

**Part A**  
**Introduction**

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**This Part contains three Sections:**

- **Section 1 – General**
- **Section 2 – Performance Requirements**
- **Section 3 – Definitions**

# Section 1 – General

## Subsection A1 – Use of this Part

### Clause A1.1

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This Part should be read in conjunction with all other Parts of this Code.

### Clause A1.2

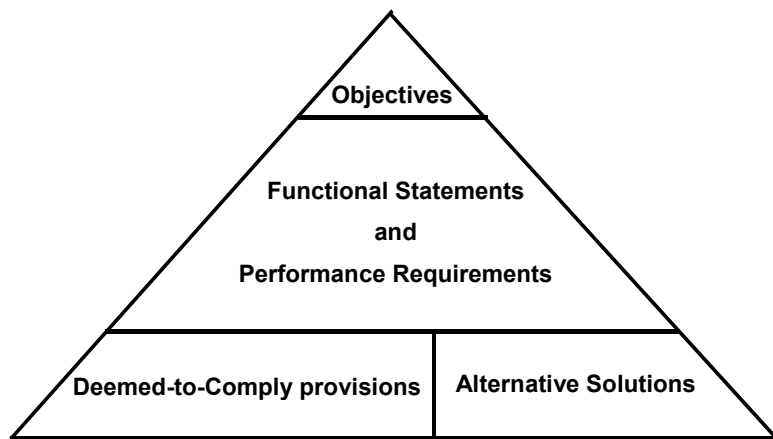
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- (a) This Code provides the Performance Requirements as well as prescriptive requirements (Deemed-to-Comply provisions) for achieving an adequate level of fire safety in buildings.
- (b) To comply with this Code, a fire safety design should comply with the Performance Requirements in Section 2.
- (c) The Building Authority recognises that fire safety may be achieved in a number of ways. This is particularly pertinent to some buildings where there are genuine difficulties in complying with the Deemed-to-Comply provisions because of their size, use, complexity or location, which may necessitate special consideration.

### Clause A1.3

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Diagram A1 shows the framework for fire safety in buildings.



**Diagram A1 – Framework for Fire Safety in Buildings**

### **Commentary**

The development of the framework for fire safety in buildings is based on hierarchical approach, which is adopted in the performance-based regulatory systems of Australia, United States of America and New Zealand.

With reference to the relevant legislations, the framework for fire safety in buildings is formulated as follows:

- (a) Buildings Ordinance (Cap.123) provides an over-arching goal.
- (b) Regulations provide the detailed objectives and Functional Statements for fire safety as well as Performance Requirements for achieving the objectives of fire safety.
- (c) This Code provides the means of compliance (Deemed-to-Comply provisions) and guidelines for adopting the fire engineering approach (Alternative Solution).

## Subsection A2 - Fire Safety Objectives

### Clause A2.1

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The long title of the Buildings Ordinance (Cap. 123) provides the goal statement for fire safety design:

*To provide for the planning, design and construction of buildings and associated works; to make provision for the rendering safe of dangerous buildings and land; to make provision for regular inspections of buildings and the associated repairs to prevent the buildings from becoming unsafe; and to make provision for matters connected therewith.*

### Clause A2.2

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For every fire safety design, the following fire safety objectives should be met:

(a) **Life Safety**

Fire safety provisions should be provided for:

1. protection of life of building occupants
2. minimization of fire spread between fire compartments
3. prevention of building collapse as a result of fire
4. facilitation of firefighting and rescue by fire services personnel

(b) **Property Protection**

Fire safety provisions should be provided for:

1. minimization of fire spread between fire compartments
2. prevention of building collapse as a result of fire
3. minimization of fire spread between buildings
4. facilitation of firefighting and rescue by fire services personnel

**Commentary**

There are other fire safety objectives that are relevant: preventing the outbreak of fire, abating fire hazards, improving fire suppression and preventing loss of property. Provisions for some of these objectives can be found in the Buildings Ordinance and regulations.

**Clause A2.3**

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Functional Statements elaborate the fire safety objectives that a design should meet. The Functional Statements and corresponding Performance Requirements are stipulated in Section 2.

**Subsection A3 - Compliance****Clause A3.1**

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The adequacy of fire safety provisions in a building should be demonstrated by complying with the Performance Requirements in Section 2. Compliance with Performance Requirements can be achieved by:

- (a) complying with the Deemed-to-Comply provisions in this Code, or
- (b) formulating an Alternative Solution which complies with the Performance Requirements, or
- (c) a combination of (a) and (b).

