



Government Of West Bengal
Office Of The Deputy Director
West Bengal Fire & Emergency Services
Station Feeder Road, P.O & P.S Siliguri,
District: Darjeeling, Pin - 734005

Memo no.:FSR/0125186210500047

Date: 02-03-2021

From:
Deputy Director
North Zone, HQ Wing,
West Bengal Fire & Emergency Services

To: 1. MSN BUILDERS REPRESENTED BY ONE OF IT,S PARTNER SRI MRINAL AGARWAL 2. SRI ASHOK KUMAR KANORIA 3. SRI CHETAN KANORIA AND OTHERS PRANAMI MANDIR ROAD , SILIGURI

Sub: Fire Safety Recommendation of submitted for Proposed construction of B+G+5 storied residential Building in the name and style 1) Shri Mrinal Agarwal 2) Ashoke kumar Kanoria 3) Naresh Agarwal & others at the Premises no- Plot no- RS9622,9620,JL no 110(88) ,KH no – RS 5264/1,870,Ward No-13 , Mouza – Siliguri, Pargana-Baikunthapur , PS- Siliguri, Dist.-Darjeeling,Pin-734001.

This is in reference to your application no. 0125186210500047 dated 17-02-2021 regarding the Fire Safety Recommendation of submitted for Proposed construction of B+G+5 storied residential Building in the name and style 1) Shri Mrinal Agarwal 2) Ashoke kumar Kanoria 3) Naresh Agarwal & others at the Premises no- Plot no- RS9622,9620,JL no 110(88) ,KH no – RS 5264/1,870,Ward No-13 , Mouza – Siliguri, Pargana-Baikunthapur , PS- Siliguri, Dist.-Darjeeling,Pin-734001.

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 whole construction of the proposed building shall be carried out as per approved plan drawing conforming relevant building rules of local Municipal body.
- 2.The interior finish decoration of the building shall be made low flame spread materials conforming I.S. specification.
- 3.Provision of ventilation at the crown of the central core-duct of the building shall be provided.
- 4.Arrangement shall have to be made for sealing all the vertical ducts by the materials of adequate fire resisting capacity.

Ventilation:-

- i) Sufficient ventilation will be provided at every place of the building. It should be designed as auto opening system in case of emergency.
- ii) Provision of ventilation at the crown of the central core-duct of the building shall be provided.
- iii) Mechanical extractor for smoke venting system shall also be provided. The design operating mechanism of the system shall be such that the system shall operate on actuation of heat / smoke sensitive detector and sprinklers. It shall also have an arrangement to start it automatically or manually. It shall have an interlocking arrangement, so that the extractors shall continue to operate and supply fans shall stop automatically with the actuation of fire detectors. This ventilation system designed 30 air changes per hour than that of the scheduled air changes for normal operation shall be ensured in the system in case of fire or distress call. Mechanical extractors shall have an alternative source of power supply.
- iv) Smoke venting facilities for safe use of escape routes shall be automatic in action with manual control in addition in the windowless (sealed box type) buildings.

OPEN SPACE & APPROACH

1. The open space surrounding the buildings shall conform the relevant building rules as well as permit the accessibility and manoeuvrability of fire appliances with turning facility having minimum 6.5 M width in each side.
2. The approach roads shall be sufficiently strong to withstand load of fire engine weighing up to 45 M.T.
3. The width and height of the access gates into the premises shall not be less than 5M and 5M respectively abutting the road.

Means of escape:-

- i) All the staircases should be from the terrace to the ground floor of the building and shall be negotiable to each other entering into any floor and in no way the travel distance from the dead end of a corridor of the building shall not exceeds the limit of 6.000 meters. Time of evacuation should be as per 18 1644:1988 (i.e. 1 minute).
- ii) The staircases of the building will be enclosed type & construction to be made of bricked or RCC type and the head of stairs shall be ventilated to prevent mushrooming.
- iii) The staircases of the building shall have permanent vent at the top and open able sashes at each floor level in the external wall of the building and the treads, flights and risers of the staircases shall be made as per W. B. Municipal (Building) Rules, 2007. Corridors of the building and the exit doors should be conform the relevant building rules.
- iv) There should be a separate entrance and escape routes from the every floor of the building. Horizontal exits should be given priority. All the staircases shall be extended up to terrace of the building and shall be negotiable to each floor.
- v) In buildings or sections occupied by the bed ridden patients, where the floor area exceeds 280 sq. meters, facilities should be provided to move patients in hospital beds to the other side of a smoke barrier from any part of such building or section not directly served by approved horizontal exits or exits from the first floor of building to the outside
- vi) The staircases, corridors & all the means of escape should be free from any obstruction.
- vii) Ramps shall be counted as one of the Means of escape and It should be protected with automatic sprinkler system. Ramps shall comply with all the applicable requirements for stairways regarding enclosure and limiting dimensions. The slope of a ramp shall not exceed 1 in 10. In certain cases steeper slopes may be permitted but in no case greater than 1 in 8 as laid down in the NBC.
- viii) Fire and smoke doors at the entrances of all the staircase enclosure as 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 glass window fitted with self-closing type openable in the direction of escape.

In case of Air Condition (IS 659:1991):-

It shall conform to the following:-

- i) Escape routes like staircases, common corridors, lift lobbies etc. shall not be used as return air passages.
- ii) Regular checkup of all split type window machine to prevent dust, foreign materials in the air inlet should maintained to prevent spontaneous combustion.
- iii) In case of central A.C. system, the same shall be incorporated with automatic dampers with fusible link with a View to shut down the system automatically in case of any fire in AC system.
- iv) Regular checking, testing, cleaning the Air inlet is must.
- v) Arrangements shall be made for isolation at the strategic locations by incorporating auto dampers in the Air Conditioning system.

