ESL

مختبر الإمارات للسلامة
EMIRATES SAFETY LABORATORY

TEST REPORT

No. 0054-25-TR-03A

Fire resistance of **Latched, Single Action, Single Door Fire-Rated PSB Wooden Door with Hardwood Frame** made according to technical documentation No. ABS00094-STD-FR-90-PSB-141 R01 (dated 03-04-2025).

This test report No. 0054-25-TR-03A replaces and withdraws the test report No. 0054-25-TR-03. (See "Revision History" for the reference)

according to:
- EN 1363-1:2020
- EN 1634-1:2014+A1:2018

Date of issue: 02 May 2025

ilac-MRA

IAS ACCREDITED Testing Laboratory TL-1038

1 EXCLUSIVE SUMMARY

Test method:	EN 1363-1:2020 – *Fire resistance tests - Part 1: General requirements*. 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:	The test element with the technical documentation was delivered by the manufacturer to the laboratory on 07 March 2025.
Date of specimen(s) installation:	11 to 13 March 2025
Date of testing:	14 March 2025
Name and address of the test sponsor:	Abanos Furniture & Decoration Industry LLC P.O. Box 114480 Dubai, United Arab Emirates
Name and address of the manufacturer/supplier:	Abanos Furniture & Decoration Industry LLC P.O. Box 114480 Dubai, United Arab Emirates
Name of the test specimen: (product name)	Latched, Single Action, Single Door Fire-Rated PSB Wooden Door with Hardwood Frame
Identification of the test specimens:	Two single-leaf wooden doorset were installed in a vertical rigid supporting construction, Door 05 – opening towards the furnace Door 06 – opening away from the furnace *Both door sets were of the same design and only the opening direction was different to test from both sides of the door*.
ESL identification number:	0054-25-05 - opening towards the furnace 0054-25-06 - opening away from the furnace
Description of sampling procedure including date if applicable:	Test specimens were selected by ESL Certification (sampling acknowledgement dated 24 February 2025) and delivered to ESL by the test sponsor. The Laboratory Team was not involved in the sampling process. 

2 TEST CONDITIONS

Heating temperature of the test element:	The standard temperature-time curve was maintained within its allowable limits according to EN 1363-1. Thea temperature inside the furnace during the test was measured at a distance of 140mm from the surface of the test construction. Heating conditions are shown in Graphs 1 and 2.
Furnace pressure:	Differential pressure in the furnace measured at a height of 500mm above the level of furnace floor was maintained according to EN 1363-1. The pressure probe was located at 376mm 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 2100mm away from the unexposed face of the specimen, at the commencement of each test was 21.5°C

3 DESCRIPTION OF THE TEST SPECIMEN

Constructional details of the single leaf doorset are presented in the technical documentation enclosed with this report.

Table 1

Measurement	Nominal (mm)		Measured by ESL (mm)	
	Door 5	Door 6	Door 5	Door 6
Overall door frame size (h x w)	2190 x 1090	2190 x 1090	2190 x 1088	2190 x 1089
Overall door leaf size (h x w)	2152 x 1024	2152 x 1024	2152 x 1023	2153 x 1024
Overall architrave size – unexposed side(h x w)	2230 x 1170	2230 x 1170	2227 x 1068	2226 x 1172
Overall architrave size – exposed side(h x w)	2230 x 1170	2230 x 1170	2229 x1170	2229 x 1172
Door frame clear opening (h x w)	2145 x 1000	2145 x 1000	2142 x 1001	2143 x 1002
Thickness of the door leaf	64	64	64.27	64.52
Door leaf Weight (kg)	-	-	119.24	112.47

3.1 Description of the Doorset (Door 5 & Door 6)

3.1.1 Description of the Door Frame

The doorset consisted of a door frame with a cross-section of 45 x 150 mm, as shown in Figures 3 and 4. The frame was made of African Mahogany hardwood with a nominal stated density of 730kg/m³ (670kg/m³ calculated by ESL Certification) and a stated moisture content of 10.2%, manufactured from African Mahogany Wood and supplied by Danube Building Materials FZCO. The jambs and head of the door frame were joined at the corners using miter joints, secured with one (1) Ø8 x 72 mm long and one (1) Ø8 x 63 mm fine thread stainless steel drywall screws manufactured by MT Werkz, positioned at each frame head. Additionally, the frame components were bonded together using wood glue (pH 5-7, specific gravity 1.1 kg/liter) produced by Ritver Paints & Coatings. A single coat of FCC-9000 Flame Core Coat, supplied by MVL Fire Stop, was applied to both the exposed and unexposed faces of the frame, including the rebate section, using a roller.

An architrave with cross-sections of 12 x 60 mm was manufactured and supplied by Al Talah Board Manufacturing Co. Ltd. This architrave was constructed from Desert Board PSB FR, with a nominal stated density of 800kg/m³ (803kg/m³ calculated by ESL Certification) and a stated moisture content of 12%.

The 12 x 60 mm architrave was installed on both sides of the door frame jambs using three (3) Ø1.5 x 40 mm nails, with a center-to-center spacing of 884 mm. Additionally, the 12 x 60 mm architrave affixed to the top of the frame with three (3) Ø1.5 x 40 mm nails on each side, positioned approximately 115 mm from both edges, along with an additional nail at the center. The architrave on the closing side included an extension designed for a pressure-fit, ensuring a secure attachment to the frame, as illustrated in Figures 3 and 4.

3.1.2 Description of the Door Leaf

The door leaf was constructed from a 64 mm thick Desert Board PSB FR, which featured 3mm thick African Mahogany wood lipping on all sides. The Desert Board PSB FR, produced by Al Talah Board Manufacturing Co. LTD, had a nominal stated density of 800kg/m³ (803kg/m3 calculated by ESL Certification) and a stated moisture content of 12%. It was composed of two (2) 32 mm layers that were bonded together using Fevicol SWR super synthetic resin adhesive, manufactured by Pidilite Industrues, as shown in Figure 3 and 4. A single coat of FCC-9000 Flame Core Coat, manufacturer and supplied by MVL Fire using roller was applied to both sides of the leaf, including all four edges, using a roller. The graphite liner at the bottom of the leaf was also applied with the Flame Core Coat.

Additionally, the 3 mm thick African Mahogany wood lipping, supplied by Danube Building Materials FZCO, had a nominal stated density of 730kg/m³ (670kg/m³ calculated by ESL Certification) and a stated moisture content of 10.2%. It was securely attached to the edges of the core using Kleiberit 501.0 PUR adhesive, manufactured by Klebchemie M.G Becker GmbH & Co., as shown in Figure 3 and 4.

3.1.3 Doorset Gaskets:

Door Frame

- Two (2) 20 x 4mm thick intumescent seals (Athmer FP 2004- brown color), manufactured by Athmer, were installed 7mm from the opening edge and 29mm apart. (see Figures 3 and 4).
- A single winged corner seal (PS1212P – brown color) produced by Athmer has been installed on all three sides of the frame. (see Figures 3 and 4).

Door Leaf

- One (1) 20 x 4mm thick intumescent seals (Athmer FP 2004- brown color), manufactured by Athmer, were installed 7mm from the opening edge and 29mm apart. (see Figures 3 and 4).
- One (1) 50 x 2mm thick graphite liner, manufactured by Athmer, was installed centrally at the bottom of the leaf. (see Figures 5).

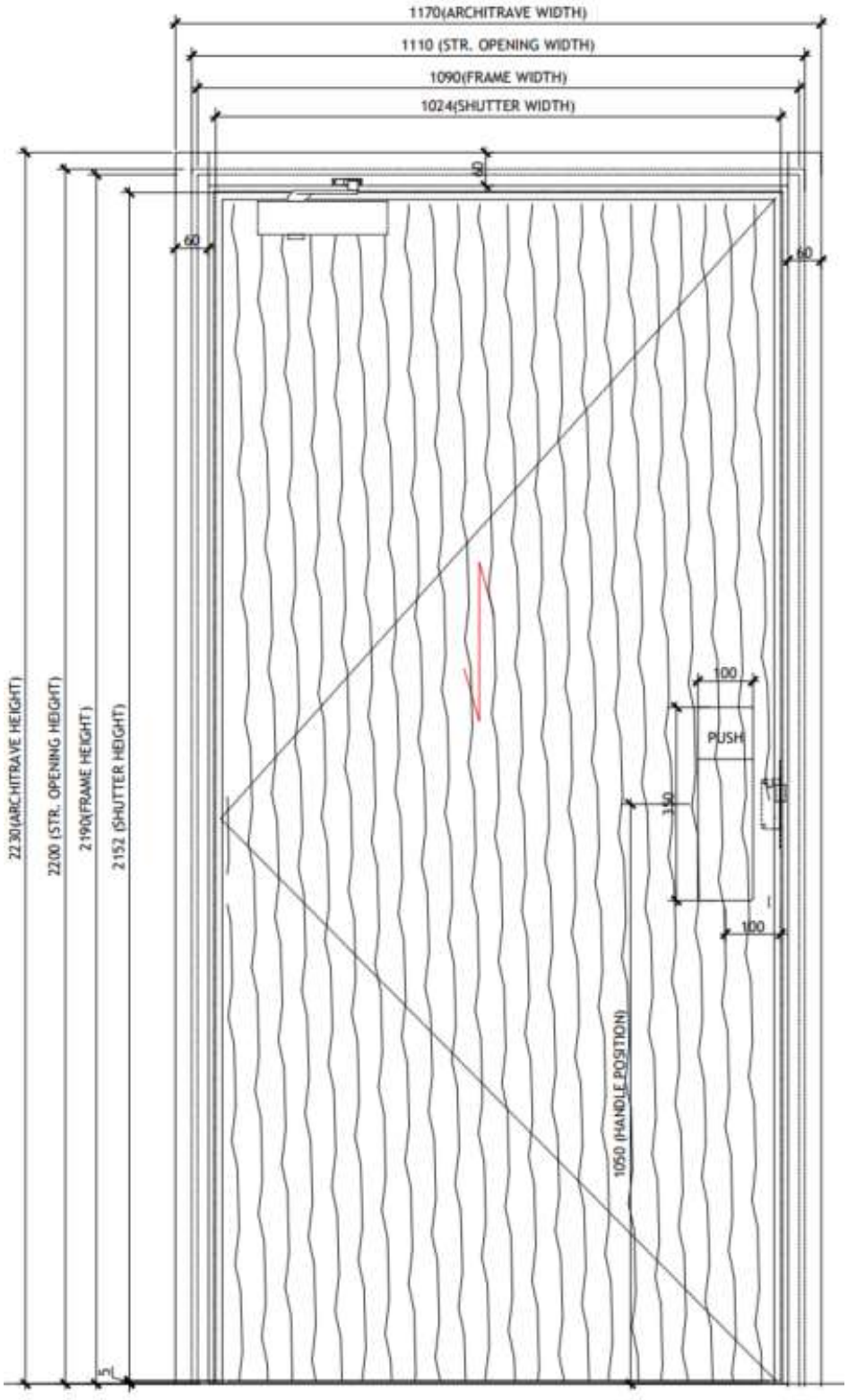


Figure 1. Elevation View of the Door 5 (Unexposed)

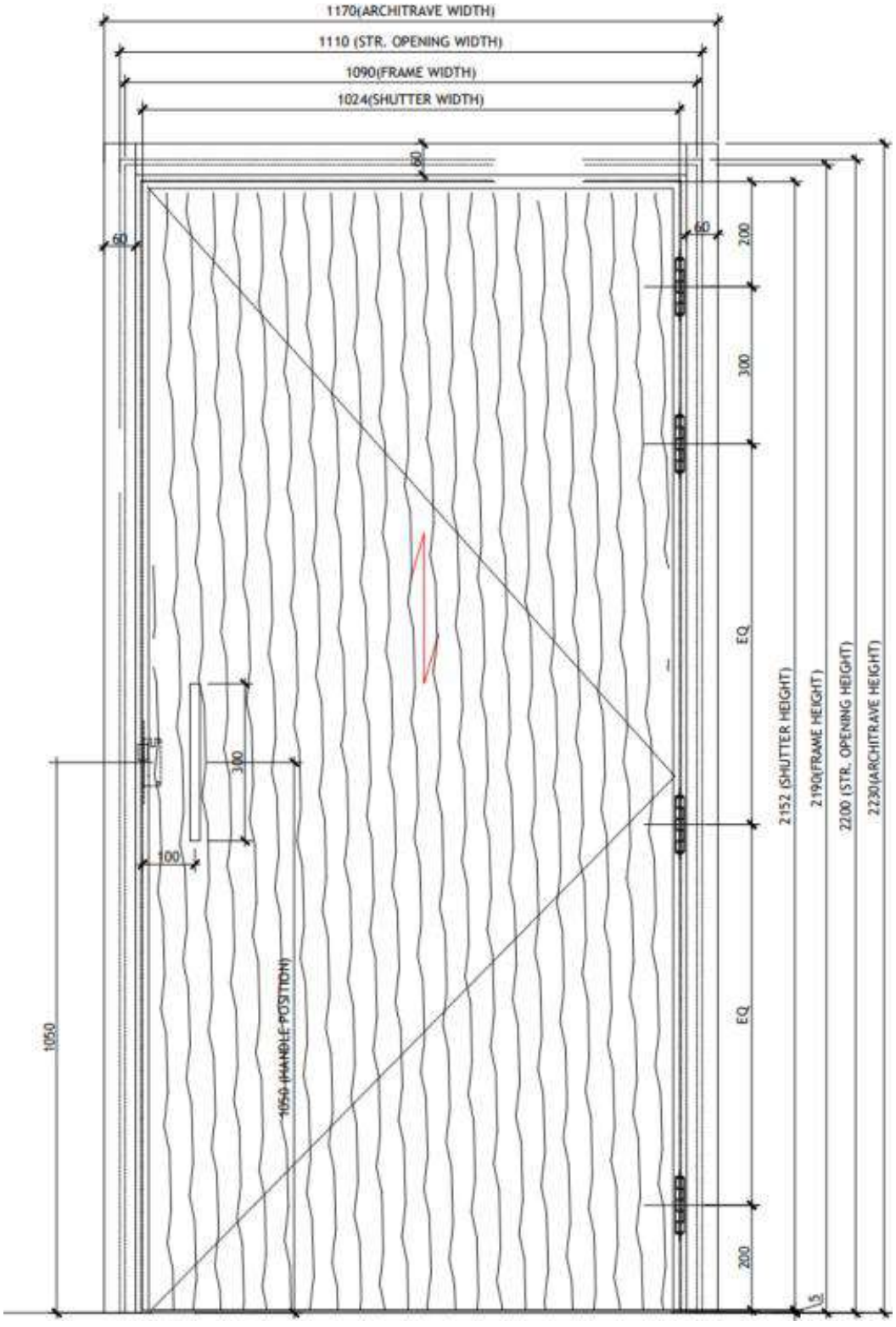


Figure 2. Elevation View of the Door 6 (Unexposed)

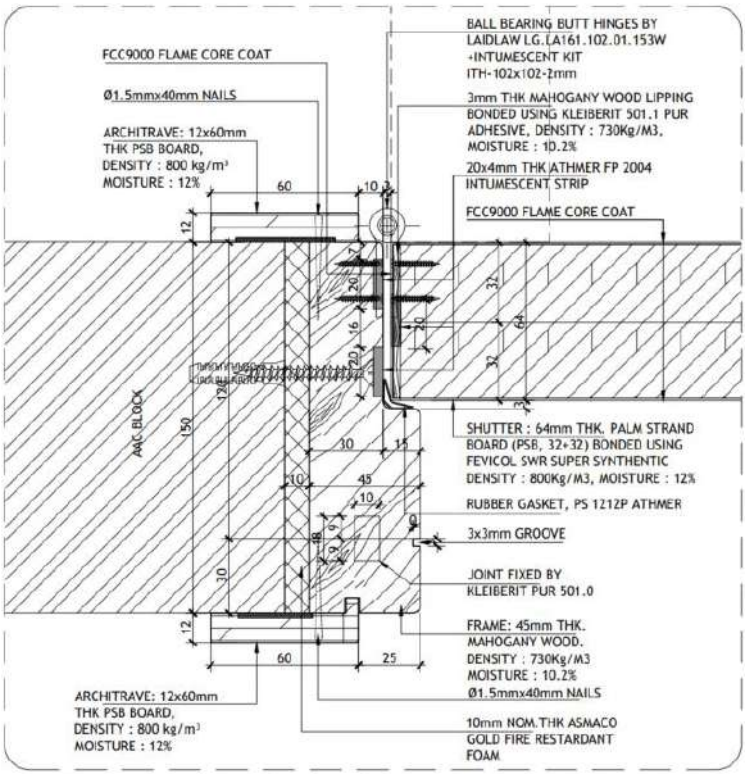


Figure 3. Vertical Jamb Details

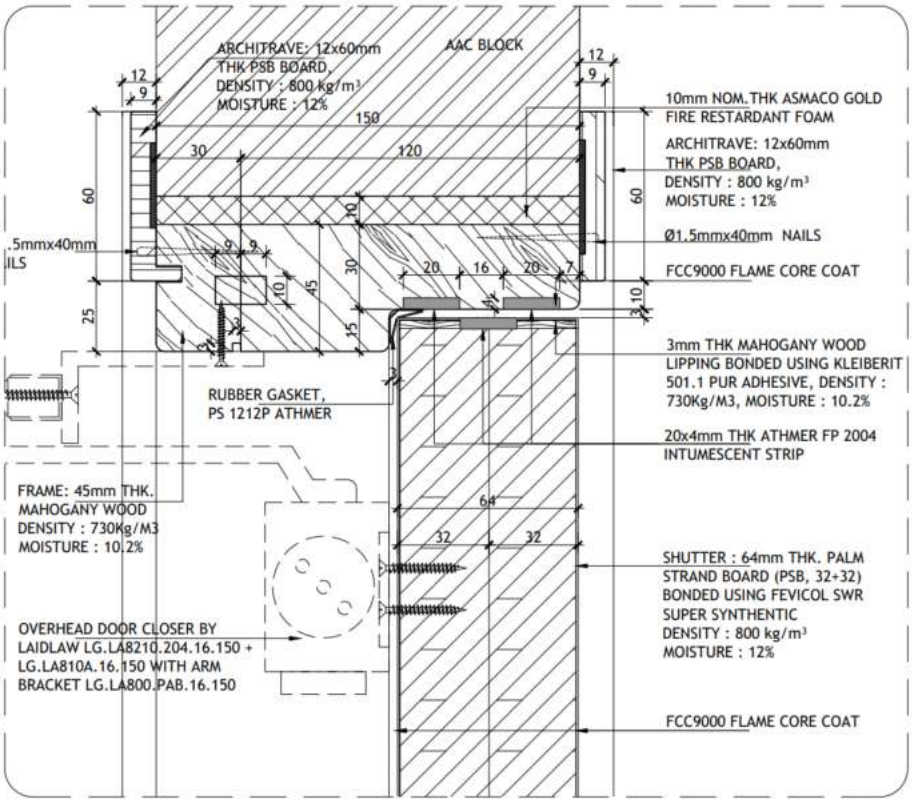


Figure 4. Horizontal Top Details

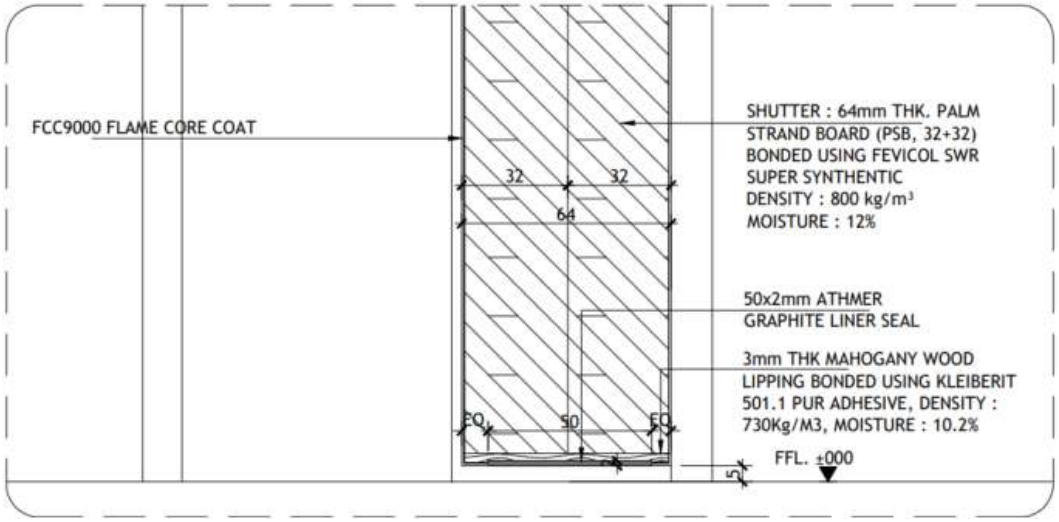


Figure 5. Bottom Door Leaf Detail

3.1.4 Door Hardware (Door 5 & Door 6)

Table 2

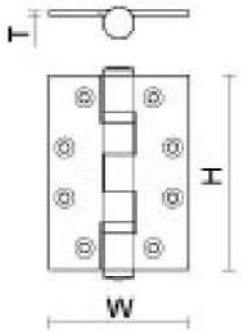
Hinge		
Manufacturer	Laidlaw Gulf LLC, UK	
Type	Two Ball Bearing Butt Hinge	
Reference	LG.LA161.102.01.153W	
Dimensions	 H = 102 mm W = 102 mm T = 3 mm	
Quantity	Four on each specimen	
Fixing (hinge CL)	204mm and 505mm from the top of the leaf. 205mm and 925mm from the bottom of the leaf (measured by ESL).	
Protection	Manufacturer	Laidlaw Gulf LLC, UK
	Reference	ITH-102x102-2mm
	Thickness	1mm (2pcs)

