Implementation of Fire Safety (Commercial Premises) Ordinance (Cap.502) and Fire Safety (Buildings) Ordinance (Cap.572)

Date: 29 March 2018
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Background

Characteristics of Buildings in Hong Kong

- Limited spaces to accommodate lots of buildings
- Different kinds of buildings/premises may arouse different potentials of life/fire risk
Background

Purpose of the Ordinances

The purpose of the Ordinances is to provide better protection from the risk of fire for occupants, users of, and visitors to, certain kinds of commercial premises and commercial buildings (Cap.502) and composite buildings and domestic buildings (Cap.572)
Enforcement Authority

Director of Buildings
(Planning, Design and Construction of Building)
(MOE, FRC, MOA)

Director of Fire Services
(Fire Service Installation and Equipment)
(FSI)
Enforcement Authority

The owner/occupier of prescribed commercial premises, specified commercial buildings, composite buildings or domestic buildings may be directed to comply with the fire safety measures by means of a Fire Safety Direction (FSDn) or a Fire Safety Improvement Direction (FSIDn) from the relevant enforcement authority.

- Director of Buildings – in relation to the planning, design and construction of the premises
- Director of Fire Services – in relation to any fire services installation or equipment

Common Workflow:

- Joint site inspection by BD & FSD
- Professional Assessment
- Issue FSDn or FSIDn
Codes of Practice


Objectives of Fire Safety Construction:

1. To protect the staircases and exit routes, so the occupants can be evacuated safely in case of fire;
2. To inhibit the spread of fire and ensure the integrity of the structure of the buildings;
3. To provide adequate means of access for firefighting and rescue.
Practice Notes

Practice Notes for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers

APP-94 – Fire Safety (Commercial Premises) Ordinance, Cap. 502

APP-145 – Fire Safety (Buildings) Ordinance, Cap. 572
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Prescribed Commercial Premises

- Fire in a bank in Shek Kip Mei in January 1994 (12 dead & 1 injured)
- FS(CP)O came into force on 2 May 1997

Specified Commercial Building

- Fire in Garley Building in November 1996 (40 dead & 81 injured)
- Amendment to FS(CP)O came into force on 1 June 1998
Scope of Cap.502

"Prescribed Commercial Premises (PCP)"

- A building or part of a building exceeds 230sq m in total floor area and which is used, or is proposed to be used, for carrying on any of the following 5 commercial activities:
  
  (i) Banking (Other than merchant banking);
  (ii) Conduct of off-course betting;
  (iii) Conduct of a jewelry or goldsmith business on premises that have a security area;
  (iv) Use as a supermarket, hypermarket or department store; or
  (v) Use as a shopping arcade.
Prescribed Commercial Premises (PCP)

Why the 5 types of premises?
- These premises tend to attract significant numbers of visitors at a time
- Visitors are unfamiliar with the escape routes
- No licensing mechanism to control

Why total floor area > 230 sq. m?
- For commercial premises smaller than 230 sq. m, the fire risk is considered to be relatively low and installation of sprinkler system is also not required by FSD.
Case 1

Ground Floor Plan

Enforcement action will be taken if the shaded floor area exceeds 230m². In this case, only the shaded area is considered as prescribed commercial premises (i.e. shopping arcade).
Case 2

Ground Floor Plan

Enforcement action will be taken if the shaded floor area exceeds 230m². In this case, the whole floor, including the office, clinic and management office, will then be considered as prescribed commercial premises (i.e. shopping arcade).
Case 3

Upper Floor Plan

Enforcement action will be taken if the shaded floor area exceeds 230m². In this case, the whole floor, including the office and dental clinic, will then be considered as prescribed commercial premises (i.e. shopping arcade).
Scope of Cap. 502

Fire Safety Construction Requirements
For Prescribed Commercial Premises (PCP) (Schedule 2 of Cap. 502)

MOE
- Provision of adequate means of escape from the premises in the event of fire

FRC
- provision of measures to inhibit the spread of fire and to ensure the integrity of the structure of the building where the premises are located

