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LICENSING AND CERTIFICATION COMMAND

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致：消防處通函收件人

執事先生：

消防處通函第 2/2006 號
符合英國標準 5588：第 4 部分的樓梯增壓

本通函旨在公布，本處正式實施夾附文件所載的建議，即時生效。

按照《最低限度之消防裝置及設備守則》第 5.21 節的規定，任何人士提供樓梯增壓系統時，須符合英國標準 5588：第 4 部分最新版本的規定，以及因應本地情況作出的改動，而有關改動已加入上述規定之內。

英國標準 5588：第 4 部分 1998 年版本 - 「使用壓力差控制煙霧守則」"Code of Practice for Smoke Control Using Pressure Differentials" (包含第 1 號修訂本及第 1 號改正本)現已生效。這份守則涵蓋詳盡的技術資料，以及一系列在規範情況下的應用例子，但未必完全適合本地情況。

爲方便公眾容易明白以上標準，以及加快所提交的相關文件的處理程序，本處在消防安全標準諮詢小組轄下成立了一個工作小組，研究和討論這套英國標準及《最低限度之消防裝置及設備守則》的相關規定，以制定一套在本地應用這項標準的全面指引。經過長時間的檢討及諮詢，英國標準 5588：第 4 部分在本港的應用範圍現載於本通函夾附的「表一」至「表四」。任何人士提供樓梯增壓系統時，須參照上述列表，以及採用本通函夾附的「檢查核對表」。上述列表及核對表已獲消防安全標準諮詢小組通過。

此外，在設計樓梯增壓系統時，亦須注意《最低限度之消防裝置及設備守則》第 5.21 節的規定，並與本通函的附件一併閱讀。

消防處處長

（陳楚鑫　　代行）

連附件

二零零六年七月三十一日

此外，在設計樓梯增壓系統時，亦須注意《最低限度之消防裝置及設備守則》第 5.21 節的規定，並與本通函的附件一併閱讀。

消防處處長

（陳楚鑫　　代行）

連附件

二零零六年七月三十一日

消防安全標準諮詢小組的建議

英國標準 5588：第 4 部分 1998 年版本－「使用壓力差控制煙霧守則」

須遵守上述守則（包括附註、按語及建議）訂明的所有條款，惟下列各表所述除外：

表一： 不適用的條款

表二： 將由經修訂條件取代的條款

附錄 I：英國標準 5588：第 4 部分第 9 頁圖 1 的取代本

表三：可以其他選擇替代的條款

表四：只供參考的條款

樓梯增壓系統檢查核對表

List One : Clauses not to be applied
(Schedule for the use of BS5588: Part 4: 1998 Incorporating Amendment No. 1 and Corrigendum No. 1)

List Item	BS Clause / Paragraph / Table (Page)	Context	Reason
1.1	Clause 5.4 Table 3 Figure 3 (Page 12 & 13)	5.4 Class C System Table 3 – Minimum pressure differentials for Class C systems Figure 3 – Design conditions for Class C systems	It is not practical to adopt these requirements in local industry.
1.2	Clause 5.5 Table 4 Figure 4 (Page 13, 14 & 15)	5.4 Class D System Table 4 – Minimum pressure differentials for Class D system Figure 4 – Design conditions for Class D systems	It is not practical to adopt these requirements in local industry.
1.3	Clause 5.6 Table 5 Figure 5 (Page 16 & 17)	5.4 Class E System Table 5 – Minimum pressure differentials for Class E system Figure 5 – Design conditions for Class C systems	It is not practical to adopt these requirements in local industry.
1.4	Clause 9.2.3.3 all paragraphs (Page 41)	9.2.3.3 Interaction with normal ventilation equipment “ The purpose of a pressurization system is .... in accordance with Annex C.”	It is not practical to adopt these requirements in local industry.

List Two : Clauses to be replaced by modified conditions
(Schedule for the use of BS5588 : Part 4 : 1998 Incorporating Amendment No. 1 and Corrigendum No. 1)

List item	BS Clause / Paragraph / Table (Page)	Context	Replaced by	Reason
2.1	Definitions Clause 3.4 (Page 2)	basement "Storey with a floor that is at some point more than 1.2 m below the highest level of ground adjacent to the outside walls."	"Basement" means Any storey of a building which is below the lower or lowest ground storey and from which any required exit route is in an upward direction	To align with the definition as stipulated in the Code of Practice of Buildings Department.
2.2	Definitions Clause 3.13 (Page 2)	fire compartment "Building or part of a building, comprising one or more rooms, spaces or storeys, constructed to prevent the spread of fire to or from another part of the same building, or to an adjoining building."	"Fire compartments" means An enclosed space in a building that is separated from all other parts of the building by enclosing construction providing a fire separation that may be required to have a fire-resisting rating.	To align with the definition as stipulated in the Code of Practice of Buildings Department.
2.3	Definitions Clause 3.37 (Page 4)	protected lobby "Circulation area consisting of a lobby enclosed with fire-resisting construction (other than any part that is an external wall of a building)"	"Protected lobby" means The intercepted approach, to a staircase or an exit route, which acts as a fire and smoke check between a storey and the staircase or the exit route, and enclosed throughout by walls and doors in accordance with the Code of Practice for Fire Resisting Construction.	To align with the definition as stipulated in the Code of Practice of Buildings Department.
2.4	Clause 5.1 Paragraph 1 & 2 (Page 8)	5.1 General "Smoke control using pressure differentials can be implemented in several different types of buildings, with differing requirements and design conditions For the purposes of this standard, the design conditions have been placed into five separate systems (classes A, B, C, D and E) and are detailed in Table 1."	5.1 General "Smoke control using pressure differentials can be implemented in two different types of buildings, with differing requirements and design conditions For the purposes of this standard, the design conditions have been placed into two separate systems (classes A & B) and are detailed in Table 1."	To suit the current practice of local building industry.

