

Room 11, 2/F., Po Hong Centre, 2 Wang Tung Street, Kowloon Bay, Kowloon, Hong Kong.

Tel.: (852) 2152 0638

Fax: (852) 3186 2737

Garish Crown Fire Engineering & Consultancy

Unit 25, Upper G/F., Block B, Wah Lok Industrial Centre (Phase 1), 37-41 Shan Mei Street, Fotan, Shatin, Hong Kong.

Report Reference: IA14-171

Date: 28 July 2014

FIELD OF EXTENDED APPLICATION OF TEST RESULTS FOR FIRE RESISTANCE FOR COMPOSITE TIMBER DOORS WITH 60 MINUTES FIRE RESISTANCE RATING (FRR)

Introduction

We were requested by Garish Crown Fire Engineering & Consultancy to provide a summary report for field of extended application of test results for fire resistance of composite timber doors tested and recorded in the test report numbered IT14-048, IT14-047 and IT13-125. This report presents the evaluation of a result of fire resistance test which may be used to identify the specific tested specimen required to cover a width range of product variations. They are required to achieve not less than 60 minutes FRR regards the integrity and insulation (supplementary procedure, I₁) in according to BS EN 1634-1:2008.



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1. Assumptions and Limitations

It is assumed that the proposed assembly will be installed to a masonry or reinforced concrete structure, which can provide the particular supporting fire resistance period. The materials and constituents of the proposed assembly are in similar manners and quality as tested or otherwise appraised by Forte Testing and Consultants Company Limited (FORTE). This report may only be reproduced in full by applicant. The extended application on the proposed system is issued on the basis of test data and the content of the relevant part(s) of EN 15269 at the time of issue.

2. Background and Standard Information

2.1 FORTE Test Report No. IT13-125

A fire resistance test was conducted by FORTE in accordance with BS EN 1634-1: 2008 with supplementary procedure on insulation requirement (I1) on specimen of an unequal double-leaf, single acting composite timber door with glazed elements and overhead panel, namely Door A and a single-leaf composite timber door with glazed elements, namely Door B, to determine their fire resistance performances. The sponsor was Garish Crown Fire Engineering & Consultancy. The overall sizes of the Door A were 1569 mm width by 2923 mm height. The dimensions of the active door leaf were 1050 mm wide by 2300 mm height by 54 mm thick. The skeleton of door leaves, side panel and overhead panel were made by wood stiles and rails. The space between the stiles and rails of the door leaves was filled with 38 mm thick perlite boards. Both side of the door leaf's and panel's core were covered by a layer of 4 mm thick fire board sub-facing and a layer of 4 mm medium density fibreboard Each door leaf was hung by butt hinges. The surface mounted door closer incorporated into each door leaf. The vision panels located at the active door leaf. The overall sizes of the Door B were 1166 mm width by by 2337 mm height. The dimensions of the door leaf were \$100 mm wide by 2300 mm height by 54 mm thick. The skeleton of door leaves, side panel and overhead panel were made by wood stiles and rails. The space between the stiles and rails of the door leaves was filled with 38 mm thick perlite boards. Both side of the door leaf's and panel's core were covered by a layer of 4 mm thick fire board sub-facing and a layer of 4mm medium density fibreboard. Each door leaf was hung by concealed hinges. The concealed door closer incorporated into the door leaf. The vision panels located at the active door leaf. The specimen was unlocked and unlatched during the test.



The specimen satisfied the fire resistance as the following:

Door A

Integrity: Sustained flaming – 66 minutes

Gap gauges and Cotton pad – 73 minutes

Insulation: 73 minutes (door leaves and door frame for average temperature rise)

72 minutes (door leaves and door frame for maximum temperature rise)

73 minutes (glazed element for maximum and average temperature rise)

73 minutes (overhead panel for maximum and average temperature rise)

Door B

Integrity: Sustained flaming, Gap gauges and Cotton pad – 73 minutes

Insulation: 73 minutes (door leaf and door frame for maximum and average temperature rise)

73 minutes (glazed elements for maximum and average temperature rise)

The test was terminated after the heating period of 74 minutes. Full constructions details of the specimen and the test results were recorded in the FORTE test report numbered IT13-125.