**Commentary**

Compliance with the Deemed-to-Comply provisions in this Code may be regarded as a reliable way to comply with the requirements under the Buildings Ordinance for fire safety in buildings. When there is genuine difficulty in complying with the Deemed-to-Comply provisions for buildings of special hazards (due to their size, use, complexity or location), an Alternative Solution can be adopted and proved, in individual cases, to comply with the requirements under the Buildings Ordinance.

The Building Authority accepts the following as relevant considerations for the assessment of the building in respect of fire safety:

- (a) the anticipated risk of a fire occurring in the building;
- (b) the anticipated severity of the fire;
- (c) the ability of the structure of the building to resist the effect of fire and to minimise the spread of fire and smoke; and
- (d) the consequential and possible danger to the people in and around the building.

An acceptable Alternative Solution should take into consideration the criteria within the Performance Requirements and at the same time, apply scientific and engineering principles to the protection of people and property from fire. Such an approach may be the only viable means to achieve an acceptable level of fire safety in some large or complex buildings. Where fire engineering is used to formulate an Alternative Solution, its acceptability will be assessed by reference to a set of qualitative criteria, i.e. the Performance Requirements.

Quantitative and qualitative techniques may be used to evaluate risks and hazards. When quantitative methods are used, any assumptions made should be substantiated by referenced documentation.

## Subsection A4 - Parts in this Code

### Clause A4.1

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This Code consists of the following parts:

- Part A - Introduction
- Part B - Means of Escape
- Part C - Fire Resisting Construction
- Part D - Means of Access
- Part E - Fire Properties of Building Elements and Components
- Part F - Fire Safety Management
- Part G - Guidelines on Fire Engineering
- Annex A - List of Codes of Practice and Guides issued by Licensing Authorities for Licensed Premises

Parts B to E provide the prescriptive requirements of this Code, or the Deemed-to-Comply provisions, for complying with the Performance Requirements. Parts F and G provide guidelines on fire safety management and fire engineering respectively.

### Clause A4.2

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The Code of Practice for Minimum Fire Service Installations and Equipment and Inspection, Testing and Maintenance of Installations and Equipment issued by the Fire Services Department should be read in conjunction with this Code.

### Clause A4.3

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Codes of Practice or Guides issued by relevant licensing authorities should be read in conjunction with this Code. Some commonly used Codes of Practice and Guides are listed in Annex A for reference.

## Subsection A5 - Change in Use or Bounding Conditions

### Clause A5.1

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Apart from alterations and additions, an authorized person should consider if a submission to the Building Authority may be required if a building or fire compartment involves:

- (a) change in use, based on the categories outlined within Subsection A7; or
- (b) change in Bounding Conditions.

#### **Commentary**

A change in one Use Classification to another is considered as a “material change in use” under Section 25 of the Buildings Ordinance (Cap. 123). As the fire risk to occupants may be adversely affected, the suitability of the building for the new use, by reason of its construction, should be assessed and upgrading works may be required.

Bounding Conditions are the set of fire safety provisions to be provided and maintained when adopting performance-based approach to fire safety design and should be specified in the general building plans. Any changes to Bounding Conditions (e.g. change to fire safety provisions, fire compartment or occupant capacity etc.) may invalidate the performance-based fire safety design. The authorized person should review the Bounding Conditions and assess if submission to the Building Authority for approval is required. Part G provides the details on the application of Bounding Conditions.

## Subsection A6 - Limitation of this Code

### Clause A6.1

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The Deemed-to-Comply provisions have not taken into account the scenarios involving significant and organised arson, terrorism or similar emergencies.

#### **Commentary**

Smaller acts of arson with small fire size involving an individual ignition source may result in an initial fire growth that is faster than that of an accidental fire, but the overall fire development may not differ from an accidental fire and hence meeting the Deemed-to-Comply provisions is an appropriate mitigation. Issues related to fire safety design for major arson or terrorism scenarios can only be addressed through a performance-based approach, on an individual case-by-case basis.

## Subsection A7 - Use Classification

Use Classifications are stipulated in Table A1.

