



**Government of West Bengal**  
**Office of the Director General**  
**West Bengal Fire & Emergency Services**  
**13D, Mirza Ghalib Street, Kolkata – 16**

**Memo No.: FSR/221862506300011808**

**Date : 17-04-2025**

**From :  
Director  
Fire Prevention Wing,  
West Bengal Fire & Emergency Services**

**To :  
RANJIT ROY MALABIKA ROY TRIPTI ROY  
109,661,KALIKAPUR**

**Sub: Fire Safety Recommendation for the occupancy of a proposed construction of G+XI storeyed under group Residential building at the premises no. 661, KALIKAPUR, KMC ward no.109, Borough-XII, Kolkata-700099.**

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Application Reference : KMC (CAF - 2024120546) received on 21-Feb-2025 regarding Fire Safety Recommendation for the occupancy of a proposed construction of G+XI storeyed under group Residential building at the premises no. 661, KALIKAPUR, KMC ward no.109, Borough-XII, Kolkata-700099.

**The plan submitted by you was scrutinized and marked as found necessary from Fire Safety point of view. In returning one set of plan with recommendation, this office is issuing Fire Safety Recommendation in favor of the aforesaid building for compliance of the following fire safety measure.**

**Recommendation :**

**CONSTRUCTION:**

1. The whole construction of the proposed building shall be carried out as per approved plan drawings conforming the relevant building rules of local Municipal Body.
2. The interior finish decoration of the building shall be made with low flame spread, low smoke and non toxic gas generating categories of materials conforming relevant I.S. specifications.
3. Provision of ventilation of the entire building shall be done as per NBC Part 4, 2016.
4. Arrangements shall have to be made for sealing of all the vertical & horizontal ducts by the materials of adequate Fire resisting capacity. Service ducts and shafts shall be enclosed by materials of 2 hour fire resistance capacity.



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5. Fire rating test certificate of all the FCDs and interior finish decoration shall have to be submitted prior to occupancy.
6. Respective provisions of NBC Part 4, 2016 must be incorporated in respect of construction and maintenance of fire and life safety arrangement for the entire project.

#### OPEN SPACE & APPROACH:

1. The open space surrounding the building shall conform the relevant building rules as well as permit the accessibility and manoeuvrability of Fire appliance including Aerial Ladders with turning facility.
2. The approach roads, internal road / driveway and dedicated space 6 M X 15 M for Fire Service Aerial Ladder shall be sufficiently strong to withstand the load of Fire Engine weighing up to 45 M.T.
3. The clear width and height of the access gates into the premises shall be not less than 6.0 M & 5.0 M respecting the drive way and abutting road.

#### STAIRCASE:

1. The staircases of the buildings shall be enclosed type ,as shown. Entire construction shall be made of bricks/ R.C.C type having Fire resisting capacity not less than 4 hours.
2. The Staircases of the building, as shown, shall have permanent vents at the top and openable sashes at each floor level in the external wall of the building.
3. The width of the staircases shall be made as marked in the plan. Corridors and the exit doors shall conform the relevant building rules, with up-to-date amendments.
4. All the principal staircases shall be extended upto terrace of the building and shall be negotiable to each other without entering into any occupied area.
5. Fire and smoke check doors (FCDs) at the entrances of the staircases enclosures, as shown, in the plan drawings shall be provided. The FCD shall be of at least two hours Fire resisting wire glass window flitted with self-closing type, openable in the direction of escape.
6. Considering the staircases are only means of evacuation, emergency lighting arrangement, directional & exit sign etc. shall be made conforming the relevant I.S. Code in this regard.

#### LIFT:

1. The walls of the lift enclosure of the building shall be at least four hours FIRE resisting type and all the lift shafts shall be pressurized as per existing norms and provision of NBC Part 4, 2016.
2. The lifts of the building shall be designed as high speed "Fire Lift" and shall be conspicuously indicated / marked.
3. Exit doors of the lift shafts shall be through a self- closing smoke stop door of 2 hours fire resistance.
4. The speed of the fire lifts in the buildings shall be such that it can reach the top from the ground floor within stipulated time. Audio Visual indications of floor numbers shall be incorporated in the lift cars.
5. The Electric power shall be from separate supply mains in the buildings and cables run within the lift shafts, lights and fans in the lift cars shall be operated from 24 volts supply on emergency, in case of failure of normal power supply, lift shall automatically trip to alternate power supply.
6. All other requirements shall conform relevant I.S. specification including the communication facility in the lift cars which shall be connected with the Fire Control Room of the building.

#### FIRE REFUGE AREA:

1. The Refuge area, as shown in approved plan drawing ,shall be on the external wall as cantilever projection or any other suitable means.
2. Refuge areas shall be separated completely from adjacent part of building by means of Fire barrier / wall of at least 2 (Two) hour rating.
3. The Refuge areas shall be of Fire resisting construction and protected with self-closing FCD at the entrance.
4. The position of Refuge Areas shall be such that they are negotiable by the Fire service Ladder/appliances from the ground level.
5. Fire and Life safety arrangements in Refuge areas shall be as per provision of NBC Part 4, 2016.