2.2 FORTE Test Report No. IT14-047

A fire resistance test was conducted by FORTESin accordance with BS EN 1634-1: 2008 on specimens of a single-leaf, single acting composite timber door with overhead panel, namely Door A (I2) and a single-leaf composite timber door with glazed element, namely Door B (I1), to determine their fire resistance performances. One of the test sponsors was Garish Crown Fire Engineering & Consultancy. The overall sizes of the Door A were 1276 mm width by 2950 mm height. The dimensions of the door leaf were 1200 mm width (w) by 2440 mm height (h) by 54 mm thick (t). The skeleton of door leaf and overhead panel were made by wood stiles and rails. The space between the stiles and rails of the door leaf was filled with 38 mm thick perlite boards. Both side of the door leaf's and panel's core were covered by a layer of 5 mm thick fire board sub-facing and a layer of 3 mm medium density fibreboard. Each door leaf was hung by concealed hinges. The surface mounted door closer incorporated into the door leaf. The overhead panel sized 1200 mm (w) x 431 mm (h) x 54 mm thick located at the active door leaf. The overall sizes of the Door B were 1266 mm width by 2720 mm height. The dimensions of the door leaf were 1200 mm wide by 2658 mm height by 54 mm thick. The skeleton of door leaf was made by wood stiles and rails. The space between the stiles and rails of the door leaf was filled with 38 mm thick perlite boards. Both side of the door leaf's and panel's core were covered by a layer of 5 mm thick fire board sub-facing and a layer of 3 mm medium density fibreboard. Each door leaf was hung by butt hinges. The concealed door closer incorporated into the door leaf. The visual sizes of vision panel sized 505 mm (w) by 1775 mm (h). The specimen was unlocked and unlatched during the test.



The specimen satisfied the fire resistance as the following:

Door A

Integrity: Sustained flaming and Cotton pad – 66 minutes

Gap gauges – 71 minutes

Insulation: 71 minutes (door leaf for average temperature rise)

71 minutes (door leaf and door frame for maximum temperature rise)

71 minutes (overhead panel for maximum and average temperature rise)

Door B

Integrity: Sustained flaming, Gap gauges and Cotton pad – 71 minutes

Insulation: 71 minutes (door leaf and door frame for maximum and average temperature rise)

71 minutes (glazed elements for maximum and average temperature rise)

The test was terminated after the heating period of 71 minutes. Full constructions details of the specimen and the test results were recorded in the FORTE test report numbered IT14-047.

2.3 FORTE Test Report No. IT14-048

A fire resistance test was conducted by FORTE in accordance with BS EN 1634-1: 2008 with supplementary procedure on insulation requirement (I_1) on specimen of a double-leaf, single acting composite timber door with glazed element and overhead panel, to determine it's fire resistance performances. One of the test sponsors was Garish Crown Fire Engineering & Consultancy. The overall sizes of the Door A were 2529 mm (w) by 2950 mm (h). The dimensions of the active door leaf were 1300 mm (w) by 2440 mm (h) by 54 mm (t). The skeleton of door leaf and overhead panel were made by wood stiles and rails. The space between the stiles and rails of the door leaf was filled with 38 mm thick perlite boards. Both side of the door leaf's and panel's core were covered by a layer of 5 mm thick fire board sub-facing and a layer of 3 mm medium density fibreboard. Each door leaf was hung by butt hinges. The surface mounted door closer incorporated into the door leaf. The overhead panel sized 2453 mm (w) x 469 mm (h) x 54 mm. The specimen was unlocked and unlatched during the test. The specimen satisfied the fire resistance as the following:

Integrity: Sustained flaming and Gap gauges – 74 minutes

Cotton pad – 73 minutes

Insulation: 74 minutes (door leaf for average temperature rise)

74 minutes (door leaf and door frame for maximum temperature rise)

74 minutes (overhead panel for maximum and average temperature rise)

74 minutes (glazed element for maximum and average temperature rise)

The test was terminated after the heating period of 74 minutes. Full constructions details of the specimen and the test results were recorded in the FORTE test report numbered IT14-048.



