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TL-1195

GUANGDONG YOHOME DOOR CO., LTD

TEST REPORT

SCOPE OF WORK
AS 1530.4: 2014 Fire Resistance Testing on Single Leaf Single Action Timber Composite Fire Door, Model: YHASFD60, When Installed in Plasterboard Partition

REPORT NUMBER
240823132GZC-001 R2

TEST DATE(S)
2024-09-09

ISSUE DATE
2024-12-12

REVISED DATE
2025-09-26

PAGES
30

Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

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Test Report

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REPORT ISSUED TO

Applicant	:	GUANGDONG YOHOME DOOR CO., LTD
Address	:	2108, Block 4, Jiabang Guojin Center, No. 1, Pingzhou Shilong South Road, Guicheng Street, Nanhai District, Foshan City
Manufacturer	:	GUANGDONG YOHOME INDUSTRIAL CO., LTD
Address	:	No. 280 Hefu Road, Hecheng Street, Gaoming District, Foshan City

SECTION 1
SCOPE

Intertek has conducted an evaluation for GUANGDONG YOHOME DOOR CO., LTD to determine the fire resistance characteristics of the Single Leaf Single Action Swing Timber Composite Fire Door, model: YHASFD60, when installed in plasterboard partition. The test was conducted on September 9, 2024. Test Location: C2-1, Heping Xu, Yongning Street, Zengcheng District, Guangzhou, China.

The test was conducted in accordance with AS 1530.4: 2014, Methods for fire tests on building materials, components and structures - Part 4: Fire-resistance tests for elements of construction, Section 7 Doorsets and shutter assemblies and AS 1905.1: 2015*, Components for the protection of openings in fire-resistant walls - Part 1: Fire-resistant doorsets, Section 3 Determination of fire resistance.

* indicates this standard isn't approved by the IAS.

SECTION 2
SUMMARY OF TEST RESULTS

Summary of Test Assembly

The specimen was referenced Doorset B for the purposes of the test. A second specimen was tested simultaneously and is the subject of a separate report.

The specimen had an overall size of 2450 mm high by 1100 mm wide and incorporated a door leaf of overall dimension 2400mm high by 1013 mm wide by 55 mm thick. The door leaf was hung within a timber composite frame on four stainless steel hinges. The door leaf was constructed of 4.5 mm thick plywood and 8 mm thick fireproof board sandwiching a 30 mm thick fire-rated door core perlite. The door leaf included stiles, rails, mid-rails and lock block which were made of flame-retardant solid wood. The stiles and rails were fixed together by steel staple. One number of 30mm (w) x 4mm (t) fire intumescent seal was mortised mounted at vertical edge and top edge of the door leaf. One number of 30mm (w) x 4mm (t) fire intumescent seal was mortised mounted at the rabbet of jamb and head of the door frame. One number of 15mm (w) x 30mm (t) automatic drop seal was fitted at the bottom of door leaf. A surface-mounted door closer with regular arm was at the top rim of the door leaf on the pull side (Unexposed side). A mortice lock was fitted in the door leaf. The doorset was latched but not locked during the test.

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The leaf of Doorset B was orientated such that it opened away from the heating conditions of the test

The door frame was installed in steel stud framed wall with two layers of 12.5mm thick plasterboard on each side and filled with mineral wool.

Test Result

Test result for doorset B, opening away from furnace:

PERFORMANCE CRITERIA	RESULTS
Structural adequacy	Not applicable
Integrity	60 minutes
Insulation	60 minutes
Fire resistance level (FRL)	-/60/60

The test specimen satisfied the applicable performance criteria of Fire Resistance Level (FRL):-/60/60. The FRL is applicable for exposure to fire from the same direction as tested.

The test was discontinued after a period of 60 minutes at the request of the sponsor.

Report Authorized:

Authorized By: Kevin Pan
Reviewer

Completed By: Jim Li
Project Engineer

Noted: If you have any questions for the report, please contact: lillian.lf.he@intertek.com

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SECTION 3
TEST METHOD

The specimen was evaluated in accordance with the following:

AS 1530.4-2014, *Methods for fire tests on building materials, components and structures - Part 4: Fire-resistance tests for elements of construction, Section 7 Doorsets and shutter assemblies.*

AS 1905.1-2015*, *Components for the protection of openings in fire-resistant walls - Part 1: Fire-resistant doorsets, Section 3 Determination of fire resistance.*

* Indicates this standard wasn't accredited by the IAS.

SECTION 4
SAMPLE VERIFICATION AND CONSTRUCTION

Sampling / Specimen Selection

The test specimen was provided to Intertek directly by the client and was not independently selected for testing. The test specimen was received in good condition at the Evaluation Center on Sep. 5, 2024 and the sample ID number assigned by the test lab is S240823132GZU.001~002.

Support Construction and Installation

The doorset was mounted within an aperture in a plasterboard partition to form the test construction. The partition was constructed of nominal 75 mm x 45 mm C studs sandwiched with 50 mm rock wool with two layers of 12.5 mm plasterboard on both faces. The specimen was fixed with four self-tapping screws per jamb and one self-tapping screw on the middle of header within an aperture in the partition. The gap between the specimen and plasterboard partition was nominal 10 mm, this gap was filled with rock wool on both sides. Free edges were left at each vertical end of plasterboard partition and the 40 mm gap was filled with rock wool to create an impermeable barrier. The plasterboard partition was erected by representatives of the laboratory. Installation was conducted by representatives of test sponsor on Sep. 5, 2024.

Conditioning

After installation, the test specimen was subjected to normal laboratory temperatures and conditions between the completion of construction of the test specimen and the start of the test over a total combined time of 4 days. Throughout this period, both temperature and humidity of the laboratory were measured and recorded as being within a range of 30.2°C to 37.1°C and 51.0% to 75.8% respectively.

Test Specimen Construction

A comprehensive description of the test construction is given in the Schedule of Construction Components. The description is based on a detailed survey of the specimens and information supplied by the sponsor of the test.

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SECTION 5
MATERIAL SOURCE/INSTALLATION

A description of the test assembly is given in the table below. The description of test specimen was provided by the client. All values quoted below are nominal, unless tolerances are given.

ASSEMBLY UNITS		DESCRIPTION					
Door	Type	Single Leaf Single Action Swing Timber Composite Fire Door					
	Nominal Size	1013	mm wide	2400	mm high	55	mm thick
	Main materials	Facing: 4.5 mm plywood with the density of 760 kg/m^3 Sub-facing: 8 mm magnesium oxide fire rated board with the density of 1000 kg/m^3 Door core: 30 mm magnesium oxide fire rated door core panel with the density of 450 kg/m^3 Top & Bottom Rail: 50×30 mm flame retardant solid wood(Spruce lumber) with the density of 800 kg/m^3 Left & Right Stile: 50×30 mm flame retardant solid wood(Spruce lumber) with the density of 800 kg/m^3 Medium Rail & Stile: 40×30 mm flame retardant solid wood(Spruce lumber) with the density of 800 kg/m^3 Block for lock: 200×100×30 mm flame retardant solid wood(Spruce lumber) with the density of 800 kg/m^3					
Frame	Nominal Size	1100	mm wide	2450	mm high	110	mm depth
	Material	Facing: 4.5 mm plywood with the density of 760 kg/m^3 Sub-facing: 5 mm magnesium oxide fire-rate board with the density of 1000 kg/m^3 Core: Flame retardant solid wood (Spruce lumber) with the density of 800 kg/m^3					
	Jambs to head joint method:	Butt joint & screwed, using 100 mm length and 5 mm diameter countersunk head wood screws.					
	Installation	The frame was installed in light steel keel opening by four (4) sets of self-tapping screw on each frame jamb, spaced approx. 700 mm and one set of self-tapping screw on middle of frame header.					

