

International Fire Safety Standards: Common Principles  
*Safe Buildings Save Lives*



# International Fire Safety Standards: Common Principles

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## Why is a global view of fire safety important?



- Fast pace of construction
- Use of a wide variety of building materials
- Global differences in fire protection approaches
- Global differences in Codes, standards, and regulations
- Global differences in approach to regulatory framework
- Lack of fire protection compliance documentation

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A connected and more consistent approach will yield considerable benefits and improve our ability to:

- respond to events
- monitor ongoing developments
- anticipate future threats and opportunities and
- learn from past failures and successes.



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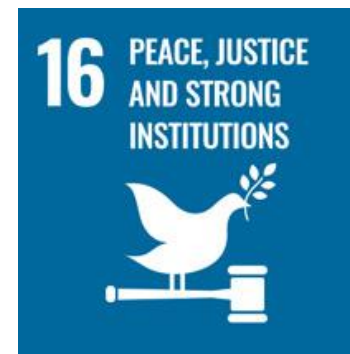
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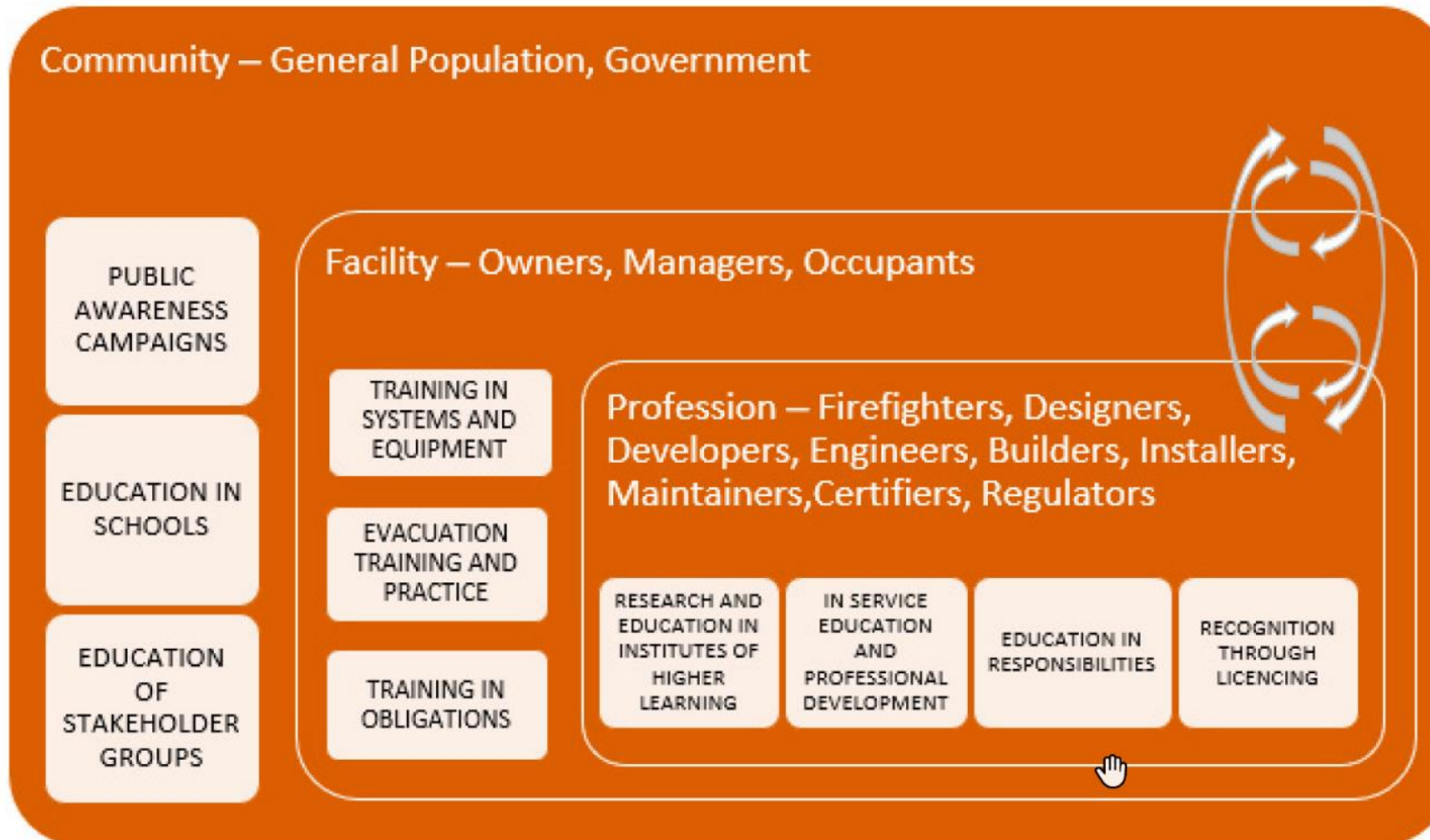
## UN Sustainable Development Goals