List Two : Clauses to be replaced by modified conditions
(Schedule for the use of BS5588 : Part 4 : 1998 Incorporating Amendment No. 1 and Corrigendum No. 1)

<table>
<tr><th>List item</th><th>BS Clause / Paragraph / Table (Page)</th><th>Context</th><th>Replaced by</th><th>Reason</th></tr>
<tr><td>2.5</td><td>clause 5.1
Table 1
(Page 8)</td><td>Table 1- Classification of buildings for smoke control using pressure differentials
<table><tr><td>Class</td><td>Examples</td></tr><tr><td>A</td><td>Residential, sheltered housing & buildings designed for three door protection (see 5.2)</td></tr><tr><td>B</td><td>protection of firefighting shafts (see 5.3)</td></tr><tr><td>C</td><td>Commercial premises (using simultaneous evacuation) (see 5.4)</td></tr><tr><td>D</td><td>Hotels, hostels and instructional type buildings, excluding buildings designed to meet class A (see 5.5)</td></tr><tr><td>E</td><td>Phased evacuation (see 5.6)</td></tr></table></td><td>Table 1 – Classification of protection
<table><tr><td>Class</td><td>Examples</td></tr><tr><td>A</td><td>Protection of escape (see 5.2)</td></tr><tr><td>B</td><td>Protection of firefighting shafts (see 5.3)</td></tr></table></td><td>To suit the current practice of local building industry.</td></tr>
<tr><td>2.6</td><td>clause 5.2
paragraph 1 - 4
(page 8)</td><td>Class A system
“The design conditions for blocks of flats and maisonettes ……..
Note 1……
The level of fire compartmentation ……
…….
Note 1 …….
Note 2 ……
Note 3 ……
It is unlikely…….
Note 4 …….
The air flow through ……..when :
A/. the door ……..
B/. the air release …….
C/. all doors……..
D/. all doors ……
E/. the final exit door is closed.</td><td>Class A system

“System Class “A” would be referred to Means of Escape (MOE) for local application. The technical arrangement of the inspection would be :-
a. The air flow velocity at the door of measurement on the ‘fire zone floor’ should not be less than 0.75m/s
b. The total numbers of doors to be opened when the measurement was conducted should comply with the requirements of the Code of Practice for Minimum Fire service Installations and Equipment.
c. Checking and testing on the air release required by BS5588: Part 4: 1998 from the lobby and corridor would be conducted on the ‘fire zone floor’ only.
All floors should be subject to the above tests throughout the entire staircase.</td><td>To suit the current practice of local building industry.</td></tr>
</table>

List Two : Clauses to be replaced by modified conditions
(Schedule for the use of BS5588 : Part 4 : 1998 Incorporating Amendment No. 1 and Corrigendum No. 1)

<table>
<tr><th>List item</th><th>BS Clause / Paragraph / Table (Page)</th><th>Context</th><th>Replaced by</th><th>Reason</th></tr>
<tr><td>2.6 (Cont'd)</td><td>clause 5.2 paragraph 1 - 4 (page 8)

(Cont'd)</td><td></td><td>The air flow velocity at the door of measurement on the 'fire zone floor' should not be less than 0.75m/s when :-

a. The door between the lobby/corridor and the pressurized stair is open on three consecutive levels.
b. The air release from the lobby/corridor on fire zone is open;
c. All doors between the pressurized stair and the lobbies/corridors are closed on all other storeys.
d. The final exit door is open.</td><td></td></tr>
<tr><td>2.7</td><td>Figure 1 (page 9)</td><td>Figure 1-Design conditions for class A systems</td><td>Figure 1-Design conditions for class A systems (see Appendix I)</td><td>To suit the current practice of local building industry.</td></tr>
<tr><td>2.8</td><td>Clause 6.3 Table 6 (page 19)</td><td>Table 6 – Minimum temperature/time design criteria for fans and HVAC ductwork used for air/smoke release
<table>
<tr><th colspan="3">Features of building design</th><th rowspan="2">Min Temp and time design criteria</th></tr>
<tr><th>Phased evacuation</th><th>fire fighting shaft</th><th>Life safety sprinklers</th></tr>
<tr><td>Yes</td><td>No</td><td>No</td><td>600°C for 2 h</td></tr>
<tr><td>Yes</td><td>Yes</td><td>No</td><td>600°C for 2 h</td></tr>
<tr><td>Yes</td><td>Yes</td><td>Yes</td><td>300°C for 2 h</td></tr>
<tr><td>Yes</td><td>No</td><td>Yes</td><td>300°C for 2 h</td></tr>
<tr><td>No</td><td>No</td><td>Yes</td><td>300°C for 1 h</td></tr>
<tr><td>No</td><td>No</td><td>No</td><td>600°C for 2 h</td></tr>
<tr><td>No</td><td>Yes</td><td>Yes</td><td>300°C for 2 h</td></tr>
<tr><td>No</td><td>Yes</td><td>No</td><td>600°C for 2 h</td></tr>
</table></td><td>Table 6 – Minimum temperature/time design criteria for fans and HVAC ductwork used for air/smoke release
<table>
<tr><th colspan="3">Features of protection</th><th rowspan="2">Min Temp and time design criteria</th></tr>
<tr><th>Means of escape</th><th>Means of fire fighting</th><th>Sprinklers building</th></tr>
<tr><td>Yes</td><td>-</td><td>No</td><td>600°C for 2 h</td></tr>
<tr><td>Yes</td><td>-</td><td>Yes</td><td>250°C for 1 h</td></tr>
<tr><td>-</td><td>Yes</td><td>No</td><td>600°C for 2 h</td></tr>
<tr><td>-</td><td>Yes</td><td>Yes</td><td>250°C for 1 h</td></tr>
</table></td><td>To suit the current practice of local building industry.</td></tr>
</table>

List Two : Clauses to be replaced by modified conditions
(Schedule for the use of BS5588 : Part 4 : 1998 Incorporating Amendment No. 1 and Corrigendum No. 1)

List item	BS Clause / Paragraph / Table (Page)	Context	Replaced by	Reason
2.9	Clause 6.5 Paragraph 4 (page 20)	"The indicator lights should show the status of each smoke control zone, primary and emergency power supplies, and primary and stand-by fans."	"The indicator lights should show the true status of each staircase pressurization system, the following items should be included :- a. Power supplies status of each staircase pressurization system (including duty & standby fan (for duplicate fan), duty & standby motor (for single fan), air release fan & etc b. Control status of each staircase pressurization system (when operated in local control mode at local fan panel, auto control mode & local control mode at supervisory panel.) c. Status of probe type detector. d. Running status of duty & standby staircase pressurization fan (running, stop, fault) or e. Running status of duty & standby motor for single fan (running, stop, fault) f. Running status of air release fan"	To align with the definition as stipulated in the Code of Practice of Fire Services Department.