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ASSEMBLY UNITS		DESCRIPTION
Hardware	Lock	Manufacturer: JIANGMEN LIKCOO HARDWARE MANUFACTURING CO LTD Type: Mortice lock Model: ML023 Backset: 70 mm; Latch bolt: 19.05 mm; Latch bolt: engaged; Deadbolt: disengaged.
	Hinge	Manufacturer: JIANGMEN LIKCOO HARDWARE MANUFACTURING CO LTD Type: Stainless Steel 304; Model: SSA002-4.5''x 4''x 3 Quality: Four; Size: 4.5''x 4''x 3 mm; Fixing: 30 mm length 5 mm diameter countersunk head wood screws, 4 off per blade
	Lever Handle	Manufacturer: JIANGMEN LIKCOO HARDWARE MANUFACTURING CO LTD Model: SH101 Type: Sprung return lever handle; Material: Stainless steel
	Door closer	Manufacturer: JIANGMEN LIKCOO HARDWARE MANUFACTURING CO LTD Model: DL005-3 Location: Surface mounted on the pull side.
	Drop seal	Manufacturer: ATHMER OHG Model: M-15/30 EK Size: 15 x 30 mm Location: Concealed mounted on bottom of the door leaf.
Intumescent Seal		Manufacturer: Foshan Nanhai Chong Tai Fireproof Material Company Limited Model: FQ-C3004 Size: 4 x 30 mm Location: a) One strip mortise mounted on both jambs and header of the door leaf and frame; b) One strip mortise mounted, centred on thickness vertical edges and top edge of door leaf;
Smoke Seal		Manufacturer: Foshan Nanhai Chong Tai Fireproof Material Company Limited Model: FQ-VA002 Size: 15 x 15 mm Location: One strip surfaced mounted on the stop of door frame.

The drawings of the test specimen and test wall construction can be found in Section 10 and 11 respectively.

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SECTION 6
INSTRUMENTATION

The instrumentation was provided in accordance with the requirements of the Standard.

Furnace	The furnace temperature was measured by nine mineral insulated metal sheathed Type K thermocouples, distributed over a plane 100 mm from the surface of the test construction.
Thermocouple Allocation	Thermocouples were provided to monitor the unexposed surface of the specimen. The output of all instrumentation was recorded at no less than one minute interval as follows:
Thermocouples 31 to 35 on Doorset B	At five positions on the unexposed surface of the doorset, one approximately at the centre and one at the approximate centre of each quarter section of each doorset.
Thermocouples 36 to 40 on Doorset B	At five positions on the unexposed surface of the door leaf, positioned at 100 mm in from the door leaf vertical edges, two at mid-height, and three at 100 mm below the top edge of the leaf.
Thermocouples 41 to 45 on Doorset B	At five positions on the unexposed surface of the door frame, positioned at 15 mm from the door frame vertical edges, two at mid-height, and three at 15 mm below the top edge of the frame.
Thermocouples 46 to 50 on Doorset B	At five positions on the unexposed surface of separating element, positioned at 100 mm from the door frame vertical edges, two at mid-height, and three at 100 mm above the top edge of the frame.
	The locations and reference numbers of the various unexposed surface thermocouples are shown in Figure 4.
Roving Thermocouple	A 'type K' roving thermocouple was available to measure temperatures on the unexposed surface of the specimen at any position which might appear to be hotter than the temperatures indicated by the fixed thermocouples.
Furnace Pressure	After the first 5 minutes of the test and for the remainder of the test, the furnace pressure was maintained at 0±3 Pa with respect to laboratory atmosphere. The furnace pressure was measured at 1000 mm above the notional floor level.
Integrity Criteria	Cotton pads and gap gauges were provided to evaluate the integrity of the specimen.

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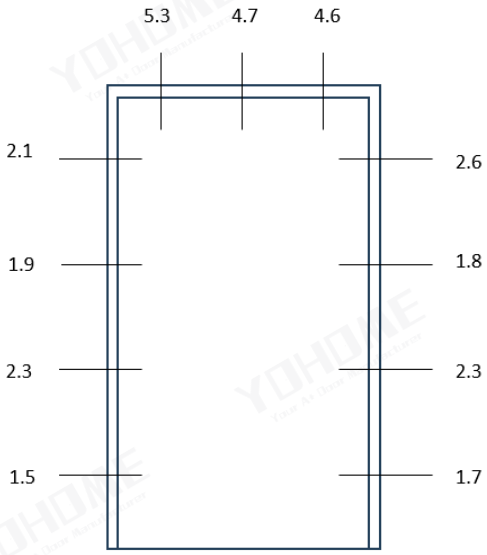
SECTION 7
PRE-TEST MEASUREMENT

Pre-test functionality test

Opening and closing cycles	The doors were subjected to a series of 50 opening and closing cycles of at least 75° for side-hung doorsets in accordance with Clause 7.2.5 of AS 1530.4: 2014.
Closing Force	68 N @ Handle position

Gap measurement data

The primary clearance gaps between the edge of the door leaf and frame were measured and summarized in the following table.



Measured from Unexposed Face

Average clearance measurements	Doorset	Doorset B
	Top edge	4.9 mm
	Latch edge	2.0 mm
	Hinge edge	2.1 mm

Final Setting

The specimen was subjected to a final closing in accordance with clause 7.2.7 of AS 1530.4:2014 which involved opening the door leaf to a distance of approximately 300 mm and returning them to the closed position.

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SECTION 8
PERFORMANCE CRITERIA AND TEST RESULTS

Performance Criteria

Integrity

Integrity failure shall be deemed to have occurred when one of the following occurs:

a) Integrity failure shall be deemed to have occurred upon ignition of the cotton pad when glowing or flaming occurs or for a period of 30 seconds.

d) Sustained flaming on the unexposed face for 10 seconds or longer shall be deemed to be integrity failure.

c) Integrity failure shall be deemed to occur when a 6mm gap gauge can be passed through the specimen so that the gap gauge projects into the furnace and can be moved a distance of 150mm along the gap.

d) Integrity failure shall be deemed to occur when a 25mm gap gauge can be passed through the specimen so that the gap gauge projects into the furnace

e) For side-hung doorsets with door leaf or leaves having a latching mechanism, failure in respect to integrity shall be considered to have occurred when this mechanism ceases to be engaged. If the latching mechanism is disengaged at the end of the test and the time to disengagement is not recorded during the test, a zero-integrity level shall be assigned.

Insulation

Insulation failure shall be deemed to have occurred when one of the following occurs:

a) The average temperature of the unexposed face of the test specimen, as measured by the thermocouples specified in clause 2.2.3.1, exceeds the initial temperature by more than 140 K.

b) The temperature at any location on the unexposed face of the test specimen exceeds the initial temperature by more than 180 K.