**Table A1: Use Classification**

Types of Premises		Typical Examples / Interpretations
1. Residential	1a. House type dwellings	Single family house up to three storeys high.
	1b. Flats	Flats including service apartments.
	1c. Tenement houses	A building in the domestic part of which any living room, as a place for cooking or sleeping, is intended or adapted for the use of more than one tenant or sub-tenant.
2. Hotel and similar Transient Accommodation		Hotels, guesthouses, barracks, dormitories, hostels, boarding houses, motels, etc.
3. Institutional	3a. Health/child care facilities	Hospitals, purpose-built clinic, nurseries, child care centres, day care centres, drug dependent person treatment areas, homes for the elderly.
	3b. Detention and correctional centres	Detention centres, correctional centres, etc.
4. Commercial	4a. Business facilities	Offices and associated business spaces.
	4b. Mercantile facilities	Retail shops, markets, supermarkets, department stores, food courts, cafés, restaurants, lounges, bars and pubs, banking halls, betting halls, showrooms, etc.
5. Assembly	5a. Places of Public Entertainment	The uses listed in Places of Public Entertainment Ordinance (Cap. 172), such as cinemas, theatres, exhibition centres, stadia.
	5b. Educational establishments	Classrooms, lecture rooms, libraries and study rooms in schools, kindergarten, colleges or universities.
	5c. Transport facilities	Passenger terminals for air, rail, road or sea. Airports, bus termini, railway stations, etc.
	5d. Other Assembly Premises	Places of assembly not specifically listed in Type 5a-c, such as conference centres, skating rinks, gymnasia, churches, public halls and columbaria, etc.
6. Industrial	6a. Industrial workplaces	Industrial workplaces for manufacturing and processing any article, power generation facilities, depots, aircraft maintenance facilities, film production facilities, commercial kitchens, commercial laundries, commercial laboratories etc.
	6b. Warehouses	Container terminals, freight stations, warehouses for general goods storage and logistic centres.
	6c. Storage, manufacturing of hazardous/ dangerous goods premises	Storage or manufacturing premises for flammable goods, explosive goods, explosives production and flammable/hazardous chemical processing.
7. Carparks		Parking structure and garage, including car ports.
8. Plant rooms & the like		Mechanical and electrical plant rooms, IT equipment room, access facilities for telecommunication and broadcasting services etc.

Note:

1. In respect of some Use Classifications, there are specific requirements under the relevant Ordinances, Regulations as well as Codes of Practice/Guides issued by relevant licensing authorities.

**Commentary:**

Eight major Use Classifications are stipulated in Table A1. The Use Classifications are developed according to the potential fire hazard, with consideration to the characteristics of occupancy and building type.

**Use Classification 1 Residential Premises**

Residential premises contain sleeping accommodations as well as other living functions, and occupants are generally familiar with the building layout. The response time of occupants will be increased whilst asleep. It is recognised that the degree of protection should increase as the density of occupants increases. Thus, residential premises are further classified into 3 sub-classes with respect to their characteristics.

House type dwellings basically contain one staircase serving a single family with low occupant capacity.

Self-contained flats are found in both high-rise and low-rise residential buildings, which are separated from each other by fire barriers. This type of use may co-exist with other Use Classifications at lower levels, such as retail, forming a composite building.

Older type tenement houses commonly contain multi-family occupancies within a flat and are relatively dense. Commonly a simple kitchen and bathroom are provided but the remainder of the unit is one large space sub-divided into cubicles.

**Use Classification 2 Hotel and similar Transient Accommodation Premises**

This type of premises contains sleeping accommodation, as well as other living functions, where occupants are usually unfamiliar with the building layout. The response time of occupants will be increased whilst asleep. The movement time of the occupants will be increased as they need more time to find their way to the exit in the unfamiliar environment.

**Use Classification 3 Institutional Premises**

Occupants in this type of premises will often require assistance to evacuate. There are 2 sub-classes.

In health/child care facilities and patient care facilities, significant portion of occupants are generally not capable of self-preservation because of illness, injury or age, and/or physical or mental disability and can only evacuate with assistance. However, some occupants in these facilities are mobile, and can evacuate rapidly, such as outpatients in hospitals, staff in elderly homes, who can assist others to evacuate in the event of fire.

In detention and correctional facilities, persons are under various restraints. These occupancies present a unique problem due to the restraints imposed. Often, the evacuation of occupants is controlled by management, including their ability to walk from one room to another.

**Use Classification 4 Commercial Premises**

Occupants are normally awake in commercial premises. There are 2 sub-classes with respect to functions of commercial premises.