MOA
- provision of adequate means of access to the premises to facilitate access for fire fighting and rescue
**Scope of Cap.502**

**Commercial Building** means non-domestic building for the purpose of office, business, trade or any entertainment and **does not include** the whole of a non-domestic building which was constructed to be used or is being used:

- hotel, serviced apartment, guest-house or similar establishment;
- kindergarten, school, .. or similar establishment;
- hospital, clinic, medical centre, or similar establishment;
- carpark;
- Residential home for the elderly, child care centre, nursery or social services centre;
- factory or industrial undertaking;
- godown, warehouse or place of bulk storage;
- utilities building or power station or sub-station; or
- cinema or theatre.

"Specified Commercial Building (SCB)"

- A building was constructed to be used or is being used for the purposes of office, business, trade or any entertainment and which was constructed on or before 1 March 1987 or the plans of the building works of which were first submitted to the Building Authority for approval on or before 1 March 1987.
Scope of Cap.502

Fire Safety Construction Requirements
For Specified Commercial Building (SCB) (Schedule 5 of Cap. 502)

MOE
- Improvement of staircases in terms of their width and number
- Protection of exit routes and staircases with separating walls having adequate fire resisting period
- Improvement of exit arrangements in terms of exits from rooms, storeys and ground storeys, access to staircases, direct distance or travel distance
- Provision of fire doors

FRC
- Improvement of fire resistance of external walls and the protection of openings therein to inhibit the spread of fire to adjoining buildings
- Provision of fire resisting separation between different parts in a building
- Provision of smoke vents to basements

MOA
- Improvement of at least one of the existing lifts, up to the standard of fireman's lifts; or
- Installation of a new lift, up to the standard of fireman's lifts
Common Irregularities Found in PCP/SCB

MOE
- Inadequate number and width of exit route
  > 30 Persons, 2 exits
- Excessive travel and direct distance
- Internal partition layout leads to excessive deadend
- Non-provision of staircases interchange
- Non-provision of protected lobby
- Inappropriate door lock
- Direction of door swing

FRC
- Fire Doors
- Smoke vents for basement
- Enclosure to non-emergency services with staircase
- Fire separation with staircases
- 450mm Smoke Barrier

MOA
- Provision of Fireman’s lift
- Fireman’s lift lobby
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Background

- Fire in Mei Foo Sun Chuen in April 1997  
  (9 dead & 38 injured)
- Fire in Golden Court, North Point in January 1998  
  (2 dead & 57 injured)
- Fire in On Hing Building, Kwun Tong in February 1998  
  (4 dead & 9 injured)
- FS(B)O came into force on 1 July 2007
Scope of Cap.572

"Composite building"

A building was constructed or intended to be used, partly for domestic purposes and partly for non-domestic purposes and which was constructed on or before 1 March 1987 or the plans of the building works of which were first submitted to the Building Authority for approval on or before 1 March 1987.

"Domestic building"

A building was constructed or intended to be used for domestic purposes with more than 3 storeys and which was constructed on or before 1 March 1987 or the plans of the building works of which were first submitted to the Building Authority for approval on or before 1 March 1987.
Scope of Cap.572

Fire Safety Construction Requirements
For Non-domestic parts of Composite Buildings (Schedule 1 of Cap.572)

MOE
- Improvement of staircases in terms of their width and number
- Protection of exit routes and staircases with separating walls having adequate fire resisting period
- Improvement of exit arrangements in terms of exits from rooms, storeys and ground storeys, access to staircases, direct distance or travel distance
- Provision of fire doors

FRC
- Improvement of fire resistance of external walls and the protection of openings therein to inhibit the spread of fire to adjoining buildings
- Provision of fire resisting separation between different parts in a building
- Provision of smoke vents to basements

MOA
- Improvement of at least one of the existing lifts, up to the standard of fireman's lifts; or
- Installation of a new lift, up to the standard of fireman's lifts
Improvement works for commercial (or non-domestic) floors

If any nearby unprotected openings/windows are located, the windows of exit staircases should be replaced by fixed windows with the required fire resistance rating.

Doors of fireman’s lift lobbies should be replaced by doors with the required fire resistance rating.

