibres and special fillers. The board is then cured under an autoclave process where high pressure and steam is induced to ensure its intrinsic fire resistant property.

Apart from fire rating properties, FP®-900/FirePro® is also an ideal building board for use in constructions where there is a need for resistance to damp or high humidity. It contains no water soluble additives and will not rot, degrade or deteriorate. FP®-900/FirePro® will absorb water causing some loss of strength, which is fully recovered on drying. Any staining on the board caused by leakage can be easily painted over. Moisture will not cause leaching or efflorescence and has no permanent effect on the board. FP®-900/FirePro® is classified as non-combustible when tested in accordance with BS 476: Part 4, BS EN ISO 1182 and GB8624: Grade A. Many fire resistant constructions such as wall, ceiling, duct, protected shaft or cavity barrier had used FP®-900/FirePro® as the core element. As revealed from the tests, FP®-900/FirePro® is capable of resisting fire attack up to 1200°C for 240 minutes. Please consult Soben International for fire engineering design and details of local equivalence.

FP®-900/FirePro® under fire tests of ceiling and partition to international standards

Sizes

Thicknesses	9 / 12 / 15 / ~ 25mm
Widths	900 / 1200 / 1220mm
Lengths	1800 / 2400 / 2440mm

Note: All metric / standard boards come with cutting square edges. Other sizes are also available and can be produced to special order.

Manufacturing Tolerances

Length tolerance	+/- 5mm
Width tolerance	+/- 5mm
Thickness tolerance	+/- 0.3mm
Diagonal tolerance	+/- 5mm

FP®-900 / FirePro® fire rated door overhead panel

Performance

FirePro® is made of green materials. It has superior fire resistance performance and excellent dimensional stability under heat and severe moisture environments. FirePro® is suitable for the construction at damp and wet areas.

Density		900kg/m^3 (+/-10%)
Norminal weight		8.9kg/m^2 – 9mm 11.9kg/m^2 – 12mm 14.8kg/m^2 – 15mm
Surface alkalinity		pH 7-10
Flexural strength		6.0 MPa (along grain)
Flexural strength		9.5 MPa (across grain)
Moisture movement (ambient to saturated)		0.05%
Dimensional changes in length due to relative humidity	BS EN 318	+0.01% @20°C, RH 30%~85% - 0.02% @20°C, RH 85%~30%
Moisture content		Ex works - 15% In situ - 6%
Thermal conductivity	EN 12264	0.17 W/mK
Linear thermal expansion	BS EN ISO 10515-8	-3.06 x 1E-6/°C
Fire rated systems	BS 476: Part 20-24 BS EN1363-1 & 2	up to 240 minutes
Non-combustible test	AS 1530.1 BS 476: Part 4 BS EN ISO 1182	Pass
Heat of combustion	BS EN ISO 1716	Pass
Reaction to Fire	EN 13501-1	Euro Class A1
Surface spread of flame	BS 476: Part 7	Class 1
Fire propagation Test	BS 476: Part 6	Class 0
Test for ignitability	BS 476: Part 5	Class P
Minimum bending radius		Along grain 7200mm for 9mm 9800mm for 12mm
Acoustic reduction (over range 100-3150 Hz)	AS 1276.1 AS 1191 ASTM E90 ASTM E413 BS EN ISO 140-3 BS EN ISO 717-1	thickness Rw, dB STC 9mm 26 26 99mm 46 46 steel stud partition 105mm 49 49 steel stud partition

FP®-900 / FirePro® as fire barrier

FP®-900/FirePro® fire-rated wall lining

Specific Properties

- Moisture resistance
- Lightweight but strong
- Fire resistance up to 240 minutes BS EN Standard Euro Class - A1
- Rot proof, anti-bacterial
- Good chemical resistance
- Acoustic insulation
- Small expansion rate
- Decorative finishes by tiles, paint or wall paper
- Maintenance friendly
- Easy to use
- Immune to attack from insects or vermin

Beam encasement

Fire rated duct

Column casing

FP®-900/FirePro® fire rated building service ceiling enclosure

Application

FP®-900/FirePro® is a high performance board ideally used in constructions for resistance of fire, damp and high humidity areas such as:

- Swimming pool
- Food processing plants
- Hospitals
- Kitchen and Laundries
- Fire rated walls and hoardings
- Fire rated doors
- Fire rated internal linings to industrial buildings
- Fire resistant parapet walls and spandrels
- Fire resistant ceiling
- Fire rated infill panels
- Composite panels
- Encasement to structural steelwork
- Smoke extraction duct encasement
- Fire rated casings for electrical & mechanical services

Access panels at fire rated ceiling

For details of fire-rated partitions / enclosure systems, please refer to the Installation Guide of fireproofing construction or contact your nearest Soben International Office.