#### FIRE FIGHTING WATER:

1. Underground water reservoir having water capacity shall be not less than 75,000 L provided. Reservoirs shall be kept full at all time.
2. Overhead reservoir of not less than 10,000 L (Ten thousand Litre) Capacity, exclusively for Fire fighting purpose, shall be provided. Reservoirs shall be kept full at all time.
3. The water reservoirs shall have overflow arrangement with the domestic water reservoirs as well as to avoid stagnancy of water.



4. Provision of replenishment at the rate of at least 2000 LPM from two separate sources of water supply shall be made.
5. The deep tube wells for the replenishment of the reservoirs, if any, shall be incorporated with auto starting facility with actuation of auto detection and suppression arrangement of the premises and shall also be connected with alternative power supply units.
6. Provision of placing Fire Service Appliances near the underground water reservoir to be made to draw water in case of emergency.

#### WATER LAYOUT SYSTEM :

1. Ring main hydrant system: Minimum 150 mm internal diameter Ring main hydrant system with provision of adequate nos. of pillar type yard hydrants with hose boxes, containing 2 lengths of 15 M long and 63mm diameter delivery hose and short branch pipes shall be provided at all strategic location and surrounding the building conforming relevant I.S specification. The system shall always be charged under pressure and capable to discharge 2280 LPM. The running pressure shall not be less than 3.5 Kg /Sq.cm at the farthest and top most point.
2. The building shall be provided with Wet Riser for hydrant system of 150 mm. internal diameter Pipe Line , with provision of landing valves at the Staircase landings/half landings , as shown.
3. The system shall be so designed that shall be kept charged with Water all the time under pressure and capable to discharge 2280 LPM at the ground floor level outlet and minimum 900 LPM at the top most and furthest outlet. In both cases the running pressure shall not be less than 3.5 Kg /Sq.cm. All other requirements shall be conforming I.S. 3844 – 1989.
4. Provision for Hose Reel units on swivelling drum in conjunction with Wet Riser shall be made near each landing valves. Entire floor shall be within the reachability of Hose reel hose.
5. Provision of suitable Fire Service Inlet shall be made as per relevant I.S specification and provision of NBC Part 4, 2016.
6. All the other requirements of water based suppression system shall be made as per I.S. Specification 3844-1989 ,with upto date amendment.

#### FIRE PUMP:

1. Provision of Fire Pumps (2280 LPM capacity) for hydrant and sprinkler system shall have to be made to supply water at the rate-designed pressure and discharge into the Water based suppression system, which shall be installed in the respective pump rooms.
2. One such pump of diesel driven type shall always be kept on stand-by.
3. Provision of separate Jockey Pump shall also have to be made to keep the Water based suppression systems, i.e. hydrant & sprinkler system separately under pressurized condition at all the time. All the pumps shall be incorporated with both manual and auto starting facilities.
4. The suction of pumps shall preferably of positive type or in case of negative suction, the system shall be wet riser-cum-down comer with suitable terrace pump with overhead tank.
5. The fire pumps may be multi stage, multi outlet creating pressure zones.
6. The Number and type of fire pumps and the FIRE FIGHTING PUMP HOUSE shall be as per provision of NBC,Part - 4, 2016.

#### TWO LAYER MECHANICAL CAR PARKING (M.L.C.P) :

- a) Structural design:- The M.L.C.P. shall be constructed of structural steel construction.
- b) Vertical Deck Separation:- M.L.C.P. having Multi Car Parking level, vertical Fire separation between the upper and lower decks by using a non- perforated and non-combustible materials (Structural Steel Plate) shall be provided. Proper drainage system shall have to be provided for accidental leaking of oil from the Car and sand bed shall be provided at the lowest level.
- c) Access way shall be provided for the Fire Engine to gain access to the car park entrance and exit.
- d) Fire hydrants are to be provided in accordance with the provision of NBC Part 4, 2016 and relevant I.S. specification.
- e) Each car parking deck shall be provided with at least 50% external ventilation openings on the perimeter wall areas with uniformly distribution pattern.
- f) Open Modular Type Sprinkler along with detectors shall be provided in M.L.C.P. areas as per relevant I. S. Specification.
- g) Operating System:- Both Mechanical and Manual type operating system for M.L.C.P shall have to be provided.



#### 5. ALTERNATIVE POWER SUPPLY :

Arrangements shall have to be made to supply power with the help of generators of suitable capacity to operate at least the Fire Pumps, Pumps for deep Tube-well, Fire Detection and Alarm System, PA system, Magnetic door hold open devices, Fire man's lift including all lifts, ventilation, signage etc. and also for illuminating the Staircases, corridors etc. and other places of assembly of the building, Fire command system & Security room etc. in case of failure of normal power supply.

