



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

Memo no.:FSR/0125186221200219

Date: 17-06-2022

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

**To: Zenith Conclave LLP As Constituted attorney of Madhu Surana And Others**  
**122/1R Satendranath Majumder Sarani,Kolkata-700026**

**Sub: Fire Safety Recommendation for a proposed G+25 storied residential building which will be constructed at R.S./L.R. Dag No.- 122, 123, J.L. No. 02, Mouza- Kochpukur, P.S.- Kolkata Leather Complex (formerly Bhangar) within the limit Bamanghata Gram Panchayet, Dist.- South 24 Parganas, PIN- 700156.**

This is in reference to your application no. 0125186221200219 dated 31-05-2022 regarding the Fire Safety Recommendation for a proposed G+25 storied residential building which will be constructed at R.S./L.R. Dag No.- 122, 123, J.L. No. 02, Mouza- Kochpukur, P.S.- Kolkata Leather Complex (formerly Bhangar) within the limit Bamanghata Gram Panchayet, Dist.- South 24 Parganas, PIN- 700156.

**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:**

**CONSTRUCTION:**

- 1.The construction of the proposed building shall be carried out as per approved plan drawings conforming the relevant building rules of local building rule and shall remain same as per approved plan of this Department.
- 2.Any deviation with regard to the construction shall be verified by the concerned building sanctioning authority.
- 3.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.
- 4.The interior finish decoration of the building shall be made with the materials with low flame spread and low smoke/non-toxic gas generating categories conforming I.S. Specification.
- 5.Arrangement shall have to be made for sealing all the vertical ducts by the materials of adequate Fire resisting capacity.
- 6.Service ducts and shafts should be enclosed by a wall of 2 hours and doors of one hour fire rating. All such ducts shall be properly sealed and Fire stopped at all floor levels.

#### OPEN SPACE AND APPROACH:

- 1.The abutting road shall permit the accessibility and maneuverability of fire appliances.
- 2.The open space surrounding the building shall be kept clear open to sky and shall conform the relevant building rules as well as permit the easy accessibility and maneuverability of the Fire Appliances.
- 3.The width and height of the entry gates to the premises shall be 4.5m wide and 5.0m high (as shown/marked in the plan drawing) respecting the abutting road.
- 4.The internal drive way shall be sufficiently strong to withstand the load of Fire Engine weighting up to 45 M.T.
- 5.No parking will be allowed on the Drive-Way.

#### STAIRCASE:

- 1.The staircase should have permanent vents at the top and openable sashes at each floor level in the external wall of the building.
- 2.Pressurization shall be made as shown in the plan drawing as per N.B.C. Part-IV.
- 3.Fire Check Doors as shown/marked in the plan at each floor level shall be provided. The F.C.D. shall be of at least one hour Fire resisting wire window glass fitted with self closing type and openable in the direction of escape.
- 4.Staircase shall be kept un-obstructed all the time.
- 5.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.
- 6.Corridor/lobby of the building shall be kept un-obstructed all the time.

#### REFUGE AREA:

- 1.The measurement of all Refuge Areas shall be as per requirement of occupancy load/floor areas (at the rate 0.3sq.m./person).
- 2.Refuge areas are to be provided as shown/marked in the plan drawings.
- 3.The refuge areas shall be of Fire resisting construction and protected with self closing F.C.D. at the entrance from the landing/half landing of staircase.
- 4.The position of refuge area shall be in such manner so that it shall be negotiable by the Fire Service Ladder from the Ground level. Necessary open space on the Ground level (drive way) shall be so arranged that in case of any emergency Fire Service High Rise Ladder shall be easily placed near Refuge area.

