



**Government Of West Bengal
Office Of The Director General
West Bengal Fire & Emergency Services
13D, Mirza Ghalib Street, Kolkata - 16**

Memo no.:FSR/0225186241200110

Date: 24-04-2024

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

To: TARANG DALMIA
144,50A,BAKRA HAT ROAD

Sub: Fire Safety Recommendation for a proposed construction of a G+XVII storied [57.25 mtr height] under group of residential building at premises no. 50A, Bakra Hat Road, P.S.- Thakurpukur, P.O.- Joka, Ward no.- 144, Borough- XVI Kolkata- 700104.

Application Reference : KMC (CAF-2023160652) received on 23-02-2024 regarding the Fire Safety Recommendation for a proposed construction of a G+XVII storied [57.25 mtr height] under group of residential building at premises no. 50A, Bakra Hat Road, P.S.- Thakurpukur, P.O.- Joka, Ward no.- 144, Borough- XVI Kolkata- 700104.

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 is issuing Fire Safety Recommendation in favor of the aforesaid building subject to the compliance of the following fire safety measure.

Recommendation:

A.CONSTRUCTION:-

- 1.Materials for rapid flame spread categories including untreated wood fiber board etc. shall be not use. The doors and windows preferably shall be made of metal.
- 2.The floor area exceeds 750 m2 shall be suitably compartmented having four hours fire resisting capacity and sprinkler system should be provided as per N.B.C. Part IV.
- 3.The interior finish decoration of the building shall be made with the materials with low flame spread and low smoke and toxic gas generating categories conforming I.S. Specification.
- 4.Arrangement shall have made for sealing all the vertical service ducts by the materials of adequate Fire resisting capacity.
- 5.Fire rating test certificate of all interior finish decoration should be submitted to this office before taking occupancy.
- 6.Service Ducts and shafts should be enclosed by walls of 2 hours and doors of one hour fire rating. All such ducts shall be properly sealed and fire stopped at all floor level.

B.OPEN SPACE & APPROACH: -

- 1.The open space surrounding the building shall be kept clear open to sky and shall confirm the relevant building rules as well as permit the easy accessibility and maneuverability of the Fire appliances with turning facility.
- 2.The approach road and roads surrounding the building shall be sufficiently strong to withstand the load of Fire Engine weighting up to 45 M.T.
- 3.The width and height of the entry gates to the promises shall not be less than 5m and 5.5m respectively.
- 4.Driveway should be free of any type obstruction. No parking will be allowed on the Drive Way.

C.STAIRCASE:-

- 1.At least one no. staircase of the building shall be enclosed type, entire construction shall be made of brick / R.C.C. type having Fire resisting capacity not less than 4 hours respectively marked in the plan.
- 2.The staircases shall have permanent vents at the top equal to 5% of the cross-sectional area of the staircases enclosures and open able sashes at each floor level equal to 15% of the said cross section are shall have to be provided in the external wall of the building.
- 3.All the staircase of the building shall be negotiable to each other in each floor without entering into any room and shall be extended up to respective terrace.
- 4.The roof of the stair wall shall be 1M above the surrounding roof area.
- 5.The width of the staircases and corridors and travel distance of different categories of occupancies shall have to conform the relevant building rules.
- 6.Fire and Smoke check doors at the entrances of all the Staircase enclosures at each floor level shall be provided.
- 7.The F.C.D. shall be at least two-hour Fire resisting wire glass window fitted with self closing type open able in the direction of escape.
- 8.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 regards.

D.LIFT:-

- 1.The walls of the lift enclosure of the building shall be at least two hours FIRE resisting type respectively marked in the plan with the event at top of area not less than 0.2m².
- 2.The lift of the building shall be designed at high speed "Fire Lift" and conspicuously indicated marked in the plan.
- 3.One of the lift car of the building shall be large enough to accommodate standard Ambulance Stretcher and Medical Attendants.
- 4.The Electric power shall be from separate supply mains in the building and cables run with in the lift shafts, light 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 over alternate power supply.
- 5.Arrangement shall be provided for extraction of smoke in all the lift shaft by incorporation smoke venting system designed to permit 30 Air changes per hour in case of Fire and shall be of such design as to operate on actuation of Fire Alarm.
- 6.In case of failure of normal electric supply, It shall automatically trip to alternate supply.
- 7.Exit from the lift lobby if located in the core of the building, shall be through a self- closing smoke stop door of 1 hour fire resistance.
- 8.The speed of fire lifts in the building shall be such that it can reach the top from the ground floor within 1 minute in visual indications of floor numbers shall incorporated in the lift cars.
- 9.All other requirements shall conform the I.S. specification including the communication facility in the lift cars connecting to the Fire Control Room of the building.