Radiation

a) Failure in relation to radiation shall be deemed to have occurred when the calculated total heat flux at a distance of 365 mm exceeds 10 kW/m^2.

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Test Result

Doorset B - opening away from furnace:

Integrity

No through openings or penetrations were evident at this 60 minutes' fire exposure portion of the test. No cotton pad or significant flaming were observed on the unexposed face of the assembly for 60 minutes. The latching mechanism was visibly engaged.

Insulation

Transmission of heat through the assembly during the fire resistance test of 60 minutes did not raise the average temperature on the unexposed surface by more than 140°C above its initial value and did not raise the maximum temperature on the unexposed surface by more than 180°C above the initial mean unexposed face temperature.

The test was discontinued after a period of 60 minutes at the request of the sponsor.

A full set of test data is included in Section 13, and photographs have been presented in Section 14.

SECTION 9
APPLICATION OF TEST RESULTS

The results of these fire tests may be used to directly assess fire hazard, but it should be recognized that a single test method will not provide a full assessment of fire hazard under all fire conditions.

These results only relate to the behaviour of the specimen of the element of the construction under the particular conditions of the test. They are not intended to be the sole criteria for assessing the potential fire performance of the element in use, and they do not necessarily reflect the actual behaviour in fires.

This report details methods of construction, the test conditions and the results obtained when the specific element of construction described herein was test following the procedure outlined in AS 1530.4. Any significant variation with respect to size, construction details, loads, stresses, edge or end conditions, other than that allowed under the field of direct application in the relevant test method, is not cover by this report.