Fire rated partition

Fire rated industrial lining

Fire rated spandrel wall

Health & Safety

FP®-900/FirePro® is formulated without asbestos, sepiolite or any inorganic fibres. When using power saws or sanders in a confined space, dust extraction equipment is recommended to control dust levels. FP®-900/FirePro® is designed for non-load bearing construction. Horizontal boards or ceiling panels must not be walked on as they are not designed to take additional loads between supports; if there is a risk of this occurring, warning notices should be displayed. Fixers must ensure that they work from adequate and safe platforms where necessary.

Note: All physical performance values of products depicted in this catalogue are averages based on the standard production. The figures may be changed dependent on the test method used.

WOOD GLUE

Product No. **PW1612**

A water based wood glue based on polyvinyl acetate polymer, designed with excellent high tack and bond strength ,developed for various wood carpentry application uses , such as :[bonding timber, MDF, doors, windows in high speed assembly lines at joineries]
Product is not suitable for perpetual wet areas like toilets, kitchen sink etc.,
Virtues: It is a nontoxic and non-flammable water based, environmental friendly single component product.

USE

Product is also useful for decorative bonding, cold and hot pressing of decorative laminates, wood veneers to ply, block boards, tiles in dry condition. Etc.

SPECIFICATIONS

Properties

Color	: milky white
Specific gravity	: 1.01 Kg/lit [± 0.025]
Viscosity 4/25°C	: 180 sec. [± 1]
Weight Solids	: 43% Kg/Kg [± 1]
PH	: 5-7
Drying Interval	
Open Tack	: 5-10 min.
Curing	: 60 hrs. [Temperature, humidity, air movement, film thickness and number of coats all affect the drying time.]

SURFACE PREPARATION

All timber species must be fully aged with a moisture content of less than 15%. Surface must be dry, clean and free from contaminations. Natural oil or gum must be removed by solvent cleaning.
Exclusions for successful application include perpetually wet surfaces and also large cavities on wood surfaces.

APPLICATION METHODS

RITVER Wood glue is generally recommended to be applied without any thinning and as such. During application use a mechanical glue spreader or a convenient spatula. Ensure that the surface is free from dust and oil moieties. Spread the adhesive evenly and leave it for 5 to 10 minutes as per the wood surfaces. Press the surface to be bonded and squeeze out the excess. Remove the non-dried portion with warm water or resort to mechanical removal when dry.
Do not apply when wet as there will be no bondage to the substrate.
Once used keep the container closed immediately. It is also important to see that the tools used for application is cleaned before the glue dries off.

WOOD GLUE

Product No. **PW1612**

PRODUCT PREPARATION

Stir well before use. Thin to the required viscosity ensuring the product is homogeneous.

Dilution
By brush, roller
Normally ready to use but we can dilute the product up to 15 % by water.

SUBSEQUENT TREATMENT

After drying this product, it does not need any subsequent treatment.

PACKING & STORING

Available in 1Lit, 4Lit ,20Lit and 200Lit .
Store in a cool and well ventilated place. Keep away from direct sunlight. Minimum one year in unopened container, stored in a cool and dry condition at 25°C.

SAFETY & FLAMMABLE

Do not expose product to direct sun light.

In case of contact with eyes rinse immediately with plenty of sweet water and seek medical
Keep away from sources of ignition. Keep out of reach of children.

Competence PUR

KLEIBERIT
ADHESIVES • COATINGS

KLEIBERIT 501

One component, polyurethane adhesive for very strong, gap-filling bonds with high temperature resistance and water resistance according to DIN/EN 204 stress group D4.

0736
KLEIBERIT PUR-Lein 501.0

Bonding in Shipbuilding (according to IMO FTPC Part 5 & Part 2/ Approval per SeeBG test certificate for international use according to Module B). Certified application quantity: 150 g/m²

Adhesive for water resistant bonding in accordance to **DIN/EN 204** **D4**

The handy bottle with the patented dispensing lid.

- self cleaning
- easy to dispense
- precise adhesive application