Table 3

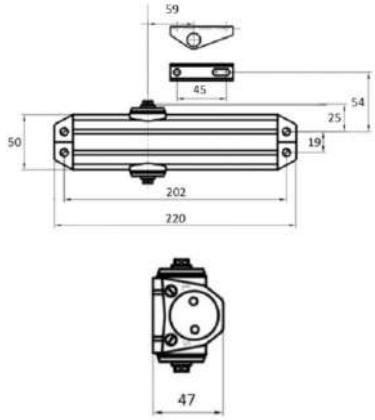
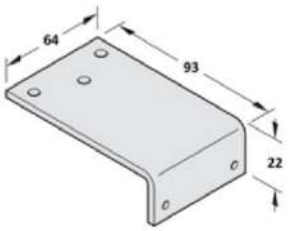
Door Closer			
Manufacturer	Laidlaw Gulf LLC, UK		
Type	Surface Mounted Overhead Door Closer	Flat Armset	Parallel Arm Bracket
Reference	LG.LA8210.204.16.150	LG.LA810A 16.150	LG.LA800.PAB 16.150
Dimensions		N/A	
Quantity	One on each specimen		
Fixing	100mm from the top edge of each door leaf (measured by ESL).		
Protection	N/A		

Table 4

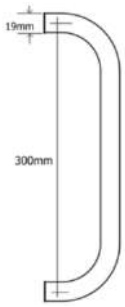
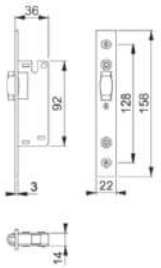
Pull Handle	
Manufacturer	Laidlaw Gulf LLC, UK
Type	Round Pull Handle
Reference	LG.LA06.300.01.153
Dimensions	
Quantity	One on each specimen
Fixing (C/L)	1050 mm from the bottom of the leaf (measured by ESL).
Protection	N/A

Table 5

Push Plate	
Manufacturer	Laidlaw Gulf LLC, UK
Type	Push Plate
Reference	LG.LA23E 350 01.153
Dimensions	
Quantity	One on each specimen
Fixing (C/L)	1050 mm from the bottom of the leaf (measured by ESL).
Protection	N/A

Table 6

Roller Latch		
Manufacturer	Laidlaw Gulf LLC, UK	
Type	Adjustable Roller Latch	
Reference	Arrone AR755	
Dimensions		
Quantity	One on each specimen	
Fixing (C/L)	1045 mm from the bottom of the leaf (measured by ESL).	
Protection	Manufacturer	Laidlaw Gulf LLC, UK
	Reference	ITL-AR755-2mm
	Thickness	2mm

3.2 Components Photographs

Hinge

Door Closer

Roller Latch

Corner Seal & Intumescent at Door Fame

Graphite Liner at the Bottom of the Door Leaf

Intumescent at Door Leaf

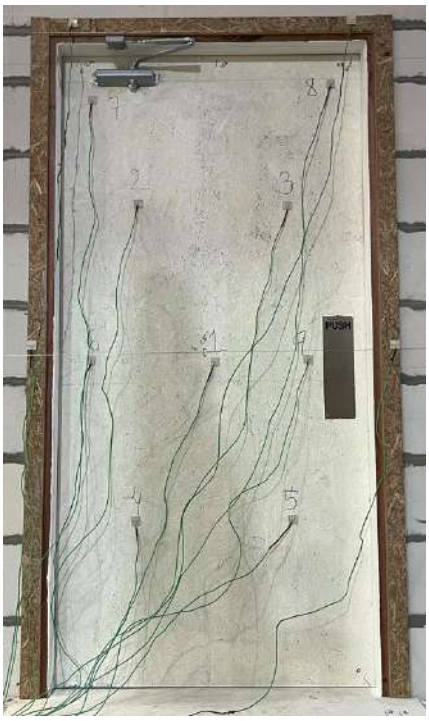
Pull Handle

Push Plate

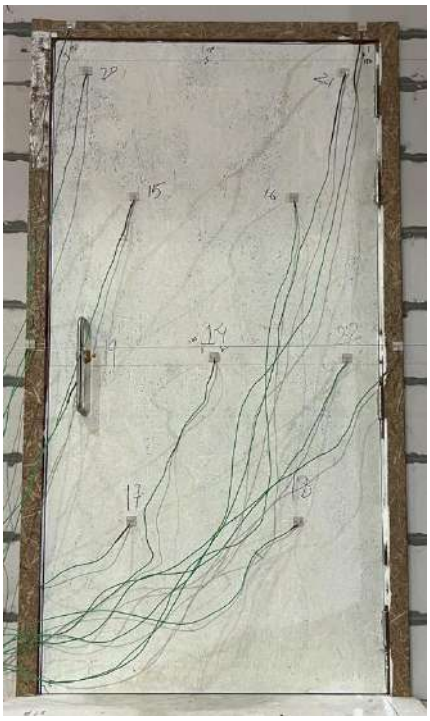
Foam used to fill the gap between supporting construction and frame

FCC-9000 Flame Core Coat at Door 5 (exposed side)

FCC-9000 Flame Core Coat at Door 6 (exposed side)



FCC-9000 Flame Core Coat at Door 5 (unexposed side)



FCC-9000 Flame Core Coat at Door 6 (unexposed side)

3.3 Installation

A 10mm gap between the door frame and the supporting structure was filled with Asmaco Gold Universal Multifoam (B1) Fire Retardant manufactured by Asmaco and supplied by Anchor Allied Factory LLC. Additionally, Ø8 x 100mm self-tapping screws with Klimax plastic anchors were installed approximately 500mm apart, in five (5) vertical locations on both jambs as shown in Figure 3.

Calcium silicate board of 12mm thickness constituted a simulation of the floor.

3.4 Description of the supporting construction

The doorset was installed in rigid standard supporting construction (according to EN 1363-1 standard). Supporting construction of 150mm thick autoclaved aerated concrete blocks with a nominal density of 500 ± 50kg/m^3 was filling the mounting frame of dimensions 4240 x 4240mm, 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 elements 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 information received from the Test Sponsor unless stated differently. When the method of construction precluded a detailed survey of the test specimen then laboratory relied on verification by the Certification body which has overseen (during the sampling process) the manufacture of the doorset which is to be the subject of the test";"

4 PRE-TEST PREPARATION

4.1 Conditioning

The doorset was installed by the test sponsor from 11 to 13 March 2025 in the previously conditioned supporting construction. The test element was conditioning for 1 day afterwards under following conditions:

- relative humidity: min RH (%): 38.7, max RH (%): 70.1
- temperature: min temp. (°C): 20.5, max temp. (°C): 70.1

4.2 Operability test

The test element 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 the door leaves.

4.3 Closing force measurements

The maximum closing force for each door leaf measured prior to the test, during the opening at a distance of 100mm was:

- Door 5: 87.86N
- Door 6: 90.37N

4.4 Gaps measurements

Gaps measurements made in ESL laboratory are shown in Table 7.

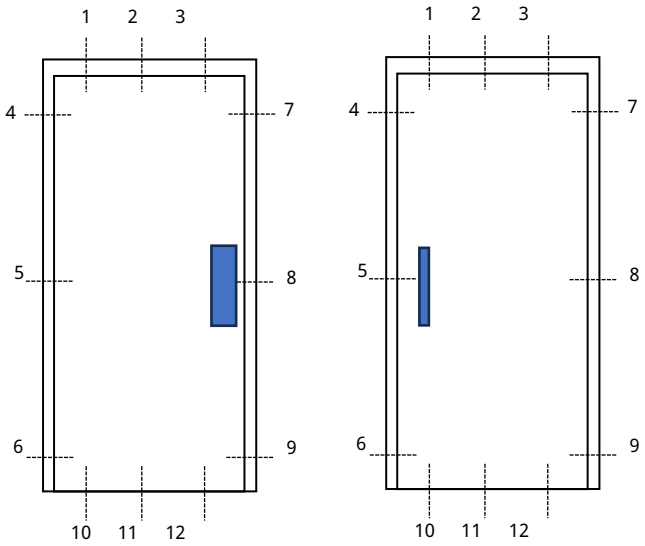


Figure 6. Gap measurement location

Table 7

No.	Door 5 Exposed side (mm)	Door 6 Unexposed side (mm)
1	2.93	1.9
2	2.62	1.92
3	3.66	2.07
4	3.79	2.74
5	4.09	3.4
6	3.2	4.12
7	4.83	2.59
8	3.56	2.81
9	3.9	1.82
10	4.17	4.75
11	3.99	5.08
12	4.6	5.07

Permitted gap sizes are shown in Table 8.

Table 8

GAPS			***Measurements, mm***		
			Average	***Maximum***	***Permitted gap size***
Door 5 & 6	Along the horizontal edges	At the top	2.5	3.7	2.9
		At the bottom	4.6	5.1	4.8
	Along the vertical edges	Hinge side	3.1	4.1	3.5
		Lock side	2.5	3.7	2.9

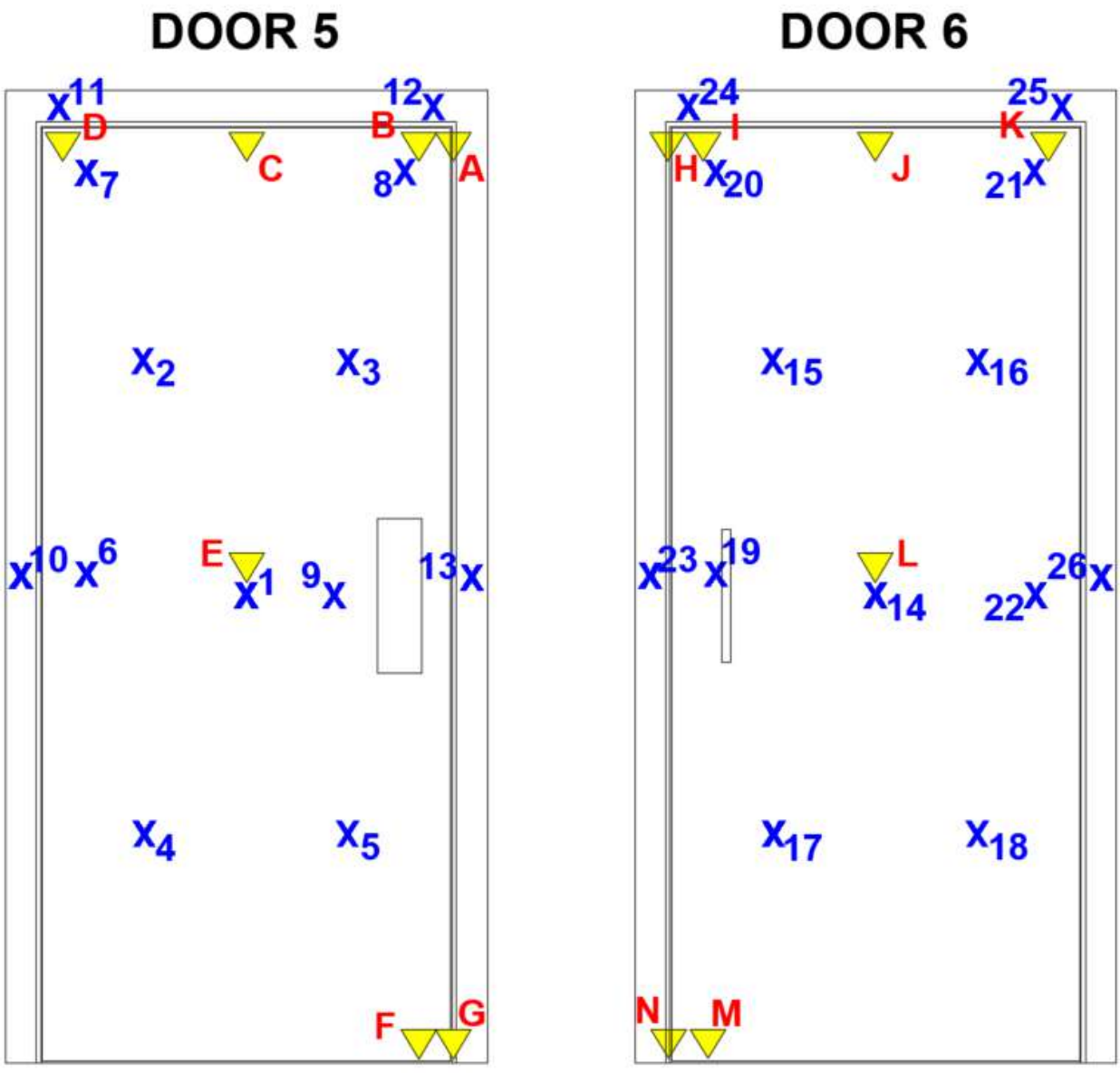
4.5 Final settings

Prior to the fire resistance test, the test specimens were subjected to a final closing involving opening the leaves to a distance of approximately 300 mm and returning it to the closed position.

The door set was considered as a latched door set as roller latch was installed. The door closer was connected.

4.6 Arrangement of temperature and defection measurement points

The positioning scheme of the temperature and deflection measuring points is shown in Figure 6.

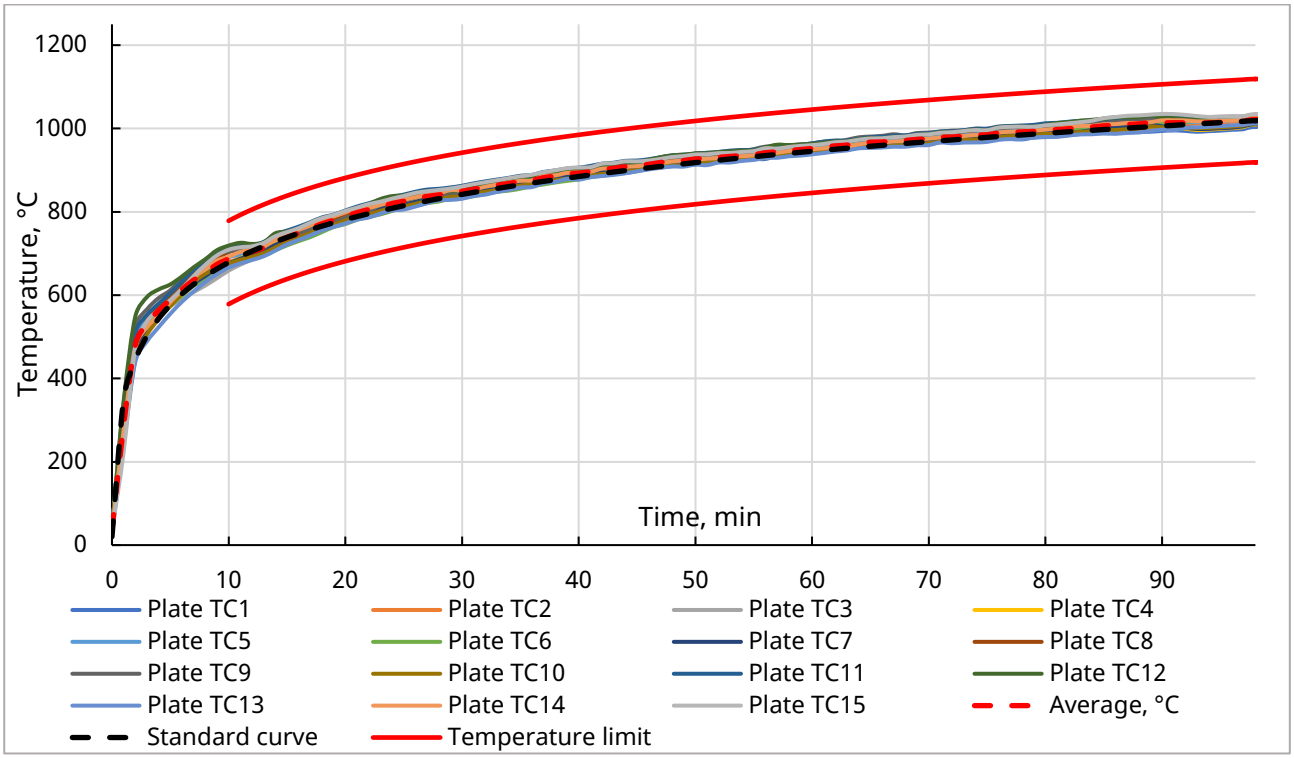


x – temperature measuring point (standard procedure)
▽ – deflection measuring point