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

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SECTION 10

FIRE DOOR ASSEMBLY DRAWING

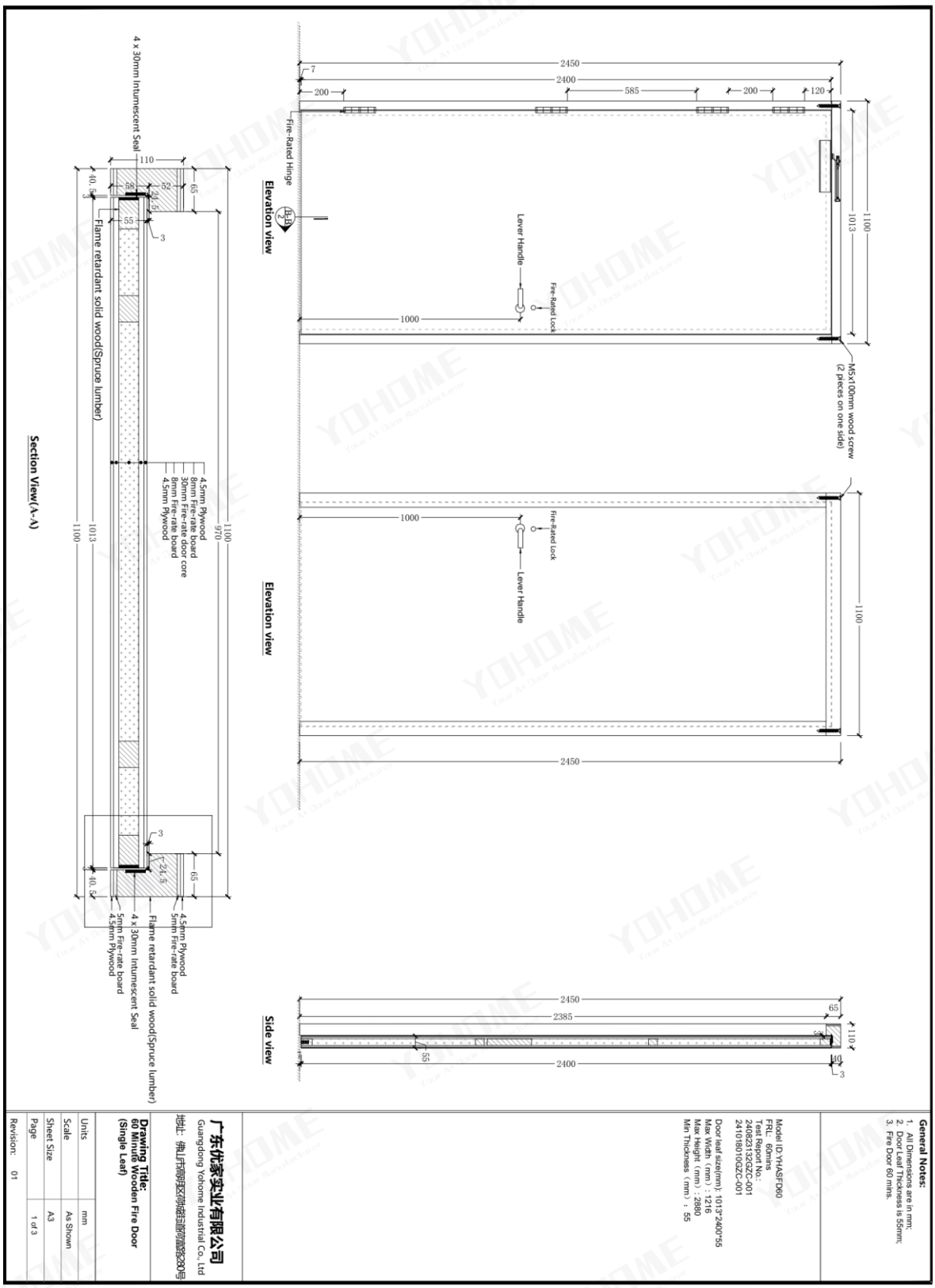

Figure 1 – General Elevation of Test Doorset

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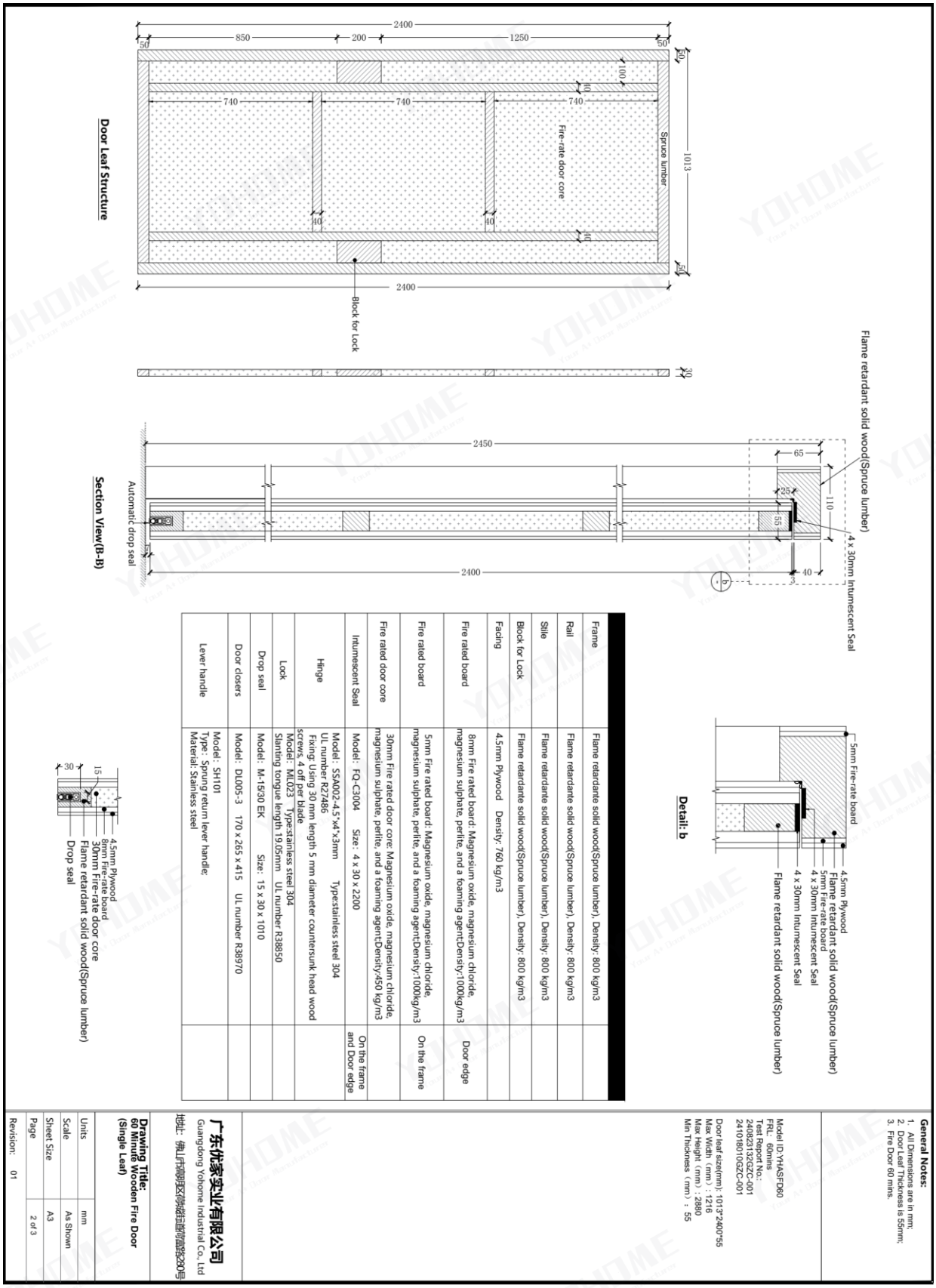

Figure 2 – Internal Structure of Door Leaf

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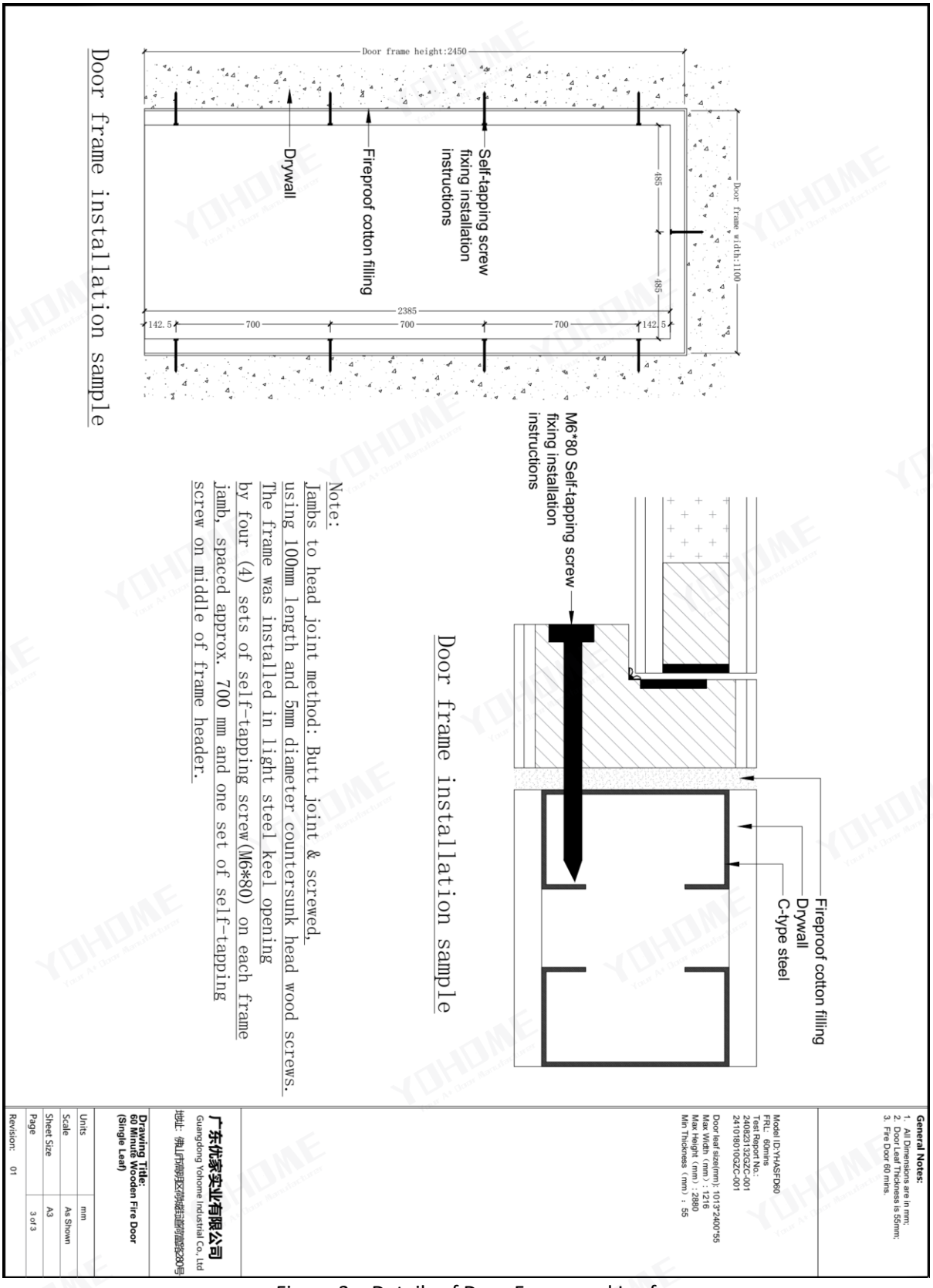