#### ELECTRICAL INSTALLATION & DISTRIBUTION:

- 1.The electrical installation including transformers (if any, shall be of dry and explosion proof), Switch Gears, Main & Meters etc. and the distribution system of the premises shall be made satisfying the code of practice for Fire safety in general building as laid down in I.S. specification 1946-1982.
- 2.The vertical supply ducts shall be sealed at each floor level.
- 3.The electrical installation shall be adequately protected with CO<sub>2</sub> / D.C.P.
- 4.Electrical distribution system of the all buildings shall be made in the form of concealed wiring or in heavy gauge M.S. conduit continuously bonded to the earth. Cables shall be I.S. marked and preferably be of F.R.L.S. categories. M.C.B. shall be installed in electrical circuit to avoid electrical fire hazards.
- 5.All electrical installation viz. transformer, Switch Gear L.T, H.T rooms shall be protected with both auto detection and suppression system as per suitability.
- 6.Adequate ventilation of Electrical Room of all buildings shall be made.
- 7.Alternative Power Supply : Arrangement shall have to be made to supply power with the help of a generator to operate at least the Fire Pump, Pump for deep Tube well, Fire Detection & Fire alarm System, Lifts, Mechanical smoke venting

system etc. and also illuminating the staircase, corridors etc. and other assembly places of the building in case of normal power failure.

8. Lightning Arrestor arrangement to be provided at highest altitude of the building.

#### LIFT:

1. The walls of the lift enclosure of the building shall be at least two hours FIRE resisting type. Collapsible gate shall not be permitted.

2. Pressurization shall be done in lift lobby as shown in the plan as per N.B.C. Part-IV.

3. In case of failure of normal electric supply, it shall automatically trip over to alternate supply. The lift shall be so wired that in case of power failure, it comes down at the ground level landing to stand still with door open.

4. The speed of the 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 be incorporated in the lift cars.

5. All other requirements shall conform to the I.S. specification including the communication facility in the lift cars connecting to the Fire Control Room of the building.

#### FIRE FIGHTING WATER:

1. Underground Water Reservoir having water capacity of 200000Lts. (marked in the plan) exclusively for firefighting purpose. The replenishment arrangements @ 1000 Lts./min. preferably from two different sources of water supply shall be provided for Fire Water Reservoir.

2. Exclusive Fire Over Head Water Reservoirs having capacity 10000Lts. shown/marked in the plan drawings shall be constructed and shall be connected with wet riser system through N.R.V. and butterfly valve.

3. The Fire Water Reservoirs shall have overflow arrangement with the domestic Water Reservoir as well as to avoid stagnancy of water. The fire fighting water reservoir shall be kept full at all times.

4. Provision of placing Fire Appliances near the underground water reservoir to be made to draw water in case of emergency. Provision of necessary manholes shall be made on the top of the reservoir as per specification.

5. Provision of Fire Service inlet shall be installed at suitable place.

#### WATER LAYOUT SYSTEM :

##### A) Ringmain Hydrant System:-

i) 200 mm diameter Ring Main water layout arrangement covering the entire premises of the project with provision of yard hydrants with door hose boxes, containing 2 lengths of 63mm delivery hose and short branch pipe shall be provided at all the strategic locations and surrounding the building conforming I.S. 3844-1989 (up to date amendment).

ii) The system shall be so designed that shall always be kept charged with water under pressure and capable to discharge 2850 Ltrs./min. at the pressure 3.5kg/sq.cm. at any point.

##### B) Wet Riser & Hose Reel System:-

i) The building shall be provided with Wet Riser and Hose Reel unit with provision of outlets in each floor at the staircases landings/half landings as per suitability at the rate of one such unit of Wet Riser and Hose Reel per 1000sq.m. of floor area.

ii) The Wet Riser installation shall be made in reference to the height of the building in stage wise distributions.

1st Stage Ground Floor to 20th floor- 200mm dia. with Hydrant Outlet.

2nd Stage 21st Floor to Top Floor 150mm dia. with Hydrant Outlet.

iii) 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.

iv) All other requirements of the water based Fire Protection System shall be made as per I.S. Specification 3844-1989 (up to date amendment).

##### C) Automatic Sprinkler Installation:-

i) All floors of the building shall be suitably protected by automatic Sprinkler installation conforming to the grade as per I.S.

Specification 9972.

ii) Alarm gang to be incorporated along with the sprinkler system.

