



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

Memo no.:FSR/0125186219100330

Date: 13-09-2021

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

**To: SADAN INFRASTRUCTURE**  
L.R. PLOT NO.- 20, 21, R.S. PLOT NO.- 14P, L.R. KHATIAN NO.- 2608, MOUZA - SANKARPUR, J.L.NO.-109, P.S.-  
NEW TOWNSHIP, DIST.- PASCHIM BARDHAMAN

**Sub: Fire Safety Recommendation for proposed construction of B+G+10 storied two nos. block over a common basement and Common ground floor in the style SADAN INFRASTRUCTURE, at Plot No. 20,21, R.S. Plot No. 14(P), L.R. KH. No. 2462, 2485, 2579,2287,Mouza- Sankarpur, J.L. No. 109, P.S.- New Township, District- Paschim Bardhaman.**

This is in reference to your application no. 0125186219100330 dated 31-08-2021 regarding the Fire Safety Recommendation for proposed construction of B+G+10 storied two nos. block over a common basement and Common ground floor in the style SADAN INFRASTRUCTURE, at Plot No. 20,21, R.S. Plot No. 14(P), L.R. KH. No. 2462, 2485, 2579,2287,Mouza- Sankarpur, J.L. No. 109, P.S.- New Township, District- Paschim Bardhaman.

**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:**  
RECOMMENDATION  
CONSTRUCTION:

- 1.The whole construction of the proposed building complex shall be carried out as per approved plan drawings conforming the relevant building rules of local Municipal Body.
- 2.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.
- 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 a 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.

#### OPEN SPACE & APPROACH:

1. 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 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 5m respectively.

4. Driveway should be free of any type obstruction. No parking will be allowed on the Drive Way.

#### STAIRCASE:

1. The 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. The roof of the stair wall shall be 1M above the surrounding roof area.

4. The width of the staircases and corridors and travel distance of different categories of occupancies shall have to conform the relevant building rules.

5. Fire and Smoke check doors at the entrances of Staircase enclosures as marked in the plan at each floor level shall be provided. The F.C.D. shall be at least one hour Fire resisting wire glass window fitted with self closing type open able 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 regards.

#### 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 0.2m<sup>2</sup>.
- 2.Lifts extended up to basement shall be pressurized.
- 3.The lift of the building shall be designed at high speed "Fire Lift" and conspicuously indicated marked in the plan.
- 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 Sprinkler or Fire Alarm. In case of failure of normal electric supply. It shall automatically trip to alternate supply.
- 6.Exit from the lift lobby if located in the core of the building, shall be through a self- closing smoke stop door of 1hour fire resistance.
- 7.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.
- 8.All other requirements shall conform the I.S. specification including the communication facility in the lift cars connecting with the Fire Control Room of the building.

#### BASEMENT:

- 1.The basement shall be adequately ventilated with aggregate cross sectional area of not less than 2.5% of the area spread evenly round the perimeter of the basement shall be provided in the form of grills.
- 2.Mechanical smoke venting arrangements shall be provided to all the basements confirming the I.S. specification.
- 3.The exit from the basement shall be from open Air and from any points the travel distance shall not exceeds the required travel distance to reach any exit.
- 4.The basement floor shall be protected with automatic sprinkler system
- 5.The staircase of basement shall be of enclosed type having Fire resistance of not less than 4 hrs. and shall be situated at the periphery of the basement to be entered at ground level only from the open air and in such positions that smoke from any fire in the basement shall not obstruct any exit having the ground upper floor of the building.
- 6.Mechanical extractors shall have an alternative source of supply.
- 7.Mechanical extractor shall have an internal arrangement so that extracting shall continue to operate and supply fans shall stop automatically with the actuation of Fire Detectors.
- 8.Mechanical extractors shall be designed to permit 30 air changes per hour in case of Fire or Distress call.

#### REFUGE AREA:

- 1.The Refuge area is not less than 15sqm. area shall be provided on the external wall as cantilever projection or any other suitable means as marked in the plan drawing .
- 2.The refuge areas shall be of Fire resisting construction and shall be protected with self – closing F.C.D. at the entrance from the corridors at staircase lobbies.

3.The position of refuge areas shall be such so that they are negotiable by the Fire Service Ladder from the Ground. Clear open space 6m x 15m shall have to provided below refuge area.

#### FIRE FIGHTING WATER:

1.Under Ground Water Reservoir exclusively for Fire Fighting operation shall be ensure minimum 100000 ltrs. and Over head reservoir having capacity 10000 ltrs shall be kept full 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 1000lts./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.

#### WATER LAYOUT SYSTEM :

##### a.Ringmain 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 1 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. 1620 ltrs./min. at the pressure 7kg/sq.cm. at any point.

##### Wet Riser, Hose Reels & Sprinkler 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 suitable at the rate of one such unit of Wet Riser 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.Automatic Sprinkler System: Shall be incorporated in the entire basement area.

iv.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).

#### FIRE PUMP:

- 1.1620 Lts. Per min. giving a pressure not less than 0.3N/m<sup>2</sup>. The 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 1620 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.

#### 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. fire resisting capacity adequate ventilation arrangement shall have to be made in all the rooms, Dry and explosion proof type transformer shall be installed.
- 4.All electrical installation viz. Transformers, Switch Gears, L.T., HT rooms shall be protected with both auto detection and suppression systems as per suitability.

#### 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 30 m in order to reach any of the call point.
2. 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.

#### 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.

#### OTHER PROTECTION MEASURES:

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

#### FIRST AID FIRE FIGHTING SYSTEM :

1.First Aid Fire fighting arrangement in the style of placing suitable type of portable Fire Extinguishers- I.S.I. mark, Fire Buckets etc. in all floors and venerable 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 main fire Control Room of the premises.

#### 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(if any).

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 equipments 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 equipments and means of escapes installed in the building to keep them in perfectly good working conditions at all times by authorized competent agency is 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.Each year 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.

Director  
West Bengal Fire & Emergency Services

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