Figure 3 – Details of Door Frame and Leaf

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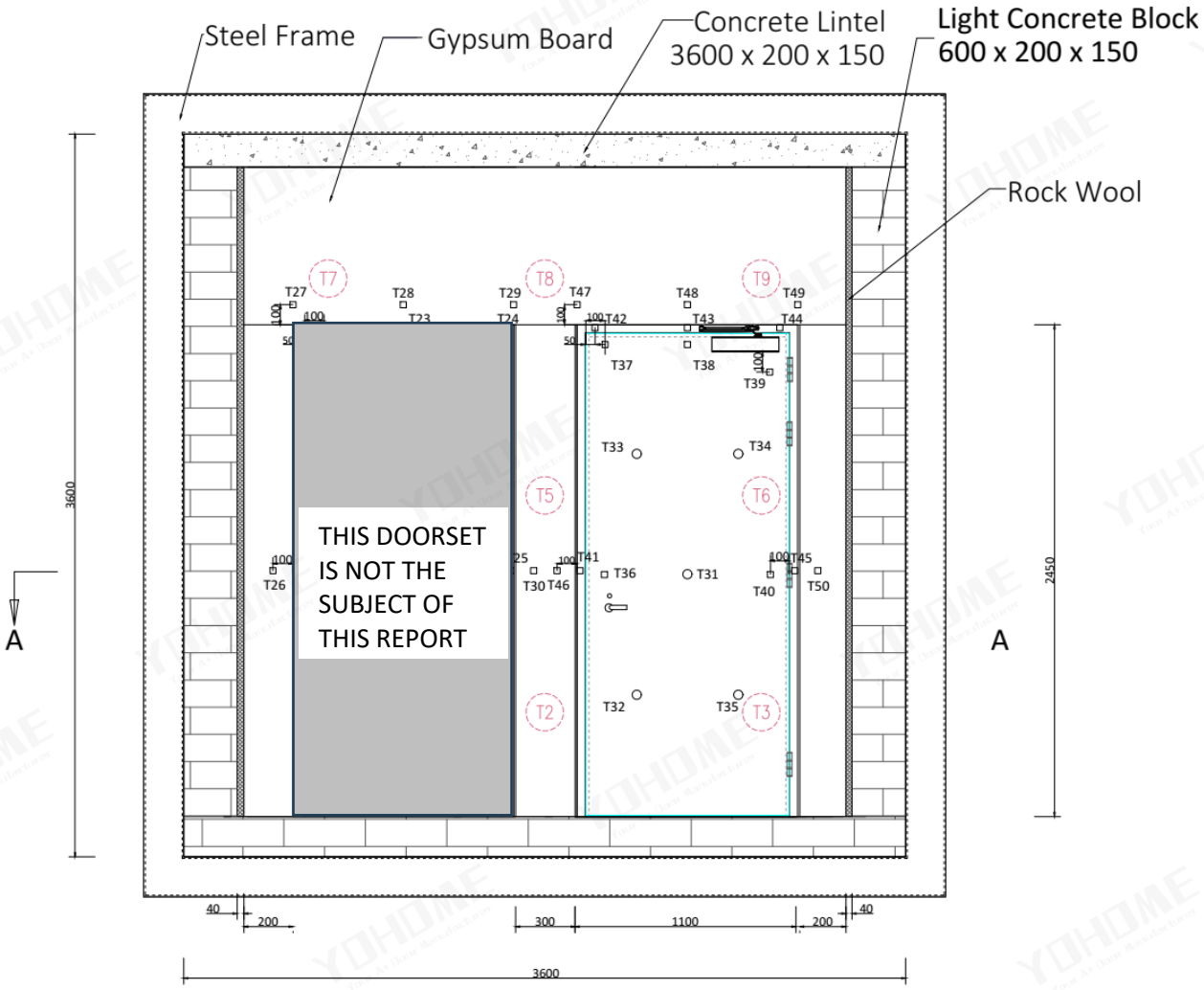
SECTION 11

TEST WALL CONSTRUCTION



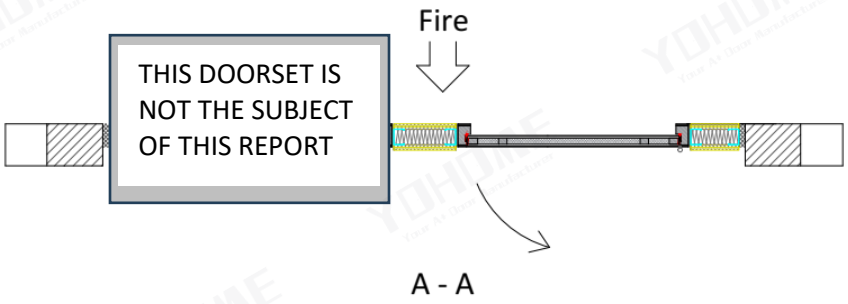
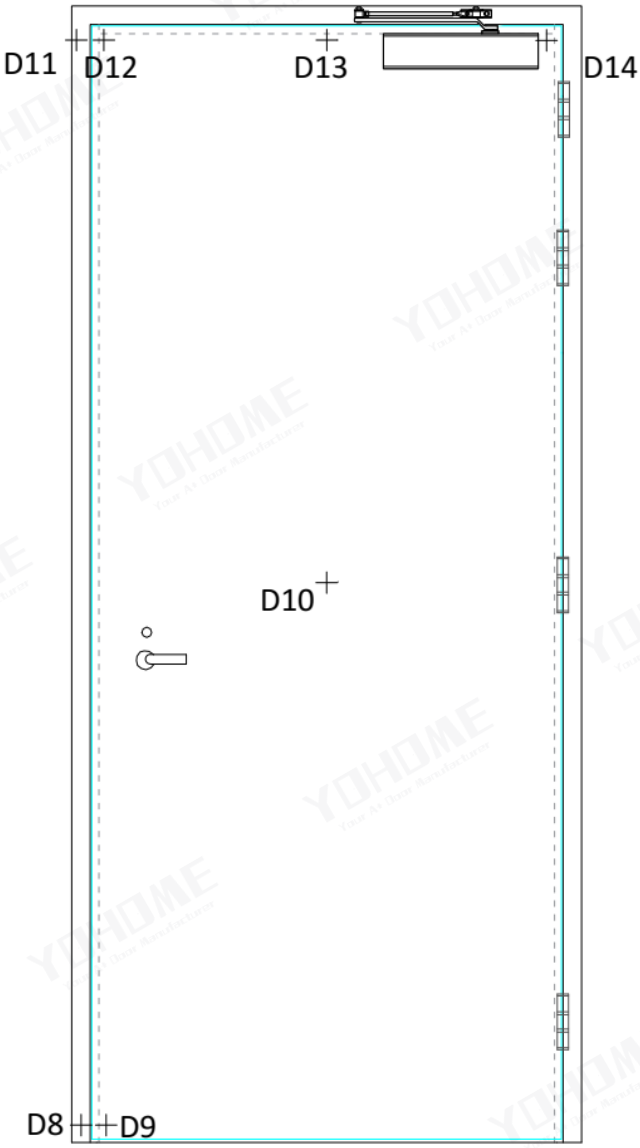


Figure 4 – Locations and reference number of thermocouples to monitor the temperature

T1 ~ T9 Position for furnace thermocouples
○ Positions for thermocouples for average and maximum temperature rise.
□ Positions for thermocouples for maximum temperature rise.

SECTION 12

TEST MEASUREMENT DATA



UNEXPOSED SIDE

+ Positions for deflection measurement

Figure 5 – Locations for horizontal deflection of measurements of doorset B

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SECTION 13
TEST DATA

Test Observations

The ambient air temperature in the vicinity of the test construction was 29.8 ℃ at the start of the test with maximum variation of -1.2℃ during the test.

Time		All observations are from the unexposed face unless noted otherwise.
Mins	Secs	
00	00	Test started.
01	01	Doorset B, smoke issued from leading edge of the doorset.
03	05	Doorset B, smoke issued from bottom edge of the doorset.
04	32	There was an unidentified sound emitted from the doorset.
07	17	Doorset B, smoke issued from leading edge and top edge of the doorset.
18	24	Doorset B, there was unidentified liquid emitted from top edge of the doorset.
28	46	Doorset B, smoke still issued from top edge of the doorset.
30	00	No integrity failure has occurred.
34	12	Doorset B, the top hinge of the doorset was blackened.
43	56	Doorset B, heavy smoke issued from top edge of the doorset.
47	20	The top left corner of the door frame was blackened.
59	50	Doorset B, smoke still issued around the doorset.
60	00	Test was discontinued at the request of the sponsor.
After Test		Latching mechanism was visibly engaged.