REFUGE AREA:-

1. The refuge area on calculating the area at the rate of 03 m²/ person on the basis of floors area shall be provided on the external wall as cantilever projection or any other suitable means at above +24m level and there after alternative every 15M. of the building.
2. The refuge area shall be of Fire resisting construction and protected with self-closing F.C.D. at the entrance from the corridor or the staircase lobbies.
3. The position of refuge areas shall be such that they are negotiable by the Fire Service Ladder from the ground floor.
4. Under the beneath of refuge area shall have to provide as per norms without any obstruction.

F.FIRE FIGHTING WATER:-

1. Water exclusively for Fire Fighting (Underground Water Reservoir) operation shall be ensure minimum 1,50,000 ltrs and (Over Head Water Reservoir) 10000 Lts all the time.
2. The Fire water reservoir shall be having overflow arrangement with the domestic reservoir to avert stagnancy of water.
3. Provision of necessary manhole shall be made on the top of the reservoir as per specification.
4. Provision of replenishment at the rate of at least 2000 lts./min. from two separate sources of water supplies shall be made.
5. The deep tube wells for the replenishment of the reservoir shall be incorporated with the auto starting facility with the actuation of auto detection and suppression arrangement of the premises and shall also be connected with dual power supply units.

F.WATER LAYOUT SYSTEM:-

a)Ring main Hydrant System:

- i. 100 mm dia Ring main water layout arrangement covering the entire premises of the project with provision of pillar type yard hydrants with hose boxes, containing 2 lengths of 63mm delivery hose and short branch pipe shall be provided at all the strategic location and surrounding the building conforming I.S. 3844-1989 (upto date amendment).
- ii. The system shall be so designed that shall always be kept charged with water under pressure and capable to discharge min. 2280 lts./min. at the pressure 7kg/sq.cm. at any point.

b)Wet Riser & Hose Reels System:-

- i. The building shall be provided with Wet Riser 100 mm Dia and Hose Reel Hose unit with provision of outlets in each floor at the staircases landings/half landings as per suitable at the rate of one such unit of Wet Riser with all accessories and Hose Reel per 1000sq.m. of floor area.
- ii. Hose Reel Unit: - Provision of hose reel units on swiveling drum in conjunction with wet riser near each landing valves shall be made at each floor level of the building.
- iii. All other requirements of the water base Fire Protection System shall be made as per I.S. Specification 3844-1989 (with up to date amendment).

G. Automatic Sprinkler Installation:

- i. The automatic sprinkler installation shall be provided entire covered car parking, MLCP, Community hall, Gym, Games and children play area, Corridor area of the building as per I.S. 9972. Alarm gang to be incorporated along with the sprinkler system.

.One test line with at least one no. sprinkler head at the covered car parking at ground floor & 1st floor of water discharge area shall have to be provided for periodical test.

H. FIRE PUMP:-

1. 2280 Ltr Per min. giving a pressure not less than 0.3N/m². The Main pump provided will be of multi stage type with suction and delivery size not less than 15 cm. dia. A set ball valve to supply the tank with at least 2280 ltrs. Per minute from the fire pump.

2. A stand by pump of equal capacity shall be provided preferably be diesel driven.

3. Provision of Jockey pump have to be made to keep up the water-based system under pressurized condition at all the time.

4. The suction of pump shall preferably be positive type; in case of negative suction the system shall be wet riser cum down comer with suitable terrace pump with over head tank.

I. ELECTRICAL DISTRIBUTION SYSTEM: -

1. Electrical distribution system of all the building shall be made in the form of concealed wiring or in heavy gauge M.S. conducted continuously bonded to earth cables shall be I.S. marked and preferably be of F.R.L.S. categories.

2. Electrical distribution System shall conform all the requirements laid down in I.S. 1646-1982.

3. For every 230V wiring above false ceiling 660 grade insulated cable shall be used Transformer Switch Gear H.T., L.T. and other electrical rooms shall be at the ground floor level the other electric rooms shall be at least 4hrs.

