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**भारतीय मानक**  
**होटलों में अग्नि से सुरक्षा की रीति संहिता**

*Indian Standard*

**FIRE SAFETY IN HOTELS — CODE OF  
PRACTICE**

(Incorporating Amendment No. 1)

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**BUREAU OF INDIAN STANDARDS**  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

**Price Group 3**

## FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Fire Safety Sectional Committee had been approved by the Civil Engineering Division Council.

Recent fire losses in terms of life and property in hotel fires all over the world have highlighted the need for guidance on fire safety in hotel industry. Life hazard in hotel industry depends mainly on the guests being ignorant of the layout of the floor and numerous paths of fire and smoke spread inherent in the building design. Property loss is due to use of variety of combustible building materials, furnitures, decorations, combined with high energy use.

Absolute fire safety is not attainable in practice. The objective of this standard is to specify measures, which shall reduce the damage to life and property to a minimum.

Nothing in this standard shall be constructed to prohibit better type of fire protection or greater degree of rescue provision by providing better life safety measures.

Provisions of this standard are supplementary to the relevant statutory requirements as laid down in Indian Factory Act, Petroleum Rules, Gas Cylinder Rules, Indian Electricity Rules, etc.

The Committee responsible for the preparation of this standard is given at Annex B.

This edition 1.1 incorporates Amendment No. 1 (May 2005). Side bar indicates modification of the text as the result of incorporation of the amendment.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Indian Standard***FIRE SAFETY IN HOTELS — CODE OF PRACTICE****1 SCOPE**

**1.1** This standard covers the fire safety requirements in hotel buildings.

**2 REFERENCES**

**2.1** The following Indian Standards are necessary adjuncts to this standard:

<i>IS No.</i>	<i>Title</i>
1641 : 1988	Code of practice for fire safety of buildings (general) : General principles of fire grading and classification ( <i>first revision</i> )
1642 : 1989	Code of practice for fire safety of buildings (general) : Details of construction ( <i>first revision</i> )
1644 : 1988	Code of practice for fire safety of buildings (general) : Exit requirements and personal hazard ( <i>first revision</i> )
2189 : 1988	Code of practice for selection, installation and maintenance of automatic fire detection and alarm system ( <i>second revision</i> )
2190 : 1992	Code of practice for selection, installation and maintenance of portable first-aid fire extinguishers ( <i>third revision</i> )
3844 : 1989	Code of practice for installation and maintenance of internal hydrants and hose reel on premises ( <i>first revision</i> )
SP 7 : 1983	National Building Code of India ( <i>first revision</i> )

**3 CLASSIFICATION**

**3.1** Building or buildings under the same management, in which more than 15 sleeping accommodation for hire, primarily used by transients, who are lodged with or without meals, are taken as hotels, irrespective of they being called inns, motels, clubs or guest houses. For the purpose of this standard, hotels housed in buildings of height 15 m or more, are high rise hotels, and those in buildings of height below 15 m, low rise hotels.

**4 GENERAL**

**4.1** Fire safety can reasonably be well achieved

by considering the following five aspects:

- a) Management responsibility
- b) Containment of smoke/fire
- c) Provision of safety escape routes
- d) Emergency power and lighting
- e) Provision of fire safety/fighting equipments

**4.2** All the requirements of width and hardness of approach roads to provide access to fire engines, open spaces, parking distance from roads, etc shall be in accordance with the relevant provisions of the National Building Code of India 1983 (Part IV) Fire Protection.

**5 MANAGEMENT RESPONSIBILITY**

**5.1** Hotel Management shall issue a written statement of its policy regarding fire safety and fire loss control to its employees (suggested example is given at Annex A).

**5.1.1** Management shall ensure screening of various fire precautions to be observed, use of gas mask, location of fire escape, etc to the occupants on cable television (if provided) at regular intervals.

**5.2** For high or low rise hotels, if number of sleeping accommodation exceed 300, a qualified fire officer shall be appointed. He shall directly report to the Chief Executive.

**5.3** A fire control room shall be established on ground floor near the main entrance in accordance with IS 2189 : 1988.

**5.4** All employees should be trained to raise an alarm in case of fire and to use first-aid fire fighting equipments.

**5.5** Permanently posted instructions shall be mounted in guest rooms at the inner side of entrance door, or any other prominent location. The instructions shall contain floor map showing the location of the room in question, escape routes to staircases and clear instructions what the guests should do in an emergency.

**5.5.1** Instruction recommended in **5.5** shall be updated following any modifications in the premises.

**5.6** All employees shall be made familiar with evacuation plans, and their individual role in assisting guests to escape to place of safety; to control to growth of fire, and other actions that

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lead to life safety.