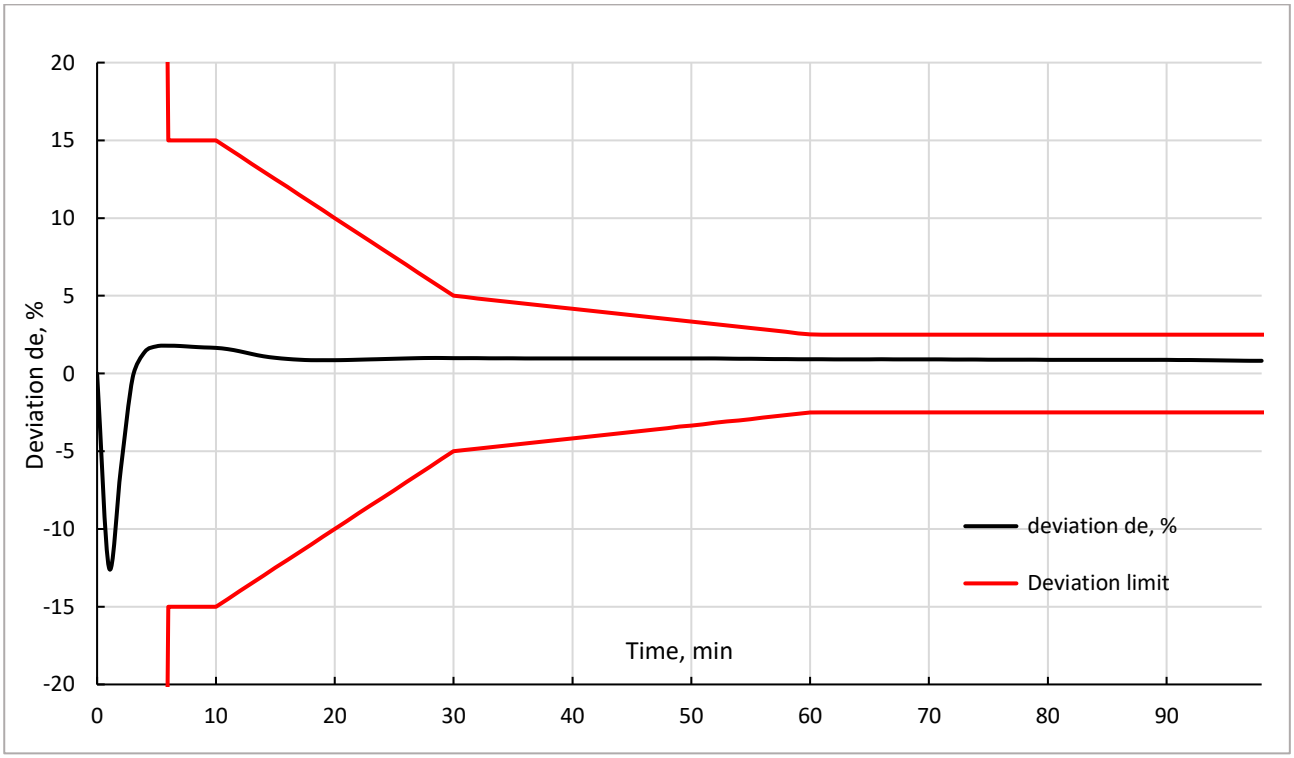
Figure 7. Scheme of the temperature and deflection measuring points on the unexposed side of the door

5 TEST RESULTS

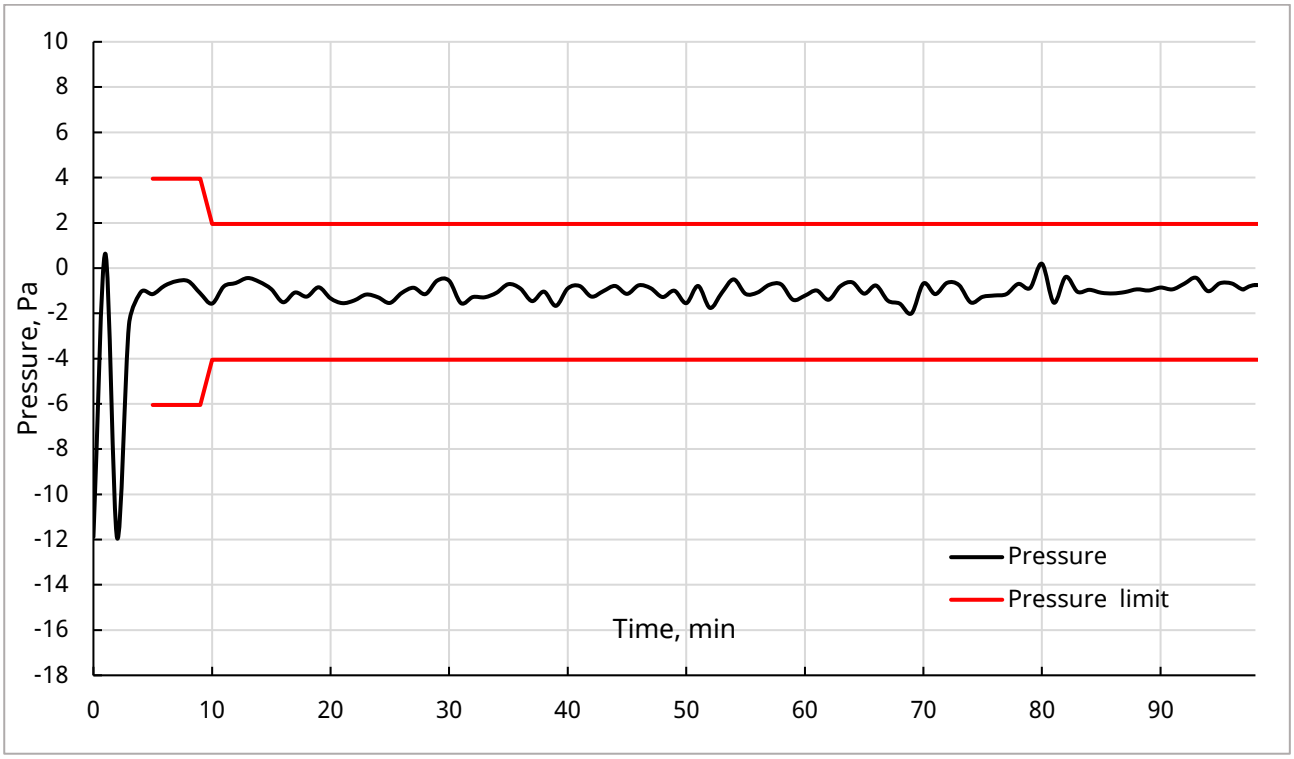
5.1 Furnace conditions



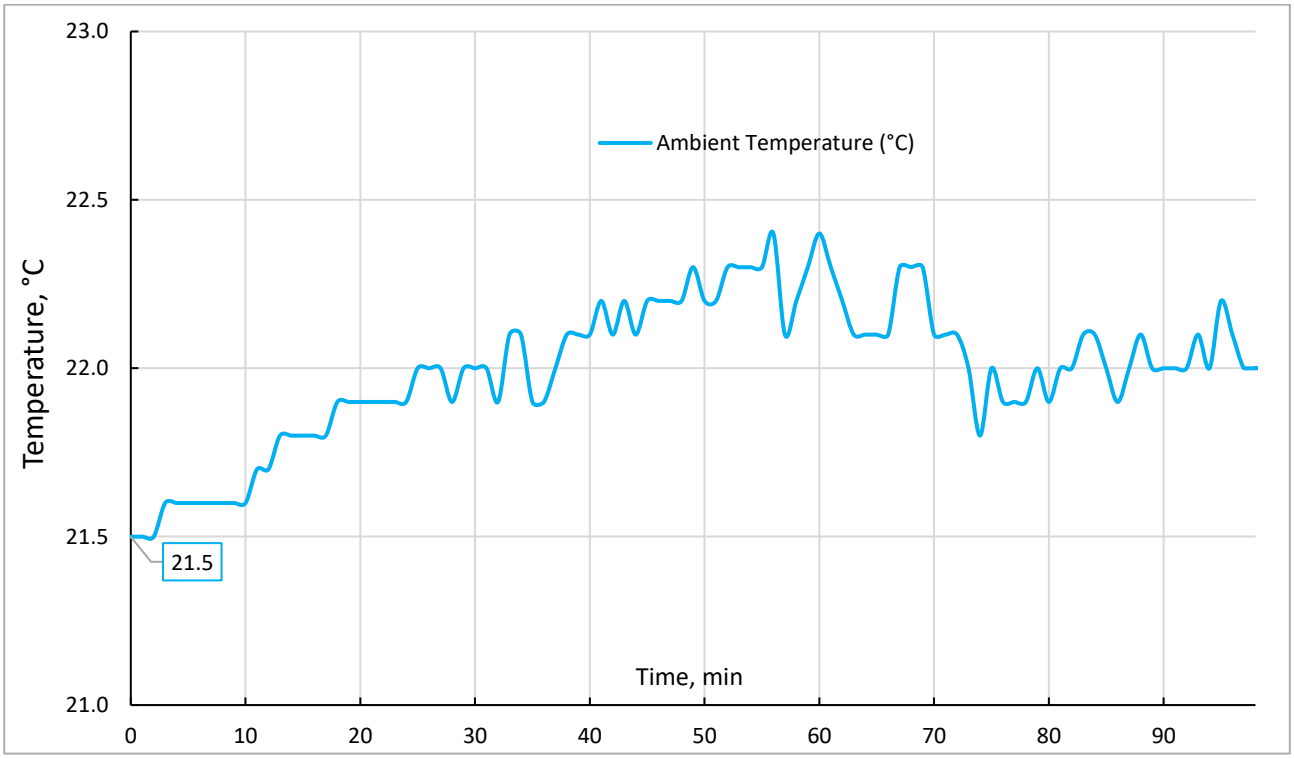
Graph 1. Temperature in the furnace during the test



Graph 2. Deviation d_e and tolerance limits of heating deviation 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 9

Elapsed time, min	OBSERVATION
0	Commencement of Test.
8	Smoke emanated from the perimeter edge of the leaf – on both doors.
27	Smoke emanated from the top left corner of the leaf – Door 6.
34	Smoke emanated from the left vertical of the leaf – Door 6.
41	Discoloration was observed on the left vertical edge of the leaf – Door 6.
43	Moisture dripped from the left vertical edge of the leaf– Door 6.
52	Smoke emanated from both vertical edges of the leaf – Door 6.
53	Moisture was observed on the top architrave – Door 6.
54	Moisture was observed on both the vertical edge and horizontal top of the leaf – Door 6.
61	Discoloration was observed on the top corners of the leaf – Door 5.
63	Discoloration and moisture were observed at all hinge locations – Door 6.
86	Glowing was observed on the top right corner of the leaf – Door 5.
88	Cotton pad application on the top right corner of the leaf – Door 5. No ignition occurred, but slight charring.
89	Cotton pad application on the top left corner of the leaf – Door 5. No ignition occurred, but slight charring.
92[15]	**Integrity failure. Ignition of cotton pad at the top right corner of the leaf– Door 5.**
92[25]	**Integrity failure. Sustained flaming at the top right corner of the leaf– Door 5.**
96	Glowing was observed at the mid-left vertical edge of the leaf – Door 6.
97[22]	**Integrity failure. Ignition of cotton pad along the mid-left vertical edge of the leaf – Door 6.**
98	End of the test, as per test sponsor request.

5.2.2 Deflection measurements

Deflection measurements are shown in Table 10.

Table 10

	Time, min.	***Deflection at the measuring point, mm***													
		Door 5							**Door 6**						
		A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**
„+" Deflection towards the furnace „-" Deflection outwards the furnace	**0**	130	218	217	218	215	285	200	130	129	130	132	130	205	203
	20	130	217	217	216	216	285	200	130	129	131	135	130	203	203
	40	130	220	220	219	214	285	200	131	128	129	135	126	203	203
	60	132	220	217	218	208	285	200	132	129	127	136	117	205	203
	80	133	225	215	223	198	287	200	133	131	118	140	110	207	206
	90	/1	/1	/1	/1	187	/1	/1	/1	/1	/1	/1	75	/1	/1

/1 – measurements omitted due to safety reasons.

5.2.3 Temperature rise on the unexposed side of the door

Temperature rise on the unexposed side of the Specimen in Table 11 & 12.

Table 11. Door 5

Elapsed time	*TEMPERATURE RISE AT POINTS, °C*													ΔT_{avg} *pts.: 1-5,*	ΔT_{max} *pts.: Std. 1-9*	$\Delta T_{\max\ frame}$ *pts.: 10-13*
	Standard procedure															
	Doorset									*Frame*						
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*°C*	*°C*	*°C*
0	0.3	-0.2	0.0	-0.1	0.1	-0.2	0.1	0.1	0.3	0.0	-0.2	-0.1	0.0	0.0	0.3	0.0
1	0.6	0.2	0.1	0.3	0.2	0.2	0.4	0.2	0.3	0.1	0.1	0.2	0.1	0.3	0.6	0.2
2	0.5	0.0	0.0	0.1	0.1	0.1	0.3	0.3	0.4	0.1	0.0	0.1	0.2	0.1	0.5	0.2
3	0.6	0.0	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.0	-0.1	0.1	0.1	0.2	0.6	0.1
4	0.5	0.0	0.0	0.2	0.1	0.0	0.2	0.2	0.4	0.1	-0.1	0.1	0.2	0.1	0.5	0.2
5	0.4	0.0	0.1	0.3	0.2	0.0	0.2	0.2	0.4	0.1	0.0	0.1	0.2	0.2	0.4	0.2
6	0.5	0.1	0.1	0.2	0.2	0.1	0.3	0.4	0.4	0.1	0.0	0.0	0.2	0.2	0.5	0.2
7	0.6	0.1	0.1	0.4	0.3	0.2	0.3	0.2	0.5	0.1	0.0	0.1	0.2	0.3	0.6	0.2
8	0.6	0.1	0.2	0.5	0.3	0.2	0.4	0.3	0.4	0.2	0.0	0.2	0.2	0.3	0.6	0.2
9	0.6	0.2	0.1	0.4	0.3	0.3	0.4	0.4	0.5	0.2	0.0	0.1	0.2	0.3	0.6	0.2
10	0.6	0.2	0.1	0.5	0.3	0.4	0.4	0.4	0.5	0.3	0.0	0.2	0.2	0.3	0.6	0.3
11	0.7	0.3	0.2	0.7	0.4	0.4	0.5	0.5	0.6	0.4	0.2	0.4	0.4	0.4	0.7	0.4

Elapsed time	*TEMPERATURE RISE AT POINTS, °C*													ΔT_{avg} *pts.: 1-5,*	ΔT_{max} *pts.: Std. 1-9*	$\Delta T_{max\ frame}$ *pts.: 10-13*
	Standard procedure															
	Doorset									*Frame*						
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*°C*	*°C*	*°C*
12	0.8	0.3	0.2	0.7	0.4	0.3	0.5	0.5	0.6	0.3	0.1	0.3	0.4	0.5	0.8	0.4
13	0.8	0.3	0.3	0.7	0.4	0.3	0.5	0.6	0.6	0.3	0.1	0.3	0.3	0.5	0.8	0.3
14	0.7	0.3	0.3	0.6	0.3	0.3	0.6	0.6	0.6	0.2	0.1	0.3	0.3	0.4	0.7	0.3
15	0.9	0.3	0.3	0.7	0.4	0.4	0.6	0.6	0.7	0.3	0.1	0.3	0.3	0.5	0.9	0.3
16	0.8	0.3	0.4	0.6	0.5	0.4	0.7	0.6	0.7	0.3	0.1	0.2	0.3	0.5	0.8	0.3
17	0.9	0.4	0.5	0.6	0.6	0.5	0.7	0.6	0.8	0.3	0.2	0.3	0.4	0.6	0.9	0.4
18	0.8	0.4	0.4	0.6	0.5	0.4	0.7	0.7	0.8	0.3	0.1	0.3	0.4	0.5	0.8	0.4
19	0.9	0.5	0.5	0.6	0.6	0.4	0.8	0.8	0.8	0.3	0.1	0.3	0.4	0.6	0.9	0.4
20	0.8	0.5	0.6	0.7	0.7	0.5	0.8	0.9	0.9	0.3	0.2	0.5	0.4	0.6	0.9	0.5
21	0.9	0.5	0.6	0.8	0.7	0.6	0.9	1.1	1.0	0.4	0.4	0.6	0.6	0.7	1.1	0.6
22	1.1	0.6	0.8	0.9	0.7	0.7	1.1	1.1	1.1	0.4	0.2	0.4	0.4	0.8	1.1	0.4
23	1.2	0.8	0.9	1.0	0.8	0.7	1.2	1.3	1.0	0.3	0.2	0.6	0.4	0.9	1.3	0.6
24	1.3	0.9	1.0	1.1	0.9	0.9	1.5	1.6	1.2	0.3	0.4	0.6	0.5	1.0	1.6	0.6
25	1.3	0.9	1.1	1.2	0.9	0.9	1.7	1.7	1.2	0.2	0.3	0.6	0.4	1.1	1.7	0.6
26	1.4	1.2	1.3	1.4	1.1	1.0	1.9	1.9	1.3	0.4	0.4	0.6	0.4	1.3	1.9	0.6

Elapsed time	*TEMPERATURE RISE AT POINTS, °C*													ΔT_{avg} *pts.: 1-5,*	ΔT_{max} *pts.: Std. 1-9*	$\Delta T_{max\ frame}$ *pts.: 10-13*
	Standard procedure															
	Doorset									*Frame*						
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*°C*	*°C*	*°C*
27	1.6	1.3	1.5	1.6	1.1	1.2	2.2	2.1	1.5	0.3	0.4	0.7	0.5	1.4	2.2	0.7
28	1.7	1.6	1.6	2.0	1.3	1.5	2.6	2.4	1.6	0.4	0.5	0.8	0.5	1.6	2.6	0.8
29	1.8	1.8	1.9	2.3	1.5	1.7	3.0	2.8	1.8	0.3	0.5	0.8	0.5	1.9	3.0	0.8
30	2.1	2.1	2.1	2.7	1.6	2.0	3.4	3.0	1.9	0.3	0.5	0.7	0.5	2.1	3.4	0.7
31	2.3	2.5	2.4	3.1	1.9	2.3	4.0	3.4	2.2	0.3	0.6	0.9	0.5	2.4	4.0	0.9
32	2.5	2.8	2.7	3.7	2.0	2.7	4.6	3.8	2.5	0.4	0.6	0.9	0.5	2.7	4.6	0.9
33	2.8	3.1	3.0	4.4	2.3	3.2	5.3	4.3	2.7	0.4	0.8	1.1	0.5	3.1	5.3	1.1
34	3.1	3.6	3.4	4.8	2.5	3.7	5.9	4.7	3.0	0.5	1.1	1.3	0.6	3.5	5.9	1.3
35	3.4	4.1	3.6	5.6	2.8	4.2	6.6	5.1	3.2	0.5	1.3	1.3	0.7	3.9	6.6	1.3
36	3.7	4.4	4.0	6.3	3.1	4.7	7.2	5.6	3.6	0.6	1.6	1.7	0.6	4.3	7.2	1.7
37	4.0	4.9	4.3	7.0	3.5	5.3	8.2	6.1	3.9	0.5	1.6	1.7	0.6	4.7	8.2	1.7
38	4.2	5.4	4.7	7.7	3.7	5.8	8.9	6.6	4.2	0.6	1.9	1.9	0.7	5.1	8.9	1.9
39	4.6	5.7	5.0	8.2	3.9	6.2	9.7	7.2	4.5	0.5	2.0	1.7	0.6	5.5	9.7	2.0
40	4.9	6.3	5.4	9.0	4.3	6.8	10.6	7.7	4.8	0.6	2.3	1.7	0.7	6.0	10.6	2.3
41	5.3	6.8	5.8	9.6	4.7	7.2	11.6	8.2	5.2	0.6	2.5	1.8	0.7	6.4	11.6	2.5

