

Government of West Bengal
Office of the Director General
West Bengal Fire & Emergency Services
13, D. Mirza galib street,
Kolkata- 16

Memo No.: WBFES/ 123/13

/2013 Kol/RB/175/13 (175/13)

Date: 1/4/13

From : The Director ,Fire Prevention ,
West Bengal Fire & Emergency Services.

To : Shri Harsh Sanon,
M/S Sanon Sen & Associates Pvt. Ltd.
5, Russel Street,
Kolkata- 700073

Sub: Fire & Life Safety Recommendation for Proposed construction of B+ G+ XXI storied Residential Building at the premises no 104/D/2, Matheshwartala Road, Ward No.- 66 under K.M.C.P.S.- Tiljala, Kolkata- 700046.

This is in reference to your letter No nil dated 18/02/13 regarding Fire Safety recommendation for Proposed construction of B+ G+ XXI storied Residential Building at the premises no 104/D/2, Matheshwartala Road, Ward No.- 66 under K.M.C.P.S.- Tiljala, Kolkata- 700046.

The plan drawing 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 issuing Fire Safety Recommendation in favour of the aforesaid building subject to compliance of the following fire safety measures.



[Signature]
1/4/13
Director, Fire Prevention.
West Bengal Fire & Emergency Services

Encl :

1. One set of plan.
2. Recommendation

[Signature]
1/4/13

RECOMMENDATIONS

A. CONSTRUCTION

1. The whole construction of proposed building shall be carried out as per approved plan drawings conforming the relevant building rules of Kolkata Municipal Corporation.
2. The floor area exceeds 750m² shall be suitably compartmented by separation walls up to ceiling level having at least two hours Fire resisting capacity.
3. The interior finish decoration of the building shall be made low flame spread materials conforming I.S. specification.
4. Provision of ventilation at the crown of the central core-duct of the building shall be provided.
5. Arrangements shall have to be made for sealing all the vertical ducts by the materials of adequate Fire resisting capacity.

B. OPEN SPACE & APPROACH:

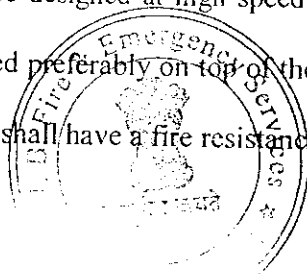
1. The open space surrounding the building shall conform the relevant building rules as well as permit the accessibility and maneuverability of Fire appliances with turning facility.
2. The approach roads shall be sufficiently strong to withstand the load of fire engine weighting upto 45 M.T
3. The approach road and internal drive ways and the circulation space always kept free from any obstructions.
4. Internal drive way around the building shall not be less than 07M.
4. The width & Height of the access gates into the premises shall not be less than 4.5M & 5.0M respecting abutting road.

C. STAIRCASE

1. The staircase of the building shall be enclosed type. Entire construction shall be made of bricks/R.C.C. type having fire resisting capacity not less than 4 hrs.
2. The staircase of the building 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 conforming the relevant building rules and as well as rules of the cinematograph Act with upto date amendments.
4. All the staircase shall be extended up to terrace of the building and shall be negotiable to each other without entering into any room.
5. Fire and smoked doors at the entrances of all the staircases enclosures as marked in th plan at each floor level shall be provided. The F.C.D. shall be of at least one hour fire resisting wire glass window fitted with self-closing type openable in the direction of escape.
6. The mechanism for pressurizing the staircase shaft shall be so installed that the same shall operate automatically on fire alarm system/sprinkler system and be provided with manual operation facilities

D. LIFT

1. Walls of lift enclosures shall have a fire rating of two hours. Lift shafts shall have a vent a the top of area not less than 0.2 sq m.
2. The Lift of the building shall be designed at high speed "FIRE LIFT" and conspicuously indicated at each floor.
3. Lift motor room shall be located preferably on top of the shaft and separated from the shaft by the floor of the room.
4. Landing door in lift enclosures shall have a fire resistance of not less than one hour.