4. Fire resisting capacity adequate ventilation arrangement shall have to be made in all the rooms,

5. Dry and explosion proof type transformer shall be installed.

6. All electrical installation viz. Transformers, Switch Gears, L.T., HT rooms shall be protected with both auto detection and suppression systems as per suitability.

J. DETECTION AND ALARM SYSTEM :

1. Addressable analogue manual call boxes incorporating with sounders shall be installed in all the floor area of the building in such a manner that maximum travel distance shall not be more than 22.5m in order to reach any of the call point.

2. Auto fire detection system with the help of smoke detector shall be installed at car parking area, Commercial floor area of below and preferably above false ceiling of the building along with covered car parking & all floors corridor.

3. The system shall also be made in places of rooms where valuable articles have been kept.

4. The other requirements of the system shall be made in accordance with I.S. 2189-1988.

5. Hooter will be sounded in such a manner so that an operation of a Detector or Manual Call Point Hooters will be sounded on the same floor and immediate alternate floor.

K. Public Address System:-

1. Public address system linked between all floors and Control Room shall have to be established.

2. Both way Public address system linked between all floors and Control Room shall have to be established.

3. All the installation shall also satisfy the I.S. Specification 2189 as amended and the code of practice as laid down in N.B.C. pt. IV.

L. 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) Arrangements shall be made for isolation at the strategic location by incorporating auto dampers in the air conditioning system.
- 3) The system of auto shutdown of A.H.U shall be incorporated with the detection and alarm system.
- 4) The air handling unit's room shall not be used for storage of any combustible materials.

M. OTHER PROTECTION MEASURES:

Close circuit T.V. shall have to be provided in the building.

N. FIRST AID FIRE FIGHTING SYSTEM :

1. First Aid Firefighting arrangement in the style of placing suitable type of portable Fire Extinguishers- I.S.I. mark, Fire Buckets etc. in all floors and vulnerable locations of the premises shall be made in accordance with I.S. 2190-1992.
2. Special rescue equipment like Smoke Hood, self-contained B.A. set portable lights at least two pairs (4sets) shall be made available in the Fire Kiosk of the premises.

O. Alternative power supply:-

Arrangement shall have to be made to supply with the help of a generator to operate at least the fire pump, pump for deep tube well, fire alarm system, fire lift etc. and also for illuminating the staircase, corridors etc. and other places of assembly of the building in case of normal failure.

P. GENERAL RECOMMENDATIONS :

1. Floor numbers and directional sign, showing the nearest exit Refuge Area. Fire Points etc. shall have photo luminescent signals at each floor of all blocks of building including shall be made available conforming the relevant I.S. Specification.
2. Provision of emergency illuminating exit shall be made at all floor levels of all blocks of building conforming the I.S. Specification.
3. Fire license have to be obtained for proposed storing and processing with highly combustible articles
4. If diesel oil is stored beyond the specified quantity license shall be accorded from the appropriate authority.
5. The occupants, employees and security staff shall be conversant with installed First aid Fire Fighting equipment's of the building and to operate in the event of Fire and Testing.
6. Arrangement shall be made for regular checking, testing and proper maintenance of all the Fire Safety installation and equipment's and means of escapes installed in the building to keep them in perfectly good working conditions at all times by authorized competent agency in this regard.
7. Practice and evacuation drill shall be arranged at regular interval of time involving all the occupants and security staff shall be recorded.
8. Trained and experienced Fire Fighting staff under the qualified and experienced fire officer shall be maintained round the clock.
9. Fire Service Inlet shall have to be installed
10. A Fire Kiosk shall have to be installed.

A certificate is to be obtained from the Director General, West Bengal Fire & Emergency Services certifying about the satisfactory services, performance of all the Lift and Fire Safety arrangements and installation of the building.

This shall be tested as Fire Safety Recommendation 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 favor of the occupancy shall be issued on being satisfied with the tests and

performances of safety aspects of installation of the building.

N.B.: Any deviation and changes the nature of use of the building in respect of the approved plan drawing, without obtaining prior permission from this office, this Fire Safety Recommendation will be treated as cancelled.

Validity unknown

Digitally Signed
Name: ABHJIT PANDAY
Date: 24-Apr-2024
Reason: Approved
Location: West Bengal

DIRECTOR
West Bengal Fire & Emergency Services

Memo No.: FSR/0225186241200110