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Temperature Data:

Mean furnace temperature together with temperature-time relationship specified in the standard

Time Mins	Specified Furnace Temperature/ °C	Furnace Mean Temperature/ °C
0	20	30
2	445	268
4	544	501
6	603	600
8	645	660
10	678	691
12	705	719
14	728	742
16	748	764
18	766	772
20	781	791
22	796	807
24	809	824
26	820	837
28	832	847
30	842	856
32	851	867
34	860	877
36	869	885
38	877	900
40	885	910
42	892	906
44	899	917
46	906	918
48	912	922
50	918	925
52	924	928
54	930	938
56	935	943
58	940	949
60	945	960

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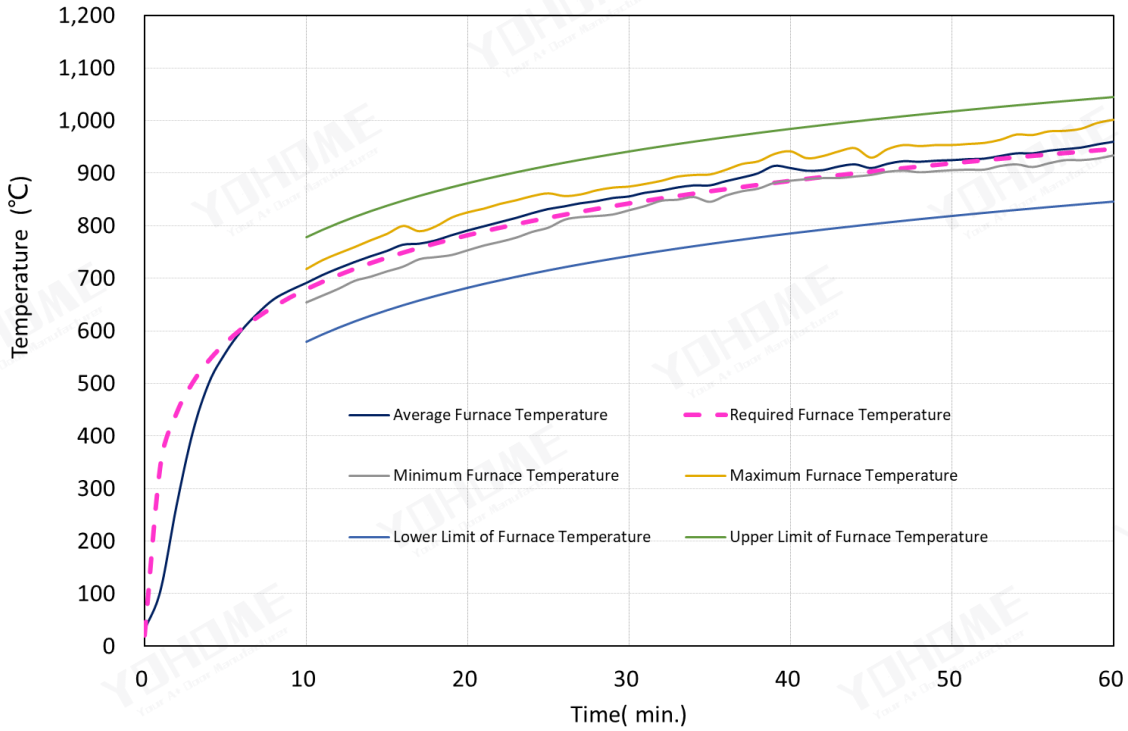
Graph for mean furnace temperature and temperature - time curve specified in the standard



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Mean unexposed surface temperatures of the door leaf of Doorset B

Time Mins	T31 (°C)	T32 (°C)	T33 (°C)	T34 (°C)	T35 (°C)	Mean temperature (°C)
0	24.9	29.5	26.0	26.0	25.4	26.4
2	25.4	28.9	26.6	26.0	25.4	26.5
4	25.4	29.5	26.0	25.4	26.0	26.5
6	25.4	29.5	25.4	25.4	26.0	26.3
8	24.9	29.5	25.4	25.4	26.0	26.2
10	24.9	29.5	25.4	25.4	25.4	26.1
12	25.4	29.5	25.4	26.0	26.0	26.5
14	26.6	31.2	26.6	27.2	27.2	27.8
16	28.3	33.0	28.3	29.5	29.5	29.7
18	30.1	35.3	30.6	31.8	31.8	31.9
20	33.0	38.7	33.5	34.7	34.7	34.9
22	35.8	41.8	35.8	37.0	37.6	37.6
24	38.7	45.2	39.0	40.1	40.7	40.7
26	41.2	48.5	42.4	42.9	44.0	43.8
28	44.0	51.3	45.2	46.3	46.8	46.7
30	46.3	54.1	48.0	48.5	49.7	49.3
32	48.0	56.4	50.8	51.3	51.9	51.7
34	50.8	59.2	53.0	54.1	54.7	54.4
36	53.6	60.3	55.3	57.0	56.4	56.5
38	56.4	62.0	57.5	59.2	58.6	58.7
40	55.8	63.7	59.8	62.6	60.3	60.4
42	54.7	65.4	61.4	64.8	62.6	61.8
44	53.6	67.6	63.1	67.1	64.8	63.2
46	52.5	69.3	64.3	68.7	65.4	64.0
48	52.5	71.6	65.4	70.4	67.1	65.4
50	51.9	72.7	65.9	71.0	68.2	65.9
52	52.5	72.7	66.5	71.6	68.7	66.4
54	52.5	72.7	67.1	72.1	69.3	66.7
56	52.5	72.7	67.6	71.6	69.3	66.7
58	52.5	73.2	67.6	71.6	69.3	66.8
60	52.5	73.2	68.2	71.6	69.3	67.0

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Individual unexposed surface temperatures of the door leaf and frame of Doorset B