Business facilities are used for financial, managerial, clerical and technical activities performed in relation to the operation of a business. These premises include rooms for audio & video recording facilities, committee rooms, conference rooms, meeting rooms, staff rooms, common rooms, law courts, function rooms, waiting rooms, medical treatment or consultation room etc. Occupants are considered to be awake, mobile, and may be familiar with their surroundings. Also, the contents usually do not present severe fire hazards such as rapid fire development or explosions.



Mercantile facilities are used for retail, stores for displaying and offering merchandise for sale or providing food services to the public. These premises include lounges, cafés, restaurants, bars and pubs, karaoke establishments, supermarkets, malls, markets, barber shops, banking halls, public service counters, amusement centres, massage parlours, bathhouses, betting centres, clubhouses, solemnization premises for marriage etc. Occupants generally are assumed to be somewhat, if not totally, unfamiliar with the building arrangement. The occupants are expected to be mobile and capable of self-preservation but, due to crowding and lack of familiarity, might have some difficulties in locating and walking to exits in an emergency. Also, the display of merchandise can present a higher fire growth rate than in other occupancies.

#### **Use Classification 5      Assembly Premises**

Assembly premises are buildings or parts of buildings in which potential large occupancy gathers for such purposes as deliberation, entertainment, amusement, leisure, catering and education. Assembly premises are further classified into 4 sub-classes in terms of occupant familiarity with buildings.

Use Classification 5a are Places of Public Entertainment as determined under Places of Public Entertainment Ordinance (Cap. 172). The Ordinance governs entertainments such as concerts, performances, cinemas, music shows, etc within theatres and staged venues; circus, amusement rides, exhibitions, sporting, dance parties, etc.

Use Classification 5b are educational establishments such as schools, colleges, universities, non-public and public libraries. Occupants may be familiar with the building compared with other assembly places, and are awake to respond to emergency.

Use Classification 5c are transport facilities for air, rail, road or sea; and railway stations. These facilities have a primary purpose for passenger transit, with occupants who normally stay within a building for a period of time not longer than that necessary to wait for and board a departing vehicle/ship/aircraft or exit the terminal after arrival in an incoming vehicle/ship/aircraft. The premises are designed to suit the primary purpose including the paid/unpaid areas in train stations and restricted areas in airport, with occupants following a planned flow pattern.

Use Classification 5d are other types of assembly premises, not specifically listed under Cap. 172, such as galleries, convention centres, conference centres, churches, amusement arcades, skating rinks, gymnasium, bowling alleys, viewing galleries, museums and columbaria etc. Generally, occupants are not familiar with the building, but they are mobile and capable of self-preservation. The occupant density can be varied greatly, depending upon the function or use of the premises. Occupants may temporarily lose their alertness and/or capability to escape due to the entertainment or exhibition they may be viewing. The fire safety concerns are that the occupants should be warned of a fire at the early stage, that adequate aisle and exit capacity should be available at all times and that the means of escape should be easy to find, well lighted and unobstructed.

#### **Use Classification 6      Industrial Premises**

Industrial premises are buildings generally used as factories, workshops or warehouses in which processing, assembling, mixing, sheltering of goods and products, packaging, finishing, decorating, cleaning, washing and/or repair operations are conducted. These premises include slaughtering houses, film production facilities, power generation plants, shipyards, depots, aircraft maintenance and repair facilities, commercial laboratories, commercial kitchens and commercial laundries etc. Laboratories within schools, hospitals as well as medical laboratories involving collecting samples from visiting human / animal on the premises are excluded.

Occupants are generally familiar with the building and are awake. Occupant density is relatively low in comparison with other premises, except some labour intensive factories. Most manufacturing factories are of a large space to accommodate processing facilities. Dangerous goods may be present.

**Use Classification 7      Carpark Premises**

Carpark premises are similar to vehicle storage with low occupant density. Occupants' familiarity with the carpark depends on whether they are occasional visitors or regular users.

**Use Classification 8      Plant Rooms & the like**

This Use Classification are intended to cover the secondary spaces or back of house spaces within a building such as mechanical and electrical plant rooms, which accommodate very limited number of occupants or are unoccupied including chiller rooms, AHU rooms, compressor rooms, pump rooms, boiler rooms, lift motor rooms, transformer rooms, generator rooms, switchgear rooms, battery and charger rooms, telecommunication and broadcasting services rooms etc.