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 hours.
- 2)The staircase of the building shall have permanent vents at the top and open able sashes at each floor level in the external wall of the building.
- 3)The width of the staircase shall be made as marked in the plan. Corridors and the exit doors shall conforming the relevant building rules which up to date amendment.
- 4)All the staircases shall be extended up to terrace of the building and shall be negotiable to each other without entering into any room.
- 5)Staircase and corridor lighting shall also be connected to alternative supply. The alternative source of supply may be provided by battery, continuously trickle charged from the electric mains.
- 6)Fire and smoke doors at the entrances of all the staircase enclosure as marked in the plan at each floor level shall be provided. The F.C.D. shall be of at least two hours fire resisting wire glass window fitted with self-closing type open able in the direction of escape.

LIFT

- 1)Walls of all lift enclosures shall have a fire rating of two hours; lifts shafts have a vent area not less than 0.2 M²
- 2)Lift Motor Room shall be located preferably on top of the shaft and separated from the shaft by the floor of the room.
- 3)Landing doors in all lift enclosures shall have a fire resistant of not less than 1 hour.
- 4)All Lift Car door shall have a fire resistance rating of half an hour.
- 5)Exit from the lift lobby, if located in the core of the building, shall be through a self closing smoke stop door of half an hour fire resistance.

- 6) Grounding Switch(es), at ground floor level shall be provided on all the lifts to enable the fire service to ground the lifts..
- 7) Collapsible gates shall not be permitted for lifts and shall have solid lift doors with fire resistance of at least 1h.
- 8) The number of lifts in one row for a lift bank shall not exceed 4 and the total number of lifts in the bank (of two rows) shall not exceed 8. A wall of 2h Fire rating shall separate individual shafts in a bank.
- 9) 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 locations of the stairways.
- 10) In case of failure of normal electric supply, it shall automatically trip over to alternate supply. This changeover of supply could be done through manually operated changeover switch. Alternatively, the lift shall be so wired that in case of power failure, it comes down at the ground level and comes to stand still with door open.

BASEMENT

1. The basement shall be adequately ventilated.
2. The additional staircase from the open air as shown in the drawing shall be constructed besides the ramp conforming relevant I.S. specification.
3. The basement shall be protected with Auto sprinkler system.
4. 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.
5. Mechanical extractors shall have an alternative source of supply.
6. Mechanical extractors shall have to be designed to permit 30 air changes/hour in case of fire and shall be incorporated with an alternate source of power supply, for normal operation air changes shall be 12-15 air changes per hour.

.FIRE FIGHTING WATER

The Centre shall have to be equipped with 100,000 lts. of underground stored water with replenishing arrangement @ 1000 lts./min preferably from two different sources of water supply.

Wet Riser System IS:3844

100mm dia riser with single out let landing valve shall have to be provided.

AUTOMATIC SPRINKLER SYSTEM

The automatic sprinkler system shall have to be installed in accordance with ordinary hazard group I. Sprinkler system will be serving the basement.

Electrical Installation- shall be as per code of practice 1946: 1978, (NBC-Gr-iv) & Indian Electricity rules-1956 with up to date amendment. No electrical switch gear/ distribution should be installed below the staircase.

Pumps for fire fighting Installation (IS 12469:1988):-

i) The standard code of practice recommended that all water based fixed fire fighting installations should be fed by two separate automatic pumps, one of which should act as stand by. Each pump should be designed to deliver water at required pressure and discharge, taking into account the height and volume of the building.

ii) The Fire pumps should be provided near the underground static water storage tank with minimum pressure of 3.5 kg. / sq. cm. at terrace level or farthest point.

iii) One electric and one diesel engine pump of capacity 2280 LPM and One electric pump of capacity 180 LPM & a Sprinkler pump of capacity 2280 LPM should be install.

iv) The pumps should be installed and arranged in such manner so that it will start automatically due to fall in pressure as prefixed in the installation by installing a Jockey pump. Provision of Jockey pump shall also be made to keep the water-based system under pressurized condition at all times.

v) All the pumps shall be so designed as to supply water at the designed pressure and discharge into the water-based system which shall be installed in the buildings.

vi) An independent identical pump for the purpose of sprinkler installation shall be made available. All such arrangement shall be done as per above code of practice.

DETECTION ALARM SYSTEM

a) Manually operated alarm system to be installed in all floor area. IS 15908 :2011 & IS2189:2008

Yard Hydrants

Yard Hydrant IS 13039:2014 shall have to be installed.

ALTERNATE POWER SUPPLY

Arrangement shall have to be made to supply of power with the help of generator to operate at least fire pump, illumination of staircase, corridors etc. and other places of assembly area in case of normal power failure.

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 RECOMMENDATION

1.Fire notice for fire fighting and evacuation from the building shall be prepared and be displayed at all vulnerable place of the building as per clause 4.11 Annex D of N.B. Code.

2.Floor number and direction sign of escape shall be displayed prominently as per clause 4.11 Annex D of N.B. Code.

3.The employees and security staff shall be conversant with installed fire fighting equipments of the building on to operate in the event of fire and testing as per clause 4.11 Annex D of N.B. Code.

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

6.Considering the gravity of growing hazard in the township, a crew of trained firemen under one experienced officer shall be maintained round the clock along with water tender (type-B) conforming I.S. 948 : 1983.

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