

致：屯門區議會秘書處

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屯門區議會大會討論文件

要求全面更換政府建築物內 不合 BS 476-4 Part4 標準的複合板

背景：

2017 年 6 月 14 日，英國倫敦西部肯辛頓區住宅大廈 Grenfell Tower 發生火災，因大廈外牆使用易燃物料複合板而加速火勢蔓延，造成最少 79 人死亡。政府屋宇署在 2011 年推出的「建築物消防安全守則」訂明，經屋宇署批准使用複合板建築必須符合守則內 BS 476-4 Part4: Non-sombustibility test for materials，即「不自燃物料」（見附件 P.149 頁）。

雖然安全守則在 2011 年訂立，但在 2011 年至 2017 年倫敦大火事件前，屋宇署仍接納建築物可依據 BS476-6/7 條使用「阻燃物料」的複合板。在倫敦大火事件後，屋宇署立即改變方針，只批准根據 BS 476-4 Part4 的建築申請，表明屋宇署也認同「不自燃物料」複合板的防火及安全功能較「阻燃物料」複合板更為有效。

據悉，屯門區內於 2011 年至 2017 年間落成的政府屬下建築物包括公共屋邨、教育局轄下的學校，體育館、大欖監獄等建築，也只是採用「阻燃物料」的複合板作上蓋或外牆，萬一發生火警，有關物料仍可隨火勢蔓延。

要求：

為保障公眾安全，我們要求所有政府部門的建築物應依據屋宇署 2017 年後的「建築物消防安全守則」，全面更換為「不自燃物料」的防火複合板，以確保市民的人身安全。

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二零一八年十二月十八日

BUILDINGS
DEPARTMENT

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Clause C11.2

For Use Classification 1, openings of not more than 110mm in diameter are allowed at the fire rated spandrels of the kitchen and bathroom for the penetration of plumbing and drainage pipes.

Subsection C12 – Protection of Roofs

Clause C12.1

All roofs, together with the members forming the roof structure, should be constructed of non-combustible materials complying with Part E.

Clause C12.2

The roof of every building with only one required staircase, forming part of a protected exit in which the level of the highest floor is more than 13m above ground level should have an FRR of not less than that of the storey below.

Clause C12.3

The main roof or any other part of the roof, which is used or intended to be used as a refuge floor or part of a refuge floor, should have an FRR of not less than that of the storey below.

Clause C12.4

Where a protected exit leads to a temporary place of safety, which is an open area located at an upper floor instead of leading directly to a street or to an ultimate place of safety, such as podium level, the exit route at the temporary place of safety should comply with Subsection C9. In particular, the floor of the temporary place of safety should have an FRR of not less than that of the storey below.

Section 5 – Non-combustibility

Subsection E10 – Non-combustibility

Clause E10.1

Any product that complies with one of the following is considered to be non-combustible:

- (a) Class A1 in BS-EN 13501-1:2007, *Fire classification of construction products and building elements - Classification using data from reaction to fire tests*;
- (b) BS EN ISO 1182:2010, *Reaction to fire tests for products. Non-combustibility test* and BS EN ISO 1716:2010 *Reaction to fire tests for products. Determination of the gross heat of combustion (calorific value)*;
- (c) BS 476-4:1970, *Fire tests on building materials and structures. Part 4: Non-combustibility test for materials*.

Commentary

Other appropriate non-combustibility tests include:

- (a) AS 1530.1:1994, *Methods for fire tests on building materials, components and structures Part 1: Combustibility test for materials*;
- (b) ASTM E136-11, *Standard test method for behavior of materials in a vertical tube furnace at 750°C*.

Subsection E11- Limited Combustibility

Clause E11.1

Materials of limited combustibility are classified as Class A2-s3, d2 or better in accordance with:

- (a) BS EN 13501-1:2007, *Fire classification of construction products and building elements, Part 1 – Classification using data from reaction to fire tests* to BS EN ISO 1182:2002, *Reaction to fire tests for building products – Non-combustibility test*;
- (b) BS EN ISO 1716:2010, *Reaction to fire tests for products. Determination of the gross heat of combustion (calorific value)* and BS EN 13823:2010, *Reaction to fire tests for building products. Building products excluding floorings exposed to the thermal attack by a single burning item*.

Commentary

The European classifications are developed through a suite of fire tests. Building elements except flooring, are classified as A1, A2, B, C, D, E or F (with A1 being the highest performance and F being the lowest) in accordance with BS EN 13501-1:2007, *Fire classification of construction products and building elements, Classification using data from reaction to fire tests*.

The relevant fire tests are:

- (a) BS EN ISO 1182:2010, *Reaction to fire tests for products. Non-combustibility test*;
- (b) BS EN ISO 1716:2010, *Reaction to fire tests for products. Determination of the gross heat of combustion (calorific value)*;
- (c) BS EN 13823:2010, *Reaction to fire tests for building products. Building products excluding floorings exposed to the thermal attack by a single burning item*;
- (d) BS EN ISO 11925-2:2010, *Reaction to fire tests. Ignitability of building products subjected to direct impingement of flame. Single-flame source test*;
- (e) BS EN 13238:2010, *Reaction to fire tests for building products. Conditioning procedures and general rules for selection of substrates*.

The European test methods are based on performance in the ISO 9705, *Room Corner Test*. Products tested in accordance with the room corner test (ISO 9705), in tandem with the Cone Calorimeter (ISO 5660-1) are acceptable.

Table E1 is the comparison of classification of fire performance of materials tested in accordance with BS EN 13501-1:2007 and BS 476: Parts 4 and 7.

Table E1 - European Classes on Reaction to Fire Performance

European Classification	British Standard Equivalent
A1	Non-combustible
A2	Limited combustibility
B	0
C	1
D	3
E	4
F	Unclassifiable or no performance determined