#### FIRE PUMP :

1. Fire Pump having discharge 2850Lts. per minute giving a pressure not less than 3.5Kgs/Sq.cm.
2. A Stand by pump (preferably be of diesel driven) of equal capacity shall be provided.
3. A Sprinkler pump having discharge 2280Lts. per minute shall be provided.
4. Provision of Jockey pump shall also have to be installed to keep up the water based system under pressurized condition at all the time. The running pressure shall not be less than 3.5Kgs/Sq.cm.
5. All above pumps shall be Multi Stage Multi Outlet type.
6. All other requirements shall conform I.S. specification 3844-1989.
7. All the pumps shall be incorporated with both manual and auto starting facility and with alternate power supply.

#### AUTO DETECTION AND ALARM SYATEM:

1. Auto Fire Alarm System with addressable smoke/heat detectors as per suitability shall be installed in all floor areas of the building.
2. Both way Public address system linked between all floors and Control Room shall have to be incorporated. The Control Room shall be located at the entrance of the ground floor.
3. Addressable Manual Call Box incorporating with Hooter shall be installed in all the floor 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 break glass type Call Point. Hooter will be sounded in such a manner so that an operation of a Detector or Manual Call Point, Hooter will sounded on all floors.
4. All other requirements of the system shall be made conforming I.S. 2189 as amended and the code of practice as laid down in N.B.C. Part-IV.

#### AIR CONDITIONING SYSTEM : (if there be any centralized air conditioning system)

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 units room shall not be used for storage of any combustible materials.
5. Arrangement shall be made for isolation at the strategic locations by incorporating auto dampers in the Air Conditioning System.
6. The system of auto shut down of AHU shall be incorporated with the auto detection and alarm system.
7. Escape route like staircase, common corridors, lift lobby etc. shall not be used as return air passage.
8. Wherever the ducts pass through Fire wall of floors, the opening arounding the ducts shall be sealed with Fire resisting materials such as asbestors rope vermiculite concrete etc.
9. The metallic ducts shall be used even for the return air instead of space above the false ceiling.
10. 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.
11. Area more than 750 sq. m. on individual floor shall be segregated by a Fire wall and automatic fire damper for isolation shall be provided.
12. Air duct services main floor area, corridors etc. shall not pass through the staircase enclosures.

13. The air handling units shall be separation for each floor, and air ducts for every floor shall be separated and in no way interconnected with the ducting of any other floor.

14.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:-

a.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.

b.When the automatic Fire alarm operates the respective air handling units of the air conditioning system shall automatically switched off.

15.The vertical shaft for treated fresh air shall be of masonry construction.

16.The air filters for air handling units shall be of non combustible materials.

17.The air handling units room shall not be used for storage of any combustible materials.

18.Inspection panel shall be provided in the main trucking to facilitate the cleaning of ducts of accumulated dust and to obtain access for maintenance of fire dampers.

19.No combustible materials shall be fixed nearer than 15cm 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 3.2m thick. And which would not readily conduct heat.

#### 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.

2.Exit signage, Fire Notice for Fire Fighting and evacuation from the building shall be prepared and be displayed at all vulnerable places of the building.

3.All residents, employees and security staffs should have adequate knowledge of handing fire protection equipment, evacuation process in time of emergency and testing.

4.Arrangement shall be made for regular checking, testing and proper maintenance of all the Fire Safety installation and equipments installed in the building to keep them in perfectly good working conditions at all times.

5.A crew of trained Fireman shall be maintained round the clock for safety of the building.

6.Haphazard indoor or outdoor storage shall be avoided.

7.Mock Fire practice and evacuation drill shall be performed periodically with participation of all occupants of building.

8.Telephone numbers of all Emergency Services and Departments shall be hanged at conspicuous places of all floors and inside Office/Reception Counter.

9.Special rescue equipment like Smoke Hood, self contained B.A. set portable lights at least two pairs (4sets) shall be made available in the main fire Control Room of the premises.

10.Red Light warning shall be provided at the top of the building.

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

12.Drill: Must be acquainted with evacuation passage of escape route by practicing as a drill with all residents, employees and security staffs as a drill every month as a special duty and records of which must be kept in their custody.

13.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.

On compliance of all the above Fire & Life Safety Recommendations, the Director General, West Bengal Fire &

Emergency Services shall be approached for necessary inspection and testing of the installations, Fire Safety Certificate in favour 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.

Director  
West Bengal Fire & Emergency Services

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