Electric cables, meters within staircases and protected lobbies should be enclosed by fire barriers with adequate fire resistance rating.

Doors of protected lobbies should be replaced by doors with the required fire resistance rating.

Doors of flats should be replaced by doors with the required fire resistance rating.
Scope of Cap.572

Fire Safety Construction Requirements
For Domestic parts of Composite Buildings and Domestic Buildings (Schedule 2 of Cap.572)

- Protection of staircases with separating walls of fire resisting construction
- Improvement of exit arrangements in terms of exit from the parts used for domestic purposes to the street
- Provision of fire doors
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MOE – (adequacy of means of escape) population, number and width of exits/exit doors, discharge value, travel distance, protected lobby etc.

FRC – (measures to inhibit fire spread and integrity of structure) staircase protection, fire separation, compartmentation, smoke vents etc.

MOA – (adequate access for fire fighting and rescue) fireman’s access, fireman’s lift lobby, improvement to existing lift or new lift up to fireman’s lift standard etc.
MOE

- Provision for the protection of buildings from the effects of fire by providing adequate means of escape in the event of fire and other emergencies

Common improvement works required for:

- Inadequate width / no. of exit route
- Excessive Direct Distance / Travel Distance
- Deadend (direction of travel in one direction only)
- Non-provision of corridor for staircases’ interchange
- Non-provision of protected lobby
- Improper locking device / swinging direction of door
Fire Safety Construction Requirements

Common MOE Irregularities in Staircases

- Unauthorized Building Works
- Locked metal gate
- Obstruction by metal gate
- Opening on staircase enclosure wall
Fire Safety Construction Requirements

Common Irregularities in Fire Doors

- Defective door
- Inadequate fire resisting period with regard to both integrity and insulation
- Intumescent strip
- Door hinge
- Self-closing device
- Door swing reducing the width of exit route
- Suppliers’ Certificate and Test Report not provided
Fire Safety Construction Requirements

FRC
- Provisions for the protection of buildings from the effects of fire by inhibiting the spread of fire and ensuring the integrity of the structural elements of buildings

Common improvement works required for:
- Inadequate or improper fire door / fire damper
- Inadequate no. / size of smoke outlet
- Inadequate enclosure to non-emergency services
- Inadequate or improper fire separation
- Inadequate depth of barrier at internal
- Unprotected opening
Fire Safety Construction Requirements

Common FRC Irregularities in staircases

- Damaged or aluminum windows in staircase facing adjoining unprotected openings
- Suppliers’ Certificate and Test Report for fixed light not provided
Fire Safety Construction Requirements

Protection for Non-emergency services in staircases

- Enclosed by fire rated materials

- Fire rated enclosures:
  - Sufficient fire resisting period with regard to both integrity and insulation
  - Compliance with Electricity Ordinance and Supply Rules from electricity company
  - Clear width / height of exit route
  - Suppliers’ Certificate and Test Report
MOA

- Provisions for adequate means of access for firefighting and rescue

Common improvement works required for:

- Inadequate fireman’s lift
- Non-provision/ sub-standard of fireman’s lift lobby
## Submissions to Buildings Department

<table>
<thead>
<tr>
<th>Type of Improvement Works</th>
<th>Exempted building works</th>
<th>Works required prior approval and consent from the Building Authority</th>
<th>Minor Works</th>
</tr>
</thead>
<tbody>
<tr>
<td>• installation of fire service water tank</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• provision of additional exit route</td>
<td></td>
<td></td>
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<tr>
<td>• addition of required staircase etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• replacement of fire rated doors</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>• provision of fire rated enclosures to non-emergency services within the escape staircases</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>• replacement of windows to fixed light within the escape staircases</td>
<td></td>
<td>✓ ✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Notes:**

- **Exempted building works:** Building professionals are recommended to be appointed.
- **Works required prior approval and consent from the Building Authority:** Authorized Persons/ Registered Structural Engineer are required to be appointed.
- **Minor Works:** Prescribed registered contractor and/or prescribed building professional are required to be appointed with respect to the relevant minor works item.
Example of Alterations and Additions Works