List Two : Clauses to be replaced by modified conditions
(Schedule for the use of BS5588 : Part 4 : 1998 Incorporating Amendment No. 1 and Corrigendum No. 1)

<table>
<tr><th>List item</th><th>BS Clause / Paragraph / Table (Page)</th><th>Context</th><th>Replaced by</th><th>Reason</th></tr>
<tr>
<td>2.10</td>
<td>Clause 6.4
Table 7
(page 19)</td>
<td>Table 7 Provision of standby pressure differential system equipment
<table>
<tr><td>Function of pressure differential system equipment</td><td>Equipment to be provided</td></tr>
<tr><td>To provide air under pressure to the escape routes within a building</td><td>Duplicate fans complete with motors</td></tr>
<tr><td>To extract air/smoke from the accommodation area and is the sole means of creating the pressure differential within the escape routes from a building</td><td>Duplicate fans complete with motors</td></tr>
<tr><td>The powered air release system equipment extracts air/smoke from the accommodation area and is not the sole means of creating the pressure differentia within the escape routes from a building</td><td>At least single fans with duplicate motors</td></tr>
</table>
</td>
<td>Table 7 Provision of standby pressure differential system equipment
<table>
<tr><td>Function of pressure differential system equipment</td><td>Equipment to be provided</td></tr>
<tr><td>For sleeping risk premises, I.e. Hotels, Hospitals and where designated by the Director of Fire services, with a single pressurized staircase. [Note]</td><td>Duplicate fans complete with motors</td></tr>
<tr><td>For buildings with more than one pressurized staircase [Note]</td><td>Single fans with duplicate motors fully belted and/or connected up shall be provided</td></tr>
<tr><td>To extract air/smoke from the accommodation area and is the sole means of creating the pressure differential within the escape routes from a building</td><td>Duplicate fans complete with motors</td></tr>
<tr><td>The powered air release system equipment extracts air/smoke from the accommodation area and is not the sole means of creating the pressure differential within the escape routes from a building</td><td>At least single fans with duplicate motors</td></tr>
</table>
Note : Except for sleeping risk premises, the total air requirement for each pressurized staircase is made up from two or more separate supplies acting together (e.g. top and bottom plants), than no further duplication of equipment is necessary.
</td>
<td>To align with the definition as stipulated in the Code of Practice of Fire Services Department.</td>
</tr>
</table>

List Two : Clauses to be replaced by modified conditions
(Schedule for the use of BS5588 : Part 4 : 1998 Incorporating Amendment No. 1 and Corrigendum No. 1)

List item	BS Clause / Paragraph / Table (Page)	Context	Replaced by	Reason
2.11	Clause 7 Paragraph 6 (page 20)	"Where a pressure differential system is required to protect both : a. The means of escape prior to the arrival of the fire brigade (Class A, C, D or E systems); and b. The fire brigade during firefighting operations (Class B system)"	"Where a pressure differential system is required to protect both : a. The means of escape prior to the arrival of the fire brigade (Class A system); and b. The fire brigade during firefighting operations (Class B system)"	To align with the amendment in list item 2.5.
2.12	Clause 7 Paragraph 8 (page 20)	"The enforcing authority may agree that the pressure differential system should be started automatically on detection of smoke within space in the: a. Means of escape mode (Class A, C, D or E systems) and subsequently, on arrival of the fire brigade…….operational mode (Class B system); or b. Firefighting mode (Class B system), with no subsequent change of operation of the system."	"The enforcing authority may agree that the pressure differential system should be started automatically on detection of smoke within space in the: a. Means of escape mode (Class A system) and subsequently, on arrival of the fire brigade .. …… …….operational mode (Class B system); or b. Firefighting mode (Class B system), with no subsequent change of operation of the system."	To align with the amendment in list item 2.5.
2.13	Clause 7 Paragraph 9 (page 20)	"Manual system-override switches for the pressurization system should be situated at the following locations: a. The building services plant room and the pressure differential system equipment plant room (where separate); and Where b. Near the building entrance at a location agree with the fire authority"	"Manual system-override switches for the pressurization system should be situated at the following locations: a. The pressure differential system equipment plant room; and Where b. Near the building entrance at a location agree with the fire authority or Staircase pressurization supervisory panel at the F.S. control room"	To suit the current practice of local building industry.

List Two : Clauses to be replaced by modified conditions
(Schedule for the use of BS5588 : Part 4 : 1998 Incorporating Amendment No. 1 and Corrigendum No. 1)

List item	BS Clause / Paragraph / Table (Page)	Context	Replaced by	Reason
2.14	Clause 8.2 Paragraph 1 (page 21)	"8.2 Primary power supplies All primary power supplies to the following should originate from the point at which the power supply enters the building and should be independent of the main switched fuse of the building"	"8.2 Primary power supplies All primary power supplies to the following should originate from the point at which the power supply enters the building and should be independent of other circuits from main switchboard of the building"	To suit the current practice of local building industry.
2.15	Clause 8.2 Paragraph 7 (page 21)	"The supply to these isolating protective devices should be independent of the main power switch for the building and should be appropriately labelled in accordance with 16.2 of BS 5839-1:1988"	"The supply to these isolating protective devices should be independent of other circuits from main switchboard for the building and should be appropriately labelled in accordance with 16.2 of BS 5839-1:1988."	To suit the current practice of local building industry.
2.16	Clause 8.4 All paragraphs (page 22)	"8.4 Secondary power supplies "It is essential that a secondary power supply…… …… ……. …… …..and fire protection installations."	"8.4 Secondary power supplies The provision of secondary power supply shall be complied with HKFSD Circular Letter No.4/96 Part IX and HKFSD Circular Letter No.1/2000. Note1- the original paragraphs are only used for reference."	To align with the requirements as stipulated under FSD Circular Letter No 4/96 & 1/2000.
2.17	Clause 9.1.3 Paragraph 1 (page 27)	"9.1.3 Minimum pressure differentials To ensure that a system performs……. ……. during a fire. The minimum pressure difference required can depend on the nature of the building and its usage (see clause 5). See also 5.2, 5.3, 5.4, 5.5 and 5.6 for the values of minimum pressure differential appropriate to design and to acceptance testing."	"9.1.3 Minimum pressure differentials To ensure that a system performs……. ……. during a fire. The minimum pressure difference required can depend on the nature of the building and its usage (see clause 5). See also 5.2 and 5.3 for the values of minimum pressure differential appropriate to design and to acceptance testing."	To align with the amendment in list item 2.5.