Elapsed time	*TEMPERATURE RISE AT POINTS, °C*													ΔT_{avg} *pts.: 1-5,*	ΔT_{max} *pts.: Std. 1-9*	$\Delta T_{\max\ frame}$ *pts.: 10-13*
	Standard procedure															
	Doorset									*Frame*						
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*°C*	*°C*	*°C*
42	5.8	7.2	6.2	10.4	5.0	7.7	12.3	8.7	5.6	0.6	2.6	1.9	0.8	6.9	12.3	2.6
43	6.1	7.7	6.6	11.3	5.3	8.3	13.3	9.2	5.9	0.6	2.4	2.2	0.8	7.4	13.3	2.4
44	6.4	8.2	6.8	12.3	5.7	9.3	14.3	9.8	6.2	0.8	2.4	2.7	0.9	7.9	14.3	2.7
45	6.6	8.6	7.1	13.0	5.9	10.1	15.3	10.2	6.4	0.8	2.5	3.3	0.9	8.2	15.3	3.3
46	7.1	9.1	7.6	13.8	6.2	10.8	16.6	10.8	6.9	0.9	2.8	3.8	0.9	8.8	16.6	3.8
47	7.5	9.7	8.0	14.8	6.7	11.5	17.7	11.1	7.4	0.9	3.0	4.2	1.0	9.3	17.7	4.2
48	7.8	10.2	8.5	15.8	7.3	12.0	19.0	11.8	7.9	0.9	3.1	4.0	1.1	9.9	19.0	4.0
49	8.3	10.8	8.9	16.8	7.5	12.7	20.3	12.3	8.2	0.8	3.0	4.3	1.0	10.5	20.3	4.3
50	8.6	11.3	9.3	17.4	7.9	13.4	21.4	13.1	8.7	0.8	3.2	4.1	0.9	10.9	21.4	4.1
51	9.1	11.9	9.8	18.5	8.3	14.2	22.6	13.5	9.1	0.9	3.3	4.9	1.0	11.5	22.6	4.9
52	9.5	12.6	10.2	19.5	8.7	14.9	23.8	14.0	9.6	0.9	3.4	5.4	1.1	12.1	23.8	5.4
53	9.9	13.1	10.7	20.5	9.0	15.9	25.2	14.5	10.0	1.0	3.6	6.2	1.1	12.7	25.2	6.2
54	10.3	13.8	11.1	21.5	9.5	16.7	26.6	15.1	10.3	1.0	3.9	6.8	1.1	13.3	26.6	6.8
55	10.8	14.4	11.5	22.7	10.0	17.7	28.1	15.8	10.9	1.0	4.1	7.7	1.3	13.9	28.1	7.7
56	11.2	15.0	11.9	23.7	10.4	19.0	29.5	16.2	11.3	1.4	4.1	7.9	1.4	14.5	29.5	7.9

Elapsed time	*TEMPERATURE RISE AT POINTS, °C*													ΔT_{avg} *pts.: 1-5,*	ΔT_{max} *pts.: Std. 1-9*	$\Delta T_{\max\ frame}$ *pts.: 10-13*
	Standard procedure															
	Doorset									*Frame*						
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*°C*	*°C*	*°C*
57	11.5	15.5	12.2	24.7	10.6	20.2	31.2	16.6	11.4	1.5	4.4	8.8	1.5	14.9	31.2	8.8
58	11.9	16.2	12.4	25.6	10.9	21.1	32.8	17.3	11.7	1.6	4.6	9.7	1.7	15.4	32.8	9.7
59	12.2	16.9	12.9	27.0	11.3	22.2	34.6	17.9	12.0	1.6	4.8	9.9	1.8	16.1	34.6	9.9
60	12.6	17.6	13.2	28.2	11.7	23.5	36.7	18.6	12.3	1.8	5.1	10.0	1.9	16.7	36.7	10.0
61	13.1	18.3	13.5	29.2	12.0	25.0	38.3	19.1	12.7	2.0	5.5	11.5	2.2	17.2	38.3	11.5
62	13.6	19.2	14.1	30.8	12.4	26.4	40.5	19.9	13.1	2.2	5.8	11.1	2.4	18.0	40.5	11.1
63	14.0	20.1	14.4	32.3	12.9	27.7	42.5	20.7	13.4	2.4	6.2	9.9	2.6	18.8	42.5	9.9
64	14.4	21.1	14.9	33.5	13.1	29.1	44.7	21.4	13.8	2.5	6.5	9.7	2.9	19.4	44.7	9.7
65	14.9	22.0	15.4	35.0	13.6	30.4	46.8	22.4	14.0	2.5	6.7	10.2	3.0	20.2	46.8	10.2
66	15.2	23.3	15.9	36.4	14.0	32.0	48.8	23.7	14.5	2.6	6.8	11.0	3.2	21.0	48.8	11.0
67	15.7	24.4	16.5	38.1	14.3	33.4	50.9	24.8	14.9	2.8	7.0	10.0	3.5	21.8	50.9	10.0
68	16.1	25.8	17.0	39.7	14.7	35.0	53.3	26.2	15.3	2.9	7.4	10.7	3.8	22.7	53.3	10.7
69	16.5	27.2	17.7	41.3	15.1	36.8	55.7	27.8	15.6	3.1	7.6	11.3	4.0	23.6	55.7	11.3
70	17.0	28.8	18.5	42.9	15.5	38.4	58.3	30.0	15.9	3.3	7.8	11.6	4.5	24.5	58.3	11.6

Elapsed time	*TEMPERATURE RISE AT POINTS, °C*													ΔT_{avg} *pts.: 1-5,*	ΔT_{max} *pts.: Std. 1-9*	$\Delta T_{\max_{frame}}$ *pts.: 10-13*
	Standard procedure															
	Doorset									*Frame*						
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*°C*	*°C*	*°C*
71	17.5	30.5	19.5	44.6	16.0	40.1	60.7	31.9	16.5	3.4	8.3	11.3	4.7	25.6	60.7	11.3
72	17.8	32.3	20.6	45.7	16.3	41.8	63.1	34.1	16.8	3.6	8.4	11.5	5.0	26.5	63.1	11.5
73	18.3	33.9	22.0	46.9	16.7	43.5	64.6	36.2	17.2	3.8	8.7	11.6	5.4	27.6	64.6	11.6
74	18.7	35.8	23.7	47.6	17.2	45.2	65.9	38.3	17.6	4.0	9.0	11.6	5.7	28.6	65.9	11.6
75	19.0	37.8	26.2	48.4	17.6	46.8	66.9	40.6	18.1	4.1	9.3	11.9	5.9	29.8	66.9	11.9
76	19.5	40.0	29.4	49.3	18.3	48.2	67.4	42.4	18.7	4.4	9.5	11.8	6.3	31.3	67.4	11.8
77	20.1	42.4	33.5	49.6	18.7	49.6	67.9	44.7	19.1	4.5	10.0	12.2	6.7	32.9	67.9	12.2
78	20.3	44.6	38.6	50.1	19.3	50.6	67.7	46.5	19.7	4.8	10.6	12.2	7.0	34.6	67.7	12.2
79	21.1	47.2	44.2	50.6	19.8	51.7	67.5	48.9	20.2	5.0	10.7	13.2	7.5	36.6	67.5	13.2
80	21.6	49.7	49.2	50.7	20.5	52.7	67.5	50.4	20.9	5.4	11.4	13.5	7.9	38.4	67.5	13.5
81	22.1	51.8	52.6	50.7	21.1	53.3	66.7	52.2	21.7	5.7	11.8	14.1	8.2	39.7	66.7	14.1
82	22.9	53.8	54.6	51.2	22.2	53.9	66.4	54.1	22.6	5.9	12.3	14.0	8.9	41.0	66.4	14.0
83	23.9	55.5	56.0	51.3	23.1	54.4	66.2	56.1	23.8	6.1	12.8	14.6	9.4	42.0	66.2	14.6
84	24.9	56.6	56.5	51.2	24.1	54.8	66.2	57.8	24.9	6.4	13.3	15.5	9.8	42.7	66.2	15.5

Elapsed time	*TEMPERATURE RISE AT POINTS, °C*													ΔT_{avg} *pts.: 1-5,*	ΔT_{max} *pts.: Std. 1-9*	$\Delta T_{\max\ frame}$ *pts.: 10-13*
	Standard procedure															
	Doorset									*Frame*						
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*°C*	*°C*	*°C*
85	26.0	57.7	56.9	51.4	25.4	55.1	66.2	58.9	26.3	6.5	14.1	15.6	10.3	43.5	66.2	15.6
86	27.1	58.7	57.6	51.4	26.7	55.2	65.9	60.1	28.0	6.9	15.0	16.5	10.6	44.3	65.9	16.5
87	28.7	59.4	57.7	51.3	28.3	55.4	66.1	61.2	29.8	7.3	16.4	17.1	11.1	45.1	66.1	17.1
88	30.4	59.7	57.9	50.9	29.6	55.6	66.0	62.0	32.2	7.6	18.4	17.5	11.5	45.7	66.0	18.4
89	32.7	59.9	58.7	50.9	31.8	55.6	66.2	63.2	35.3	7.7	21.1	21.0	11.9	46.8	66.2	21.1
90	35.2	60.0	58.8	50.7	33.2	55.9	66.9	63.7	38.1	8.1	31.7	20.4	12.3	47.6	66.9	31.7
91	38.1	60.0	58.9	50.9	35.1	55.9	67.9	64.9	41.6	8.4	35.7	23.3	12.8	48.6	67.9	35.7
92	41.5	60.4	59.6	50.9	37.5	55.8	68.6	66.9	45.7	8.6	43.3	31.4	13.2	50.0	68.6	43.3
93	44.9	60.4	59.5	51.0	39.3	55.9	69.9	74.5	48.5	9.0	65.4	34.4	13.7	51.0	74.5	65.4
94	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/
95	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/
96	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/
97	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/
98	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/	*/

*Note: */ - Thermocouples were disconnected at 94 minutes due to integrity failure.*

Table 12. Door 6

Elapsed time	*TEMPERATURE RISE AT POINTS, °C*													ΔT_{avg} *pts.: 14-18,*	ΔT_{max} *pts.: Std. 14-22*	$\Delta T_{max\ frame}$ *pts.: 23-26*
	Standard procedure															
	Doorset									*Frame*						
	14	*15*	*16*	*17*	*18*	*19*	*20*	*21*	*22*	*23*	*24*	*25*	*26*	*°C*	*°C*	*°C*
0	-0.1	0.1	0.1	0.4	-0.1	-0.7	0.2	0.1	-0.1	0.0	-0.1	0.3	0.0	0.1	0.4	0.3
1	0.2	0.2	0.3	0.4	1.0	-0.7	0.2	0.4	0.5	0.2	0.1	0.6	0.6	0.4	1.0	0.6
2	0.1	0.1	0.2	0.5	0.3	-0.7	0.1	0.2	0.1	0.1	-0.1	0.5	0.3	0.2	0.5	0.5
3	0.1	0.3	0.4	0.4	0.2	-0.6	0.1	0.2	0.0	0.2	0.0	0.5	0.2	0.3	0.4	0.5
4	0.1	0.2	0.3	0.4	0.1	-0.6	0.2	0.3	0.1	0.1	0.0	0.4	0.2	0.2	0.4	0.4
5	0.1	0.2	0.3	0.4	0.3	-0.7	0.2	0.3	0.1	0.2	0.1	0.5	0.2	0.3	0.4	0.5
6	0.0	0.2	0.3	0.5	0.3	-0.6	0.2	0.2	0.1	0.1	0.0	0.5	0.2	0.3	0.5	0.5
7	0.1	0.3	0.3	0.5	0.3	-0.6	0.3	0.2	0.1	0.1	0.2	0.4	0.2	0.3	0.5	0.4
8	0.2	0.4	0.5	0.4	0.4	-0.6	0.4	0.3	0.2	0.1	0.1	0.5	0.3	0.4	0.5	0.5
9	0.1	0.4	0.4	0.6	0.4	-0.5	0.4	0.3	0.2	0.1	0.0	0.5	0.2	0.4	0.6	0.5
10	0.1	0.4	0.5	0.7	0.6	-0.5	0.4	0.3	0.4	0.2	0.2	0.6	0.4	0.5	0.7	0.6
11	0.3	0.4	0.4	0.6	0.7	-0.4	0.3	0.4	0.4	0.2	0.1	0.6	0.4	0.5	0.7	0.6
12	0.2	0.4	0.5	0.6	0.7	-0.4	0.4	0.4	0.4	0.2	0.2	0.6	0.5	0.5	0.7	0.6

Elapsed time	TEMPERATURE RISE AT POINTS, °C													ΔT_{avg} pts.: 14-18,	ΔT_{max} pts.: Std. 14-22	$\Delta T_{max\ frame}$ pts.: 23-26
	Standard procedure															
	Doorset									Frame						
	14	15	16	17	18	19	20	21	22	23	24	25	26	°C	°C	°C
13	0.2	0.5	0.6	0.7	0.6	-0.4	0.5	0.4	0.4	0.2	0.3	0.6	0.4	0.5	0.7	0.6
14	0.3	0.5	0.5	0.7	0.5	-0.4	0.4	0.4	0.4	0.2	0.3	0.6	0.4	0.5	0.7	0.6
15	0.3	0.5	0.6	0.7	0.5	-0.3	0.6	0.5	0.4	0.3	0.3	0.6	0.4	0.5	0.7	0.6
16	0.2	0.7	0.6	0.8	0.5	-0.3	0.5	0.5	0.4	0.3	0.4	0.6	0.3	0.6	0.8	0.6
17	0.4	0.7	0.7	0.9	0.6	-0.2	0.6	0.5	0.4	0.4	0.3	0.6	0.3	0.7	0.9	0.6
18	0.4	0.7	0.8	0.9	0.5	-0.2	0.6	0.5	0.4	0.3	0.3	0.6	0.3	0.7	0.9	0.6
19	0.4	0.7	0.7	0.9	0.7	-0.2	0.7	0.6	0.5	0.3	0.2	0.7	0.4	0.7	0.9	0.7
20	0.5	0.9	0.8	0.9	0.6	-0.2	0.7	0.7	0.4	0.3	0.3	0.6	0.4	0.7	0.9	0.6
21	0.6	0.9	0.8	1.1	0.7	0.0	0.7	0.8	0.5	0.4	0.4	0.7	0.3	0.8	1.1	0.7
22	0.6	1.1	1.0	1.1	0.8	-0.1	0.9	0.9	0.7	0.4	0.5	0.7	0.4	0.9	1.1	0.7
23	0.7	1.2	1.2	1.2	0.8	0.0	1.0	1.1	0.9	0.4	0.6	0.7	0.4	1.0	1.2	0.7
24	0.8	1.3	1.1	1.2	1.0	0.0	1.0	1.2	0.9	0.4	0.6	0.8	0.5	1.1	1.3	0.8
25	0.9	1.4	1.3	1.3	1.1	0.1	1.2	1.4	1.1	0.5	0.8	0.8	0.4	1.2	1.4	0.8
26	1.1	1.6	1.5	1.4	1.2	0.3	1.4	1.7	1.4	0.5	1.0	0.9	0.5	1.4	1.7	1.0

Elapsed time	TEMPERATURE RISE AT POINTS, °C													ΔT_{avg} pts.: 14-18,	ΔT_{max} pts.: Std. 14-22	$\Delta T_{max\ frame}$ pts.: 23-26
	Standard procedure															
	Doorset									Frame						
	14	15	16	17	18	19	20	21	22	23	24	25	26	°C	°C	°C
27	1.3	1.8	1.7	1.5	1.4	0.4	1.6	1.9	1.6	0.3	1.1	0.9	0.6	1.5	1.9	1.1
28	1.4	2.0	1.7	1.7	1.6	0.4	1.8	2.1	1.9	0.5	1.5	0.9	0.7	1.7	2.1	1.5
29	1.5	2.5	2.2	1.9	1.9	0.6	2.1	2.4	2.2	0.4	2.2	1.0	0.8	2.0	2.5	2.2
30	1.8	2.7	2.4	2.0	2.3	0.8	2.3	2.8	2.5	0.4	3.1	1.1	0.9	2.2	2.8	3.1
31	2.3	3.1	2.9	2.4	2.6	1.0	2.8	3.1	3.0	0.6	5.5	1.3	0.9	2.7	3.1	5.5
32	2.4	3.4	3.1	2.5	3.0	1.2	3.3	3.6	3.4	0.5	7.6	1.5	0.9	2.9	3.6	7.6
33	2.8	4.0	3.5	2.8	3.4	1.6	3.7	4.0	3.9	0.7	7.6	2.2	0.9	3.3	4.0	7.6
34	3.1	4.4	4.0	3.3	3.9	2.0	4.1	4.6	4.5	0.8	7.6	3.2	0.8	3.7	4.6	7.6
35	3.5	4.8	4.3	3.6	4.5	2.1	4.6	4.9	4.9	1.0	7.8	3.8	0.8	4.1	4.9	7.8
36	4.0	5.4	5.0	3.9	5.0	2.4	5.5	5.6	5.4	1.0	8.5	4.4	0.8	4.7	5.6	8.5
37	4.3	5.8	5.4	4.1	5.4	2.8	5.8	6.0	6.1	2.0	8.7	5.3	0.9	5.0	6.1	8.7
38	4.7	6.3	5.9	4.5	5.9	3.4	6.4	6.5	6.6	3.5	8.7	5.5	1.0	5.5	6.6	8.7
39	4.9	6.8	6.3	4.8	6.4	4.1	7.4	6.8	7.2	2.9	10.1	4.4	2.1	5.8	7.4	10.1
40	5.3	7.4	6.8	5.2	6.8	5.4	8.3	7.2	7.9	1.8	11.3	4.7	2.2	6.3	8.3	11.3

Elapsed time	TEMPERATURE RISE AT POINTS, °C													ΔT_{avg} pts.: 14-18,	ΔT_{max} pts.: Std. 14-22	$\Delta T_{max\ frame}$ pts.: 23-26
	Standard procedure															
	Doorset									Frame						
	14	15	16	17	18	19	20	21	22	23	24	25	26	°C	°C	°C
41	5.7	8.1	7.4	5.4	7.4	6.2	8.8	7.7	8.4	1.9	11.7	4.5	2.6	6.8	8.8	11.7
42	6.1	8.8	8.0	6.0	7.9	6.7	9.7	8.2	9.2	1.8	11.4	5.3	2.8	7.4	9.7	11.4
43	6.5	9.0	8.6	6.3	8.5	6.4	9.6	8.9	9.8	5.1	11.2	6.5	2.5	7.8	9.8	11.2
44	7.0	9.5	9.2	6.8	9.3	6.2	9.5	9.4	10.4	11.3	9.4	6.8	2.1	8.4	10.4	11.3
45	7.3	9.9	9.7	7.3	9.8	6.2	9.8	10.1	11.0	13.6	8.3	8.3	1.8	8.8	11.0	13.6
46	7.8	10.5	10.4	7.6	10.4	6.5	10.3	10.6	11.6	13.8	8.4	7.8	1.8	9.3	11.6	13.8
47	8.2	10.9	10.9	8.2	11.2	7.1	11.1	10.9	12.3	11.3	9.1	8.1	3.6	9.9	12.3	11.3
48	8.6	11.6	11.4	8.2	11.8	7.5	12.7	11.4	13.2	7.4	10.6	7.8	4.0	10.3	13.2	10.6
49	8.9	11.9	12.1	8.6	12.6	7.9	13.4	11.8	14.1	6.3	11.3	7.1	5.6	10.8	14.1	11.3
50	9.3	12.5	12.6	9.0	13.2	8.5	14.3	12.4	15.0	5.3	11.2	7.2	7.4	11.3	15.0	11.2
51	9.8	13.0	13.3	9.4	13.9	9.0	15.1	13.1	15.9	4.9	11.8	7.0	7.4	11.9	15.9	11.8
52	10.2	13.6	14.0	9.8	14.9	9.3	16.0	13.7	16.8	4.7	12.2	7.6	7.2	12.5	16.8	12.2
53	10.6	14.1	14.4	10.3	15.7	9.8	16.4	14.1	17.7	4.5	12.2	7.1	8.0	13.0	17.7	12.2
54	11.0	14.7	15.2	10.7	16.7	10.3	16.8	14.8	18.7	4.3	11.8	7.5	9.4	13.7	18.7	11.8