5. The number of lifts in one lift bank shall not exceed four. A wall of two hours fire rating shall separate individual shafts in a bank.
6. Lift car door shall have a fire resistance rating of 1 hour.
7. Collapsible gates shall not be permitted for lifts and solid doors with fire resistance of at least one hour shall be provided.
8. If the lift shaft and lobby is in the core of the building a positive pressure between 25 and 30 pa shall be maintained in the lobby and a possible pressure of 50 pa shall be maintained in the lift shaft. The mechanism for the pressurization shall act automatically with the fire alarm/sprinkler system and it shall be possible to operate this mechanically also.
9. Exit from the lift lobby, if located in the core of the building, shall be through a self-closing fire smoke check door of one-hour fire resistance.
10. Lift shall not normally communicate with the basement. If however, lifts are in communication, the lift lobby of the basement shall be pressurized as per N.B.C. part - IV with self closing door .
11. Grounding switch (es), at ground floor level shall be provided to enable the fire service to ground the lifts.
12. Telephone/talk back communication facilities may be provided in lift cars for communication system and lifts shall be connected to the fire control room of the building.
13. Suitable arrangements such as providing slope in the floor of the lift lobby shall be made to prevent water used during fire fighting, etc at any landing from entering the lift shafts.
14. A sign shall be posted and maintained on every floor at or near the lift indicating that in case of fire, occupants shall use the stairs unless instructed otherwise. The sign shall also contain a plan for each floor showing the location of the stairways. Floor marking shall be done at each floor on the wall in front of the lift-landing door.
15. The electric supply shall be on a separate service from electric supply mains in a building and the cables run in a route safe from fire, that is within a lift shaft. Lights and fans in the elevator having wooden paneling or sheet steel construction shall be operated on 24-volt supply. In case of failure of normal electric supply, it shall automatically switch over to the alternate supply.
16. 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 or arrangement of pressurization system for fire lift well, lobby area by dedicated shaft.
17. The speed of the fire lift shall be such that it can reach to the top floor from ground level within one minute.
18. All other requirements shall conform the I.S. specification including communication facility in the lift cars connecting with the Fire Control Room of the building/buildings.

E. REFUGE AREA:

1. Refuge area is not less than 15sq.m. shall be provided on the external wall with cantilever projection or other suitable means at 24.4M, 39M , 53.4M.,67.8M and 82.2 m levels between 4th5th, 8th 9th,12th 13th,16th 17th , and 20th 21st floor each staircase half landing of the building as shown/ Marked in the drawing.
2. The refuge area shall be or Fire resisting construction and protected with closing F.C.D. at the entrance from the corridor or staircase lobbies.
3. The position of refuge Areas shall be such that they are negotiable by the Fire service Ladder from the ground.

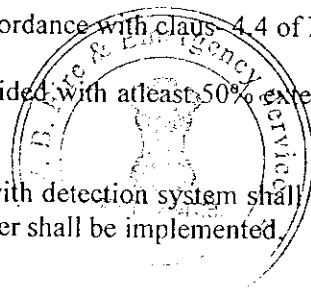
F. BASEMENT

1. The basement shall be adequately ventilated. Vents with cross-sectional area (aggregate) not less than 2.5 percent of the floor area spread evenly round the perimeter of the basement shall be provided in the form of grills or breakable starboard lights or pavement lights or by way of shafts. Alternatively a system of air inlets shall be provided at basement floor level and smoke outlets at basement ceiling level.

- Inlets and extracts may be terminated at ground level with starboard or pavement lights as before. But ducts to convey fresh air to the basement floor level have to be laid. Starboard and pavement lights should be in positions easily accessible to the firemen and clearly marked "SMOKE OUTLET" or "AIR INLET" with an indication of area served at or near the opening.
2. Staircase from the open air as shown/ marked in the drawing shall be constructed conforming relevant I.S. Specification.
 3. The staircase of basement shall be of enclosed type having fire resistance of not less than two hours 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 serving the ground and upper stories of the building and shall communicate with basement through a lobby provided with fire resisting self closing door of one hour rating. In case of basement being used as car parking only, the travel distance shall be 45 m.
 4. The basement shall be protected with Auto Sprinklers system
 5. Mechanical extractor for Smoke Venting system from basement levels shall also be provided. The system shall be of such design as to operate on actuation of heat/smoke sensitive detector or sprinkling. It shall also have an arrangement to start it manually.
 6. Mechanical extractors shall have an alternative source of supply.
 7. The system shall be of such design as to operate on actuation of smoke, heat sensitive detectors/sprinklers, and shall have a considerably superior performance compared to the standard units. It shall also have an arrangement to start it manually.
 8. Mechanical extractors shall have an internal locking arrangement so that extractors shall continue to operate and supply fans shall stop automatically with the actuation of fire detectors. Mechanical extractors shall be designed to permit 30 air changes per hour in case of fire or distress call. However, for normal operation, only 30 air changes or any other convenient factor can be maintained.
 9. Ventilating ducts shall be integrated with the structure and made out of brick masonry or RCC as far as possible and when this duct crosses the transformer area of electrical switchboard, fire dampers shall be provided.
 10. Dewatering pump shall be provided in all basements