**5.7** Management shall assign to specific persons, the responsibility of summoning fire services and also guiding the firemen when they arrive at the Hotel.

**5.8** Management shall institute programme, whereby close watch is kept to see that no escape routes are blocked, all fire doors are kept in closed position, housekeeping is good and no hazardous situation arises, on day-to-day basis.

**5.9** Management shall institute preventive inspection, testing and maintenance programme of all fire protection and fire fighting systems, all machinery, equipments, which may cause fires.

**5.10** There shall be instituted a 'Hot Work' permit system and 'Work' permit system for outside contractors to work inside the hotel. Such permits shall be issued by the Chief Executive/Security Officer and Fire Officer.

**5.11** Management shall ensure that furnishing and decoration materials used on escape routes shall have Class I flame spread rating and shall not generate toxic and asphyxiating gases on burning furniture, furnishings and decoration on escape routes shall not be attached or erected so as to:

- a) obstruct access to an exit from any room;
- b) obstruct the use of an escape route;
- c) render invisible or inaccessible notices, signs, communication equipment or extinguishing equipment;
- d) obstruct the movement of the door;
- e) mirrors/reflecting surfaces or hangings shall not be used on any escape route, which may create confusion in the minds of people;
- f) floor and stair coverings, where used shall be firmly fastened so that slipping, tripping or falling of escaping people is avoided; and
- g) floor occupancy of the room shall not exceed 60 percent leaving 40 percent for free movement.

## 6 CONTAINMENT OF SMOKE/FIRE

**6.1** Containment of smoke/fire shall be achieved by fire resistive construction and compartmentation.

### 6.2 Type of Construction

**6.2.1** All hotels housed in buildings of height 15 m or above shall be of Type I construction conforming to National Building Code of India 1983 (Part IV) Fire Protection.

**6.2.2** All hotel buildings of height below 15 m shall be minimum of Type II construction in accordance with IS 1642 : 1989.

**6.2.3** All false ceilings, false floors, where provided shall be of non-combustible materials of Class I flame spread rating.

### 6.3 Restriction on Spread of Fire/Smoke

**6.3.1** Wall panels, draperies, furniture and decor shall be such that the flame spread rating shall conform to Class I surfaces as specified in National Building Code of India 1983 (Part IV) Fire Protection.

**6.3.2** All vertical shafts/ducts meant for installing drainage pipes, plumbing, wiring and cabling, etc, shall be effectively sealed at each floor. All vertical shafts/ducts including refuse chutes shall be enclosed by 2 hours fire-resisting enclosure. Where inspection doors, windows are necessary, these shall be of one hour fire rating conforming to National Building Code of India 1983 (Part IV) Fire Protection.

**6.3.3** Lifts and enclosure shall conform to National Building Code of India 1983 (Part IV) Fire Protection and IS 1642 : 1989.

**6.3.4** Basements shall conform to National Building Code of India 1983 (Part IV) Fire Protection and IS 1642 : 1989.

**6.3.5** Kitchen rooms, laundry, linen stores, furniture storage rooms shall be of fire resisting construction, and shall be provided with one hour fire resisting self-closing doors.

**6.3.6** Transformer bays H.T. and L.T. supply rooms, air-conditioning plant systems and boiler rooms shall be in separate fire resisting rooms and shall conform to National Building Code of India 1983 (Part IV) Fire Protection.

**6.3.7** Special hazards due to LPG shall be in accordance with the provisions of National Building Code of India 1983 (Part IV) Fire Protection.

**6.3.8** Air conditioning system shall conform to IS 1642 : 1989 and it shall be further linked with the fire detection system to automatically cut off, the respective floor A.H.U. in case of a fire. Also there shall be adequate arrangements of smoke/fire venting and enclosure of service ducts, etc.

**6.3.8.1** Air-conditioning system, if not properly designed may spread fire and smoke very rapidly throughout the floors, and vertically from floor to floor. As far as possible 'Direct Expansion' system shall not be used.

**6.3.8.2** Particular attention shall be given to cross-link the A.C. system with smoke detection system conforming to IS 2189 : 1988 and sprinkler systems, to switch off the system when either smoke detector or sprinklers operate.

**6.3.8.3** Air-conditioning shall be designed conforming to the requirements as laid down in National Building Code of India 1983 (Part IV) Fire Protection.

**6.3.8.4** Fire dampers play positive role in stopping spread of smoke and fire, and shall be installed conforming to National Building Code of India 1983 (Part IV) Fire Protection.