List Two : Clauses to be replaced by modified conditions
(Schedule for the use of BS5588 : Part 4 : 1998 Incorporating Amendment No. 1 and Corrigendum No. 1)

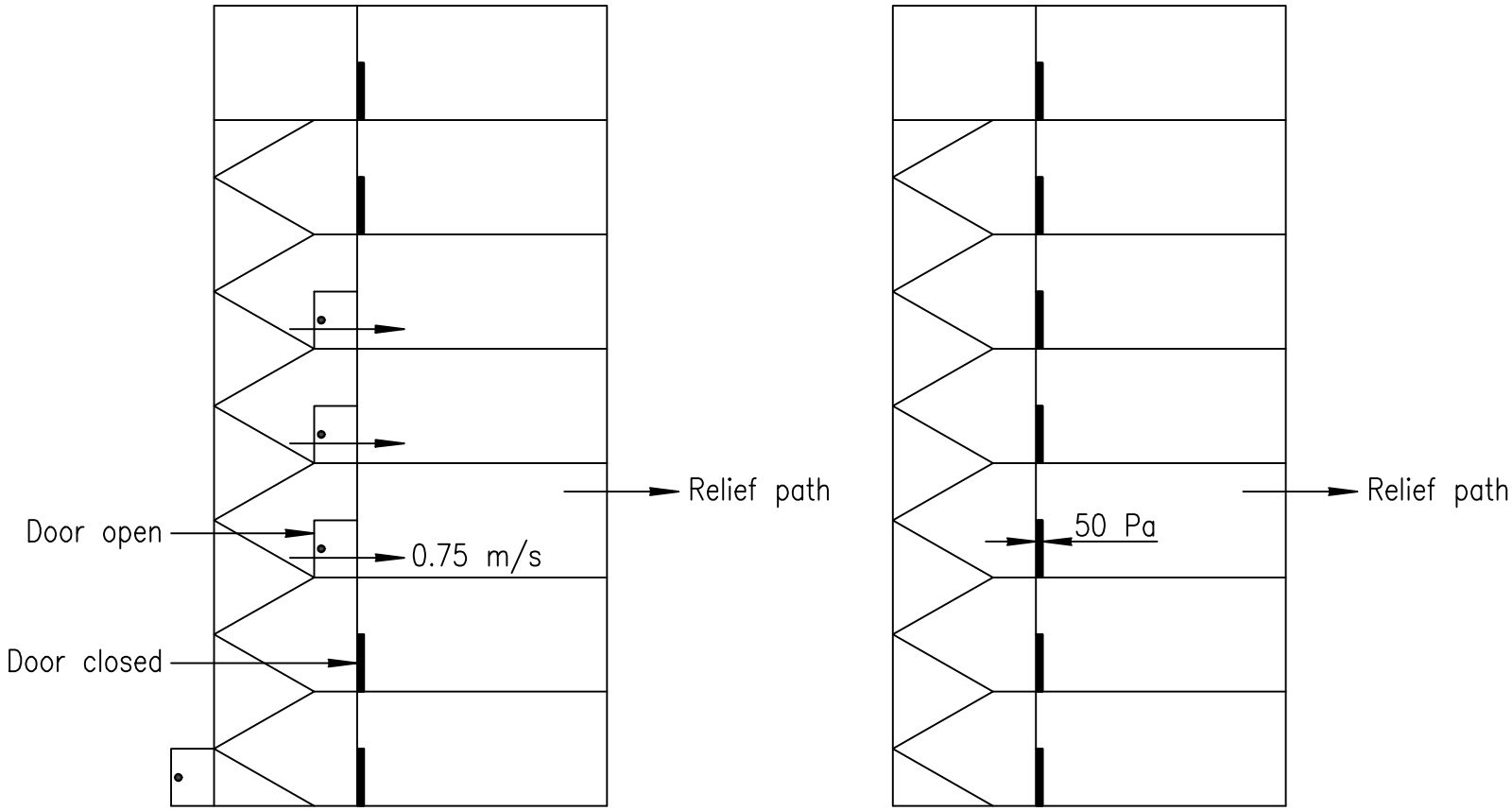
List item	BS Clause / Paragraph / Table (Page)	Context	Replaced by	Reason
2.18	Clause 9.2.2.2 Paragraph 3 (page 35)	"For this method, the stair should be designed to be approached directly from the accommodation or through a simple lobby."	"For this method, the stair should be designed to be approached directly from the accommodation or through a simple lobby. The maximum door opening force for the simple lobby from accommodation also limited to 100N."	To limit the opening force of simple lobby door for practical reason.
2.19	Clause 11.1 Paragraph 7 (page 49)	"The ductwork construction should be in accordance with appropriate guidance such as HVCA publication DW/142. Adhesive tape should not be used to seal joints."	"The ductwork construction should be in accordance with appropriate guidance such as HVCA publication DW/144. Adhesive tape should not be used to seal joints."	To align with the current edition of publication.
2.20	Clause 11.1 Paragraph 11 (page 50)	"Where air intake is not at roof level a smoke detector should be provided in the intake duct or within the immediate vicinity of the supply ductwork in order to cause the automatic shut down of the pressure differential system if substantial quantities of smoke are present in the supply. An override switch to reopen the closed damper should be provided for fire brigade use in the positions stated in clause 7."	"A smoke detector should be provided in the intake duct or within the immediate vicinity of the supply ductwork in order to cause the automatic shut down of the staircase pressurization system if substantial quantities of smoke are present in the supply. An override switch to resume the staircase pressurization system should be provided for fire brigade use in the positions stated in clause 7."	To suit the current practice of local building industry.
2.21	Clause 12.1 Paragraph 3 (page 51)	"The entire pressure differential……. …for the specified class (see 5.2, 5.3, 5.4, 5.5 and 5.6), and secondly…… … ……..when a door is opened between the spaces."	"The entire pressure differential……. …for the specified class (see 5.2 and 5.3), and secondly ……..…… …… ……..when a door is opened between the spaces."	To align with the amendment in list-item 2.5.