G. MULTI LAYER CAR PARKING SYSTEM(If any)

1. Structural design.(For automated hydraulic car lift)
The M.L.C.P. shall be constructed of structural steel construction.
2. Vertical deck separation for MLCP having multi layer parking level.
Vertical fire separation between upper deck & lower deck by using a non combustible materials (structural steel plate) shall be provided . this is to minimize direct impingement of flame to the car in upper deck & also to prevent dripping of any possible leaking of fuel to the lower deck.
3. Proper drainage system shall have to be provided for accidental leaking of fuel from the car and sand bed shall be provided at the ground level.
4. Fire Engine Access way shall have to be provided for the fire engine to gain access to the car parking entrance & exit.
5. Fire Hydrant
Fire hydrant are to be provided in accordance with clause 4.4 of N.B.C. pt.- IV
6. Natural Ventilation
Each Car parking Deck shall be provided with atleast 50% external ventilation opening of the perimeter of the wall areas an uniformly distributed.
7. Sprinkler & Detection System
Open Modular type sprinkler along with detection system shall be provided at MLCP areas as per relevant I.S. specification. Cross zone wise sprinkler shall be implemented.



8. Fire Pump

Separate fire pump shall have to be made to supply water at the rate-designed pressure and discharge into the water based system, which shall be installed in the building. One such pump shall always be kept on Stand-by preferably be of diesel driven type.

Provision of Jockey Pump shall also have to be made to keep the water based system under pressurized condition at all the time. All the pumps shall be incorporated with both manual and auto starting facilities. The suction of pumps shall preferably of positive type or in case of negative section the system shall be Wet Riser-cum-Down comer with suitable terrace pump with overhead tank.

9. Both mechanical & manual type operation shall also to be provided.

H. FIRE FIGHTING WATER:

1. Underground water reservoir having water capacity at 100000 ltrs and overhead reservoir of 20,000Lts Capacity exclusively for Fire fighting purpose with replenishing arrangements @ 1000lts./min. Preferably from two different sources of water supply shall be provided. The fire water Reservoir shall have overflow arrangement with the domestic Water Reservoir as well as to avoid stagnancy of water. The water reservoir shall be kept full at all time.
2. Underground water reservoir should be provided with suitable numbers of manholes to offer facility to Fire engine to insert the Suction Hose to draw water.
3. The static storage water supply required for the above mentioned purpose should entirely be accessible to the fire tenders. The covering slab shall be able to withstand the vehicular load of 45 tones in case of high rise A draw off connection shall be provided.

I. HYDRANT SYSTEM:

1. The building shall be provided with Wet Riser of 150mm internal diameter pipe line with provision of landing valves at the Staircase landings/half landings at the rate of one such riser for 1000 Sq m of floor area. The system shall be so designed a that shall be kept charged with Water all the time under pressure and capable to discharge 2850 lts /min at the ground floor level outlet and minimum 900 lts/min at the top most outlet. in both case the running pressure shall not be less than 3.5kgs/ sq.cm . All other requirements shall conform I.S. 3844-1989.
2. Provision for Hose reel in conjunction with Wet Riser shall be made at each floor level. Conforming the relevant I.S. Specifications.
3. Provision of standard Hose Reel Hose supplied from the overhead reservoir through Booster Pump shall have to be made in all the floor of the building satisfy the code I.S. 3844-1989.
4. Yard Hydrant /Ring Main Hydrant with provision of adequate numbers Hydrant shall be installed surrounding the building in accordance with relevant I.S. specification.