Building trust and confidence

Fire safety relates to UN sustainable development goals 3, 4, 8, 9, 11, 12, 13, 16 and 17



## Fire Safety and Education



Education and Promulgation of Information Supporting IFSS-CP

## Common Principles Overview

In all stages of a **Building's** lifecycle, sufficient measures shall be taken to implement the following five **Common Principles**:

**1 Prevention**

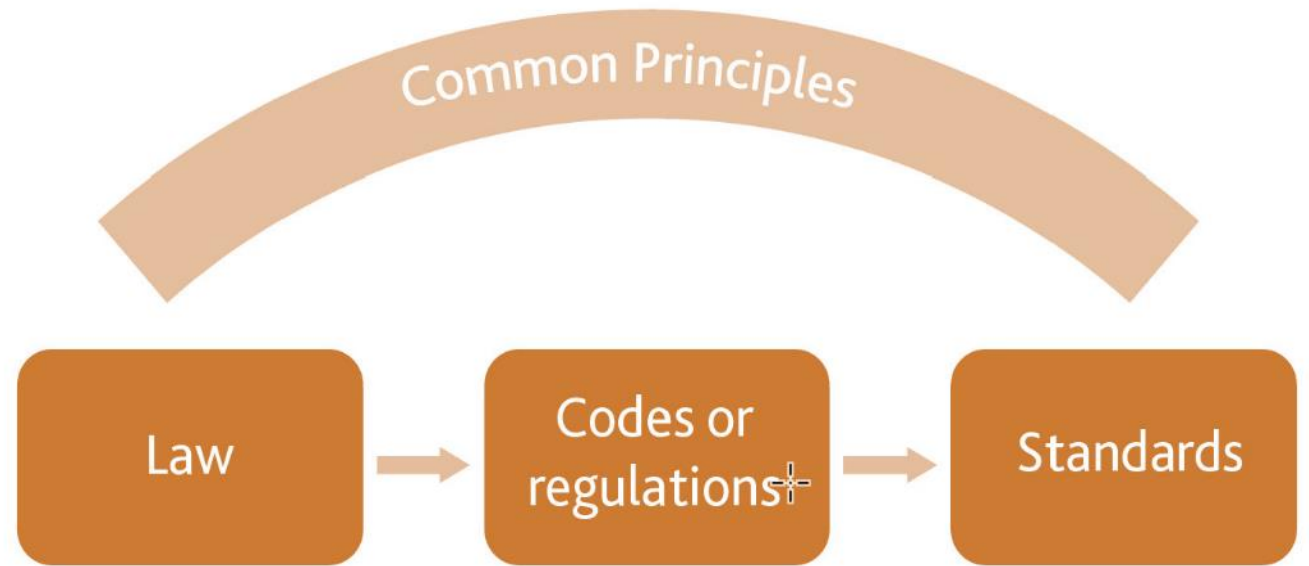
**2 Detection and Communication**

**3 Occupant Protection**

**4 Containment**

**5 Extinguishment**

**IFSS-CP** is intended to be flexible and non-prescriptive so that it can be adopted incrementally and will also advance good practice.



Interaction of Common Principles with Law, Codes or Regulations and Standards

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## From the Common Principles to the IFSS-CP Framework pt 1

The Common Principles become actionable through the **IFSS-CP Framework**, which enables evidence-based assessment to achieve fire safety engineering design, construction, occupation and ongoing management on a **Building** level. The **IFSS-CP Framework** is the collective application of the **Common Principles**, which apply to different stages in the **Building Life Cycle**.