Time Mins	T36 (°C)	T37 (°C)	T38 (°C)	T39 (°C)	T40 (°C)	T41 (°C)	T42 (°C)	T43 (°C)	T44 (°C)	T45 (°C)
0	25.4	27.2	26.0	26.0	23.7	24.3	24.3	31.2	31.8	28.3
2	24.9	27.8	26.0	25.4	24.3	27.8	29.5	31.2	31.8	28.9
4	25.4	27.2	26.0	24.9	24.3	29.5	40.1	31.2	32.4	28.9
6	25.4	28.3	25.4	24.9	24.3	31.2	44.0	33.5	34.1	29.5
8	26.0	28.3	25.4	24.9	24.3	32.4	48.0	37.0	36.4	29.5
10	26.6	27.8	26.0	24.9	24.3	34.7	55.3	40.7	38.7	30.1
12	26.6	28.3	26.0	26.0	24.3	39.0	64.3	45.2	41.2	30.6
14	29.5	30.1	27.8	26.6	25.4	46.8	64.8	48.5	47.4	31.2
16	31.2	32.4	29.5	28.3	27.2	48.5	62.6	60.9	64.3	32.4
18	34.1	33.5	31.2	30.6	28.9	49.1	60.9	77.2	/	35.8
20	37.6	36.4	34.1	32.4	31.8	51.9	66.5	74.9	/	37.6
22	39.5	37.6	36.4	35.8	33.5	53.6	65.9	57.5	/	40.1
24	42.4	39.0	39.0	37.0	36.4	57.5	65.4	54.1	/	45.7
26	44.0	39.5	41.8	39.0	38.7	57.5	62.0	52.5	/	49.7
28	46.3	41.8	44.6	41.2	40.7	58.6	55.8	50.8	/	51.9
30	48.0	44.0	47.4	42.9	42.9	59.8	54.7	52.5	/	55.3
32	51.3	46.8	49.7	45.7	45.2	63.1	53.6	54.7	/	62.0
34	54.1	49.1	49.1	48.0	47.4	66.5	50.2	50.8	/	60.9
36	55.8	50.2	50.2	50.8	50.2	70.4	48.5	51.3	/	60.9
38	58.1	52.5	51.9	54.1	53.0	73.2	48.0	51.3	/	61.4
40	60.3	53.6	54.7	56.4	/	71.0	47.4	50.2	/	61.4
42	62.0	55.3	56.4	58.6	/	71.6	49.7	49.7	/	61.4
44	63.7	55.8	58.6	61.4	/	69.9	51.9	48.5	/	62.0
46	63.7	57.5	60.9	63.1	/	69.9	51.3	48.0	/	62.6
48	68.2	57.0	62.6	65.4	/	67.1	50.8	47.4	/	62.6
50	69.9	58.1	65.4	67.1	/	66.5	54.1	46.8	/	62.0
52	68.7	58.1	67.6	68.2	/	66.5	58.1	46.8	/	62.0
54	68.2	58.6	69.3	69.3	/	67.6	60.3	47.4	/	62.6
56	72.1	58.1	71.0	69.9	/	68.7	64.8	48.0	/	63.7
58	67.1	58.1	72.1	69.9	/	72.1	69.9	48.0	/	64.3
60	69.3	59.8	72.7	70.4	/	76.6	71.0	48.0	/	67.1

"/" indicates thermocouple malfunction.

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Total Quality. Assured.

Test Report

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Individual unexposed surface temperatures of the separating element of Doorset B

Time Mins	T46 (°C)	T47 (°C)	T48 (°C)	T49 (°C)	T50 (°C)
0	25.4	24.3	25.4	24.3	24.9
2	25.4	24.9	25.4	24.3	24.9
4	25.4	24.9	24.9	24.9	24.3
6	25.4	26.6	25.4	25.4	24.3
8	25.4	25.4	24.9	27.8	24.9
10	26.6	26.0	25.4	33.0	25.4
12	29.5	28.3	26.0	38.2	27.2
14	34.1	31.2	27.8	42.4	30.1
16	39.0	35.8	32.4	44.6	33.0
18	43.5	39.0	45.2	46.3	36.4
20	47.4	43.5	53.6	52.5	39.5
22	51.3	46.3	44.0	56.4	43.5
24	55.3	49.1	46.8	58.1	47.4
26	59.2	52.5	48.0	59.2	51.9
28	62.0	54.7	49.7	59.8	55.8
30	63.1	55.8	50.8	61.4	57.5
32	64.3	57.5	51.9	61.4	59.2
34	65.4	59.2	52.5	61.4	61.4
36	67.1	60.3	54.7	60.9	63.7
38	67.6	60.3	55.3	60.9	64.8
40	67.6	60.9	56.4	60.3	65.9
42	67.6	60.9	57.5	60.3	66.5
44	67.1	61.4	58.1	60.9	66.5
46	65.4	60.3	58.1	60.3	64.8
48	64.3	59.8	57.5	60.9	64.3
50	62.6	59.2	57.5	59.8	63.7
52	61.4	59.2	58.1	57.5	62.6
54	61.4	58.6	58.1	56.4	63.1
56	62.0	57.5	58.6	55.8	63.7
58	63.1	56.4	58.6	54.7	63.7
60	64.3	55.8	59.2	54.7	65.4

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Horizontal Deflection (Positive values indicate movement into the furnace)

A steel ruler was provided to measure the horizontal deflections of the specimen relative to base line. The measurement positin in Figure 5.

Maximum deflection value of the specimen was **BOLDED** at the following table.

Time Mins	D8 (mm)	D9 (mm)	D10 (mm)	D11 (mm)	D12 (mm)	D13 (mm)	D14 (mm)
0	0	0	0	0	0	0	0
10	1	2	0	10	13	5	8
20	2	5	2	13	15	5	10
30	2	5	3	15	15	7	10
40	2	2	0	16	20	10	12
50	2	-3	0	15	20	10	5
55	2	-5	0	15	23	10	5
60	2	-8	-3	15	**25**	12	5

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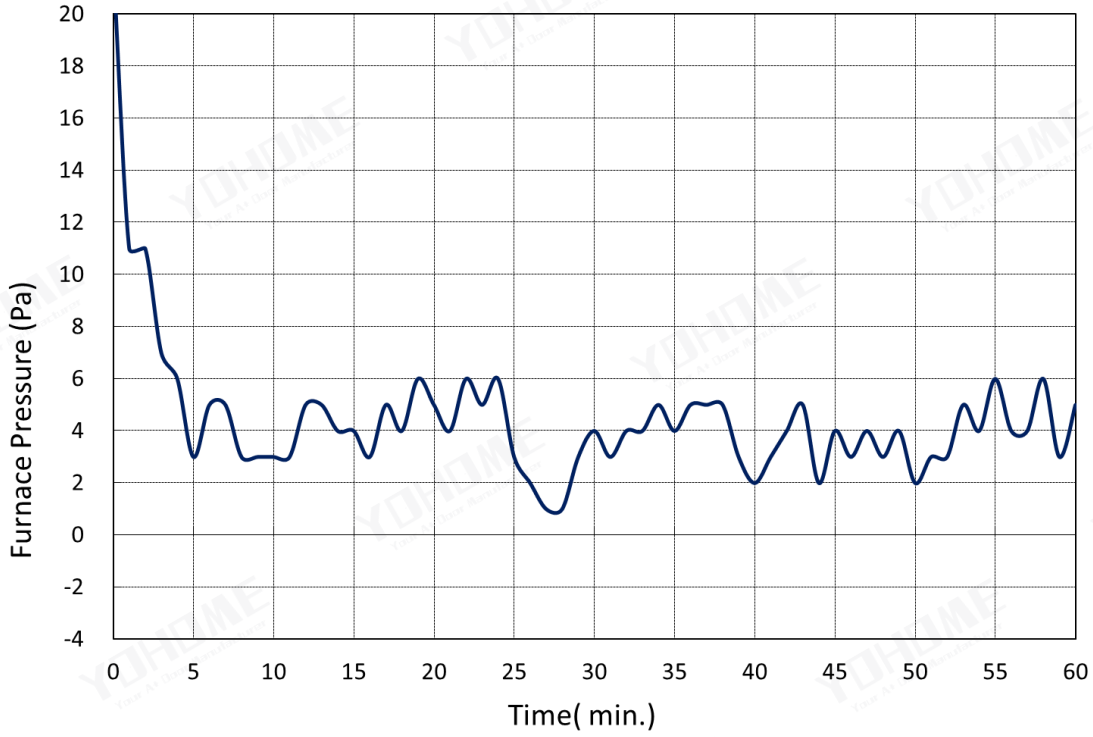
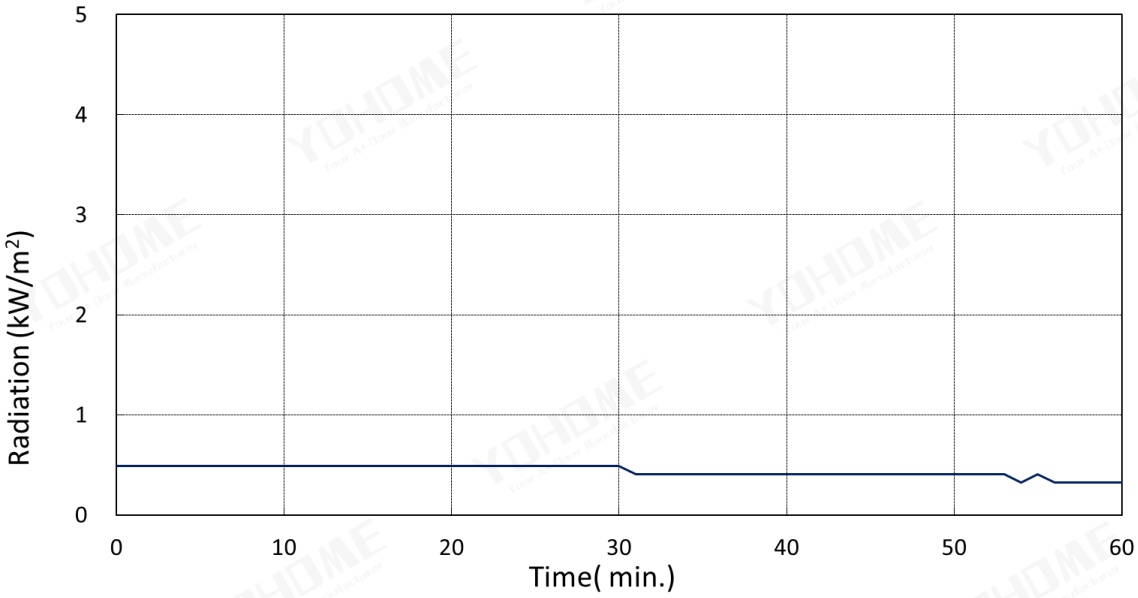
Furnace Pressure at 1000 mm above the notional floor level Relative to the Laboratory Atmosphere