2.4 BS EN 15269-3:2012 Extended application of test results for fire resistance and/or smoke control for door, shutter and openable window assemblies, including their elements of building hardware — Part 3: Fire resistance of hinged and pivoted timber doorsets and openable timber framed windows

This European Standard covers hinged or pivoted doorsets with timber based leaves, timber framed glazed doors and openable timber framed windows. It prescribes the methodology for extending the application of test results obtained from fire resistance test(s) conducted in accordance with EN 1634-1. This standard covers doorsets with internal structural elements which are comprised of timber. Subject to the completion of the appropriate test or tests, the extended application may cover all or some of the following examples: integrity (E), integrity/radiation (EW) or integrity/insulation (EI₁ or EI₂) classification; glazed elements including vision panels and framed glazed doorsets, louvres and/or vents; side, transom or overpanels; items of building hardware; decorative finishes; intumescent, smoke, draught or acoustic seals; alternative supporting construction(s).



3 Analysis

3.1 Extend application on Single-acting composite timber doors – 60 minutes FRR.

The fire resistance test with report numbered IT14-048, IT14-047 and IT13-125 demonstrated that the double and single-leaf, single-acting composite timber door provided can provide not less than 60 minutes integrity and insulation performance with supplementary procedure (I_1) or normal procedure (I_2) in accordance with BS EN 1634-1: 2008.

The proposed single-leaf or double-leaf single acting composite timber doors with or without glazed panel and overhead panel have the modification and variations, as shown in the following table, based on extension of application of BS EN 15269-3 and field of direct application at section 13 of BS EN 1634-1 which can obtain the fire resistance rating not less than 60 minutes integrity and insulation (either supplementary procedure I_1 or normal procedure I_2) BS EN 1634-1 on either sides of the doors. The modifications are shown in the following table.

			~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
<u>Reference</u> (EN15269-3)	Construction Parameter	<u>Variation</u>	Possibility of Extension
<u>Door leaf</u>		i Care	
A.1,1	Number of leaves	Possible to be single, double, or unequal leaves	Based on evidences with report numbered IT14-048, IT14-047 and IT13-125. The test specimens were in double-leaf doors (IT14-048, and IT13-125) and single-leaf doors (IT14-047 and IT13-125).
Size variations	- sign	× ′	
A.3.1	Size of each leaf for	Possible to	Possible in line with Direct Application stated in
	equal/unequal double or	decrease the sizes	BS EN 1634-1: 2008(E). Unlimited reductions
	single leaf door or	75	for the tested specimen are permitted.
	overhead panel (area, width, height)		