Elapsed time	TEMPERATURE RISE AT POINTS, °C													ΔT_{avg} pts.: 14-18,	ΔT_{max} pts.: Std. 14-22	$\Delta T_{max\ frame}$ pts.: 23-26
	Standard procedure															
	Doorset									Frame						
	14	15	16	17	18	19	20	21	22	23	24	25	26	°C	°C	°C
55	11.6	15.4	16.1	11.1	17.8	10.9	16.9	15.8	19.9	4.4	11.4	9.4	9.1	14.4	19.9	11.4
56	11.9	15.7	16.9	11.7	19.2	11.3	16.6	16.7	21.1	6.3	10.2	12.1	7.0	15.1	21.1	12.1
57	12.5	16.5	17.8	12.2	20.3	11.7	16.8	17.6	22.1	7.2	9.2	13.2	5.6	15.9	22.1	13.2
58	12.9	17.1	18.5	12.6	21.5	12.4	17.5	18.3	23.4	8.1	8.9	15.1	4.9	16.5	23.4	15.1
59	13.4	17.8	19.3	13.1	23.0	12.9	17.9	19.0	24.6	9.5	8.4	15.5	4.5	17.4	24.6	15.5
60	13.9	18.6	20.2	13.5	24.8	13.8	18.8	19.6	26.5	10.2	8.2	15.4	4.9	18.2	26.5	15.4
61	14.3	19.6	21.0	14.0	26.6	14.6	19.5	20.3	28.1	9.2	8.1	14.4	4.6	19.1	28.1	14.4
62	15.0	20.7	22.0	14.7	28.8	15.7	20.3	21.2	30.1	8.9	8.1	15.8	4.6	20.3	30.1	15.8
63	15.6	21.8	23.1	15.3	31.2	17.1	21.1	22.1	32.4	9.3	8.1	16.5	4.9	21.4	32.4	16.5
64	15.9	23.4	24.2	15.9	33.4	18.9	21.9	23.2	35.0	9.2	8.1	16.1	5.0	22.6	35.0	16.1
65	16.3	25.2	25.4	16.0	35.7	21.7	22.7	24.8	37.7	9.1	8.1	16.1	5.4	23.7	37.7	16.1
66	16.8	27.2	26.7	16.5	38.4	25.8	23.6	26.6	40.4	9.4	8.3	16.8	5.2	25.1	40.4	16.8
67	17.4	29.7	28.0	17.1	41.3	30.9	24.8	28.7	43.4	9.9	8.5	16.9	5.4	26.7	43.4	16.9
68	18.0	32.7	29.7	17.6	44.2	36.1	26.0	31.2	46.4	10.6	8.7	16.7	5.4	28.4	46.4	16.7

Elapsed time	TEMPERATURE RISE AT POINTS, °C													ΔT_{avg} pts.: 14-18,	ΔT_{max} pts.: Std. 14-22	$\Delta T_{max\ frame}$ pts.: 23-26
	Standard procedure															
	Doorset									Frame						
	14	15	16	17	18	19	20	21	22	23	24	25	26	°C	°C	°C
69	18.4	35.7	31.6	18.1	47.1	40.6	27.4	33.8	49.5	11.3	9.0	16.9	5.8	30.2	49.5	16.9
70	19.1	39.3	33.6	18.4	49.9	44.8	28.8	37.3	52.6	11.8	9.4	18.2	5.8	32.1	52.6	18.2
71	19.5	43.2	35.7	19.2	52.6	48.5	30.5	41.4	55.7	12.7	9.5	18.0	6.2	34.0	55.7	18.0
72	20.2	47.7	38.3	19.5	54.7	51.7	32.4	45.4	58.6	13.4	10.0	17.8	6.4	36.1	58.6	17.8
73	21.1	52.4	40.9	20.1	56.3	54.4	34.5	49.5	61.1	14.3	10.5	18.1	6.6	38.2	61.1	18.1
74	21.6	57.3	43.7	20.4	57.7	57.0	36.9	53.1	63.1	15.5	11.0	18.7	7.3	40.2	63.1	18.7
75	22.7	60.8	46.8	21.1	59.0	59.1	39.6	56.4	64.4	16.6	12.0	18.7	7.4	42.1	64.4	18.7
76	23.9	62.5	49.8	21.6	59.7	61.0	42.3	59.3	65.4	17.9	12.8	19.0	7.9	43.5	65.4	19.0
77	25.2	63.1	53.0	22.1	60.1	61.9	45.3	61.9	65.9	19.0	14.5	19.8	8.2	44.7	65.9	19.8
78	26.6	63.3	55.6	22.8	60.8	62.9	47.9	63.1	66.5	20.3	15.0	19.8	8.8	45.8	66.5	20.3
79	28.6	63.3	58.1	23.6	61.1	63.2	51.3	64.7	66.2	21.9	15.8	19.8	9.0	47.0	66.2	21.9
80	31.1	63.4	59.9	24.4	61.6	63.8	54.8	65.1	66.6	23.6	16.9	20.2	9.4	48.1	66.6	23.6
81	34.3	63.8	61.7	24.7	61.2	64.1	58.3	66.0	65.5	24.6	19.1	20.7	9.7	49.2	66.0	24.6
82	39.1	64.6	62.5	26.1	61.6	64.5	60.2	65.6	65.6	26.3	19.3	20.7	10.5	50.8	65.6	26.3

Elapsed time	TEMPERATURE RISE AT POINTS, °C													ΔT_{avg} pts.: 14-18,	ΔT_{max} pts.: Std. 14-22	$\Delta T_{max\ frame}$ pts.: 23-26
	Standard procedure															
	Doorset									Frame						
	14	15	16	17	18	19	20	21	22	23	24	25	26	°C	°C	°C
83	44.0	65.2	63.5	27.1	61.8	65.0	61.5	64.8	65.4	27.1	20.6	21.0	10.9	52.3	65.4	27.1
84	49.6	65.6	63.3	27.8	61.8	65.2	62.3	64.3	64.9	28.2	21.3	21.1	11.3	53.6	65.6	28.2
85	54.5	65.8	63.6	28.8	61.9	66.0	62.6	62.8	65.0	29.1	21.2	20.8	11.8	54.9	66.0	29.1
86	59.2	65.1	63.7	30.0	61.9	66.5	62.7	63.2	64.6	29.8	21.7	21.4	12.3	56.0	66.5	29.8
87	62.0	65.1	63.7	31.6	61.5	66.3	62.6	63.5	64.5	30.7	22.1	21.9	12.7	56.8	66.3	30.7
88	63.4	65.5	63.8	32.9	61.0	66.8	63.0	63.2	63.8	31.4	23.4	22.3	13.2	57.3	66.8	31.4
89	64.3	65.3	64.0	34.5	61.0	67.6	62.3	62.8	64.6	32.0	23.2	22.7	13.9	57.8	67.6	32.0
90	64.3	65.3	64.1	36.2	60.3	67.8	62.0	62.6	64.8	32.4	23.9	23.3	14.3	58.0	67.8	32.4
91	64.0	64.9	64.0	38.7	60.2	68.4	61.4	62.5	65.5	33.0	23.6	23.4	14.6	58.3	68.4	33.0
92	63.3	65.0	63.9	40.8	60.0	69.0	61.0	62.8	65.9	33.4	24.6	24.0	15.3	58.6	69.0	33.4
93	62.7	65.1	63.8	43.1	59.4	69.2	60.4	62.5	65.8	34.0	25.5	24.2	16.0	58.8	69.2	34.0
94	61.6	63.7	63.3	45.4	58.8	69.5	59.8	62.3	65.6	34.1	25.8	24.9	16.5	58.6	69.5	34.1
95	61.6	63.5	63.2	47.3	58.9	70.2	59.9	62.0	66.0	34.5	26.9	26.4	17.0	58.9	70.2	34.5
96	61.7	63.2	63.2	49.9	59.0	70.7	59.7	61.1	65.9	36.3	27.1	26.4	17.2	59.4	70.7	36.3

Elapsed time	*TEMPERATURE RISE AT POINTS, °C*													ΔT_{avg} *pts.: 14-18,*	ΔT_{max} *pts.: Std. 14-22*	$\Delta T_{max\ frame}$ *pts.: 23-26*
	Standard procedure															
	Doorset									*Frame*						
	14	*15*	*16*	*17*	*18*	*19*	*20*	*21*	*22*	*23*	*24*	*25*	*26*	*°C*	*°C*	*°C*
97	61.7	63.4	62.7	52.0	58.9	71.2	60.3	62.1	66.0	43.7	28.6	28.0	18.1	59.8	71.2	43.7
98	15.6	9.9	37.9	6.3	7.0	12.4	12.4	44.9	16.5	24.5	21.4	19.0	8.6	15.3	44.9	24.5

6 PHOTOGRAPHS

6.1 Unexposed side view of the test specimens

Photo 1. Before the test.

Photo 2. Test specimen at 13-minutes

Photo 3. Test specimen at 20-minutes

Photo 4. Test specimen at 34-minutes

Photo 5. Test specimen at 40-minutes

Photo 6. 51-minutes of the test

Photo 7. 60-minutes of the test

Photo 8. 73-minutes of the test

Photo 9. 80-minutes of the test

Photo 10. 90-minutes of the test

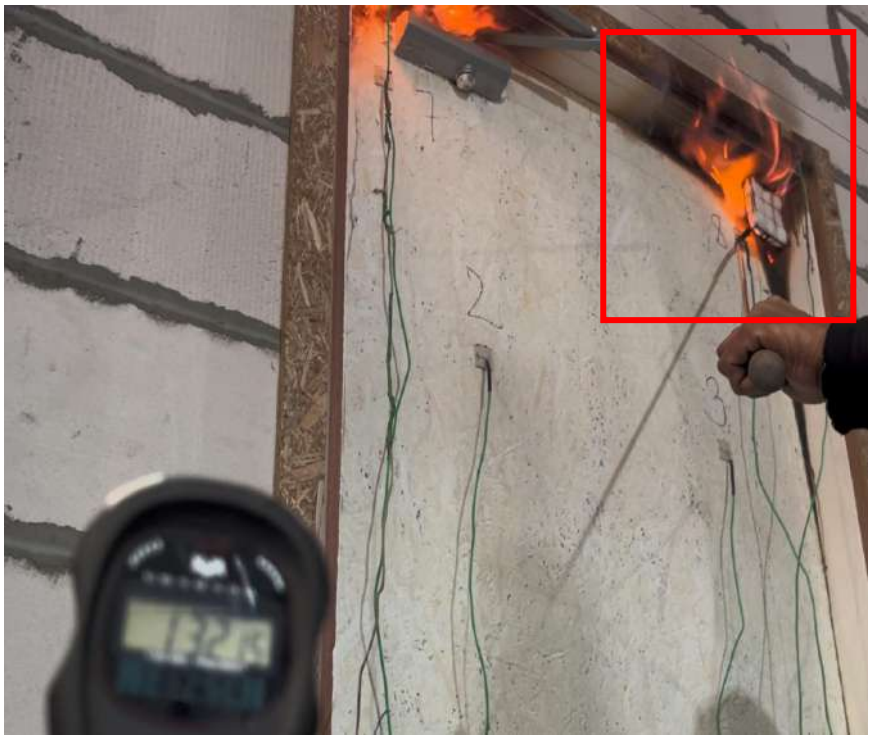


Photo 11. 92[15] minutes of the test. Ignition of cotton pad at the top right corner of the leaf– Door 5.

Photo 12. 92[25] minutes of the test. Sustained flaming at the top right corner of the leaf– Door 5.

Photo 13. 92[25] minutes of the test. Ignition of cotton pad along the mid-left vertical edge of the leaf – Door 6.

Photo 14. End of the test

6.2 Exposed side view of the test specimens

Photo 15. Before the test

7 SUMMARY OF TEST RESULTS

Results of fire resistance test of the "Latched, Single Action, Single Door Fire-Rated PSB Wooden Door with Hardwood Frame" type presented in Tables 1-13, Graphs 1-4, Figures 1-7, and Photo 1-15 refer only to the construction described in clause 3 of herein test report.

Table 13. Summary of the test results

Performance criteria	Description of the criterion requirements	Time and location of criterion failure		Test result	
		Door 5	Door 6	Door 5	Door 6
Integrity	Sustained flaming	**92[25] Sustained flaming at the top right corner of the leaf.**	No failure	**92 minutes**	**97 minutes**
	Gaps disqualifying the product	No failure	No failure		
	Ignition of the cotton pad	**92[15] Ignition of cotton pad at the top right corner of the leaf.**	**97[22] Ignition of cotton pad along the mid-left vertical edge of the leaf.**		
Insulation *(Standard procedure)*	Average temperature rise (≤140 °C)	No failure	No failure	**92 minutes [(1)]**	**97 minutes [(1)]**
	Maximum temperature rise (≤180°C)	No failure	No failure		
	Maximum temperature rise at the door frame (≤360°C)	No failure	No failure		
Maximum Deflection				**-28mm in Point E at 90[th] minute**	**-55mm in Point L at 90[th] minute**
Duration of the test: 98 minutes					

[(1)] 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.).

Because of the nature of fire resistance testing and the consequent difficulty in quantifying the uncertainty of the 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 "Latched, Single Action, Single Door Fire-Rated PSB Wooden Door with Hardwood 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 specimens 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 or openable window 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 panels 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.

8.2.3 Decorative finishes

8.2.3.1 Paint

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).

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 color, pattern, and supplier).

8.2.3.3 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.

8.2.4 Building hardware

The number of hinges 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.

The doorset may be installed only with the door closer fixed to each door leaf.
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.

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 Table 14.

Table 14 —Overrun time requirements

Classification time **Category A**	**Overrun time** *(all criteria must be fulfilled)* **Category B**
90min.	100min.

The Test Element fulfilled integrity criteria for **91 minutes only** (as a product tested from both sides). The tested doorset was opening inside and outside the furnace.

Therefore, the Test Specimen achieved Category A classification time and did not fulfill the criteria Category B as per Table 14.

8.3.3 Size variation of hinged and pivoted doorsets and openable window

Unlimited size reduction is permitted for all types except insulated metal doors where a reduction to 50 % width and 75 % height of the tested specimen is the limit of variation.

Size increase is not permitted.

8.3.4 Other changes

For smaller doorset sizes, the relative positioning of movement restrictors (e.g., hinges and security pin) 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.

8.3.5 Timber constructions

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

Where decorative veneers of 1,5 mm or greater thickness, or other claddings which themselves provide constructive benefits, are part of the test specimen, they shall not be substituted with alternatives of lesser thickness or strength.

8.3.6 Gaps

The maximum size of the primary gaps is restricted to the following sizes in practice:

Table 15

GAPS			***Measurements, mm***		
			Average	***Maximum***	***Permitted gap size***
Door 5 & Door 6	Along the horizontal edges	At the top	2.5	3.7	2.9
		At the bottom	4.6	5.1	4.8
	Along the vertical edges	Hinge side	3.1	4.1	3.5
		Latch edge	2.5	3.7	2.9

8.4 Supporting constructions

8.4.1 General

The Fire resistance of a doorset tested in 150mm thick low-density rigid standard supporting construction (autoclaved aerated 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.

8.4.2 Specific rules for hinged or pivoted doorsets

For timber door leaves hung in timber frames, the result of a test in a rigid standard supporting construction applies to that door assembly mounted in a flexible construction.

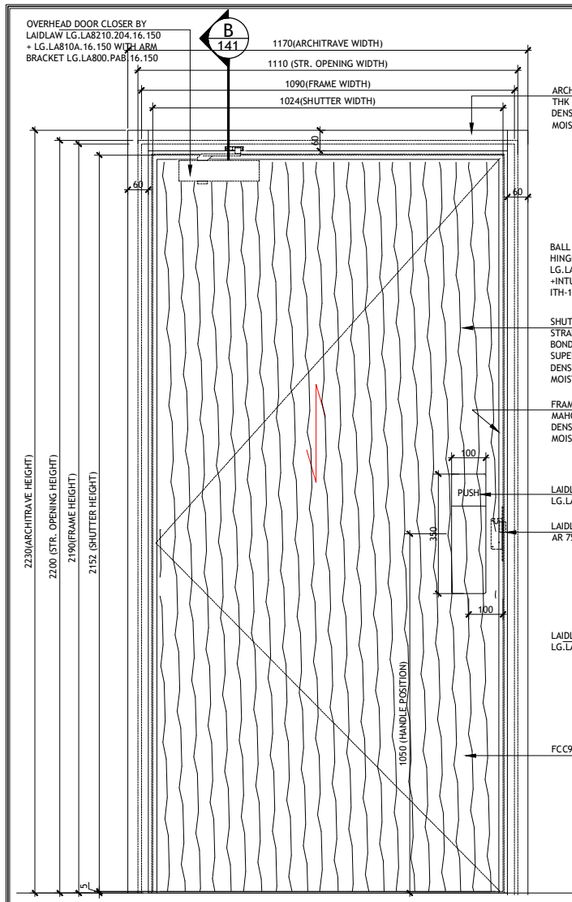
Note: The rules above assume that the fixing methods used in each type of supporting construction are appropriate to that construction.

Further details of the field of direct application of test results are described in EN 1634-1:2014+A1:2018.