List Two : Clauses to be replaced by modified conditions
(Schedule for the use of BS5588 : Part 4 : 1998 Incorporating Amendment No. 1 and Corrigendum No. 1)

List item	BS Clause / Paragraph / Table (Page)	Context	Replaced by	Reason
2.22	Clause 12.1 Paragraph 4 (page 51)	"The acceptance test should conform to the following recommendations: a/. When tested in accordance…….…. …….that specified in 5.2, 5.3, 5.4, 5.5 and 5.6; b/. when tested in accordance…….. …..not exceed 100N (applied at the door handle); c/. when tested in accordance…….. ..that specified in 5.2, 5.3, 5.4, 5.5 and 5.6."	"The acceptance test should conform to the following recommendations: a/. When tested in accordance…….…. …….that specified in 5.2 and 5.3; b/. when tested in accordance…….. …..not exceed 100N (applied at the door handle); c/. when tested in accordance…….. ..that specified in 5.2 and 5.3."	To align with the amendment in list item 2.5.
2.23	Clause 12.1 Paragraph 5 (page 51)	"All test equipment should be accurate to ± 5%. The calibration of all test equipment…….. ……, in the UK, are the responsibility of the National Physical Laboratory."	"All test equipment should be accurate to ± 2%. The calibration of all test equipment…….. ……, in the UK, are the responsibility of the National Physical Laboratory."	To align with the definition as stipulated in the Code of Practice of Fire Services Department.

List Two : Clauses to be replaced by modified conditions
(Schedule for the use of BS5588 : Part 4 : 1998 Incorporating Amendment No. 1 and Corrigendum No. 1)

List item	BS Clause / Paragraph / Table (Page)	Context	Replaced by	Reason
2.24	Annex F (Page 70)		Add the following paragraphs to the last paragraph of this clause "Test method for measuring velocities for the new volumetric requirement of variable supply fans or dampers At least 10 measurements should be taken. Measurement points should be uniformly distributed over the doorway for accurate air velocity measurement. Then by averaging the measured results, a reference point mostly closed to the mean air velocity is determined. Preferably, the air velocity of this reference point should be within ±10% of the mean air velocity. Close the door for at least few minutes to allow the variable supply fans or dampers to establish steady condition. When the variable supply fans or dampers are in steady operational mode, open the door and measure the new air velocity at the reference point. The new air velocity of reference point should achieve 90% to 110% of the original air velocity within 5 sec. Test method for the response of overpressure release All doors should be closed except the fire zone door with air release path opened for few minutes so as to allow the variable supply fans or dampers to be steady. When the variable supply fans or dampers are in steady operational mode, close the fire zone door and measure the door opening force within 5 sec. The door opening force should be limited to 100N all the time from 5 sec after the fire zone door is closed."	To adopt a more practical approach for the measurement of new velocity of the volumetric requirement and the response of overpressure release.



(To replace Figure 1 in page 9 of BS5588, part 4)

List Three : Clauses with acceptable alternatives
(Schedule for the use of BS5588: Part 4: 1998 Incorporating Amendment No. 1 and Corrigendum No. 1)

ListI item	BS Clause / Paragraph / Table (Page)	Context	Alternative	Reason
3.1	Clause 6.5 Paragraph 2 (Page 20)	"Indicator lights displaying the status of any pressure differential systems protecting the firefighting access and the means of escape from the building should be located at each fire service access point."	"Indicator lights displaying the status of any pressure differential systems protecting the firefighting access and the means of escape from the building should be located at each fire service access point or supervisory panel located in F.S. control room."	To suit the current practice of local building industry.
3.2	Clause 7 Paragraph 2 (Page 20)	"Point type smoke detectors should be used, mounted in the accommodation area adjacent to the doors; leading to the protected space at each storey served by the system. Location of the smoke detectors should be in accordance with clause 12 of BS5839-1:1988."	"Point type smoke detectors should be used, mounted in the accommodation area adjacent to the doors leading to the protected space at each storey served by the system. Location of the smoke detectors should be in accordance with clause 12 of BS5839-1:1988 or installed at a distance within 1.0 m from the doors leading to the protected space at each storey served by the system." Note : For the simple lobby, the smoke detector should be mounted in the accommodation area adjacent to the door of simple lobby.	To align with the requirements as stipulated in the Code of Practice of Fire Services Department.

List Four : Clauses to be taken as reference only
(Schedule for the use of BS5588: Part 4: 1998 Incorporating Amendment No. 1 and Corrigendum No. 1)

List item	BS Clause / Paragraph / Table (Page)	Context	Reason
4.1	Clause 5.1 Paragraph 3 (Page 8)	"Systems for atrium buildings are not covered within the standard, but the recommendations given in Annex A should be followed."	This clause deals with general design consideration only.
4.2	Clause 9.2.2.3. All paragraphs (Page 36)	9.2.2.3 Pressurizing stair and lift	There is no such requirement in the Code of Practice of Fire Services Department.
4.3	Clause 9.2.2.5 All paragraphs (Page 36)	9.2.2.5 Pressurization of lift wells	There is no such requirement in the Code of Practice of Fire Services Department.
4.4	Clause 9.2.2.7 All paragraphs (Page 36)	9.2.2.7 Pressurization of evacuation lift wells	There is no such requirement in the Code of Practice of Fire Services Department.
4.5	Clause 9.2.2.8 All paragraphs (Page 39)	9.2.2.7 Pressurization of refuges and central control rooms.	There is no such requirement in the Code of Practice of Fire Services Department.
4.6	Clause 9.2.3.2. All paragraphs (Page 39)	9.2.3.2 Pressurized escape routes and other pressurized spaces in the same building.	There is no such requirement in the Code of Practice of Fire Services Department.
4.7	Clause 9.3 All paragraphs (Page 41 & 42)	9.3 Depressurization systems 9.3.1 General 9.3.2 Depressurization of fire zone	This requirement is considered as reference for smoke extraction system as relevant requirements have been covered by the Code of Practice of Fire Services Department.
4.8	Clause 9.4 All paragraphs (Page 43 & 44)	9.4 Zoned smoke control systems 9.4.1 General 9.4.2 Features of zoned smoke control system 9.4.3 Choice of smoke control zones	This clause deals with general design consideration only.
4.9	Clause 10.2 All paragraphs (Page 48 & 49)	10.2 Depressurization systems	There is no such requirement in the Code of Practice of Fire Services Department.