**6.3.8.5** All electrical equipment including cables, light fittings, gauges, etc shall be in conformity with relevant Indian Standards and designed for the proper load. Every room shall be provided with an overload trips/MCB and earth leakage circuit breakers outside it.

#### **6.4 Boiler and Boiler Rooms**

**6.4.1** Only approved boiler conforming to Indian Standards and meeting the provision of Indian Boiler Act shall be installed.

**6.4.2** All the provisions of **A-1.18** of National Building Code of India (Part IV) shall be complied with.

#### **7 MEANS OF EGRESS**

**7.1** A means of egress is a continuous and unobstructed way of exit travel from any point in the hotel to a public way, and consists of three separate and distinct points as given below:

- a) Exit access,
- b) Exit, and
- c) Exit discharge.

A means of egress comprises the vertical and horizontal travel, and shall include intervening rooms, space doorways, hallways, corridors, passageways, balconies, ramps, stairs enclosures, lobbies horizontal exits, courts and yards. Exit requirements in hotel buildings shall fully comply with the provisions laid down in IS 1644 : 1988. However, width of corridors and passageways leading to exit stairways shall not be less than 1.5 m. Also floors on which dance halls, banquet halls, etc are located, the width of corridors leading to exit from such areas shall not be less than 2 m for banquet or dance halls having accommodations of more than 50 persons and 1.8 m for such halls accommodating less than 50 persons.

**7.2** Basements shall not be used for banquet halls or dance halls, unless one entire side of such basement opens up directly to the open and also such halls including entire basement is fully sprinkled.

#### **7.3 Staircases**

**7.3.1** All provisions of IS 1644 : 1988 shall be followed in deciding the number and location of staircases in a hotel.

#### **7.4 Illumination of Exits and Emergency Power**

**7.4.1** Illumination of exits shall be provided by means of emergency power supply derived from diesel generator or by self-contained emergency lights.

**7.4.2** The floors of exits shall be illuminated at all points including turning points, intersections of corridors and passageways, staircases, landings and discharge exit at ground level. The intensity of lighting throughout shall not be less than 10 lux measured at floor level.

**7.4.3** Lights recessed in the walls and floors at about 30 cm above the floor level are recommended as they are not going to be obscured by smoke.

**7.4.4** Illumination lights shall be so arranged that failure of bulb or connection, will not leave any area in total darkness.

#### **8 EMERGENCY POWER SUPPLY AND LIGHTING**

**8.1** A stand-by power supply shall be provided in a hotel to cater for emergency in the event of failure of normal power supply. Such stand-by power supply shall be independent and through a diesel generator/generators of adequate capacity to meet the following minimum requirements:

- a) Emergency illumination of all corridors, staircases, basements and exit signage, etc;
- b) Fire lifts;
- c) Mechanical ventilation for basements or in case of centrally air conditioned building;
- d) Fire water pump (however, if a stand-by diesel pump is provided, this may be exempted); and
- e) Other emergency automatic systems for fire fighting.

#### **9 FIRE SAFETY/FIGHTING EQUIPMENTS**

**9.1** All hotel buildings irrespective of height, shall have fire detection and suppression systems as given below:

- a) Internal hydrant system/hydrant and sprinkler system in accordance with IS 3844 : 1989.
- b) Automatic detection-cum-alarm system in accordance with IS 2189 : 1988.
- c) Automatic emulsifier.
- d) Portable fire extinguisher in accordance with IS 2190 : 1992.
- e) Efficient public address system to couple with FA or independent of FA system.
- f) In kitchen hoods and ducts, for fire protection automatic and manual/CO<sub>2</sub>/Dry powder extinguisher shall be installed.

## ANNEX A

( Clause 5.1 )

### WRITTEN POLICY FOR FIRE SAFETY

#### A-0 MEMORANDUM TO XYZ HOTEL EMPLOYEES

##### Fire Safety and Fire Loss Control

The Board of Directors and the Executive Committees of XYZ Hotel have unanimously ratified a statement of Management's policy regarding Fire Safety and Fire Loss Control. The following policy is enforced with immediate effect.

The Board of Directors and the Executive Committee of XYZ Hotel are responsible for preserving the resources of the company for the benefit of both the stock holders and its employees. In carrying out this responsibility, we recognize that we must aggressively manage, the fire prevention and control of property loss by giving the same attention and

dedication to those elements as we do, to managing the many other elements that contribute to our success at the hoteliers providing courteous services of the highest quality to our customers.

The life safety of our most valued customers and employees and fire loss control of valuable property is hereby made a part of the overall objectives of XYZ Hotel and the responsibility of each employee. To accomplish this, the responsibility of fire safety arrangement in XYZ hotel shall vest with Chief Executive.

