

16 GENERAL BUILDING REQUIREMENTS

16.1 ELEVATORS (LIFTS)

A lift shall be provided in all buildings as prescribed hereunder.

- (i) In case of Building having height more than 13.0 Mts. lift shall be provided.
- (ii) Lift shall be provided at the rate of one lift for 20 tenements of all the floors. or part thereof for residential buildings and at the rate of one lift per 1000.00 sq.mts. or part thereof of built-up area for non-residential buildings.

The tenement and built-up area on ground floor and two upper floors shall be excluded in computing the above requirement.

Lift shall be provided from ground floor and shall have minimum capacity of six persons. On the basis of detailed calculations based on the relevant provisions of National Building Code. the number of lifts can be varied.

- (iii) Notwithstanding anything contained in the Development Control Regulations in case of building with 21 meters or more in height. at least two lifts shall be provided.

16.2 FIRE PROTECTIONS :

In case of high rise buildings. the following provision shall be made for safety of buildings from fire :-

- (i) In addition to the requirement under Regulation No. 17.1 at least one lift designed as fire-lift as defined in the National Building Code shall be installed.
- (ii) At least one stair-case shall be provided as a fire staircase as defined in the National Building Code. Provided that this shall not be applicable if any two sides of a staircase are kept totally open to external open air space.
- (iii) Water Supply: Underground tank of the capacity of one lakh liters and two lakh liters for the buildings situated within the municipal limit and outside of the municipal limit respectively be invariably provided in all the high rise buildings. Water in the normal use tank should come only through the overflow of fire tank so provided.
- (iv) In high rise buildings. the internal fire hydrants shall be installed as provided in the National Building Code or as prescribed in the Indian Standard Code of practice for installation of internal fire hydrants in high rise buildings. The detailed plan showing the arrangement of pipe lines. booster pumps and water-tanks at various levels shall be submitted for approval of the concerned authority along with the plans and sections of the buildings.
- (v) In case of high rise buildings. an external fire hydrant shall be provided within the confines of the site of the building and shall be connected with Municipal Water mains not less than 4" in diameter. In addition. fire hydrant shall be connected with Booster Pump from the static supply maintained on site.
- (vi) In case of high rise buildings separate electric circuits for lift installation. lighting of passages. corridors and stairs and for internal fire hydrant system shall be provided.
- (vii) All the requirements under the above regulations shall be clearly indicated on plans duly signed by the owner and the person who has prepared the plans. The Competent Authority may direct the owner to submit such further drawings as may be necessary. to clarify the implementation of the provisions of the above regulations.
- (viii) Every building having a height of more than 25 Mts. shall be provided with diesel generators which can be utilized in case of failure of the electricity.

- (ix) The standard of National Building Code must be adopted fully in providing stair-case and alarm system.
- (x) There should be Provision of dry-powder. fire extinguisher to the extent of two on each floor with a capacity of 5 kgs. in all the high rise buildings.

16.3 SAFETY OF BUILDINGS :

- (1) All external walls shall be as per the provisions of National Building code and I.S. Specifications.
- (2) The thickness of the load bearing walls in the case of masonry walled building shall be as under.

Building with	Thickness of wall			
	Ou G. F.	Ou F. F.	Ou S. F.	Ou T. F.
(i) Ground + One floor	23 cm	23 cm		
(ii) Ground + Two floor	23 cm	23 cm	23 cm	
(iii) Ground + Three floor	35 cm	23 cm	23 cm	23 cm

In case of cellars the external walls shall be of R.C.C. only and it shall have minimum thickness of 23 cms. or 45 cms. brickwork in case of brickwork.

- (3) Subject to any of the above regulations every person who undertakes construction of a building and/or who designs the structural member of the building shall comply with the provisions of National Building Code prevailing at the relevant time or the provisions of the Indian Standard Specifications published from time to time.
- (4) Every person who undertakes the construction work on a building or directs or supervises such works shall be responsible and shall ensure use of sound and good quality building materials. properly put together for optimum safety He shall be liable for all consequences arising out of breach of this regulations.

16.4 PLINTH

- (a) Habitable rooms shall have minimum plinth height of 0.45mt. from ground level.
- (b) Parking garage may have no plinth.
- (c) Provided that the ground floor of a building may be permitted on stilts/pillars instead of a solid plinth with a clear height of 2.4 Mts. in case of slabs with beams height should not exceed 2.8 Mts. and further that this space shall at all times be kept free from any enclosure except for genuine stair-case.

Provided further that a electric meter room. room for telephone D.B.: bath-room. water-room. stair-case room. pump room. wate closet. servant room. security cabin may be permitted subject to maximum built-up area of 15smt. allowed a minimum plinth 30cms and this area shall not be considered towards computation of F.S.I.