List Four : Clauses to be taken as reference only
(Schedule for the use of BS5588: Part 4: 1998 Incorporating Amendment No. 1 and Corrigendum No. 1)

List item	BS Clause / Paragraph / Table (Page)	Context	Reason
4.10	Figure 9 Diagram c), d) & g) (Page 37 & 38)	Figure 9 c) Pressurization to stairs and liftwell Figure 9 d) Pressurization to stairs (associated lobbies and corridors) Figure 9 g) Pressurization to stairs, lobby and liftwell	There is no such requirement in the Code of Practice of Fire Services Department.
4.11	Figure 10 Diagram a) & b) (Page 40)	Figure 10-Pressurization of refuges and central control rooms Diagram a) Unenclosed refuge, integrated with escape route Diagram b) Enclosed control room, with escape route	There is no such requirement in the Code of Practice of Fire Services Department.
4.12	Figure 11 (Page 42)	Figure 11 – Features of a depressurization system	There is no such requirement in the Code of Practice of Fire Services Department.

樓梯增壓系統檢查核對表

參考

地址：_____ 消防處檔號：19/20/43/47/78* _____

_____

消防處認可信／批准日期：_____

消防裝置施工圖檔號：_____

核准樓宇圖則檔號：_____ 日期：_____

第 I 部分 － 裝置在樓宇內的所有樓梯增壓系統的一般事項

1.1 量度及測試儀器／設備校準

須提供一式兩套供測試用的量度儀器，並於過去 3 個月內曾調校有關儀器。

	種類	型號	編號	校準證書編號	備註
(a)					
(b)					
(c)					
(d)					
(e)					
(f)					
(g)					
(h)					
(i)					
(j)					

1.2 文件

		是	否	備註
a.	夾附了樓梯增壓系統設備表連相關測試報告。	[ ]	[ ]	_____
b.	夾附了建築工程（例如門、關門器等）的設備表連相關測試報告。	[ ]	[ ]	_____

c. 證實樓宇在測試期間的不漏氣情況與有人佔用時一樣。 [ ] [ ] _____

**刪去不適用者*

1.3 樓梯增壓系統的施工圖與樓宇圖則比較

		是	否	不適用	備註
a.	用作走火通道／滅火及拯救的增壓空間的分類與經核准的樓宇圖則一致。	[ ]	[ ]	[ ]	_____
b.	樓梯號碼及消防升降機號碼、滅火通道號碼與經核准的樓宇圖則一致。	[ ]	[ ]	[ ]	_____
c.	樓梯增壓機房的位置與經核准的樓宇圖則一致。	[ ]	[ ]	[ ]	_____
d.	機房的抗火效能與增壓空間的一樣。	[ ]	[ ]	[ ]	_____
e.	入風口位置與經核准的樓宇圖則一致。	[ ]	[ ]	[ ]	_____
f.	超壓時的排氣裝置位置與經核准的樓宇圖則一致。	[ ]	[ ]	[ ]	_____

第 II 部分 － 每個樓梯增壓系統（每個增壓系統應夾附一份第 II 部分副本）

1.1 說明

a. 增壓樓梯的命名
（命名應與樓宇圖則、消防圖則及測試報告的一樣）

_____
（請在適當空格加上「✓」號）

b. 增壓空間：-

- 逃生樓梯；或 [ ]
- 滅火樓梯 [ ]

c. 提供的設備：-

- 連馬達的單一風扇；或 [ ]
- 兩把相同並共用一個馬達的風扇；或 [ ]
- 連雙馬達的單一風扇 [ ]

d. 空氣經過增壓空間及經常有人佔用的範圍之間的門時的設計速度 每秒_____米

e. 增壓空間及經常有人佔用的範圍之間的設計壓力差 _____巴

f. 設計開門時產生的力度 _____牛頓
（少過或等如 100 牛頓）

1.2 測試報告

（所有系統應由註冊專業工程師在消防處巡查人員的見證下測試及批簽）

	附錄	備註
a. 所有管道（包括建築工程使用的管道、道槽或其他類型管道）的壓力測試報告	_____	_____
b. 風速量度報告	_____	_____
c. 開門時產生的力度量度報告	_____	_____
d. 壓力差量度報告	_____	_____
e. 系統表現測試報告	_____	_____

1.3 目視檢查

	是	否	不適用	備註
a. 入風口 （a.1 至 a.5 項適用於並非位於天台地面的入風口。）				
a.1 提供有「（增壓空間）的樓梯增壓入風口」"Staircase pressurization intake for (pressurization space)"中英文字樣的告示。	[ ]	[ ]	[ ]	_____
a.2 入風口的位置遠離任何潛在的火警危險（例如地庫排煙孔）。	[ ]	[ ]	[ ]	_____
a.3 若入風口遠離風扇，有提供空氣管道連接入風口至風扇。	[ ]	[ ]	[ ]	_____
a.4 安裝的煙霧偵測器類別適合在空氣管道／風箱使用。	[ ]	[ ]	[ ]	_____
a.5 啓動管道型煙霧偵測器時，可關掉增壓系統。 （a.6 至 a.13 項適用於位於天台地面的入風口。）	[ ]	[ ]	[ ]	_____
a.6 提供兩個分開並朝不同方向的入風口。	[ ]	[ ]	[ ]	_____
a.7 每個入風口均能獨立提供整個樓梯增壓系統規定所需的空氣。	[ ]	[ ]	[ ]	_____
a.8 每個入風口都有提供獨立操作連管道型煙霧偵測器的防煙閘。	[ ]	[ ]	[ ]	_____
a.9 設有可供人手操作的關止掣，用來重開已關掉的閘及把開了的閘關上。	[ ]	[ ]	[ ]	_____

