Fire safety Requirements
as per
National Building code of
India 2016

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Fire safety requirements of buildings are based on the occupancy of building.
Type of buildings based on occupancy

As per the National Building Code (Part 4) 2016 – all building are divided into nine type of occupancies.

1. Residential – (Houses, Apartments, Hotels, Dormitories and Guest houses)
2. Educational – (Schools and Training institutes)
3. Institutional – (Hospitals and Prisons)
4. Assembly – (Theatres, Museums, exhibition halls, clubs, restaurants, stadium, air terminals etc)
5. Business – (Offices, Banks, Labs, EDP, Telephone exchanges, broadcasting stations etc)
6. Mercantile – (Shops, stores, markets, shopping centres)
7. Industrial – (factories, power plants, industrial labs, dairies, refineries etc)
8. Storage – (any building used for storage)
9. Hazardous – (any building used for manufacture / store of hazardous or explosive material)

Some buildings may be of mixed occupancies.
For each occupancy the fire safety requirement are divided into following three broad categories.

1. Fire Prevention
2. Life Safety
3. Fire Protection
The fire prevention of building comprise of structural component of building which include the following ...

- Material used for construction (type of construction),
- Access road to building,
- Set backs, around building
- Height of building
- Floor area and layout

The National Building Code have specified limitation for each occupancy.
The life safety requirement covers life safety provisions in the event of fire and similar emergencies which are necessary to minimize danger to life from fire, smoke, fumes or panic. These are defined for each occupancy and covers:

- **Exit requirement**
  - This include location, capacity and number of exits (doors, stairs, ramps, corridors). Signages

- **Smoke control**
  - This include staircase and lift lobby pressurization, smoke exhaust and ventilation

- **Detection and Alarm**
  - This include detection, alarm and voice evacuation and other specialized detection systems.

- **Fire drills, fire orders and audits**
  - This include regular fire audits, Inspection, Testing and Maintenance of systems and fire drills along with staff training
The fire protection requirement is selection and installation of correct type of equipment used to suppress fire. These are specified for each occupancy requirements covers:-

- Fire Extinguishers
- Fixed fire fighting installation
  - Fire pumps, Hydrants and Hose reels
  - Automatic Sprinklers
  - Automatic Gas suppression
  - Foam Suppression
  - Water Mist and other specialized suppression systems etc.
Absolute safety from fire is not attainable in practice. The objective of NBC (Part 4) is to specify minimum measures that will provide that degree of safety from fire that can be reasonably achieved.

The requirement of this code should be taken as guide and an engineering design approach should be adapted for ensuring a fire safe design for buildings.
Thanks

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