16.5 CELLAR :

In a building unit. the cellar may be permitted on the following conditions:

- (i) Area and extent: The total area of any cellar (basement) shall not exceed twice the plinth area of the building. or the area of the plot whichever is less. It may be in on level or two. No cellar be permitted in the required minimum marginal space.

- (ii) Height of the cellar shall not be less than 2.8 Mts. clear from top of the flooring to the bottom of the lowest structural member. The maximum depth of basement shall be 2.5 mts. below ground level. The maximum height of the single cellar shall not be more than 3 mts.
- (iii) Clear width of the stair leading to the cellar shall not be less than the width of the regular staircase leading to upper floors.
- (iv) No stairs to be constructed under these regulations shall consist of any wooden material.
- (v) Adequate opening for ventilation should be provided as directed by Competent Authority. The materials of the construction and fixtures of the cellar should be of fire resisting nature and in no case wood shall be used as structural part of the cellar or any fixtures thereof. The extent of ventilation shall be the same as required by the particular occupancy for which the basement is used. Any deficiency must be made good by resort to a mechanical system. viz. blowers, exhaust fans, air conditioning system, according to the standards in Part VIII Building Services, Section-1 Lighting and Ventilation, National Building Code.
- (vi) No water connection or drainage connection shall be permitted in the cellar.
- (vii) In no case cellar shall be permitted to be connected with normal drainage line.
- (viii) Uses permitted :- parking, safe deposit vault, A.C. Plant and store for individual residential building.
- (ix) In genuine requirement of parking, the competent authority may permit the second cellar if the parking space available at ground level and in first cellar is not sufficient, for the reasons stated in writing provided that the total depth of two cellars if provided shall not exceed 4.20 mtr. below ground level.

16.6 HEIGHT OF FLOORS :

Minimum height of floors in building at any point shall be 2.8 Mts. for residential and commercial uses and 3 meters or as per Factory Act or other relevant Act in case ground floor and upper-floors in a building used for office for ancillary uses of factories, workshops, godowns and other industrial purposes.

Provided that in case of folded roof the minimum height of 3.0 Mts. shall be measured from the lowest point of the fold.

Provided that in case of gabled or slopping roof the minimum height below the lowest part of roof, shall not be less than 2.2 Mts. and an average height of the rooms shall not be less than the minimum prescribed here above.

Provided further that in case of trussed-roof, the minimum height shall be measured from the pavement to bottom of the tie beam.

Provided that for verandah, Bathroom, W.C. passages, puja room, stor room, stair cabin, minimum height of 2.00 mts.

16.7 LOFT :

The loft at a minimum height of 2 mts. from floor level not exceeding 30% floor area of the room may be allowed in any room.

16.8 STAIRS, LIFTS, LOBBIES AND CORRIDOR :

The width of lobbies or corridors in building shall be as under:

(a)(i) In case of residential and non-residential building except individual detached building minimum clear width of corridor shall be as under :

Length of Corridor (in Mts.)	Width of Corridor	
	Residential	Non-Residential
Upto 6	1.0	1.2
Upto 9	1.2	1.5
Upto 15	1.2	2.0
Above 15	1.5	2.5

NOTE :-

- (i) For every additional 3.00 mts. length or part there of the width of corridor shall be increased by 0.15 mts. upto a maximum of 3.00 mts.
- (ii) In case of starred hotels. the width of the corridor shall be as per the authorized standards of the starred hotels.
- (b) whereas in case of residential dwelling unit occupied by single family and constructed upto three floors width of the stairs shall not be less than 1.0 mtr.
- (c) In case of all non-residential and high rise residential buildings. the clear width of stair and landing exclusive of parapet shall not be less than 1.5 Mts.
- (d) Minimum stair width for more than 6 tenements on each floor shall be 1.5 Mts.
- (e) The stair-case & lifts (elevators) shall be so located that it shall be within accessible distance of not more than 25 Mts. from any entrance of tenement or an office provided on each floor.
- (f) The design of the lift & stair along with the tread and riser shall comply with the provisions of the National Building Code for that class of building.
- (g) No winders shall be allowed except in case of individual dwelling unit.

16.9 SANITARY ACCOMMODATION :

All the buildings when erected or re-erected from foundation or when additions to the floors are made shall be provided with minimum sanitary accommodation.

- (a) In the case of use of building as office and public building except cinemas. theatres. meetings and lecture halls. minimum sanitary facilities should be provided as under.
 - (i) Every office building or public building shall be provided with at least one water closet.
 - (ii) Water closets shall be provided for each sex and the number of such water closets for each sex shall in every case be based upon the maximum number likely to occupy such building at any one time.
 - (iii) One urinal shall be provided for every 25 males or part thereof and one water closet for every 25 females or part thereof upto 100 persons. For any number exceeding

100. one urinal for every 50 persons shall be provided.

(iv) There shall be provided one water-closet for every 50 persons of each sex or part

thereof upto 500 persons and for excess over 500. One water closet for every 100 persons of each sex of part thereof shall be provided. However, if the total number of employees in such a building or the number of persons likely to use such building does not exceed 20, one water-closet each for both sexes shall be sufficient and no urinal may be provided.

