



25th - 27th
Sept, 2023
New Delhi



CSIR Integrated Skill Initiative



भारत 2023 INDIA

वसुधैव कुटुम्बकम्

ONE EARTH • ONE FAMILY • ONE FUTURE

A Training Course on

Design of Fire Protection Measures



भारतीय विज्ञान संस्थान
CSIR
भारत की नवोद्यम इंजिन
The Innovation Engine of India



भारतीय विज्ञान संस्थान संस्थान, रुड़की
CENTRAL BUILDING RESEARCH INSTITUTE, ROORKEE
Safe & Sustainable Habitat

**CSIR - Central Building Research Institute
Roorkee, Uttarakhand - 247667**

Overview

Cities are now facing unprecedented challenges not encountered in earlier times. The pace of urbanization is increasing exponentially. In the last two decades, there have been significant changes in building typologies being constructed resulting in more complex buildings. Such as hospitals, high-rise buildings, offices, atriums, malls, underground car parks, metro and road transport tunnels, airports, warehouses, industrial buildings, etc. There are several fire incidents, both historical and more recent, which have raised concerns regarding fire safety in such buildings. Therefore, it becomes essential to carry out appropriate systematic design for an effective fire protection system and also timely evacuation of occupants from burning buildings.

Recognizing the need to develop a pool of trained professionals in the Design of Fire Protection Systems, CSIR-Central Building Research Institute, Roorkee is conducting a three-day training course on 'Design of Fire Protection Measures' from 25th - 27th September 2023.

Little effort is made to compartmentalize the building in order to prevent fire and smoke from spreading both horizontally and vertically resulting in death of people due to asphyxiation. There is a lack of understanding of impact of fire on structural elements.

Therefore, this endeavor is to make aware the fire officers/ safety people/ designers to brush up their existing knowledge with the current state of art in Fire Protection Systems.

ABOUT CSIR-CBRI

CBRI (Central Building Research Institute), incepted in 1947 is one of the 37 laboratories of CSIR (Council of Scientific and Industrial Research), a premier government research organization of the country. The institute, amongst others, hosts a unique Fire Safety Engineering Laboratory which is active in Research, Fire Safety Engineering and Risk Analysis, Testing, Fire Auditing etc. with special reference to building and industrial sectors. The lab is provided with unique state-of-the-art facilities.

Website: www.cbri.res.in

COURSE BRIEF

This training course is planned to provide an overview of fire codes/ design considerations with respect to Active systems, Passive systems, and Life Safety measures that must be provided in a building and how to assess a building's compliance with those codes.

Most commonly used Active fire protection systems in the built environment include Standpipe systems, sprinkler systems and detection systems. Fire officers / Safety Officers / Designers should know facts to look upon while designing / approving for installation of sprinkler system in a particular type of built environment. This becomes more important in densely populated occupancies like hospitals, metros, offices and hazardous occupancies like in industries and stores / warehouses, car parks etc. It has been observed that in appropriate installation of these systems may render them ineffective or useless in time of need.

Who Should Attend

If you are a Fire Engineer, Technologist, Consultant, Architect, Academician, Fire and Emergency Responding Service Officers, Safety Executive, Executive from insurance company, Functionary from various line departments of the PSE/ Central Government / State Government etc., we invite you to attend.

Why Participate

- 3 days of experts presenting on a diverse range of subjects relevant to design approaches and solutions for fire safety of buildings.
- Exchange of Ideas and Knowledge of what is being done in fire safety designing.

COURSE CONTENT

1) Introduction to Fire Safety and its Components

- Fire scenarios and design fires
- Hazard and commodity classification

2) Active Fire Protection Systems

- Water Suppression Systems including evaluation of water supply (water tank/pump capacity requirement), hydraulic design, and installation guidelines of hydrant system.

3) Automatic Sprinkler System Theory

- Fundamentals
- Design
- Hydraulic calculations
- Types of sprinklers
- Sprinkler system layout
- installation guidelines

4) Fire Detection Alarm System

- Basics
- Design Guidelines

5) Passive Fire Protection Systems

- Compartmentation - Importance, Principles & Design Approaches

6) Fire Resistance of Building Elements

- Fire Codes, Standards & Test Methods

7) Reaction to Fire of Different Materials

- Combustibility, Ignitability, Surface Spread of Flame, Toxicity, Limiting Oxygen Index
- Fire Codes, Standards & Test Methods

8) Fire Retardance

9) Fire Performance of RCC and Steel Structures

10) Fire Damage Assessment & Mitigation of Concrete Structure

11) Life Safety

- Egress Design for the Built Environment
- Escape Lighting and Exit Signages

12) Smoke Management Systems in Buildings

- Concepts & Design
- Case Studies

13) Regulations

- IS Codes - NBC (IV), IS: 15105, IS:13039, IS: 3844, IS: 2189
- BS: 476
- NFPA Standards and Codes
- FM Global Data Sheets
- All Standards and Codes will be discussed along the above sections

14) Fire Protection of Data Centre

15) Fire Protection of Transformers

16) Application of Modelling in Fire Engineering

Fees

Fee includes kit & reading materials.
Tea/Lunch/Dinner would be provided during the program.

STUDENTS	:	Rs. 5000/-
INDIVIDUALS	:	Rs. 10,000/-

*Exclusive of GST

If requested, accommodation near the venue or at IHC can be booked on prior confirmation and additional payment.

Online Application

Interested candidates are requested to register by visiting the link or scanning the QR code given below;

<https://forms.gle/fGdAzvinuJffERDR7>



Bank Details

SBI, Branch : CBRI, Roorkee
Account No. : 30269847968 (Savings A/C)
Account Name : Director, CBRI, Roorkee
IFSC/ RTGS Code SBIN00106395
GSTIN : 05AAATC2716R1ZL

A certificate will be awarded to each participant on successful completion of the course



Contact Us

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Venue

India Habitat Centre
Lodhi Road
Near Airforce Bal
Bharti School
Lodhi Colony
New Delhi

Patron

Dr. N. Kalaiselvi
Director General
CSIR & Secretary DSIR

Chairman

Prof. Pradeep Kumar Ramancharla
Director
CSIR - CBRI

Co-Chairman

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Chief Scientist
Architecture, Planning & Energy Efficiency

Dr. Harpal Singh
Chief Scientist & Co-Coordinator
Fire Safety Engineering

Dr. R. Dharmaraju
Chief Scientist & Head
Outreach & Dissemination Services

Co-ordinator

Dr. Shorab Jain
Senior Principal Scientist & Co-Coordinator
Fire Safety Engineering

Members

Dr. S. K. Singh
Chief Scientist

Shri Nadeem Ahmed
Senior Principal Scientist

Dr. Naval Kishor Banjara
Principal Scientist

Dr. A. Aravind Kumar
Senior Scientist

Dr. Banti A. Gedam
Senior Scientist

Dr. Rajkumar
Scientist