J. SPRINKLER INSTALLATION:

The automatic Sprinkler installation shall be provided in Basement and in all floor areas of the building including Commercial cum multiplex M.L.C.P. building(if any) as per I.S. 9972. Alarm gang to be incorporated along with the sprinkler system.

K. FIRE PUMP:

Provision of the Fire Pump shall have to be made near each U.G.W.R to supply water at the rate-designed pressure and discharge into the water based system, which shall be installed in the building. One such pump shall always be kept on Stand-by preferably be of diesel driven type. A separate Fire Pump shall be made for the total Sprinkler Installation of the building. Provision of Jockey

Pump shall also have to be made to keep the water based system under pressurized condition at all the time. All the pumps shall be incorporated with both manual and auto starting facilities. The suction of pumps shall preferably of positive type or in case of negative section the system shall be Wet Riser-cum-Down comer with suitable terrace pump with overhead tank.

L. ELECTRICAL INSTALLATION & DISTRIBUTION.

1. The electrical installation including transformers, 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 ducts shall be supply sealed at alternative floor level.
3. The electrical installation shall be adequate protected with CO₂/D.C.P. or Medium Velocity / Projector System
4. Alternative Power Supply:
Arrangements 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 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 power failure.

M. INTELLIGENCE ANALOGUE SYSTEM:

1. Auto Fire Alarm System with analogue addressable smoke / Heat detector as per suitability shall be installed in each floor.
2. Addressable analogue manual call boxes incorporating with sounders shall be installed in all floors area of the building in such a manner that maximum travel distance shall not be more than 22.5 Mtrs. in order to reach any of the call point.
3. Micro Processor based fire alarm panel shall be installed and all shall also be connected with main panel at the Fire Control Room Of the premises having direct dialing facility to the local fire service unit.
4. Both way public address system shall be made available in all floors of the building. The system shall connected to the Main Control Room.
5. All the installation shall also be satisfy the I.S. specifications 2189 (as amended) and the code of practice as laid down in the N.B.C. Part-IV.

N. 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 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 combustibile materials.
5. Air- conditioning system should be installed and maintained so as to minimise the danger of spread of fire, smoke or fumes thereby from one floor of fire area to another or from outside into any occupied building or structure.
6. Air -Conditioning systems circulating air to more than one floor area should be provided with dampers designed to close automatically in case of fire and thereby prevent spread of fire or smoke. Such a system should also be provided with automatic controls to stop fans in case of fire, unless arranged to remove smoke from a fire, in which case these should be designed to remain in operation.
7. Air- conditioning system serving large places of assembly (over one thousand persons), large departmental stores, or hostels with over 100 rooms in a single block should be provided with effective means for preventing circulation of smoke through the system in the case of fire in air filters or from other sources

8. drawn into the system even though there is insufficient heat to actuate heat smoke sensitive devices controlling fans or dampers. Such means shall consist of approved effective smoke sensitive controls.
9. Escape routes like staircase, common corridors, lift lobbies; etc should not be used as return air passage.
10. Wherever the ducts pass through fire walls or floor, the opening around the ducts should be sealed with fire resisting material of same rating as of walls / floors.
11. Metallic ducts should be used even for the return air instead of space above the false ceiling.
12. The material used for insulating the duct system (inside or outside) should be of flame resistant (IS 4355: 1977) and non- conductor of heat.
13. Area more than 750 sq m. on individual floor should be segregated by a firewall and automatic fire dampers for isolation should be provided.
14. In case of more than one floor, arrangement by way of automatic fire dampers for isolating the ducting at every floor from the floor should be made. & fire dampers working on fusible link for isolations all ducting at every floor from the main riser shall be smoke extraction through various floor levels incorporating a common duct and a common centrifugal fan shall be achieved with the provision of branch connection from individual level incorporating motorized fire damper at all floor and separate smoke extraction fan with motorized damper has to be provided for basement also. Motorized Fire Dampers will be activated through fire alarm. Centrifugal fan shall also be activated through fire alarm to be located in basement. Fan shall be high temp.resistant and to be connected emergency power supply.
15. When the automatic Fire Alarm Operates the respective A.H.U. shall automatically switched off.
16. where plenums used for return air passage, ceiling and its features and air filters of the air handling units, these should be flame resistant. Inspection panels should be provided in the main trenching. No combustible material should be fixed nearer than 15 cm. to any duct unless such ducting is properly enclosed and protected with flame resistant material