Further every employee of XYZ Hotel is responsible for making a positive and continual contribution to the success of our efforts to prevent a fire and recognize that every loss has a detrimental effect on our ability to meet our corporate objectives.

## ANNEX B

( Foreword )

### COMMITTEE COMPOSITION

#### Fire Safety Sectional Committee, CED 36

<i>Chairman</i>	<i>Representing</i>
SHRI J. N. VAKIL	Tariff Advisory Committee, Bombay
<i>Members</i>	
SHRI K. RAVI ( <i>Alternate to</i> Shri J. N. Vakil	
DR R. K. BHANDARI	Institution of Engineers (India), Calcutta
SHRI R. P. BHATLA	Engineers India Ltd, New Delhi
SHRI M. M. KAPOOR ( <i>Alternate</i> )	
SHRI S. N. CHAKRABORTY	Tariff Advisory Committee, Madras
SHRI P. K. MAJUMDAR ( <i>Alternate</i> )	
SHRI P. K. CHATTERJEE	Ministry of Defence (DR&DO), New Delhi
SHRI V. K. SHARMA ( <i>Alternate</i> )	
CHIEF FIRE OFFICER	Municipal Corporation of Bombay, Bombay
SHRI D. PADMANABHA	Tata Consulting Engineers, Bombay
SHRI G. P. MONNAIAH ( <i>Alternate</i> )	
DEPUTY CHIEF ENGINEER (P&D)	Northern Railway, Ministry of Railways, New Delhi
EXECUTIVE ENGINEER (P&D) ( <i>Alternate</i> )	
SHRI S. K. DHERI	Municipal Corporation of Delhi, Delhi
SHRI R. C. SHARMA ( <i>Alternate</i> )	
SHRI S. R. DORAISWAMY	Ministry of Defence (Engineer-cum-Chief's Branch), New Delhi
SHRI S. N. LAKSHMANNA ( <i>Alternate</i> )	
FIRE ADVISER	Ministry of Home Affairs, New Delhi
SHRI P. N. GHOSH	In personal capacity, New Delhi

*Members*

SHRI C. P. GOSAIN  
SHRI S. C. GUPTA  
SHRI SANJEEV ANGRA ( *Alternate* )  
SHRI M. R. KAMATH  
SHRI K. R. EASWARAN ( *Alternate* )  
SHRI V. M. MADGE  
SHRI A. B. PHADKE ( *Alternate* )  
BRIG MALHOTRA  
SHRI G. B. MENON  
SHRI S. R. NARASIMHAN  
SHRI RAJENDRA SINGH ( *Alternate* )  
PRESIDENT  
SHRI V. M. RANALKAR  
SHRI HARISH R. SALOT  
SHRI RAJESH K. SALOT ( *Alternate* )  
SHRI N. L. N. SHARMA  
SHRI M. L. KHURANA ( *Alternate* )  
DR T. P. SHARMA  
DR GOPAL KRISHAN ( *Alternate* )  
SHRI R. SUNDARARAJAN  
SHRI S. K. CHATTOPADHAYAY ( *Alternate* )  
SHRI SUNIL DAS  
SHRI R. N. CHACHRA ( *Alternate* )  
SHRI M. S. TYAGI  
SHRI P. K. SAKSENA ( *Alternate* )  
SHRI D. VENUGOPAL  
SHRI T. V. MADHUMANI ( *Alternate* )  
SHRI Y. R. TANEJA,  
Director-in-Charge (CIV ENGG)

*Representing*

Central Public Works Department, New Delhi  
Lloyds Institution (India) Pvt Ltd, New Delhi  
  
Mather and Platt Ltd, Bombay  
  
The Hidustan Construction Co Ltd, Bombay  
  
State Bank of India, Bombay  
In personal capacity, Delhi  
Central Electricity Authority, New Delhi  
  
Institution of Fire Engineers (India), New Delhi  
Ministry of Petroleum and Natural Gas, New Delhi  
Vijay Fire Protection System Pvt Ltd, Bombay  
  
Bharat Heavy Electricals Ltd, Hyderabad  
  
Central Buildings Research Institute (CSIR), Roorkee  
  
National Thermal Power Corporation Ltd, New Delhi  
  
Metallurgical & Engineering Consultants (India) Ltd, Ranchi  
  
Ministry of Labour, Kanpur  
  
Loss Prevention Association of India Ltd, Bombay  
  
Director General, BIS ( *Ex-officio Member* )

*Member Secretary*

SHRI HEMANT KUMAR  
Joint Director (Civ Engg), BIS

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