Radiant Heat Flux Measurement



*Radiant heat flux was measured at 1m from the geometric center of the specimen, then calculated at 365mm using the configuration factor formula in AS 1530.4 Appendix A.

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SECTION 14
PHOTOGRAPHS

Photo 1 – Exposed Side Prior to the Fire Test

Photo 2 - Unexposed Side Prior to the Fire Test

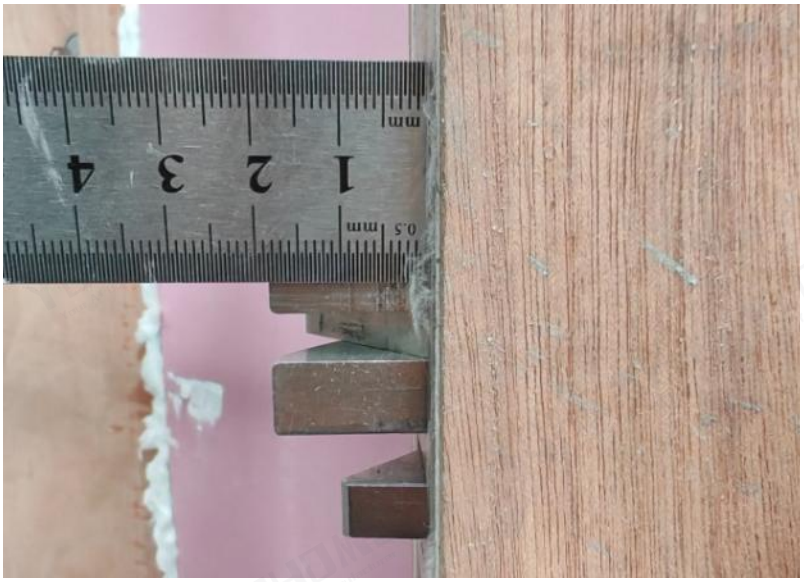

Photo 3 – The Latching Mechanism

Photo 4 – Door Hinge

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Test Report

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Photo 5 – Door Leaf

Photo 6 –Door Frame Jamb

Photo 7 – Unexposed Side after 20 Minutes

Photo 8 - Unexposed Side after 40 Minutes

Photo 9 - Unexposed Side after 60 Minutes

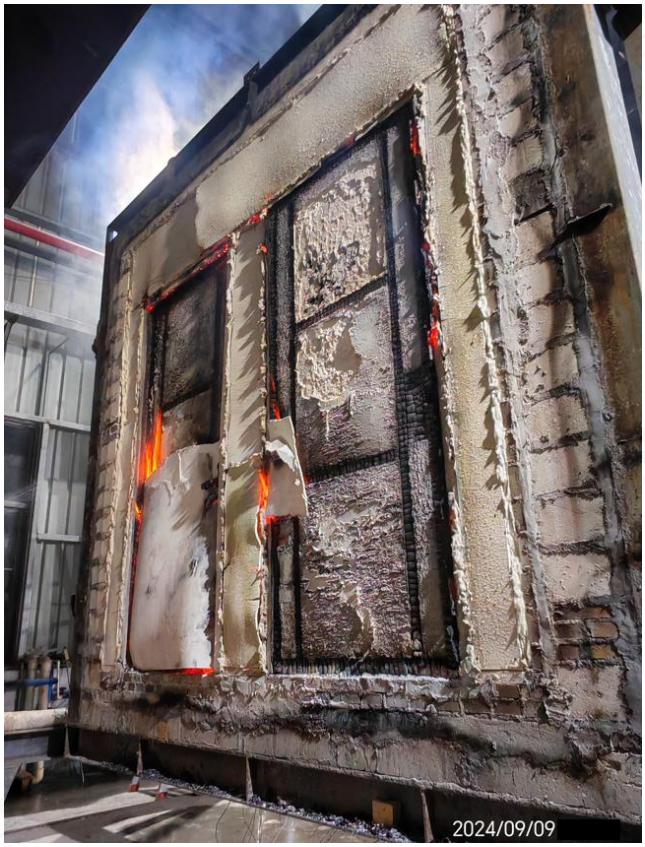

Photo 10 - Exposed Side after 60 Minutes

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SECTION 15
REVISION LOG

Revision No.	Date	REVISION	Reviser	Reviewer
0	2024-11-6	Original Report Issue	/	/
1	2025-9-15	Added the description of handle, hinge and frame in section 5, change the model of hinge from SSA001 to SSA002, correct the drawings in section 10.	Jim Li	Kevin Pan
2	2025-9-26	Added and updated manufacturer and model information in section 5, updated the drawings accordingly the drawings in section 10.	Jim Li	Kevin Pan

Note: The report 240823132GZC-001 with revision No. 1 will be replaced by revision No. 2 report, it will be effective from 2025-9-26, and the revision No. 1 report will be invalid.

**********End of Report**********