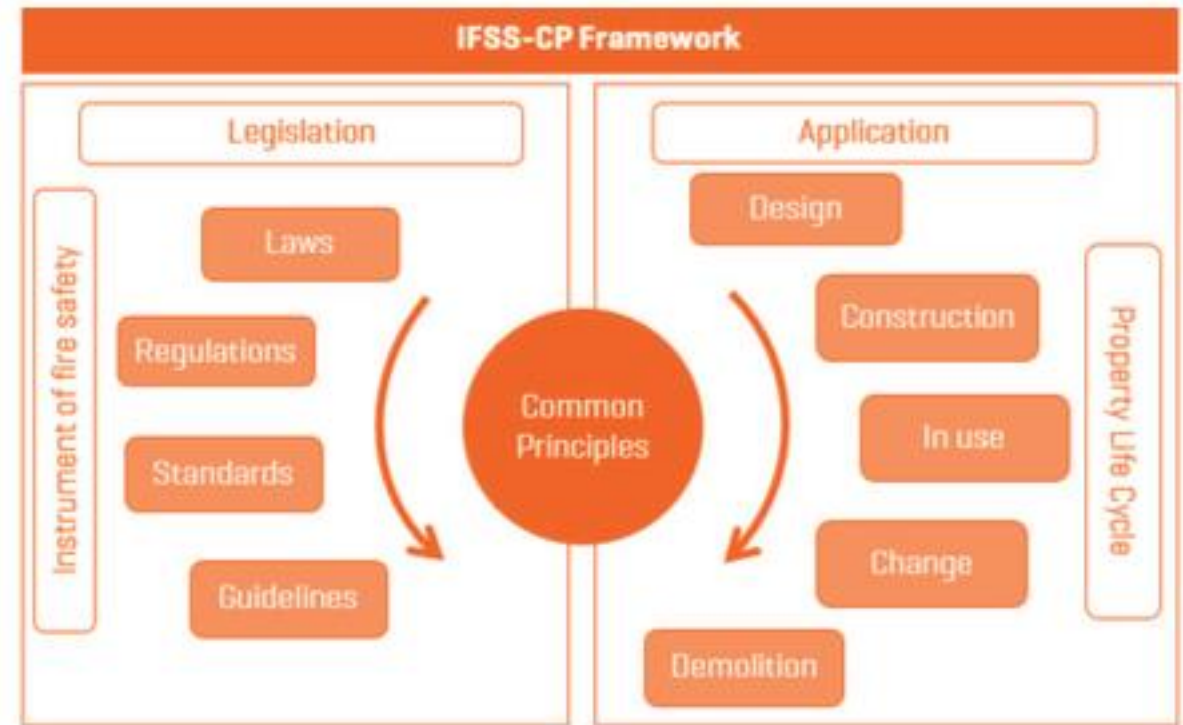


Figure 4: IFSS-CP Framework

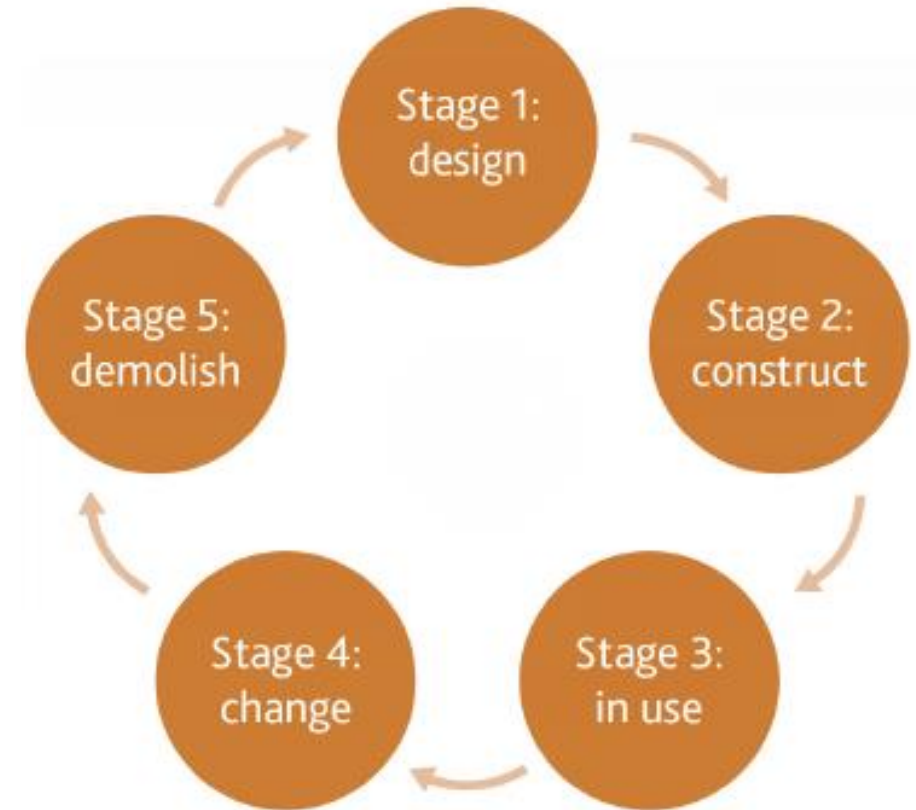
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## Property Life Cycle and IFSS-CP Framework

IFSS-CP applies the Common Principles at each stage of the Property Life Cycle, which can be explained in the following five stages:

- Stage 1 – Design
- Stage 2 – Construct
- Stage 3 – In use
- Stage 4 – Change
- Stage 5 – Demolish.





### 3.3.1 Prevention principle

Objective: Safeguarding against the outbreak of fire and/or limiting its effects.

The Prevention principle has three main goals:

- Life safety from fire
- Building damage Prevention and
- Protection of operations.



### 3.3.2 Detection and Communication principle

Objective: Investigating and discovering of fire followed by informing occupants and the fire service.

The Detection and Communication principle has three main goals;

- Communication among all relevant stakeholders
- Communication between systems
- Automatically detection and alarming of smoke and fire



### 3.3.3 Occupant Protection principle

Objective: Facilitating occupant avoidance of and escape from the effects of fire.

The Occupation Protection principle has the following main goals;

- Enable the safe movement of all occupants to a safe location
- Time and the opportunity to reach a place of safety before being adversely affected by the products of combustion



### 3.3.4 Containment principle

Objective: Limiting of fire and all of its consequences to as small an area as possible.

Containment can be achieved through different strategies including compartmentation, smoke control, fixed firefighting systems, structural integrity and use of materials with low combustibility.



### 3.3.5 Extinguishment principle

Objective: Suppressing of fire and protecting of the surrounding environment.

- Extinguishment is done by the fire service.
- For smaller fires the action of Extinguishment can also be undertaken by occupants
- The fire service should be considered the last line of defence against fire.
- Extinguish the fire within the compartment where it originated, or to avoid propagation to other compartments or neighbouring buildings.



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### IFSS-CP Framework

The steps to complete the **IFSS-CP Framework** are as follows:

- 1** Complete the summary checklist and the applicable checklists in the Appendices.
- 2** Review the **Prevention** principle to establish how accurate/reliable the information is within that **Common Principle** overall. (traffic light system)
- 3** Repeat steps 1 to 2 above for each **Common Principle**
- 4** Disseminate all the information collected and examine the **Common Principles** and fire safety measures and strategies.
- 5** The overall risk assessment should be identified as high, medium or low risk, and should be reviewed with the owner, regulator or other parties as appropriate.