	是	否	不適用	備註
a.10 入風口任何方向的5米範圍內沒有煙霧排出。	[ ]	[ ]	[ ]	
a.11 提供有「(增壓空間)的樓梯增壓入風口」"Staircase pressurization intake for (pressurization space)"中英文字樣的告示。	[ ]	[ ]	[ ]	
a.12 若入風口遠離風扇,有提供空氣管道連接入風口至風扇。	[ ]	[ ]	[ ]	
a.13 啓動管道型煙霧偵測器時,防煙閘會妥爲開動。	[ ]	[ ]	[ ]	
b. 機房				
b.1 機房內沒有其他設備。	[ ]	[ ]	[ ]	
b.2 增壓機房圍封物的最小抗火時效等如或高過機房服務的增壓空間的抗火時效(圍封物的抗火時效是_____小時。)	[ ]	[ ]	[ ]	
b.3 當機房服務的增壓系統超過一個,應爲每個增壓系統提供獨立的防火圍封物,以維持不同增壓空間之間的隔火功能。	[ ]	[ ]	[ ]	
b.4 當風扇房用作風箱時,所有控制板應位於風扇房外,或由防火圍封物保護。	[ ]	[ ]	[ ]	
c. 空氣噴射點及相關的管道				
c.1 若增壓樓梯的高度超過 11 米,有裝置多咀噴射點。	[ ]	[ ]	[ ]	
c.2 噴射點之間的垂直距離不超過 12 米或三層樓高。	[ ]	[ ]	[ ]	
c.3 空氣噴射點的體積控制閘是緊密安裝的。	[ ]	[ ]	[ ]	
c.4 經過其他隔火間的噴射管道的抗火時效,須建造至與增壓空間或管道經過的隔火間的規定抗火時效相同(以兩者的較大值爲準)。	[ ]	[ ]	[ ]	
c.5 單咀噴射點系統的噴射點遠離最終出口門。	[ ]	[ ]	[ ]	
c.6 管道的建造符合或不低於 DW144 標準。	[ ]	[ ]	[ ]	
c.7 長過1米的扁圓管道不得設有鋁片及鋁製的空心鉚釘。	[ ]	[ ]	[ ]	

		是	否	不適用	備註
d.	放氣系統				
d.1	在正常操作及故障保險模式下，不同隔火間之間不大可能有煙霧擴散的情況。	[ ]	[ ]	[ ]	----------
d.2	若放氣系統自動操作，是由啓動增壓系統其他部分的同一偵測器／裝置啓動。	[ ]	[ ]	[ ]	----------
d.3	若經常有人佔用的範圍是間隔成爲辦公室或類似的單位，有在下列位置提供放氣口：-				
	i. 在通往增壓空間的門與間隔開端之間；	[ ]	[ ]	[ ]	----------
	或				
	ii. 在每一個辦公室及單位，而每個放氣口的大小都能夠排走增壓空間內的全部空氣。	[ ]	[ ]	[ ]	----------
d.4	放氣口位於或緊貼於天花板水平之下 放氣系統的種類				
	- 垂直道槽（回答 d5 至 d6）；	[ ]	或		----------
	- 樓宇周圍的特別通風口 （回答 d7 至 d9）；	[ ]	或		----------
	- 機械放氣（回答 d10 至 d12）。	[ ]			----------
d.5	垂直道槽的頂部有提供放氣口。	[ ]	[ ]	[ ]	----------
d.6	若道槽是設計作雙用途，每支分管有提供自動控制的防火防煙閘。	[ ]	[ ]	[ ]	----------
d.7	密封樓宇至少有兩邊設有特別通風口，作爲排氣出樓宇外的出口。	[ ]	[ ]	[ ]	----------
d.8	通風器設有故障保險保障。	[ ]	[ ]	[ ]	----------
d.9	通風器的組件符合英國標準 BS7346-1/BS7346-2 的規定。	[ ]	[ ]	[ ]	----------
d.10	抽氣率大過各層裝置的樓梯增壓系統的增壓空氣流動率總和。	[ ]	[ ]	[ ]	----------
d.11	抽氣系統，包括管道能夠於適當的溫度及時間運作（在有花灑系統的樓宇可於攝氏 250 度運作 1 小時；在沒有花灑系統的樓宇則可於攝氏 600 度運作 2 小時）。	[ ]	[ ]	[ ]	----------

	是	否	不適用	備註
d.12 若中央抽氣系統亦用作機械放氣，須遵守下列各項：-				
i. 中央抽氣系統的組件及管道能夠於適當的溫度及時間運作（在有花灑系統的樓宇可於攝氏 250 度運作 1 小時；在沒有花灑系統的樓宇則可於攝氏 600 度運作 2 小時）；	[ ]	[ ]	[ ]	.....
以及				
ii. 啓動相關增壓系統時，通風空調控制系統及通風空調手動關止掣便會失去關掉中央抽氣系統的功能；	[ ]	[ ]	[ ]	.....
以及				
iii. 至於滅火用的增壓系統，裝置在發生火警的樓層而設有馬達的防煙閘打開，其他隔火間／單位的閘則關閉； 或 至於逃生用的增壓系統，裝置在發生火警的樓層及以上兩層而設有馬達的防煙閘打開，其他隔火間／單位的閘則關閉。	[ ]	[ ]	[ ]	.....
e. 超壓時的放壓系統				
超壓時的放壓系統種類				
- 風扇運作時自動開啓外面的出口門（回答 e1 至 e2）；	[ ] 或			.....
- 具備測量氣壓功能的放壓口／閘（回答 e3 至 e5）；	[ ] 或			.....
- 機械放氣（回答 e6 至 e7）。	[ ]			.....
e.1 外面的出口門沒有提供門鎖、彈簧鎖、螺栓及推桿等。	[ ]	[ ]	[ ]	.....
e.2 外面的出口門有提供中英文警告標貼：「超壓時的放壓門，不要阻塞」 “Over pressure relief door. Do not obstruct”。	[ ]	[ ]	[ ]	.....
e.3 放壓口／閘外面的出口設有鐵絲網。	[ ]	[ ]	[ ]	.....

		是	否	不適用	備註
e.4	經過其他隔火間的放壓口／管道使用防火物料圍封。防火物料的抗火時效應與增壓空間或經過的隔火間一樣（兩者以較大值爲準）。	[ ]	[ ]	[ ]	----------
e.5	放壓口／閘真正有空氣經過的範圍 "A_x"≥0.16 平方米x（經過打開的門的規定總空氣流動率（立方米／秒）<u>減去</u>符合增壓空間壓力差規定的空氣供應量（立方米／秒）） ***見英國標準 BS5588 第 4 部分：1988 第 14 節方程式(24)的規定***	[ ]	[ ]	[ ]	----------
e.6	風扇可由差壓感應器啓動。	[ ]	[ ]	[ ]	----------
e.7	風扇直接排氣出外面，或經過其他隔火間的排氣管道是以抗火物料建造。管道的抗火時效應與增壓空間或經過的隔火間一樣（兩者以較大值爲準）。	[ ]	[ ]	[ ]	----------
f.	<u>電力及控制</u>				
f.1	所有設備（例如風扇、放氣閘、超壓時的放壓裝置、控制器、監控板等）由同一個必要電源提供電力。	[ ]	[ ]	[ ]	----------
f.2	主要掣板及／或裝置在不同位置的控制板的規定：-				
	- 建造符合英國標準 BS5486 的規定，板的厚度不少於 2 毫米，並裝置在有____小時抗火時效的房間(包括自掩門)內，而房間內沒有其他設備；或	[ ]	[ ]	[ ]	----------
	- 所有控制器、啓動器、繼電器等須適合於攝氏 250 度連續操作不少於 1 小時。	[ ]	[ ]	[ ]	----------
f.3	增壓系統、控制器、壓力感應器等的供電電纜規定：-				
	- 英國標準 BS6387 Cat.CWZ；或	[ ]			
	- 英國標準 BS6207 或 BS EN60702；或	[ ]			
	- 消防處處長接納的其他國際標準；或	[ ]			
	- 規格符合消防處通函第 1/2003 號的豁免準則 （項目_____ _____）	[ ]			----------