	<u>Reference</u> (EN15269-3)	Construction Devenue	Verietie	B
	(EN 15269-3) Size variations	Construction Parameter	<u>Variation</u>	Possibility of Extension
	A.3.2		Descible	Describing the beautiful of the second of th
	A.3.2	Size of each leaf for unequal or equal double-leaf door with mono-door frame (area, width, height) and overhead panel	Possible to increase the sizes (Medium distortion leaf or panel) —	Possible to increase the leaf height by the same percentage as achieved overrun (10%) when factored by 0.33 (3.3%) for doorsets intended to be classified 60 minutes. The tested sizes of the door leaf 1050 mm width by 2300 mm height. The variation of maximum value of a) Width = 1100 mm b) Height = 2375 mm c) Area = 2.5 m ² The tested height of overhead panels are 469 mm and 550 mm height from the tested door. The variation of maximum value based on the category B allowances maximum height of the fixed overhead panel: a) 15 % increase of Height
	A 2 0		in the state of th	= 633 mm All intumescent seals applied for the door (such as location and sizes at the door frame and/or perimeter of the door leaf) shall be as same as the tested door shown in report numbered IT13-125.
	A.3.2	Size of each leaf for single-leaf door with	Possible to increase the sizes	Possible in line with Direct Application or in line with the following classification period / overrun
	- 1	mono-door frame under an extended time – category B, was fulfilled (area, width, height) and overhead panel	etter of C	period relationship (distortion measured throughout the required classification period only). All performance criteria fulfilled for at least 68 minutes of the requirement of category B. The tested door B had satisfied all the performance criteria not less than 68 minutes as shown in report numbered IT13-125 The tested sizes of the door leaf 1100 mm width by 2300 mm height. The variation of maximum
	25	dited wit		value based on the category B allowances: a) 15 % increase of Width = 1265 mm b) 15 % increase of Height
	COUL			= 2645 mm
	171855 W		(0)	c) 20% increase of Area =3.04 m ²
of is invalid	villess accomp			The tested height of overhead panels are 469 mm and 550 mm height from the tested door. The variation of maximum value based on the category B allowances maximum height of the fixed overhead panel: a) 15 % increase of Height = 633 mm
	-			All intumescent seals applied for the door (such as location and sizes at the door frame and/or perimeter of the door leaf) shall be as same as the tested door shown in report numbered IT13-125.



Reference			
(EN15269-3)	Construction Parameter	Variation	Possibility of Extension
Size variations			
A.3.2	Size of each leaf for single-leaf, unequal or equal double-leaf door with mono-door frame or rebated-door frame under an extended time — category B, was fulfilled (area, width, height)	Possible to increase the sizes	Possible in line with Direct Application or in line with the following classification period / overrun period relationship (distortion measured throughout the required classification period only). All performance criteria fulfilled for at least 68 minutes of the requirement of category B. The tested door B had satisfied all the performance criteria not less than 68 minutes as shown in report numbered 1714-047 and 1714-048. The tested sizes of the maximum door leaf 1200 mm width by 2440 mm height. The variation of maximum value based on the category B allowances: a) 15 % increase of Width = 1265 mm b) 15 % increase of Height
	authoritation	Letter of certificate	2806 mm c) 20% increase of Area = 3.28 m² The tested height of overhead panels are 469 mm and 550 mm height from the tested door. The variation of maximum value based on the category B allowances maximum height of the fixed overhead panel: a) 15 % increase of Height = 633 mm All intumescent seals applied for the door (such as location and sizes at the door frame and/or perimeter of the door leaf) shall be as same as the tested door shown in report numbered IT14-048.



Reference (EN15269-3) Size variations	Construction Parameter	<u>Variation</u>	Possibility of Extension
A.3.5	Thickness of the door leaf or panel	Possible to increase	Possible in line with direct application and the position of any intumescent material should remain in the same position in relation to the effective rebate depth and core material, otherwise not possible without an additional test. For double leaf doorsets, both leaves shall be of the same thickness. The thickness of the door leaf or leaves may be increased. The door leaf thickness and/or density may be increased provided the total increase in weight is not greater than 25%. The hung (using hinges) or fixing (using screws) details of the door leaf shall be same as tested.
Materials and	constructuions		astano or any step rotal orial po camo ao tostoa.
A.4.3	Thickness of core material or individual layers of core material in leaf (Perlite Core and Fire /Magisum Oxide Board)	Possible to increase	Possible in line with direct application, otherwise not possible without additional test. The minimum thickness of the door core (perlite core) is 38 mm thick. The minimum thickness of the Fire/Magisum oxide board is 4 mm thick.
A.4.13	Structural subfacing.	Possible to use alternative type, medium density fiber (MDF) board or plywood with minimum 4 mm thick	Possible to change timber based types providing the alternative timber is of the same or higher density and the same or greater thickness. Lower density timbers or other materials not possible without additional test and that the assembly techniques is not changed.
A.4.14	Structural subtacing.	Possible to change in thickness	For timber based subfacings, it is possible to increase the thickness of the tested subfacing by up to 100 % provided the thickness and total weight of the door leaf is not increased by more than 25 %, otherwise not possible without additional test.
A.4.33	Type of intumescent seals	Possible change of supplier/manufacturer	It is possible to change of supplier/manufacturer for identical composition of the intumescent seals
>	/or protective finishes		
A.5.1	Decorative facings on the face of the leaf, panel and/or frame with a Reaction to Fire class B-F or a melting point below 660 °C such as timber veneer, laminate, plastic, cloth, leather, paint etc.	Possible to add	Possible for timber veneer up to 3 mm thick and 2 mm thick for other materials on each face but not the edges, provided the edge conditions remain the same and provided the insulation criteria is satisfied on the original doorset (in line with direct application), otherwise additional test required.