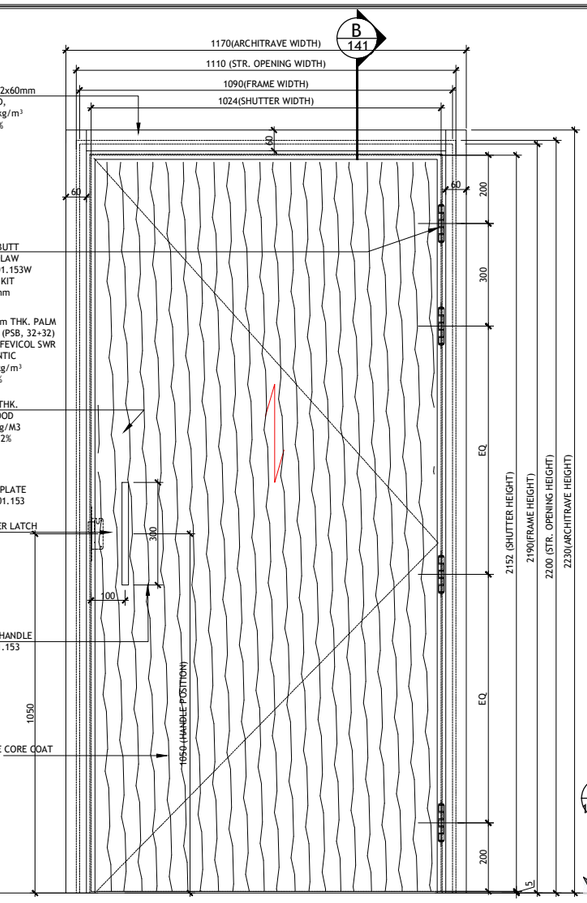
9 DRAWINGS

The unpaginated document is a copy of the drawings from Abanos Furniture & Decoration Industry LLC, specifically the drawing reference ID:

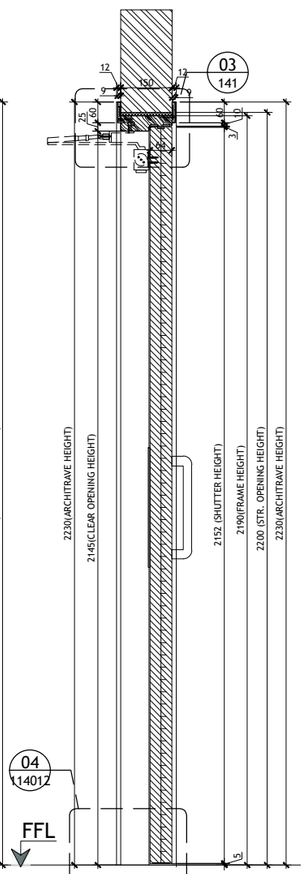
- No. ABS00094-STD-FR-90-PSB-141 R01 (dated 03-04-2025)



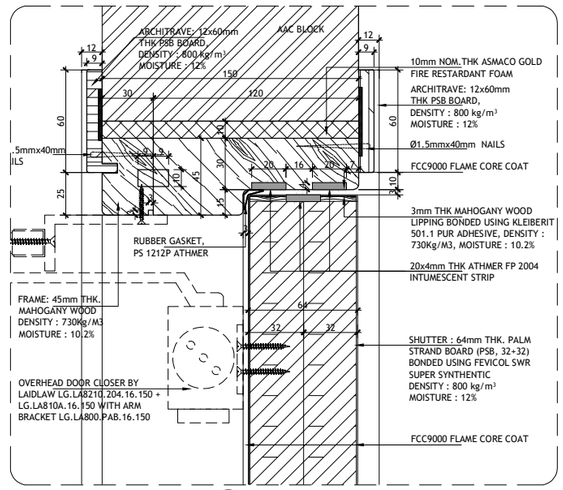
E1 141 ELEVATION-E1
SCALE 1:10



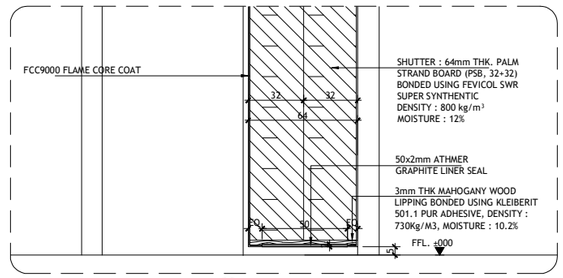
E2 141 ELEVATION-E2
SCALE 1:10



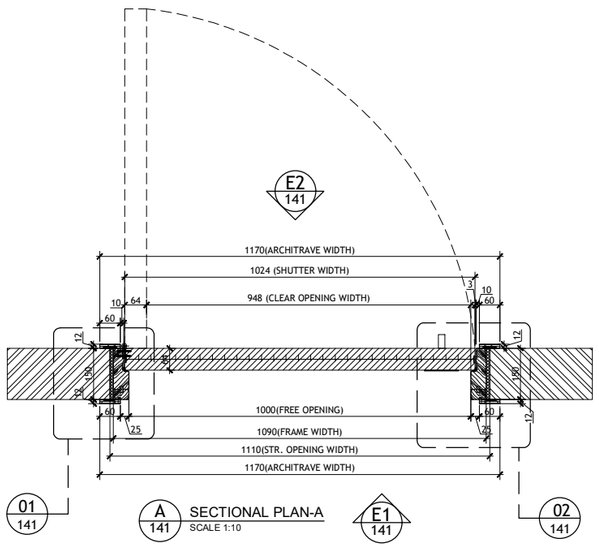
B 141 SECTION-B
SCALE 1:10



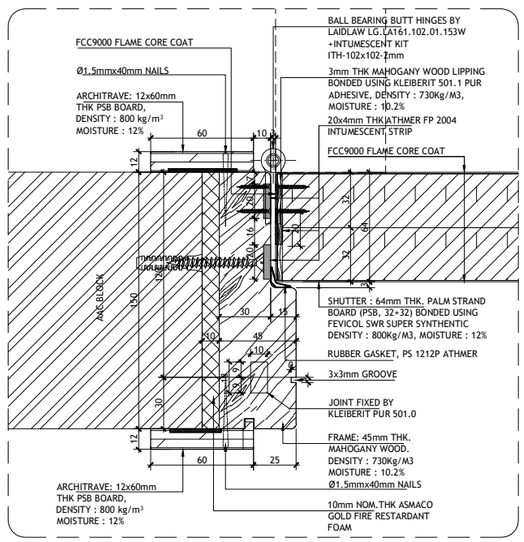
03 141 DETAIL-03
SCALE 1:2



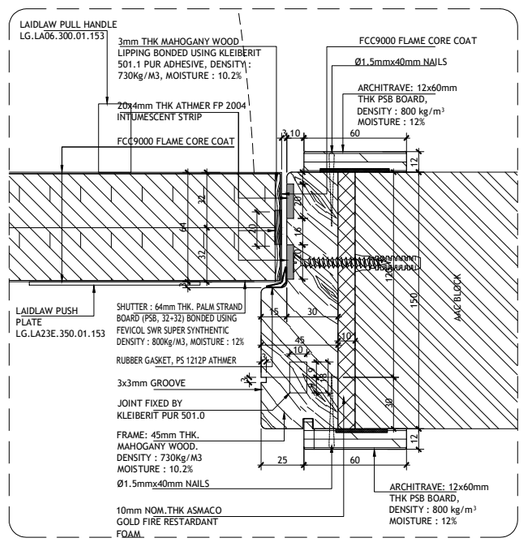
04 141 DETAIL-04
SCALE 1:2



A 141 SECTIONAL PLAN-A
SCALE 1:10



01 141 DETAIL-01
SCALE 1:2



02 141 DETAIL-02
SCALE 1:2

* THIS DRAWING IS PROPERTY OF ABANOS F.D.I. P.O. BOX. 114480, DUBAI, U.A.E. TEL: 04 8996111, 04 8851885, FAX: 04 8859966 IT IS NOT ALLOWED TO REPRODUCE ITS CONTENTS IN ANY FORM WITH OUT PERMISSION.

NOTES:-

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

Rev.	Date	Description.	By
00	11.03.25	FOR APPROVAL	SJ

CLIENT

ABANOS

CONSULTANT

.

MAIN CONTRACTOR

.

PROJECT

CERTIFICATION/TEST REPORT FOR EN1634-1

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
TYPE-ID-D13a
(90 Min. FIRE RATED DOOR)

DRAWN BY	CHK.	APPD.	DATE
AJ	SJ	.	03.04.2025

SCALE	DRAWING NO.	REV.
1:15 @ A3	ABS00094-STD-FR-90-PSB-141	01

Ver -0.2

10 ATTACHMENTS

Technical documentation

- African Mahogany Wood
- 32mm thick, Desert Board, PSB
- Pidilite Fevicol SWR
- Kleiberit 501.0 PUR adhesive
- Ritver wood glue
- Athmer FP 2004
- Athmer Graphite Liner
- Atmer PS1212P - Corner seal
- Asmaco Gold Universal Multifoam (B1) Fire Retardant
- FCC-9000 Flame Core Coat
- MT Werkz - drywall screws
- Ironmongery

دانوب لمواد البناء ش. م. ح.
DANUBE
BUILDING MATERIALS FZCO

SPECIFICATION OF AFRICAN MAHOGANY WOOD

MAHOGANY, AFRICAN (H) (1) *Khaya ivorensis*, A. Chév., W. Africa
(2) *K. anthotheca*, Welw. C.DC., W. and E. Africa
(3) *K. nyasica*, Stapf. ex Baker.f., E. Africa
Family: *Meliaceae*

Other names: (1) Nigerian, Benin, Lagos or Degema mahogany; (1) and (2) Ghana, Ivory Coast, Takoradi or Grand Bassam mahogany; (2) krala (Ivory Coast), mangona (Cameroon), munyama (Uganda); mbaua (Mozambique), mbawa (Malawi), mkangazi (Tanzania).
Distribution: Tropical West, Central and East Africa.
General description: Heartwood varies from light to deep reddish-brown. Grain straight to interlocked, moderately coarse textured to medium. Logs may have brittleheart or softheart and cross fractures or heartbreaks. Weight 540–590 kg/m^3 (34–36 lb/ft^3); s.g. .54 to .59.
Mechanical properties: *K. anthotheca* has moderately good wood bending properties, the other types cannot be bent without severe buckling or fibre rupture. The bending strength is low, stiffness and resistance to shock loads is very low and the crushing strength is medium.
Seasoning: Dries rapidly with little degrade except where tension wood occurs, causing serious distortion. Small movement in service.
Working properties: There is a moderate blunting effect on tools, and tension wood or brittleheart and interlocked grain can cause woolliness. To avoid tearing the grain a reduced cutting angle of from 15° to 20° is desirable. Nailing, screwing and gluing properties are good and it may be stained and polished to an excellent finish.
Durability: Liable to insect attack. The heartwood is moderately durable but extremely resistant to preservative treatment and the sapwood is moderately resistant.
Uses: Widely used for furniture and cabinetmaking, office, shop and bank fitting, interior joinery, boatbuilding and vehicle bodies. It is extensively used for laminations especially in cold moulded processes. Rotary cut logs are used for plywood and sliced veneers for decorative work.
Note: Related spp. include *K. grandifoliola*, C.DC., and *K. senegalensis*, (Desr) A. Juss, both sold as **heavy African mahogany** and sometimes mixed with shipments of lighter species.

TOLLFREE IN THE UAE - 800 DANUBE
ص.ب: ١٨٠٢٢، جبل علي – ا.ع.م. تليفون: ٠٤-٨٨٧١٢٣٤ , فاكس: ٠٤-٨٨٧١٢٣٥
P.O. Box-18022, Jebel Ali-U.A.E. Tel.: 04-8871234, Fax : 04-8871235 E-mail : info@aldanube.com www.aldanube.com
FORMED PURSUANT TO LAW NO.2 OF 1986 AND IMPLEMENTING REGULATION NO. 1 OF 1999 WITH LIMITED LIABILITY

TECHNICAL DATA SHEET

32 mm Fire Rated PSB® Door Core

DESIGN AWARD 2025

PHYSICAL PROPERTIES	TEST	UNIT	RESULTS
Length		mm	2440
Width		mm	1220
Thickness		mm	32

TOLERANCE OF NOMINAL DIMENSIONS	TEST	UNIT	RESULTS
Length & Width	BS EN 324-1	mm	+/- 3
Thickness – Sanded Boards	BS EN 324-1	mm	+/- 0.3
Thickness – Un-Sanded Boards	BS EN 324-1	mm	+/- 0.8
Edge Straightness Tolerance	BS EN 324-2	mm/m	1.5
Squareness Tolerance	BS EN 324-2	mm/m	2

MECHANICAL PROPERTIES	TEST	UNIT	RESULTS
Thickness Swelling - 24 H	BS EN 317	%	≤20
Moisture Content	BS EN 322	%	2-12%
Density	BS EN 323	kg/m³	800
Formaldehyde Concentration	ASTM D5582-22	mg/L	(E0) <0.3
Bending Strength	BS EN 310	N/mm²	14
Modulus Of Elasticity In Bending	BS EN 310	N/mm²	2500
Internal Bond	BS EN 319	N/mm²	0.26
Screws Withdrawal - Face	BS EN 320	N	1100
Screws Withdrawal - Edge	BS EN 320	N	1300
Reaction To Fire	ASTM E84-22		CLASS B
Sound Transmission Test (Operable)	ASTM E90-09	dB	35

DesertBoard.

MADE IN THE UAE

PIDILITE INDUSTRIES LIMITED

Marketing Division: P.B. No. 17411, Andheri (East), Mumbai 400 059 (India)

TECHNICAL DATA SHEET

Fevicol SWR

FOR INFORMATION ONLY

Fevicol SWR is a premium quality synthetic resin based self cross-linking adhesive conforming to DIN EN 204/ D3 class water resistance.

It is a technologically superior product in its class suitable for all types of wood work and provides excellent bonding on all types of hard wood and soft wood.

Product technical's

• Appearance	Milky white emulsion
• Viscosity at 30 °C	100-150 Poise
• (By B.F. RVT Spl.-4, RPM – 20.)	
• pH	3 to 6
• Density at 30degc:	1.07-1.10 gm/ml
• Flow	Continuous

Technical Details:

For wood bonding

Clamp time - 2-3hrs (varies depending upon wood moisture, temperature, and humidity in air)

Final bonding time- 24hrs

For Laminate pasting:

- Pressure: 100-150 bar
- Temperature: 50-60 ^{0}C
- Time:- 10-20 min

ADVANTAGES

- Clear glue line which can be sanded easily
- Cross linkable PVAc adhesive
- Water resistance conforms to DIN EN 204/D3
- Contains no asbestos, lead, mercury or mercury compounds.

- Complies with VOC requirement of LEED EQ 4.1
- Contains no Urea formaldehyde

Area of usage:

- Recommended as adhesive for bonding wood and wooden articles of all types and provides excellent bonding on all types of hard wood and soft wood. Because of its very high resin content and special formulation, it offers much better durability to furniture & handicrafts being used in high humidity areas.
- Fevicol SWR is also recommended for finger jointing, parquet flooring applications.
- Fevicol SWR is suitable for post forming, and hot press application
- Best suitable for FR doors (30 and 60 min)for facing and lipping)

APPLICATION METHOD

General application:

- Clean both the surface to be bonded
- Surface to be bonded should be dry, clean, and free from oil or grease.
- Stir the adhesive properly before use. Do not dilute.
- Apply thing coat of adhesive on both the surface
- Press the surface together for at least 2-3 hrs.
- To get best result press the substrates for 24 hrs.

For Hot press bonding:

- Dilute the glue with 10-15% water for roller application
- Apply uniformly and cover the edges with equal deposition.
- Depending upon the thickness of bonding substrates, set the hot press temperature
- Plate pressure between 100- 150 Bar
- Press time to be adjusted with the thickness of the material from 10-20 minutes

PRECAUTIONS

- When not in use, the container should be kept closed. Skin formation if any, should be removed from the surface before use.
- Apply between 5 ^{0}C and 40 ^{0}C. Protect from freezing until dry.
- Always test the substrates for acceptable adhesion before using.

COVERAGE (Subject to type of surface)

Approx. 5.0 – 6.0 m^2/Kg at the rate of 150 g/m^2

SHELF LIFE

24 months from the date of manufacturing.

STORAGE

Store under dry condition. Keep the tin away from heat and direct sunlight. Close the lid tightly after taking out the material from container.

HANDLING

Wear suitable protective clothing, rubber gloves and eye protective while handling. Keep out of reach of children.

CLEAN-UP

Use clean fresh water for cleaning brushes and equipment before the product dries. Dry product may be removed with hot water.

NOTE

We recommend that before using our product, the customer should make his own tests to determine the suitability of the product for his own purpose under his operating conditions. As the circumstances under which our product is stored, handled and used, are beyond our control, we cannot assume any responsibility for their use by the customer.

KLEIBERIT®
KLEBSTOFFE • ADHESIVES

PUR-Adhesive 501

One component, polyurethane adhesive for very strong bonds with high temperature resistance. With certified bond quality D4 according to DIN/EN 204, Window Institute ift Rosenheim Germany (PZ-No. 505 26095, 08.10.2002).

501.0
0736

Bonding in Shipbuilding
(according to IMO FTPC Part 5 & Part 2/ Approval per SeeBG test certificate for international use according to Module B)

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

The handy bottle with the patented dispensing lid.

- self cleaning
- easy to dispense
- precise adhesive application

KLEIBERIT
KLEBSTOFFE • ADHESIVES

KLEIBERIT 501 PUR is a moisture curing single component adhesive based on polyurethane. For strong bonds with very high strength values. High temperature resistance according to DIN EN 14257 (WATT 91) and D4 water resistance according to DIN EN 204. Flame resistant adhesive according to IMO Resolution.

FIELDS OF APPLICATION

Bonding windows and doors, stairs, plywood to be used inside or outside (outside use with surface protection). Bonding mineral building boards, ceramic materials, concrete materials and hard foams.

Please see warnings on the bottle before using!

PREPARATION

The surfaces to be bonded must be climatised, clean, dry and free from dust and grease. It could be necessary to remove release agent.

APPLICATION

- Single-sided application using a spatula or hand roller to the surface which is least porous
- Assemble the two pieces to be bonded
- The product cures to a water-resistant, solvent-resistant and semi-rigid adhesive film when subjected to the influence of humidity (air, material). The cross-linking process can be accelerated by means of a targeted moisture supply (fine water spray, approximately 20 g/m²), or by higher temperatures (40°C up to max. 60°C).
- The cross-linking process should take place with a pressure that guarantees sufficient contact of the glued surfaces. In order to protect exposed surfaces from being contaminated with glue, apply e.g. a silicone paper to this area.
- The necessary pressure is dependent upon the type and size of materials. A good closed joint should be achieved. Minimum pressure for bonding laminated wood: **0.6 N/mm²**. The more intensive the cross linking of the adhesive under pressure, the higher the subsequent load ability.

PROPERTIES OF THE ADHESIVE

• **Base**	polyurethane
• **Specific gravity (20°C)**	approx. 1.13 g/cm³
• **Consistency**	medium viscosity
• **Temperature**	+20°C ideal, not below +5°C
• **Wood Moisture**	8-10 % ideal for interior 10-14 % for exterior
• **Coat weight**	100-200 g/m² Depending on the condition of the material
• **Open time**	see table
• **Press time**	see table
• **Curing time**	see table
• **Final strength**	after approx. 24 hours with sufficient moisture
• **Colour**	yellowish-brown

CLEANING

- Immediately clean spilled glue with a towel and **KLEIBERIT Cleaner 820 toluene-free**.
- Clean application tools with **KLEIBERIT Cleaner 820 toluene-free** immediately after use.
  Hardened adhesive must be mechanically removed.

ADHESIVE AND PACKAGING DISPOSAL

Disposal code 080501

PACKAGING

cartons containing 12 plastic bottles, 0.5 kg each
metal canister 6,0 kg net
metal can 32,0 kg net
metal drum 220,0 kg net

STORAGE

KLEIBERIT PUR Adhesive 501 can be stored in original factory sealed containers at 20°C for approx. 9 months. Keep in cool and dry place and protect from humidity. Opened containers should be used as soon as possible. Product is not frost sensitive.

EX 0211; replaces previous versions

Identification:

identification required according to the German hazardous substances regulations GefStoffV, contains 4.4 diphenylmethane diisocyanate.
See our safety data sheet 501
For professional use only.

TECHNICAL DATA

PUR-ADHESIVE 501

SERVICE

Our application department may be consulted at any time without obligation. The statements herein are based on our experience gained to date. They are to be considered as information without obligation. Please test and establish for yourself the suitability of our products for your particular purposes. No liability exceeding the value of our product can be derived from the foregoing statements. This also applies to the technical consultancy service, which is rendered free of charge and without obligation.

Product Overview 501

KLEIBERIT Products	Viscosity mPa·s	Open time (20 °C)	Press time (20 °C)	40 °C	60 °C	Curing time
KLEIBERIT 501.0	8000	20-25 min	60 min	30 min	10 min	2-3 hours
KLEIBERIT 501.6	7000	65-70 min	6-7 hours	2-3 hours	1-2 hours	1 day
KLEIBERIT 501.8	8000	approx. 8-10 min	30 min	15 min	7 min	1 hour

RITVER PAINTS & COATINGS where paints come to life

WOOD FINISHES DATA SHEET

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.

FP Series

- athmer's FP Series fire and smoke seals provide fire protection closing off the gap between the fire door and frame in the event of a fire. Extreme heat during fire activates the intumescent strip to expand and seal the gap preventing spread of fire and smoke to other parts of the building allowing enough time for people to evacuate, reducing the risk to life and protecting property.
- Encapsulated in a PVC sleeve with heavy duty self-adhesive tape backing.
- The high-performance intumescent core contains intercalated graphite that expands multi-directionally with a higher expansion ratio.
- Ideal for sealing perimeter of doors including meeting stiles/astragals on double doors.
- Available in a variety of sizes to cover 30, 60, 90 & 120 mins Fire door configurations.