		是	否	不適用	備註
f.4	每個增壓系統設有獨立的差壓系統。	[ ]	[ ]	[ ]	_____
f.5	壓力感應管的末端妥當地停放在增壓空間及經常有人佔用的範圍內。	[ ]	[ ]	[ ]	_____
f.6	感應管的末端有硬物包裹以作保護。	[ ]	[ ]	[ ]	_____
f.7	貼有以中英文清楚標示「樓梯增壓系統感應點」"Sensing point of staircase pressurization system"的標貼。	[ ]	[ ]	[ ]	_____
f.8	沿着感應管設有保護物料。	[ ]	[ ]	[ ]	_____
f.9	由樓梯增壓系統的分支電路分配電力給差壓感應器、控制器、超壓時的放壓裝置及放氣裝置。	[ ]	[ ]	[ ]	_____
f.10	裝置在不同位置的風扇控制板設有的手動關止掣是鎖在「自動控制」的位置。	[ ]	[ ]	[ ]	_____
f.11	裝置在不同位置的風扇控制板在手動控制模式時，會有顯示信號傳送至監控板。	[ ]	[ ]	[ ]	_____
g.	建築工程				
g.1	通往或離開任何增壓空間的門裝置符合建築事務監督的規定。	[ ]	[ ]	[ ]	_____
g.2	所有門、關閉器、硬件等能夠於攝氏 35 度及相對濕度 100%的環境下使用。	[ ]	[ ]	[ ]	_____
g.3	沒有提供補充襯墊以協助防止煙霧泄漏。	[ ]	[ ]	[ ]	_____
g.4	裝置的門須可防止煙霧泄漏。	[ ]	[ ]	[ ]	_____
g.5	框架及樓宇結構之間的所有接合處以符合英國標準 BS476：第 23 部分的物料填縫。	[ ]	[ ]	[ ]	_____
g.6	所有門都設有自掩關閉器。	[ ]	[ ]	[ ]	_____
g.7	關閉的門之下的門檻完工面是防磨蝕的。	[ ]	[ ]	[ ]	_____
h.	功能測試				
h.1	進行表現測試，結果令人滿意。	[ ]	[ ]	[ ]	_____
h.2	量度開門的力度，結果令人滿意。	[ ]	[ ]	[ ]	_____

	是	否	不適用	備註
h.3 量度橫跨增壓空間與經常有人佔用的範圍的壓力差，結果令人滿意。	[ ]	[ ]	[ ]	.....
h.4 量度增壓空氣的流量，結果令人滿意。	[ ]	[ ]	[ ]	.....
h.5 啓動管道式煙霧偵測器時，入風口的防火／防煙閘是關閉的；	[ ]	[ ]	[ ]	.....
或				
啓動在入風口的管道式煙霧偵測器時，樓梯增壓系統是關閉的（就面向一個方向的入風口而言）。	[ ]	[ ]	[ ]	.....
h.6 爲防止增壓空間出現超壓情況，發生下列情況時會有故障保險保障，以便超壓時放壓：				
- 控制器失靈。	[ ]	[ ]	[ ]	.....
- 壓力掣失靈。	[ ]	[ ]	[ ]	.....
- 壓力掣的電線失靈。	[ ]	[ ]	[ ]	.....
- 旁通閘啓動器失靈。	[ ]	[ ]	[ ]	.....
- 啓動器（旁通閘）的電線失靈。	[ ]	[ ]	[ ]	.....
- 超壓抽氣扇失靈。	[ ]	[ ]	[ ]	.....
h.7 啓動系統的功能測試				
- 由樓宇火警警報系統啓動樓梯增壓系統的程序暢順（註：不建議放氣系統使用手動火警鐘，因爲放氣系統在發生火警的範圍是自動控制的）。	[ ]	[ ]	[ ]	.....
- 由煙霧偵測系統啓動樓梯增壓系統的程序暢順。	[ ]	[ ]	[ ]	
- 由花灑系統啓動樓梯增壓系統的程序暢順。	[ ]	[ ]	[ ]	.....
- 由單點式煙霧偵測器啓動樓梯增壓系統的程序暢順，而這些單點式煙霧偵測器是設置在通往每層設有樓梯增壓系統的受保護空間的門旁邊（1 米範圍內）經常有人佔用的範圍。	[ ]	[ ]	[ ]	.....
- 由監控板選擇以手動模式啓動樓梯增壓系統的程序暢順。	[ ]	[ ]	[ ]	.....

	是	否	不適用	備註
h.8 反應時間功能測試 在一扇門正在打開或關閉的 5 秒內，樓梯增壓系統能夠達到 90%至 110%之間的新體積規定（超壓時的放壓系統使用可變動供應量的風扇或閘）。	[ ]	[ ]	[ ]	----------
h.9 當值設備失靈時，由當值設備切換至後備設備的過程是自動操作的。	[ ]	[ ]	[ ]	----------

第 III 部分 － 裝置在樓宇內的所有樓梯增壓系統

1. 檢查核對表共有_____頁（包括爲每個額外的樓梯增壓系統夾附的核對表）。

2. 夾附了_____個附錄。

測試人：_____

簽署：_____

裝置承辦商名稱：_____

公司印鑑：_____

日期：_____

核證人：_____

簽署：_____

註冊專業工程師全名：_____

工程師註冊號碼：_____

公司印鑑：_____

日期：_____