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	Reference			
	(EN15269-3)	Construction Parameter	<u>Variation</u>	Possibility of Extension
	Decorative and	d /or protective finishes		
	A.5.15	Decorative facings on the face of the leaf, panel and/or frame with a Reaction to Fire class A1 or A2 and a melting point of 660°C or above, such as glass sheet, stone, marble, ceramic tile, aluminium, stainless or galvanized mild steel plate.	Possible to add	Possible providing the total increase in leaf weight is not more than 25% and providing the faces are fixed with adhesive and the facing is not added to the area of the leaf behind the door frame rebates. Otherwise not possible without a further test.
	A.5.15	Lipping on leaf or panel	Possible to change size	Possible change size up to 25% of the tested thickness, limited to a tested thickness of 12 mm. Lippings' of more than 12 mm thickness are deemed to be a leaf framing element, and can be increased by 25% of the tested thickness. Lippings of less than 3 mm thick are deemed to be a veneer. Lippings between 3 mm and 12 mm in thickness can be reduced by 25% of the original thickness, provided that this does not reduce the minimum
	4.5.00		-01°	thickness of the lipping below 3 mm.
	A.5.20	Protective metal plates – face fixed (kick plates / push plates/ protective plates) on leaf or panel	Possible to add by screw fixed	Possible for horizontal plates across the full opening width of the closing face and full leaf width of the opening face to a maximum of 500 mm high. Vetrical plates no more than 200 mm wide running the clear opening height on the closing face and fill height of the leaf on the opening face. Maximum area permitted to be covered by plates/signs is 40% of the clear opening area or 1 m². whichever is the smaller. Plate thickness to be limited to 2 mm and fixed with maximum 25 mm long screws and a minimum of 200 mm centres along the length of the plates. For double doorsets, protective plates may be dissimilar. For plates outside these parameters a further test is required.
757	A.5.21	Protective metal plates –	Possible to add by	Possible for plates across the full opening size of
St. is it is it.		face fixed (kick plates / push plates/ protective plates) on leaf or panel	glued	the closing face and full leaf size of the opening face and up to a maximum of 2 mm thick and not restrained by mechanical means, e.g. by building hardware. Maximum area permitted to be covered by plates is 40% of the clear opening area. May be applied to the face of the leaf only, i.e. not the edge of the leaf. For double doorset, the rule may be applied to each leaf separately.