• Supporting frames for FS water tank
Example of Alterations and Additions Works

- Protective Barriers
  - Building (Construction) Regulation 8
  - Building (Planning) Regulation 3A
Example of Alterations and Additions Works

- Conversion of existing water tanks to FS water tanks

Points to note
- Building (Standards of Sanitary Fitments, Plumbing, Drainage Works and Latrines) Regulation 22
- Provision of storage tank for flushing water
Example of Alterations and Additions Works

Points to note

- Demonstration of refuge area provision (MOE Code Para. 9.2(e))
- Demonstration of open space provision (Building (Planning) Regulation 25)
- Implication of Gross Floor Area / Site Coverage (Building (Planning) Regulation 20 & 21)
Tips for Compliance of Works

Possible Alternatives

What if certain improvement works are not complied with due to site constraints?

- The owner may contact the responsible BD officers to discuss possible alternatives to suit site conditions or need to appoint a consultant or an Authorized Person to propose alternative solutions.
- The Buildings Department will adopt a flexible and pragmatic approach to enforce the Fire Safety Direction/ Fire Safety Improvement Direction.
Advisory Committee for the Fire Safety (Buildings) Ordinance
Advisory Committee for Fire Safety (Buildings) Ordinance and Fire Safety (Commercial Premises) Ordinance

- Consider the appropriateness of fire safety measures on case basis, having regard to the structural integrity of the building and the technology available to comply with the requirements under the Ordinance.

- Membership

  **Chairman:** Assistant Director/ Mandatory Building Inspection, BD
  **Members:** Chief Building Surveyor/ Fire Safety, BD
  Chief Structural Engineer/ Mandatory Building Inspection, BD
  1 Representative from the FSD
  3 Authorized Persons (on rotational basis)
  3 Fire Safety Practitioners (on rotational basis)
  3 Fire Safety Experts from academia (on rotational basis)
  3 Members of Public (on rotational basis)

  **Secretary:** Building Surveyor/ Fire Safety, BD
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Implementation

The owners / Owners’ Corporation (OC) receive the “Fire Safety Directions” or “Fire Safety Improvement Directions” issued by the Buildings Department (BD).

Read the Direction carefully, pay attention to the specified items of improvement in “Annex” and important notes of works in “Explanatory Notes”. If you have any enquiry, please contact the BD.

Convention of owners’ meeting to discuss and decide on the following matters:
- Establishment of Owners’ Corporation (OC)
- Methods and schedules for contribution to the cost from co-owners
- Application for related loans or grants
- Methods of management and supervision of works
- For assistance, owners may request the District Office and the Hong Kong Housing Society for co-ordination.

Compliance time for the works: 1 Year

Appoint a building professional to co-ordinate the works

Owners / OCs voluntarily make preparation for the works

If necessary, propose alternative solutions for improvement of the fire safety measures to the BD

Tendering for appointment of appropriate building contractors

Carry out the necessary fire safety improvement works

After completion of works, report to the BD for arrangement of site inspection and submit the fire certificates and test reports to the BD for doors, windows and materials are required to have fire resistance rating to prove the rating.
Penalties

Fire Safety Direction / Fire Safety Improvement Direction
• Guilty of an offence
• Conviction to a fine at level 4 (max. $25,000)
• Further Daily fine $2,500

Fire Safety Compliance Order / Fire Safety Improvement Compliance Order
• Guilty of an offence
• Conviction to a fine at level 5 (max. $50,000)
• Further daily fine $5,000

Restriction Order / Prohibition Order
• Guilty of an offence
• Conviction to a fine of $250,000
• Imprisonment for 3 years
• Further daily fine $25,000

Offence to disclose information obtained officially
• Guilty of an offence
• Conviction to a fine at level 5 (max. $50,000)
• Imprisonment for 6 months
Sample of Fire Safety Compliance Order

Case No.  
Order No.  
[sec. 6(3)]

Fire Safety (Buildings) Ordinance
FIRE SAFETY COMPLIANCE ORDER
IN THE MAGISTRATES' COURT AT KOWLOON CITY HONG KONG

To: [Name and address of the owner of unit of the domestic part of the composite building] whom having been convicted of the offence of failing to comply with a Fire Safety Direction No. [Number] dated [Date], which was issued by the Director of Buildings, an offence under section 5(3) of the Fire Safety (Buildings) Ordinance, on [Date] (date of conviction) at Kowloon City Magistrates’ Court.

