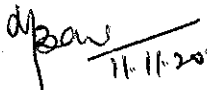


Recommendations
Safety and Durability Aspect of Buildings

- 1) The State of Art BIS codes and National Building code should invariably be adopted and implemented in field to ensure planned development of city infrastructure and built environment which will withstand the onslaught on their safety during various man-made and natural disasters.
- 2) Safety considerations are of immense importance and need to be kept in mind at all stages such as planning, designing, construction, operation and maintenance of civil engineering projects. During this process, aspect like orientation, lighting, ventilation, fire safety and safe design of structure, electrical and other services should also be considered.
- 3) Renewal of 'Safe occupancy Certificate' for high rise and special structures (like bridges) every 3 to 5 years as prescribed by NBC Code 2016 should be invariably adhered to avoid calamities such as recent failure of la suspension bridge in Gujarat where precious lives were lost.
- 4) Experience shows that most of deaths in fire incidents in the past have taken place due to smoke and gases caused due to fire & leading to death due to suffocations. Examples are 93 deaths in AMRI hospital at Kolkata and 59 deaths in Uphar Cinema, Delhi. Therefore control and management of smoke needs top priority. Appropriate venting of smoke and heat prevent fast spread of fire and makes it easy for fire men to gain entry and douse the fire in building.
- 5) Fire is one of the most severe hazards that a building may experience during its life time. If a structure is damaged by fire – A decision whether to retrofit the damaged component or to demolish it shall be based on a thorough investigation including visual inspection of the damaged structure and various test such as neutralization test of concrete, non- destructive test, concrete core test etc.
- 6) All products to be used in finishing of the building, specially with respect to false ceiling, acoustic treatment and ACP etc. should be standardized with suitable fire rating.
- 7) It is really alarming that some RCC structures constructed 20 to 25 years back are either being pulled down due to their bad condition or are being renovated / rehabilitated at enormous cost. It is, therefore, very necessary to follow an integrated approach of safe structural design, good quality of construction and appropriate maintenance practices to make structures durable during their designed service life.
- 8) Few tests for checking the durability of concrete such as Rapid chloride ion prevention test, chloride Diffusion test, accelerated corrosion test, permeability test, concrete resistivity tests etc. should be invariably carried out during the construction.
- 9) Global warming due to over exploitation of natural resources, deforestation and wastage of materials is alarming and therefore there is need to construct Green Buildings which preserve natural resources, utilizes them optimally, make use of materials made from waste to a greater extent and improve quality of life.
- 10) While constructing green buildings, efforts should be made to produce Net-Zero building where total amount of energy used on annual basis is more or less equal to the amount of renewable energy created on site.


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(M.C.Bansal)
Advisor (Tech.), IBC