<u>Reference</u> (EN15269-3)	Construction Parameter	Variation	Possibility of Extension
Decorative an	d /or protective finishes		1 :
A.5.28	Mouldings (on the face of the leaf or panel).	Possible to add	Possible to add timber-based mouldings and providing one surface is covered by not more than 25 % or by more than 25 % if both faces are provided with mouldings and the mass of the leaf is not increased by more than 25 %, otherwise not possible without a further test. For double doorsets, the rule may be applied to each leaf separately.
Door Frame –	Materials and construction	<u>s</u>	
B.2.1	Cross-section dimensions.	Possible to increase	For timber based door frames, it is possible to increase the door frame dimensions in line with direct application. The cross-sectional dimension and/or the density of the timber frame (including rebates) shall not be reduced but may be increased. The door stop for the mono-door frame shall be with minimum 20 mm width. The door stop for the rebated-door frame shall be with minimum 15 mm width. The door frame can be changed to four side frame. The fixing details of the door frame shall be same as tested. The door leaf can be with or without the sub-frame. The wooden door frame fitted to the door leaf of the tested door satisfied the integrity criteria of the standard for not less than 60 minutes. In general, a door leaf incorporated with a wooden sub frame will have same thickness of the door frame. However, there will be the wooden architraves with minimum 10 mm thick to cover the gap between the door frame and sub frame. Therefore the charring rate of the sub frame will be similar if the density of sub frame is similar with the tested door frame or the minimum having a density of at least 550 kg/m³. The mechanical fixing between the door frame and the sub frame shall be same as tested and longer expanding anchor bolts shall be applied to compensate the thickness of sub frame. The gap from the structural wall to sub frame and sub frame to door frame shall not be bigger than 5 mm and they shall apply the backer rod and bead with at least 5 mm deep fire sealant which has been tested with at least 1



Reference		T	
(EN15269-3)	Construction Parameter	<u>Variation</u>	Possibility of Extension
Building Hard	ware		
C.1.1	Latches / locks and strike plates.	Alternative type	Possible providing that the alternative lock is of the same type (internally mounted / mortised or surface mounted). Complies with the relevant product standard, is suitable for use on the original doorset and has passed a full size fire test to EN 1634-1 or a small scale fire test to EN 1634-2. Each of the linear dimensions shall be no larger than tested successfully in the original doorset, and the latch bolt shall have a similar or greater engagement. Additionally, for internal locks, the amount of material removed from the door leaf shall be as tested in the original doorset or less. Any additional component should be metal and the distance between the intumescent protection, it fitted, and the lock or the strike plate shall remain as tested, otherwise further test is required. The intumescent pad shall be applied concealed face of the mortise lock and flush bolts etc.
C.1.22	Dimension of hinges.	Increase.	Possible to increase the height of the hinge leaves and knuckle and diameter of drill-in hinge spindles by up to 25%. The width and thickness of the hinge leaves remain as tested. The position of the fixings in relation to the width of the hinge. The diameter of the knuckle may increase up to 25% as long as the thickness of the hinge leaves remains unchanged. The intumescent pad shall be applied underneath of the hinge blades.
C.1.31	Type of hinges or the same of the same of hinges	Alternative type of hinges	The proposed door can be with either butt hinges or conceal hinges. It is possible providing that the alternative item complies with EN 1935 is suitable for use on the doorset, has the same type and position of fixing and the same sizes. Additional test can be single or double leaf doorset (shown in report numbered IT14-047).
C.1.42 COTS	Door closer	Test with concealed type and change for face mounted	The proposed door can be with either surface or conceal type door closer. It is possible providing alternative unit complies with relevant BS EN standard for that particular type of door closer and no voids remain in the doorset. Test is to include the required door closer and shall be in accordance with BS EN 1634-1 or BS EN 1634-2 on a representative door construction. Additional test can be single or double leaf doorset (shown in report numbered IT14-047).
C1.48	Door Viewer	Possible to add at the door leaf	The tested door viewer with satisfy not less than 60 minutes integrity in accordance with BS EN 1634-1 as record in report numbered IT14-047.