FIELD OF APPLICATION

Rebates in timber door leaves or door frames
Approved for use on single or double action leaf doors
Can be used on latched and unlatched doors
New build and retrofit application

PRODUCT FEATURES

Rapid multi directional expansion
Activates from 180°C
Identification on each product ensures full traceability
Laboratory age testing indicates a life expectancy in excess of 100 years
Unaffected by moisture
Mineral based, safe to handle containing no fibrous materials

TEST STANDARDS & CERTIFICATES

BS476 Part 20, BS476 Part 22
BS EN 1634-1, BS EN 1634-3
Certifire Approved CF6057

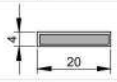
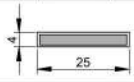
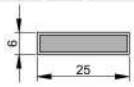
COLORS*

White	Brown	Dark brown
Black	Grey	Red
Cream		

PRODUCT DIMENSIONS

Standard lengths: 1050mm, 2100mm, 2200mm
other lengths available on request

Sizes

10 x 4 mm	
15 x 4 mm	
20 x 4 mm	
25 x 4 mm	
15 x 6 mm	
25 x 6 mm	

* Actual product colour may vary from images shown

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

athmer

Athmer oHG | Sophienhammer | 59757 Arnsberg | Germany

E sx p ,McEaNPel ,Ttyp ,,

,

Ul p tl w,Gzx z t tzy :,

E sx p ,Py x p npy ,x l p tl w,nzy t ,zq l ,s o l po,r l st p,nzx z yo-, ptyqz npo, t s,str s, p qz x l ynp, zwx p , t s,l ,agG,z p ,nl p,l yo, zyr ,l osp t p,l p, ml nv0

Gzwz :,,

E l tw mwp,ty,yl l w,r p ,/,M l st p,nzwz , t s, pwq,l osp t p,l p,ml nv,

dt p:,

P,t ,l l tw mwp,ty,pt sp ,3x x ,z ,5x x , stnvyp Qesp,x l p tl w,t , tr to-,l yo,l w,t px , l p, st po,qw -,yz , zwpo,z ,nztwpo0

epx p l p,l z p:,

P, tw,wpx l ty, l mwp,z p ,l , top, px p l p,l yr p, t s,x wt,ot pn tzyl w,p l y tzy, spy, mqpn po, z,str s, px p l p 0

m ut

RaTRT m 8t
bm u mEGDR
m 9 :bpr EGHVVGaLa
bHDHRVDSDEDD

athmer
Athmer oHG | Sophienhammer | 59757 Arnsberg | Germany

,

,

Gzwo:,,

l z p, z,p px p,nzwo, twyz ,op tx py l ww,l qppn , sp,x l p tl w,p np , sl ,t, tw mpnzx p,x z p,mt wpQ

,

Gspx tnl w,l z p:,

esp,nzl tyr ,zy, sp,x l p tl w,t , p t l y , z,l ww,m , sp,x z ,l r r p t p,zq,nspx tnl wQ P,t , yl qppn po,m ,nzx x zy,l nto -,l w l w -, l w ,l yo,z r l ytn, zwpy Q,h sp p, sp, nzl tyr ,sl ,mppy,ol x l r po,z ,n , s z r s-,nl p,x ,mp, l vpy, z, pty l p, sp, ol x l r po,l pl Q,

,

l l y tzy,Gsl l n p t tn :,,

a zo n ,nzy l tytyr ,Py x p npy ,x l p tl w, twyp l yo,l ,l , l tp ,zq, l p ,l yo, px p l p -,op pyotyr ,zy, spt ,nspx tnl w,nzx z t tzy,l yo,z sp ,d l n z Q l y t zyx py l w,nzyot tzy -, sp, w npx py ,zq, sp, zo n ,l yo, sp,pyp r ,zq, sp,spl , z np,x l ,tyqwpynp, sp, ppo,z ,x l r yt op,zq, sp,Py x p npy , pl n tzyQesp, qz ww tyr ,tyqz x l tzy, p p ,l ,l ,r topwtypQ

,

epx p l p,qz ,l l y tzy:,

E z tx l pw,331 ,opr pp ,G-,op pyotyr ,zy,nzyot tzy ,

,

cl p,zq,l l y tzy:,

f , z,31 , tx p -,ml po,zy,z tr tyl w,stnvyp ,zq,pt sp ,3x x ,z ,5x x -,l yo,op pyotyr , zy,nzyot tzy ,

,

Uzt p,cp t l ynp:,,

a z topo, sp, z pn t p,nl tyr ,t ,ty l n -,p stmt ,r zzo, p t l ynp, z,s x tot ,m , tw p t p,x z p, pntl w po, pl x py ,tq,nzy ty z w,p z po, z,nzyopy l tzy,z , yytyr , l p Q,

,

d pntl w,Nl yow tyr ,cp t px py :,

dpl w, sz wo,mp, z po,qw -, pqp l mw,ty,l ,nzzw w np-,m , tw zwp l p, px p l p , , z,56,opr pp ,GQl py t p, p , sz , sl ,yz,op p tz l tzy,ty, p qz x l ynp, l vp , w np,p py,l q p ,21 , pl ,zq, z l r pQ

m ut

RaTRT m 8t
bm u mEGDR
m 9 :bpr EGHVVGaLa
bHDHRVDSDEDD

,

Lpl p :,

- ✓ Tz ,esp x l w,Gzyo n t t ,
- ✓ l npwqpy ,Ltp, pl wtyr , z p tp ,
- ✓ l npwqpy ,Eosp tzy, z,Uz ,x l p tl w,
- ✓ l npwqpy ,Py wl z ,
- ✓ d l mvp,l ,Ntr s,epx p l p ,

,

E wnl tzy :,

- Ltp,cp t l y ,. ,cqz ,Ltp,Hzz ,l or p,dpl wtyr -,
- Ttyp ,/,Fpootyr,Ul p tl w,,cqz ,Ltp,cp t l y ,Mw tyr,d px 0,
- Ltp,cp t l y ,. ,cqz ,Py x p npy ,Tz p ,/,Hl x p ,

,

Ltp, p ,l topynp:,

gl tz ,nzx mtyl tzy ,zq, pl w,sl p,mppy, p po,zy,ozz ,l px mvtp , , z,231,x ty , ty,l nnz ol ynp, z,,FdI V,2A45. 20,awpl p,nzy l n ,z , pnsytnl w,op l x py ,cqz , p topynp,nz tp 0,

,

,

VF:,esp, p ,x ,mp, l t qtpo, sl , sp, zo n ,t ,py t pw, tl mvp,cqz , sp,ty pyopo, p0

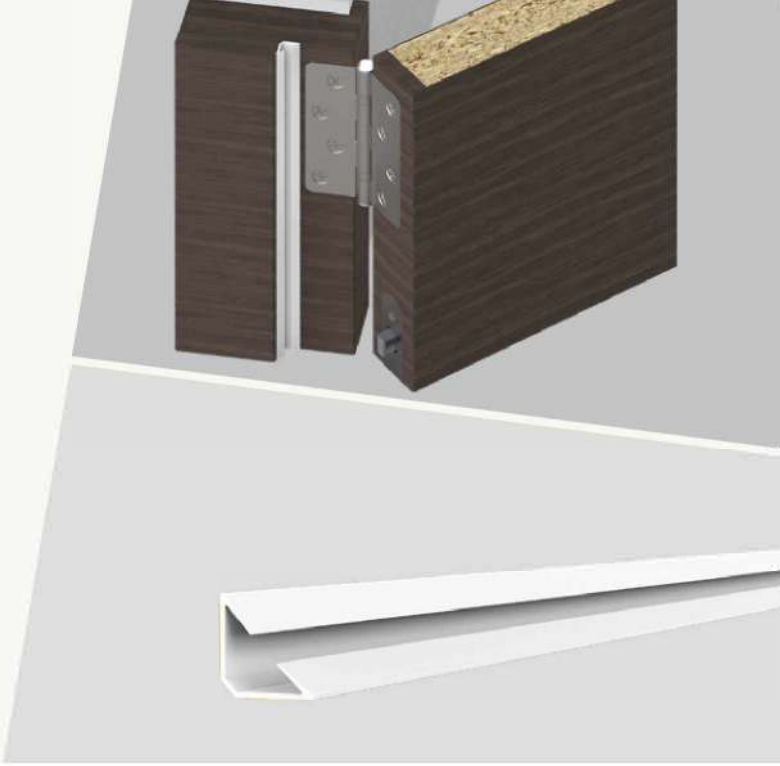
---

m ut

RaTRT m 8t
bm u mEGDR
m 9 :bpr EGHVVGaLa
bHDHRVDSDEDD

PS 1010 P Flex
PS 1212 P Flex
PS 1515 P Flex

- winged corner seal with flexible base
- equipped with two rows of durable self-adhesive backing tape
- flexible base offers more flexibilty during installation
- ensures soft closing of the door
- also suitable for retro-fit applications



TECHNICAL DATA

Application	timber and metal door frames
Gasket material	rigid and flexible PVC co-extrusion
Working temperature range	-15°C to +60°C

DIMENSIONS

Standard lengths	2100, 2200, 2400, 2500, 3000 mm

FIXING

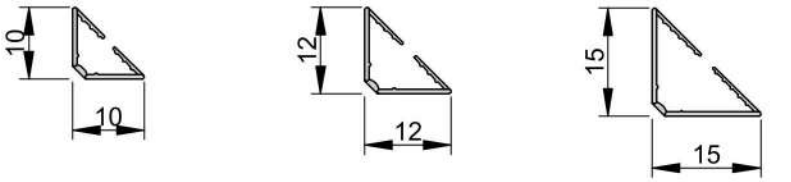
Fixing	stuck to the door stop with self-adhesive backing tape

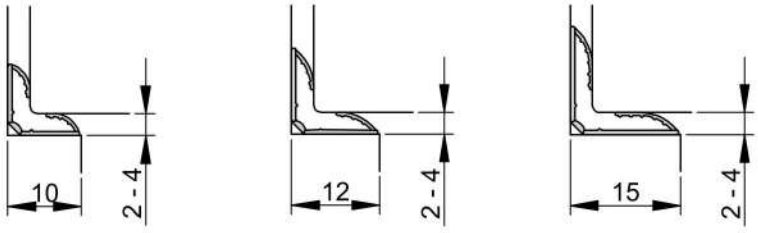
PERFORMANCE & CERTIFICATES

UL	UL 10C (R38166)

COLORS/ART.NO.	PS 1010 P Flex	PS 1212 P Flex	PS 1515 P Flex
Black	P160130	P160136	P160138
Dark brown	P160132	P160137	P160139
White	P160131	P160135	P160140
Grey	P160159	P160147	P160151

	PS 1010 P Flex	PS 1212 P Flex	PS 1515 P Flex
Fitting tolerance range	2 - 4 mm	2 - 4 mm	2 - 4 mm
Width x height	10 x 10 mm	12 x 12 mm	15 x 15 mm





Product Data Sheet

ASMACO GOLD UNIVERSAL MULTIFOAM (B1) (FIRE RETARDANT)

ASMACO GOLD UNIVERSAL MULTIFOAM (B1) (FIRE RETARDANT)

Product Description:

ASMACO GOLD UNIVERSAL MULTI FOAM B1 is quick setting single component polyurethane foam with fire retardant properties. It meets the extremely stringent requirements of DIN 4102 Part 1 for Construction Materials; Class B1 where fire ratings up to 240 minutes are achievable. Once cured, the foam can be cut, sawn or plastered over after only one hour providing the working temperatures (can and surfaces) are between +5 to +30oC, ideally 20oC. (Tested according to BS 476 part 22)

Key Performance Properties:

- High degree of fire rating: slows down the passage of flames and smoke.
- Quick setting - can be cut, sawn or plastered in 1 hour.
- Economical in use – 300% Triple Expanding foam.
- Fills irregular and broad gaps where most conventional fillers would fail.
- Possesses insulating and sound deadening properties.
- Nonflammable propellant.
- Excellent adhesion & filling capacity and high thermal & acoustical insulation valve.
- Excellent mounting capacity and stability.
- Adheres to almost all building materials with the exception of surfaces such as polyethylene, Teflon, silicone and surface contaminated with oils and greases, mold release agents and similar materials.
- Mould proof, water proof, over paintable.
- Quick drying, moisture curing.
- Closed cell structure, resistant to water absorption.
- Cured foam dries rigid and can be trimmed, shaped and sanded.
- Suitable for sealing high volume low moment gaps.
- It does not contain any propellant gases that are harmful to the ozone layer.

Applications:

- Fixing and insulation of door and window frames.
- Filling and sealing gaps, joints and cavities.
- Filling of penetrations in walls.
- Insulating electrical outlets and water pipes.

Typical Properties:

Curing system	--	Moisture cure
Tack Free time	Minutes	15 Max.
Cutting Time	Minutes	40-50
Complete curing	Hours	24
Foam color	--	Pink

Product Data Sheet

Density	Kg/m3	15 -22
Adhesion Strength	kPa	PVC to PVC 143,Alumimum plates 133
Elongation at break	%	8-20
Shear Strength	kPa	22-50
Compression strength	kPa	35-100 at 10% compression
Water absorption	%	Max. 0.03 volume
Thermal conductivity	35°C W/(m.K)	<0.035
Foam Yield	Liters	35-50
Building Material Class	--	B1 DIN 4102 part 1
Fire Rating	--	Up to 240 min.
Can temperature	°C	Min.-5, Max.+35
Application temperature	°C	+5 to +35
Temperature Resistance	°C	-40 to +90 when cured

Instructions:

Optimal can temperature is +20 °C. Application (ambient) temperature is between +5 °C to +30 °C. Shake the can well before use. Screw the tube on the valve. Moisturizing the surfaces and the foam improves adhesion and shortens curing time. Hold the can upside down and activate the foam by pressing the valve. When spray please pay attention to the speed. Fill vertical joints from the bottom up when half- filled enough. When fill gaps in ceiling, uncured foam may drop because of gravity, Fresh foam can be cleaned by acetone immediately. Please support properly after filling until foam cure and adhere to the gap. Foam is tack free after about 10 minutes, can be cut after 60 minutes. Use a knife to smooth the cured foam and treated surface with cement, paint or silicone.

Restrictions:

- Storage above +30 °C and below -5 °C shortens shelf life.
- Should be stored and transported in vertical position.
- Should be kept in room temperature for at least 12 hours before the application.
- Cured foam will discolor if exposed to ultraviolet light.
- Paint or coat the cured foam for best results in outdoor applications.

Storage and Shelf Life:

12 months when stored at 20°C / 50% relative humidity out of direct sunlight.

Packaging:

ASMACO GOLD UNIVERSAL MULTIFOAM B1 (Straw Type & Gun Type) 750 ML - 12 CANS/CTN

Safety:

Contains Diphenylmethane-4,4'-Diisocyanate. Harmful by inhalation. Irritating to eyes, respiratory system and skin. Do not breathe spray/Vapour. Wear suitable protective clothing and gloves. Use only in well-ventilated areas. Pressurized container. Keep away from direct sunlight and do not expose temperatures over 50 °C. Do not pierce or burn, even after use. Keep away from sources of ignition, no smoking. Keep out of the reach of child.

Product Data Sheet

Shipping Limitations: None

Note

The information and data contained in the product data sheet is believed to be accurate and reliable; however, it is the user's responsibility to determine suitability of the product for usage. Since the supplier cannot know all the uses, or the conditions of use to which the product may be exposed, no warranties concerning the fitness or suitability for particular use or purpose are made. It is the user's responsibility to thoroughly test any proposed use of our products and independently conclude satisfactory performance in the application Likewise if the application, product specifications or manner in which our products are used require government approval or clearance, it is the sole responsibility of the user to obtain sure authorization.

Non – Warranty: Because the storage, handling and application of the material is beyond Anchor Allied Factory Ltd's control, we can accept no liability for the result obtained. Anchor Allied Factory Ltd's sole limited warranty is the product meets the manufacturing specifications in effect at the time of shipment. There is no warranty or merchantability or fitness for use, nor any expressed or implied warranty. Anchor Allied Factory Ltd will not be liable for any incidental and consequential damage of any kind. The exclusive remedy for breach of such limited warranty is a replacement of any product shown to be other than warranted. Suggestions of uses should not be taken as inducement to infringe any patents.

مصنع انكور الايد ذ.م.م.
ANCHOR ALLIED FACTORY L.L.C.
Tel. No.: +971 6 5342091, Fax No.: +971 6 5342107
P.O. Box No.: 21152, Sharjah (U.A.E.), E-mail : info@anchorallied.com.

SILICONE SEALANTS • WATERPROOFING COATINGS • PU SEALANTS • POLYSULPHIDE SEALANTS • ACRYLIC & DUCT SEALANTS
POLYURETHANE FOAM • SPRAY PAINT • SILVER CLOTH DUCT TAPE • CREPE PAPER MASKING TAPE • ALUMINIUM FOIL TAPE
P.E. PROTECTION TAPE • PVC PIPE WRAP TAPE • CONTACT ADHESIVE • EPOXY STEEL • PVC CEMENTS • SUPER GLUE

FCC - 9000
FLAME CORE COAT

TECHNICAL DATA SHEET

DESCRIPTION

FCC-9000 is an advanced, high-performance water-based intumescent coating designed to enhance the fire resistance of wooden doors and substrates, as well as improve the flame resistance of non-fire-rated wood surfaces. Applied directly as a base coat, FCC-9000 expands when exposed to high temperatures, forming a protective charred layer that insulates the wood. It adheres directly to wood substrates, creating a robust fire-resistant barrier. After drying, it allows for subsequent treatments such as veneering, laminating, and painting. The product is easy to apply using standard tools and is suitable for interior use. Ensure the wood surface is clean and dry before application, and follow safety guidelines including adequate ventilation and protective gear.

APPLICATIONS

- Fire Doors
- Wooden Surfaces
  - Wooden Paneling and Trim
  - Wooden Furniture
  - Wooden Ceilings and Beams
  - Wooden Partitions and Dividers
- Wooden Surfaces
  - Residential Buildings
  - Healthcare Facilities
  - Public Buildings
  - Commercial Buildings
  - Hospitality Sector
  - Industrial Facilities

PRODUCT CHARACTERISTICS

- Water-borne and environmentally friendly
- Very low odor, non-toxic, hypoallergenic, and non-carcinogenic
- Reduces fire spread and smoke by up to 90%
- Coverage: 27.9 Sq.m per Gallon as Class A
- Passed strict EPA – V.O.C. and AQMD standards
- Low cost and high efficiency
- Can be applied by spray, roll, or brush
- Compatible with any paintable surface
- Fast drying with excellent durability and rapid recoating properties
- It can be further treated with veneering, laminating, and painting directly on the surface

PACKAGING

Available in White colour.

Packaging	Qty. Per Case	Weight (KG)
1 Gallon Pail	1	5
5 Gallon Pail	1	25

FCC - 9000
FLAME CORE COAT

TECHNICAL DATA SHEET

USAGE METHOD

Applying FCC-9000 coating can be achieved with either a brush or spray technique, based on the project's specific needs and environmental conditions.

INSTALLATION GUIDE

STEP 1 TThe substrate must be sound, clean, and free from voids, bug holes, gaping cracks, honey combs, or ridges and open pored (like medium grit sand paper).
Remove bond breakers, such as oil, grease, dirt, loose particles, remains of form oils, water repellents, rust or other coatings

STEP 2 Mixing FCC-9000 coating thoroughly by a power agitator before application. Thinner is normally not required. If necessary, use potable water (3% max.) to adjust viscosity. Water is also for tools and spray machine cleaning

STEP 3 The FCC-9000 coating can be applied using a brush, roller, or spray system, providing versatility in application methods. A brush allows for precise application on detailed or intricate areas, a roller ensures even coverage over larger, flat surfaces, and a spray system delivers a smooth, uniform finish with minimal effort, ideal for extensive or complex surfaces

STEP 4 Do not allow the coating material to remain in hoses, gun or spray equipment. Clean all equipment with water immediately in work stoppages or after use.