Common Principle	Fire safety strategies and measures	Building Life Cycle stage	Information	Information provenance (R/Y/G)
Prevention	Table A1: Prevention Principle – 3.3.1.1	Stage 1: design		
	Table A2: Prevention Principle – 3.3.1.2	Stage 2: construct		
	Table A3: Prevention Principle – 3.3.1.3	Stage 3: in use		
	Table A4: Prevention Principle – 3.3.1.4	Stage 4: change		
	Table A5: Prevention Principle – 3.3.1.5	Stage 5: demolish		
Detection and Communication	Table B1: Detection and Communication Principle – 3.3.2.1	Stage 1: design		
	Table B2: Detection and Communication Principle – 3.3.2.2	Stage 2: construct		
	Table B3: Detection and Communication Principle – 3.3.2.3	Stage 3: in use		
	Table B4: Detection and Communication Principle – 3.3.2.4	Stage 4: change		
	Table B5: Detection and Communication Principle – 3.3.2.5	Stage 5: demolish		
Occupant Protection	Table C1: Occupant Safety Principle – 3.3.3.1	Stage 1: design		
	Table C2: Occupant Safety Principle – 3.3.3.2	Stage 2: construct		
	Table C3: Occupant Safety Principle – 3.3.3.3	Stage 3: in use		
	Table C4: Occupant Safety Principle – 3.3.3.4	Stage 4: change		
	Table C5: Occupant Safety Principle – 3.3.3.5	Stage 5: demolish		

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### Verification and enforcement at each Building Life Cycle stage

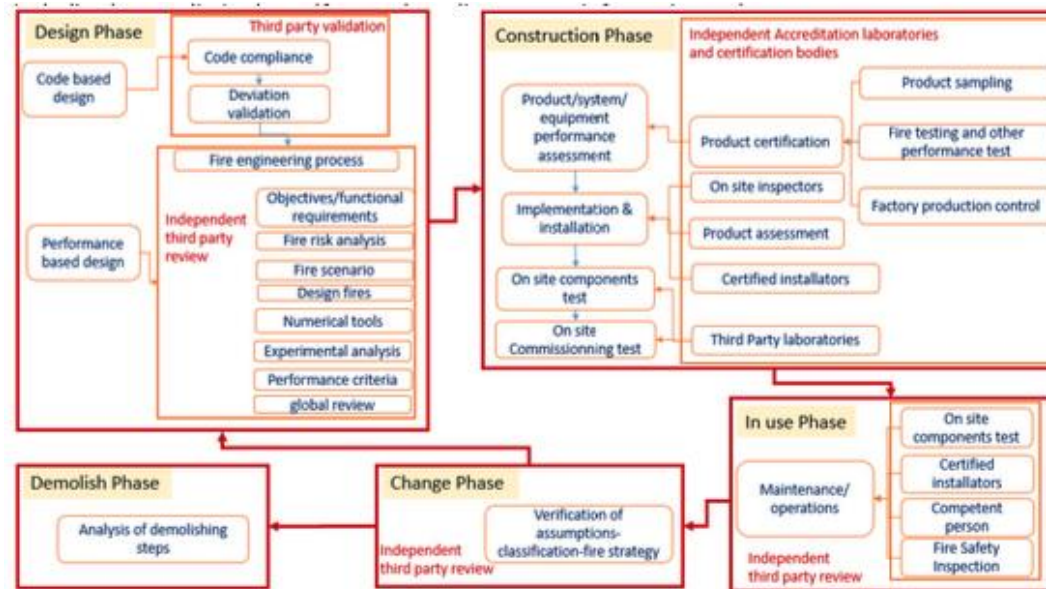


Figure 7: Verification and Enforcement at Each Stage

To ensure that a **Building** has the fire safety level intended it is necessary to implement verification and control processes at each **Building Life Cycle** stage. This is an ongoing process using different concepts, as outlined in Figure Moreover, it requires the existence of an established environment of third parties with qualification, certification or accreditation that can function as verifier. The involvement of a verifier does not relieve the responsibility of all stakeholders.

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### Next Steps

Further to the publication of the **IFSS-CP**, the **IFSSC SSC** are planning the following next steps in relation to the development of future editions of the standard:

- A global directory of and roadmap to existing regulatory codes.
- A comparative dictionary for existing fire safety terms used in the IFSS-CP.

Furthermore, as **IFSS-CP** becomes more widely adopted and implemented across markets, the **IFSSC SSC** in conjunction with the **Coalition** are planning to produce a rating system that will enable **Buildings** to display a certificate to show compliance with fire safety. Obviously this work will take some time as it will involve discussions with governments and other regulators and the published **IFSS-CP** will hopefully act as a positive catalyst for these future discussions.





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**Thank You**