#### INTELLIGENCE ANALOGUE ADDRESSABLE System:

1. Addressable analogue manual call boxes incorporating with sounders shall be installed at each floor area of the building .
2. All the installations shall also satisfy the I.S. specifications 2189 (as amended) and the code of practice as laid down in the NBC, Part-4, 2016.

#### CC TV & ADDRESS SYSTEM :-

Public address system and CC TV surveillance system linked between all floors common areas and Fire Control Room shall have to be provided with 24 X 7 monitoring arrangement.

#### CENTRALIZED AIR CONDITIONING SYSTEM (IF ANY):

1. The A.H.U. shall be separated for each floor with the system Air Ducts for individual floors.
2. Arrangement shall be made for isolation at the strategic locations by incorporating auto dampers in the Air Conditioning system.
3. The system of auto shut down of A.H.U. shall be incorporated with the auto detection and alarm system.
4. The air handling unit room shall not be used for storage of any combustible materials.
5. Escape route like staircases, common corridors, lift lobbies etc. shall not be used as return air passage.
6. Wherever the ducts pass through Fire wall of floors, the opening around the ducts shall be sealed with Fire resisting materials.
7. The metallic ducts shall be used even for the return air.
8. The materials used for insulating the duct system (inside or outside) shall be of non- combustible materials, glass wool shall not be wrapped or secured by any materials of combustible nature.
9. Air ducts shall not pass through the staircase enclosures.
10. The air handling units shall be separated for each floor, and air ducts for every floor shall be separated and in no way interconnected with the ducting of any other floor.
11. If the air handling units serve more than 1 floor, the recommendation given above shall be complied with in addition to the conditions given below:-
12. Proper arrangements by way of automatic Fire dampers working on fuseable link for isolating all ducting at every floor from the main riser shall be made.
13. When the automatic Fire alarm operates ,the respective air handling units of the air conditioning system shall automatically switched off.
14. The vertical shaft for treated fresh air shall be of masonry construction.
15. The air filters for air handling units shall be of non-combustible materials.
16. Inspection panel shall be provided in the main trucking to facility the cleaning of ducts of accumulated dust and to obtain access for maintenance of fire dampers.
17. No combustible materials shall be fixed nearer than 150 cm to any duct unless such duct properly enclosed and protected with non-combustible materials (glass wool or Spun wool with neoprene facing enclosed and wrapped with aluminum sheeting) at least 3.2 mm thick and which would not readily conduct heat. However, the entire air conditioning system shall be made in accordance with relevant I.S. specification.

#### FIRST AID FIRE FIGHTING SYSTEM:

First Aid Fire fighting arrangement in the style of placing suitable type of portable Fire Extinguishers, Fire Buckets etc. in all floors and vulnerable locations of the premises shall be made in accordance with I.S. 2190-1992.

#### GENERAL RECOMMENDATIONS:

1. Fire License shall have to be obtained for proposed storing and processing with L.P.G. and other highly combustible articles (if any).
2. Necessary sanction and approval for such construction and occupancy of this project must be obtained from competent authorities.
3. Lightning arrestor and air craft warning lights shall have to be installed as per existing norms and relevant IS



7. The employees and security staff shall be conversant with installed Fire Fighting equipments of the building and to operate in the event of Fire and Testing.
  8. The Department of Fire & Emergency Services, Government of West Bengal, shall not take any responsibility in respect of any legal dispute if pending or arises about the title of land / property.
  9. This Fire Safety Recommendation cannot be treated in any case of regularizations of any unauthorized construction.
  10. The management of the organization/buildings, as the case may be, shall maintain the fire prevention and safety measures in good repair and in efficient condition at all the times which are installed in the building for use at the time of fire or other emergencies.
  11. A crew of trained Fireman under an experienced officer shall be maintained round the clock for safety of the building.
  12. Mock Fire practice and evacuation drill shall be performed periodically with participation of all occupants and employees of the buildings.
  13. Accordingly, a certificate is to be obtained from the Director General, West Bengal Fire & Emergency Services, certifying about the satisfactory services, performance of all the Fire and Life Safety arrangements and installation of the buildings.
- On compliance of all the above Fire and Life safety recommendations, the Director General, West Bengal Fire & Emergency Services shall be approached for necessary inspection and testing of the installation. Fire Safety Certificate in favour of the occupancy shall be issued on being satisfied with the tests and performances of fire & life safety aspects of the building.
- N.B.: Any deviation and changes in the nature of construction and use of the building, in respect of the approved plan drawing, without obtaining prior permission from this office, this Fire Safety Recommendation shall be treated as cancelled.

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**Director**

**West Bengal Fire & Emergency Services**