<u>(E</u>	Reference N15269-3) azing for doo	Construction Parameter	<u>Variation</u>	Possibility of Extension
	1.1	Glazed panel.	Possible to add	It is possible to add the glass panel at the door
			Tossible to add	leaf with test evidence IT13-125 and IT. It has recorded the door leaf of Door A and B incorporated with 26 mm thick Hengbao HRF-25 and AGC —Pyrobel glass pane and satisfied the FRR not less than 60 minutes. The vision sizes of the Hengbao — HRF-25 glass pane for is 225 mm width by 1575 mm height and 725 mm width by 175 mm height The vision sizes of AGC — Pyrobel glass pane is 275 mm width by 275 mm height. The vision sizes of Keymax glass pane is 505 mm width by 1775 mm height. The dimension of any glass pane can be
				increased to 15 % increase of width and height and 20% increase of area. The variation of maximum allowances value for Hengbao HRF-25 glass: a) 15 % increase of Width = 834 mm b) 15 % increase of Height = 1810 mm c) 20% increase of Area
		authori kation	etter of certific	=0.42 m ² The variation of maximum allowances value for AGC - Pyrobel glass: a) 15 % increase of Width and Height = 316 mm b) 20% increase of Area = 0.1 m ² The variation of maximum allowances value for Keymax glass: a) 15 % increase of Width = 580 mm
to Dott is in Nail with	pris accompl	itled with to		b) 15 % increase of Height = 2040 mm c) 20% increase of Area = 1.08 m² The type of glazed bead and the edge fixing technique, including sizes and number of fixings per meter of perimeter, shall not be changed from those tested shown in report numbered either IT13-125, IT14-047 or IT14-048. Maximum 2 numbers of the glazed panel can incorporated into each door leaf. The
		ING AND CONSULTANTS CO LTD FOR	RTE TESTING AND CONSULTAN	minimum distance between vertical edge of door leaf or vision panels shall be 135 mm and the minimum distance between horizontal edge of door leaf shall be 200 mm. The distance between the edge of glazing and the perimeter of each leaf, or the distance between glazed apertures shall not be reduced from those incorporated as tested. Other positioning within the leaf can only be modified if this does not involve the removal or repositioning of structural members relative to the glazing.



Reference (EN15269-3)	Construction Parameter	<u>Variation</u>	Possibility of Extension
Glazing for doc	<u>or leaf</u>		
E.1.2	Glazed panel	Remove	Possible to remove glazed panel when the total area of the glazed panel(s) of the tested door is ≤ 25% of leaf area. However, there is test result for the door with the solid (unglazed) leaf shown in report numbered IT14-047 - Door A which has obtained the FRR not less than 60 minutes.
E.1.11	Shape of glazing	Alternative	Possible to use the alternative shape of glazing providing the proposed aperture can fit within the aperture size stated in clause E1.1, with the shape of square, rectangular, circular, polygons etc. It is also required that there is no change to edge fixing technique and providing there is test evidence on the glass to support the shape selected.

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4. Conclusion

It is concluded that the proposed single action, composite timber doors with the variations detailed in Section 3 of this report will achieve the fire resistance performance of 60 minutes integrity and insulation (supplementary procedure I_1) if they test in accordance with BS EN 1634-1:2008 subjected to stated conditions.

5. Term of validity

This report is issued on the basis of test data and information to hand at the time of issue and it is valid only if presented with proper test evidence(s) and all noted supporting data. If contradictory evidence becomes available to FORTE, the report will be unconditionally withdrawn and the applicant will be notified in writing. Similarly the report is invalidated if the construction is subsequently tested since actual test data is deemed to take precedence over an expressed opinion. This report will expire on 28 July 2019 which time it is recommended that it be submitted to FORTE for re-appraisal. This report is not valid unless it incorporates the declaration duly signed by the applicant.

For and on behalf of Forte Testing and Consultants Company Limited:

CHENG San Mei, Samm

Laboratory Manager

Ir Dr CHAN Yuk Kit, James, RPE (Fire)

Managing Director



6. Declaration by the applicant

- We the undersigned confirm that we have read and complied with the obligations
 placed on us by this guide on undertaking this report.
- We confirm that the component or element of structure, which is the subject of this
 report has not to our knowledge been subjected to a fire test to the standard against
 which this report is being made.
- We agree to withdraw this report from circulation should the component or element of structure be the subject of a fire resistance test to the standard against which this report is being made.
- We are not aware of any information that could affect the conclusions of this report.
- If we subsequently become aware of any such information we agree to ask FORTE to withdraw the report

Name:	:12	ilior	
	SULLO		
Signed:	Miss		
stile	>		
For and on beha	alf of :		
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