STEP 5 All unused coating should be stored in tightly closed container. Surface skinning may show in a partially filled container. Filter the material prior touse.

STEP 6 Thickness measurement – thickness of painted layer can be checked by wet film thickness gauge. The DFT can be checked by caliper for fully cured.

TESTING DATA

Contact **MVL Firestop** for suitable system recommendation.

Material properties:	
Asbestos Fillers	None
Solvents	None
Hazardous Ingredients	None
Application	Brush, Roller, Spraying Machine
Application Temperature	5˚C - 40˚C (40˚F - 104˚F)
In-service Temperature	-25˚C - 80˚C (-13˚F - 176˚F)
Shelf life	18 Months

Physical properties:	
Expansion begins	375˚F (190˚C)
Expansion greatest	750˚F -840˚F (400˚C - 450˚C)
Expansion	80 Times
VOC	56 g/L
Drying Time	Dry to touch after 3~4hours,10 days
Density	1.2 ~1.4 g/cm3
Intumescent	Yes
PH value	7±1.0
Paintable	Yes
Viscosity	15000~25000cps (25 ˚C),adjustable
Used Solvent	Water
Typical thickness	WFT 1mm & DFT 0.63mm

Performance	
HOAC tested	50+ years

FCC - 9000
FLAME CORE COAT

TECHNICAL DATA SHEET

INSPECTION & REPAIR

Thickness measurement – thickness of painted layer can be checked by wet film thickness gauge.The DFT can be checked by caliper. Whenever destructive sampling needed during inspection, all damaged area must be reinstalled immediately using same product at the recommended thicknesses according to the approved listing, destructive tests must take place after full cure of material.

STORAGE & SHELF-LIFE

FCC-9000 shall be stored in normal conditions away from direct sun light for long periods. Shelf-life is 18 months if stored properly in well-closed containers. Should be stored between 50˚F (10˚C) and 86˚ F (30˚C) to obtain 18 months shelf life.

LIMITATIONS

Installer is responsible for proper product application. Site visits by MVL Firestop personnel or representatives are solely for the purpose of making technical recommendations, not for providing supervision or quality control.

SAFETY

Refer to SDS.

FCC-9000 contains no hazardous materials. Use rubber gloves and goggles during application. Avoid contact with eyes and skin. After contact with skin, wash with plenty of water. In case of eye contact, rinse immediately with plenty of water and seek medical advice.

KEEP OUT OF REACH OF CHILDREN .

CLEAN-UP

Clean tools and equipment with water immediately after use. Cured material can only be removed mechanically.

CAUTIONS

FCC-9000 is non-toxic, non-hazardous during handling, storage and use.

- For Ecology: Do not dispose directly to water or soil. Mix with plenty amount of sand before this to comply with the local regulations.
- Splashes on skin will be washed with water and soap


Fire Protection


Smoke Seal


Paintable


Veneered


Laminated

TAINJIN LUJIO TRADING CO.,LIMITED
TEST REPORT

DATE: 2024 5TH DEC
BUYER NAME: ICONIC TOOLS TRADING LLC
P/I NO: CJ2023
TEST STANDARD: Q/ASB 610.1-2024
BRAND: MT WERKZ

PRODUCT DESCRIPTION	CONSTRUCTION	ROD DIA	ROD LENGTH		
C1022A / SWRCH22A	STEEL ROD	6.5MM	280 MTR / ROLL		
CHEMICAL ANALYSIS					
CARBON	SI	Mn	P	S	Cr
0.185	0.06	0.75	0.01	0.013	0.02
TEST DESCRIPTIONS		STANDARD	RESULT		
TEST ITEMS (T/S)	SPEC	TENSILE STRENGTH	TENSILE STRENGTH		
LOAD CAPACITY ROD	6.5MM ROD	>450	498		PASS
PULL OUT DIA LENGTH 3.5MM	#6	>120	132		PASS
PULL OUT DIA LENGTH 4.2MM	#8	>185	200		PASS
PULL OUT DIA LENGTH 4.8MM	#10	>250	270		PASS
TEST DESCRIPTIONS		STANDARD	RESULT		
TEST ITEMS (Y/S)	SPEC	YIELD STRENGTH	YIELD STRENGTH		
LOAD CAPACITY ROD	6.5MM ROD	>280	310		PASS
PULL OUT DIA LENGTH 3.5MM	#6	>65	75		PASS
PULL OUT DIA LENGTH 4.2MM	#8	>100	115		PASS
PULL OUT DIA LENGTH 4.8MM	#10	>140	159		PASS
SCREWS SIZE #6 - 1/2" 3/4" 1" 1-1/4" 1-1/2" 2" 2-1/2" 3" 4"					
SCREWS SIZE #8 - 1/2" 3/4" 1" 1-1/4" 1-1/2" 2" 2-1/2" 3" 4"					
SCREWS SIZE #10 - 1/2" 3/4" 1" 1-1/4" 1-1/2" 2" 2-1/2" 3" 4"					

钟银标

PRODUCT CODE	SIZE	FINISH	
LG.LA161	102	01.153W	
PRODUCT		Satin Stainless Steel	SUPPLIER
BUTT HINGE	102mm X 102mm X 3mm		LAIDLAW GULF LLC

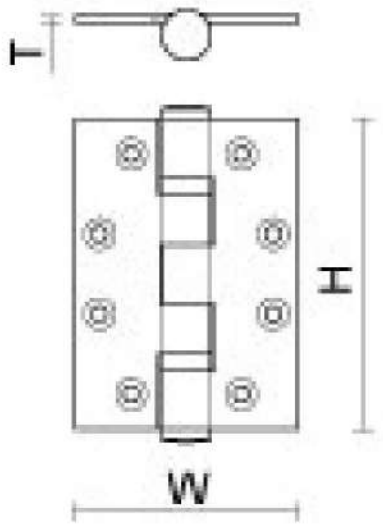
DESCRIPTION

BUTT HINGE

Features:
- 2 Ball Bearing
- 5 knuckles
- Size: 102mm x 102mm x 3mm
- Square corner
- Suitable up to 120kg door weight
- Stainless Steel Grade 304, Satin Finish
- Supplied with Stainless Steel countersunk fixing screws for wooden door

Classification:
- Tested to BS EN 1935 Grade 13, CE Marked with Classification Code: 4-7-6-1-1-4-0-13 Element Certificate no. 2812-CPR-AC5106
- Tested to BS EN 1634-1 with Certifire Certificate no. CF5762

IMAGE / TECHNICAL DRAWING



H = 102 mm
W = 102 mm
T = 3 mm

LAIDLAW GULF LLC
P.O. Box: 185292, 301 Mayfair Building, DIP-1, Dubai, UAE
Tel: 04-8857404 E-mail: info@laidlaw.ae
Website: www.laidlaw.ae

Member : Guild of Architectural Ironmongers

ISO 9001 Certified

PRODUCT CODE	SIZE	FINISH	
ITH-102X102	1mm	White	
PRODUCT			SUPPLIER
INTUMESCENT KIT			LAIDLAW GULF LLC

DESCRIPTION

HINGE INTUMESCENT PROTECTION PAD

Features:

- 2-part kit of hinge
- Suitable for hinge size 102mm X 102mm
- 1mm thick supplied in 2 pcs per hinge

IMAGE / TECHNICAL DRAWING

LAIDLAW GULF LLC
P.O. Box: 185292, 301 Mayfair Building, DIP-1, Dubai, UAE
Tel: 04-8857404 E-mail: info@laidlaw.ae
Website: www.laidlaw.ae

Member : Guild of Architectural Ironmongers

ISO 9001 Certified

PRODUCT CODE	SIZE	FINISH	
LG.LA8210	204	16.150	
PRODUCT		Silver	SUPPLIER
DOOR CLOSER	EN Size 2 to 4		LAIDLAW GULF LLC

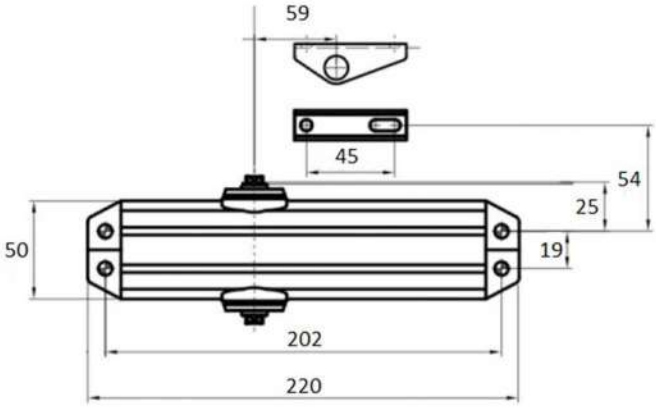
DESCRIPTION

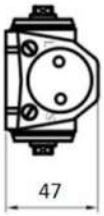
SURFACE MOUNTED OVERHEAD DOOR CLOSER

Features
- Adjustable power size EN 2-4
- with adjustable back check as a standard feature.
- Adjustable closing and latch action
- Non-Handed
- Suitable up to 1100mm door width
- Suitable up to 80kg door weight
- Supplied with LG.LA810A.16.150 Standard arm
- Body and Arm in Silver painted finish

Classification
- Tested to BS EN 1154
- CE Marked : Approved product
- Certifire Certificate number: CF5928 with classification codes: 3/8/2-4/1/1/3
- Fire safety: Suitable for fire rated doors

IMAGE / TECHNICAL DRAWING





LAIDLAW GULF LLC
P.O. Box: 185292, 301 Mayfair Building, DIP-1, Dubai, UAE
Tel: 04-8857404 E-mail: info@laidlaw.ae
Website: www.laidlaw.ae

Member : Guild of Architectural Ironmongers

ISO 9001 Certified

PRODUCT CODE	SIZE	FINISH	
LG.LA810A		16.150	
PRODUCT		Silver	SUPPLIER
DOOR CLOSER ARMSET			LAIDLAW GULF LLC

DESCRIPTION

FLAT ARMSET FOR DOOR CLOSER

Features
- Compatible with LA8110 and LA8210 closers
- Silver finish

IMAGE / TECHNICAL DRAWING

LAIDLAW GULF LLC
P.O. Box: 185292, 301 Mayfair Building, DIP-1, Dubai, UAE
Tel: 04-8857404 E-mail: info@laidlaw.ae
Website: www.laidlaw.ae

Member : Guild of Architectural Ironmongers

ISO 9001 Certified

PRODUCT CODE	FINISH	
LG.LA800.PAB	16.150	
PRODUCT	Silver	SUPPLIER
DOOR CLOSER ACCESSORIES		LAIDLAW GULF LLC

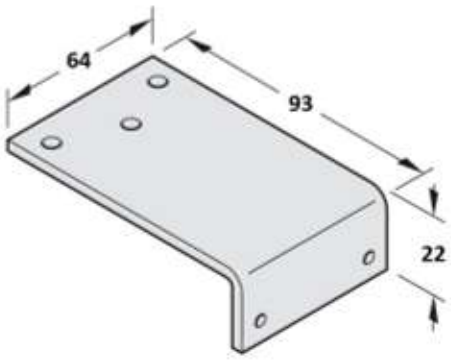
DESCRIPTION

PARALLEL ARM BRACKET FOR DOOR CLOSER

Features:

- 3mm thick plate
- Used for Fig. 6 door closer installation
- Compatible with LGA1 Surface Door Closers with Standard Arm
- Silver Finish

IMAGE / TECHNICAL DRAWING



LAIDLAW GULF LLC
P.O. Box: 185292, 301 Mayfair Building, DIP-1, Dubai, UAE
Tel: 04-8857404 E-mail: info@laidlaw.ae
Website: www.laidlaw.ae

Member : Guild of Architectural Ironmongers

ISO 9001 Certified

PRODUCT CODE	SIZE	FINISH	
LG.LA06	300	01.153	
PRODUCT		Stainless Steel Grade 304	SUPPLIER
PULL HANDLE			LAIDLAW GULF LLC

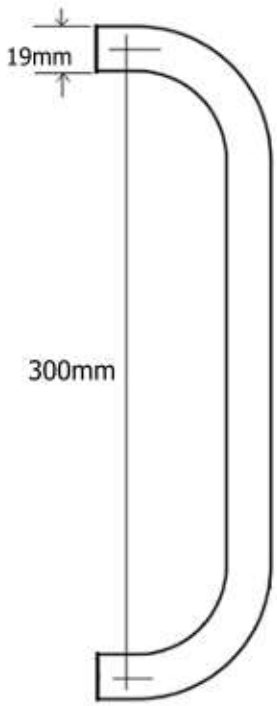
DESCRIPTION

PULL HANDLE

Features:

- 300mm x 19mm Round Bar
- For push/pull applications select an appropriate push plate for the other side of the door
- Meet the requirements of BS8300 for DDA applications
- Supplied complete with bolt through fixings to suit timber door
- Stainless Steel Grade 304, Satin finish

IMAGE / TECHNICAL DRAWING



LAIDLAW GULF LLC
P.O. Box: 185292, 301 Mayfair Building, DIP-1, Dubai, UAE
Tel: 04-8857404 E-mail: info@laidlaw.ae
Website: www.laidlaw.ae

Member : Guild of Architectural Ironmongers

ISO 9001 Certified

PRODUCT CODE	SIZE	FINISH	
LG.LA23E	350	01.153	Laidlaw
PRODUCT		Satin Stainless Steel Grade 304	SUPPLIER
PUSH PLATE	100mm X 350mm X 1.5mm		LAIDLAW GULF LLC

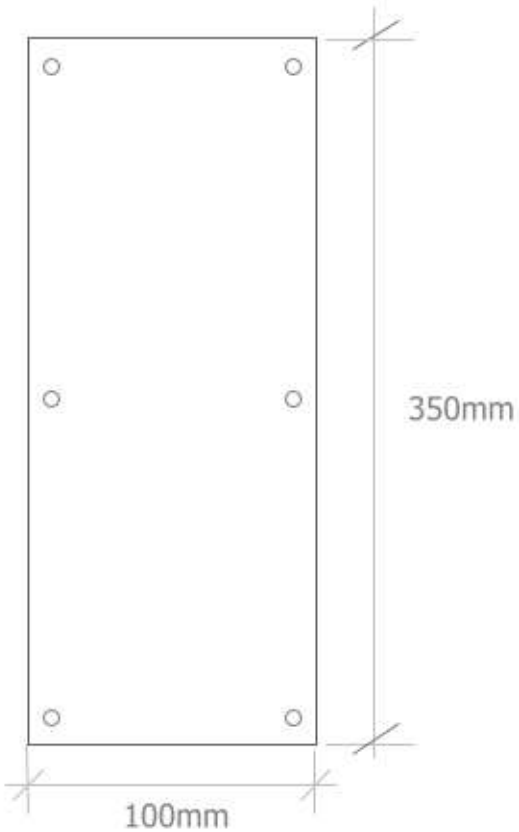
DESCRIPTION

PUSHPLATE

Features:

- With Black engraved "PUSH"
- Size: 350mm X 100mm X 1.5mm
- Radiused corners drilled and countersunk
- supplied complete with wood screws
- Stainless Steel Grade 304 with Black engraved letters

IMAGE / TECHNICAL DRAWING



LGAI

LAIDLAW GULF LLC
P.O. Box: 185292, 301 Mayfair Building, DIP-1, Dubai, UAE
Tel: 04-8857404 E-mail: info@laidlaw.ae
Website: www.laidlaw.ae

Member : Guild of Architectural Ironmongers GAI

ISO 9001 Certified

PRODUCT CODE	SIZE	FINISH	
AR755			
PRODUCT		Satin Stainless Steel	SUPPLIER
ROLLER LATCH			LAIDLAW GULF LLC

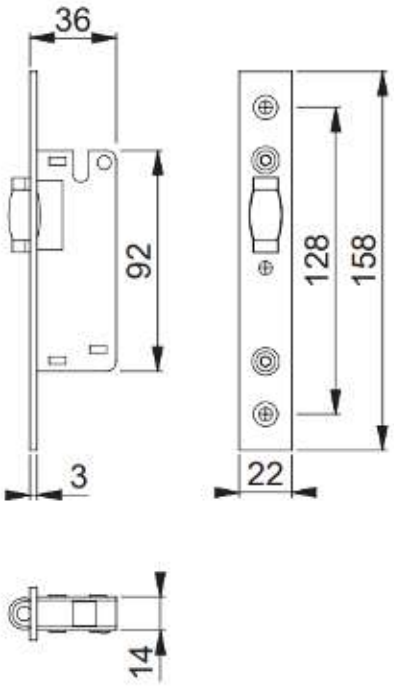
DESCRIPTION

ROLLER LATCH

Features:

- Function: Adjustable roller latch bolt 10-3mm adjustable
- Forend/strike material: Stainless steel grade 304
- Forend type: Removable
- Forend shape: Square
- Case size: Depth: 36 mm length: 92 mm width: 14 mm

IMAGE / TECHNICAL DRAWING



LAIDLAW GULF LLC
P.O. Box: 185292, 301 Mayfair Building, DIP-1, Dubai, UAE
Tel: 04-8857404 E-mail: info@laidlaw.ae
Website: www.laidlaw.ae

Member : Guild of Architectural Ironmongers

ISO 9001 Certified

PRODUCT CODE	SIZE	FINISH	
ITL-AR755	2mm	White	
PRODUCT			SUPPLIER
INTUMESCENT KIT			LAIDLAW GULF LLC

DESCRIPTION

INTUMESCENT PROTECTION PAD FOR LOCK

Features:

- Intumescent protection 2-part kit of lock
- Suitable for AR755 Roller Latch
- 2mm thick
- Suitable fire rated wood doors

IMAGE / TECHNICAL DRAWING

Image of intumescent only for location purposes
Actual size varies on the lock dimension

LAIDLAW GULF LLC
P.O. Box: 185292, 301 Mayfair Building, DIP-1, Dubai, UAE
Tel: 04-8857404 E-mail: info@laidlaw.ae
Website: www.laidlaw.ae

Member : Guild of Architectural Ironmongers

ISO 9001 Certified

11 ADDITIONAL ATTACHMENT

Technical documentation:

REVISION HISTORY OF THE TEST REPORT No. 0054-25-TR-03A

REVISION HISTORY

REV. No.	AUTHOR	DESCRIPTION	PAGE No.	REPORT NO.	DATE
-	Ginalyn Mauricio	Issue of the test report.	-	0054-25-TR-03	25.04.2025
A	Ginalyn Mauricio	4.5 Final Setting It was: The doors were latched, and the key was removed from the lock. The door closer was connected. Changed to: The door set was considered as a latched door set as roller latch was installed. The door closer was connected.	14	0054-25-TR-03A	30.04.2025

--END OF THE REVISION HISTORY--

12 WITNESSES THE TEST

Test sponsor and/or other representative(s) witnessing the test.	Mr. Nitin Kumar– representative of the Test Sponsor Mr. Sarath P.S – representative of the Test Sponsor Mr. Mohammed Nouman– representative of ESL Certification

13 SIGNATORIES

Prepared by	***Reviewed by***	***Authorized by***
Ginalyn Mauricio *Testing Engineer*	Dr. Sebastian Ukleja *Testing Manager*	Dr. Sebastian Ukleja *Testing Manager*
 Signature	 Signature	Signature

--END OF REPORT--