O. FIRE DAMPERS

These shall be located in air ducts and return air ducts/passages at the following points:

- i) At the fire separation wall.
 - ii) Where ducts/passages enter the central vertical shaft.
 - iii) Where the ducts pass through floors.
 - iv) At the inlet of supply air duct and the return air duct of each compartment on every floor.
2. The dampers shall operate automatically and shall simultaneously switch off the air- handling fans. Manual operation facilities shall also be provided.
 3. Automatic fire dampers shall be so arranged so as to close by gravity in the direction of air movement and to remain tightly closed on operation of a fusible link.

P. FIRST AID FIRE FIGHTING SYSTEM

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

Q. GENERAL RECOMMENDATION:

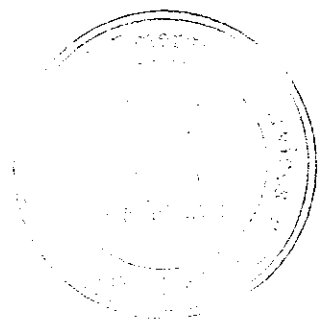
1. Fire License shall have to be obtained for proposed storing and processing with L.P.G. and other highly combustible articles.
2. Fire Notice for Fire Fighting and evacuation from the building shall be prepared and be displayed at all vulnerable places of the building.
3. Floor numbers and directional sign of escape route shall be displayed prominently.
4. 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.
5. Arrangement shall be made for regular checking, testing and maintenance of all the Fire Safety installation and equipments installed in the building to keep them in perfectly good working conditions at all times.

6. A crew of trained Fireman under the experienced Officer shall be maintained round the clock for safety of the building.

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

On compliance of all 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. Final N.O.C. 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.



A handwritten signature in black ink, appearing to be 'R. K. Das', written over the printed name of the Director.

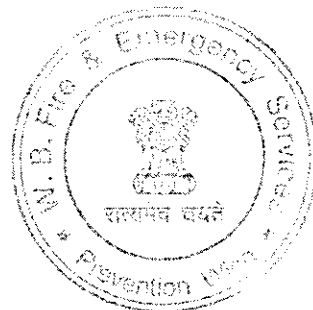
Director ,Fire Prevention.
West Bengal Fire & Emergency Services

GOVERNMENT OF WEST BENGAL
OFFICE OF THE DIRECTOR GENERAL
WEST BENGAL FIRE & EMERGENCY SERVICES
13-D, Mirza Galib Street, Kolkata – 700 016.

Memo. No. : WBFES/3724/16 /Kol-RB/175/13 (175/13) Date : 07/06/16

From : The Director in Charge,
Fire Prevention Wing,
West Bengal Fire & Emergency Services.

To : Shri Harsh Sanon,
M/s Sanon Sen & Associates Pvt. Ltd.,
5, Russel Street,
Kolkata-700 073.



Sub : Fire Safety Recommendation for Addition 2nos floor over existing B+G+XXI storied Residential Building at premises No.- 104/D/2, Matheshwartala Road, Ward No-66, Borough-VII of K.M.C. P.S.-Tiljala, Kolkata-700 046.

This is in reference to your letter No. Nil dated 02.03.2016 regarding Fire Safety Recommendation for Addition 2nos floor over existing B+G+XXI storied Residential Building at premises No.- 104/D/2, Matheshwartala Road, Ward No-66, Borough-VII of K.M.C. P.S.-Tiljala, Kolkata-700 046.

The revised plan submitted by you was scrutinized and marked as found necessary from fire safety point of view. In returning one set of plan, this office has approved **Revised Plan Drawing** in favour of the aforesaid building subject to the compliance of the fire safety measure as recommendation issued earlier vide this office memo no.- WBFES/123/13/Kol-RB/175/13 (175/13) dt.-01/04/13 remain same & strictly to be followed.

- Mechanical car parking to be removed at below the refuge area for clear placing of high rise ladder as marked in the plan drawing.

Enclo. :

1. One set of plan.


06-6-16

Director in Charge
Fire Prevention Wing
WEST BENGAL FIRE & EMERGENCY SERVICES