1. WHEREAS application has been made by the Director of Buildings to me, a magistrate of Hong Kong for an order requiring the compliance with fire safety construction requirements specified as follows-
   - [Specify attached Appendix (specify the fire safety construction requirements) at the building situated at [Address] (which is a unit of the domestic part of the composite building and to replace the above Fire Safety Direction issued on [Date] in respect of the said building).

2. Pursuant to section 6(1) of the Fire Safety (Buildings) Ordinance I do require you within [Time] (specify the time) from the date of service of this Order, to comply with the above fire safety construction requirements.

3. If you fail to comply with the requirements of this Order you are liable to prosecution for an offence under section 6(8) of the Fire Safety (Buildings) Ordinance. Upon conviction, a court may impose a fine at level 5 and to a further fine of $5,000 for each day or part of a day during which the offence continues. Application may also be made to the District Court for an Order against you under section 7 (1) of the Fire Safety (Buildings) Ordinance prohibiting the occupation of the unit of the domestic part of the composite building.

Dated this [Date]

(Signed)  
Magistrate
Sample of Fire Safety Compliance Order

Appendix 附錄

Case No.

備案編號 :

Order No.

命令編號 :

(a) Replacement of door at rear unit’s entrance. This door should be self-closing with a fire resistance period of not less than one hour. 更換在單位後人口的門，該門須能自動關上及具有不於一小時耐火效果。

The attached Notes would facilitate your compliance with this Fire Safety Compliance Order.

為利便你遵從此消防安全令，請留意附的註釋。

Notes:

(1) Except in compliance with Tables A to F of the Code of Practice for Fire Resisting Construction 1996, certificates and test reports should be submitted to demonstrate that the door, material or constructions are capable of resisting the action of fire for the specified period upon completion. 除非符合《防火耐火構造守則》A至F的規格，否則，有關耐火門的材質或結構，必須出示證明其能承受於指定期間的火勢。

(2) The Building (Minor Works) Regulations was fully implemented on 31 December 2010. Under the Minor Works Control System (MWCS), a person who carries cut the designated classes of minor works is required to appoint a licensed Building Professional/Prescribed Registered Contractors as appropriate. Certain categories of works stipulated in the captioned direction may fall under the control system, such as formation / reinstatement of slab openings, enclosures / alteration / removal of external windows, removal of unauthorized structures, construction / alteration / repair / removal of window / window walls etc. For more details about the MWCS, please refer to the pamphlet available at the BD or its website (www.bd.gov.hk). Enquiries can also be made to the BD at 2526 1616.

(3) Fire rated door should be certificated in terms of both integrity & insulation. All fire doors should be self-closing and the swing of which should not reduce the effective width of exit routes & staircases. 防火門之耐火效能，需證明同時具完密性及隔熱效能，以確保防火門均應為自動關閉及於開閉時不得減少出口通道及樓梯間的寬度。

(4) This Fire Safety Compliance Order is issued without prejudice to the Building Authority’s power under the Building Ordinance. 本份消防安全令，並不影響建築物審批監管於《建築物條例》下可行使的權力。

(5) Regarding the items stipulated under the Fire Safety Compliance Order, notwithstanding the improvement works(s) stipulated under the Fire Safety Compliance Order, this department may issue order(s) under the Building Ordinance separately to the relevant contractor(s) requiring the reinstatement of the part of the building so affected by any unauthorized building works in accordance with the plans approved by the Building Authority. 關於消防安全令的工程項目，由本份消防安全令已規定並獲批准的項目外，本部門仍可根據《建築物條例》，分別向有關承建商發出命令，要求其重新製造建築物影響的部分，依從建築物審批監管的圖則及設計。
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Q &A

Thank you