- (v) The building shall be deemed to be occupied by persons or employees at the rate of one per every 5 square metres of the floor area and sanitary facilities shall be provided according to the number of employees or occupants so worked out.
- (vi) Such Water Closets and urinals shall be in accessible location and shall be provided with signs plainly indicating their purposes sex for which they are meant.

(b) Industrial Buildings and Warehouses :

All industrial buildings shall be provided with minimum sanitary facilities as under.

- (i) Every such building shall be provided with at least one water closet and one privy.
- (ii) Water Closets and privies shall be provided for each sex and number of such closets or privies for each sex shall in every case be based upon the maximum number of persons of that sex employed in such building.
- (iii) Water closets and privy accommodation shall be provided in every W.C. on the following scale.

Where females are employed there shall be at least one closet or one privy for every 25 females. Where males are employed, there shall be at least one water closet or one privy for every 25 males.

Provided that where the number of males employed exceeds 100, it shall be sufficient if there is one water closet or one privy for every 25 males up to the first 100, and one water closet or one privy for every 50 thereafter.

In calculating the number of water closets or privies required under these regulations any number of workers less than 25 or 50 as the case may be shall be reckoned as 25 or 50 and the number of workers to be considered shall be the maximum number employed at any one time during the day.

- (iv) In every such factory there shall be provided one urinal for every 100 persons of each sex or any less number thereof.
- (v) In every such factory there shall be provided one washing place of 3.6 square metres in area with sufficient number of taps as per standards laid down by rules in respect of factories.
- (vi) In every building of the warehouse class there shall be provided one water closet for every 50 males or any less number thereof and one water closet for every 50 females or any less number thereof and one water closet for every 50 persons or any less number thereof. After a water closet shall be provided at the rate of one closet for every 70 persons.
- (vii) In every building of the warehouse class, there shall be provided one urinal for every 100 persons of each sex or any less number thereof.
- (viii) For the purpose of determining the number of water-closets and urinals each 30 sq.mts. of the gross floor space of such building shall be deemed to be occupied by one person.
- (ix) Such water-closets and urinals shall be accessible in location and shall be provided with signs plainly indicating their purpose and the sex for which they are meant.

(c) Educational Buildings :

Any building used for educational purpose shall be provided with minimum sanitary facilities as follows :

- (i) Subject to minimum provisions of two water-closets and five urinals. there shall be one water-closet and four urinals for every 200 students or part thereof.
- (ii) Competent Authority may enforce the distribution of the above sanitary facilities to be provided at each floor of the building.
- (iii) The building shall be deemed to be occupied by students at the rate of one student per every 1.00 sq.mt. of the floor area of all the class-rooms and sanitary facilities shall be provided according to the number of students so worked out.

(d) Residential Building or Residential Tenements :

Each residential building or residential tenement shall be provided with atleast one water-closet.

16.10 VENTILATION :

- (a) Ventilation of rooms: Every such room whether it is living room or a kitchen shall be constructed that the same have for the purpose of ventilation :

A Window or windows and /or ventilators clear of the Such frames, opening directly into an interior or exterior open air space or into an open verandah or gallery abutting on such open air spaces having an opening of not less than one tenth of the floor area of the room of an aggregate opening of doors. Window and ventilators of not less than one seventh of the floor area of the room.

Such aggregate opening in respect of sitting room or dining room of three or more room tenements may be provided either by window ventilators or doors. if such room abuts on an open verandah or gallery

- (b) Factories and buildings of the warehouse :- Every room in such building shall be lighted and ventilated by sufficient number of window, ventilators and sky lights exclusive of doors having clear opening not less than 1/7 th of the floor area abutting on open air space of width not less than 1/3rd of height of the part of the building abutting such open space.

Provided that this requirement may be relaxed if artificial lighting and ventilation are installed to the satisfaction of the Competent Authority.

- (c) Ventilation of stair - cases :- Every stair case provided under the foregoing clauses shall be light and ventilated to the satisfaction of the Authority from an open air space not less than 1 sq.m.t.
- (d) Window in stair case bay: There shall be provided a window or window of an aggregate area of atleast 1.2 sq. meters on each story in such of the wall of the stair -Case room which abuts on such 1 sq.mt. open air space to light and ventilate such staircase.
- (e) Ventiation from the top and skylight etc : Where an open well an open well for light and ventilation within the space enclosed by a stairway and its landings is proposed to be provided. the least horizontal dimensions of which are equal to two times the width of the staircase then the requirements of clause(c) and (d) may be dispensed with provided that there shall be in the roof directly over each such stair well, a ventilating skylight with provided fixed or movable louvers to the satisfaction of the compitant Authority. The glazed roof of the skylight shall not be less than 3.7 sq. Mts. in area. No lift or any other fixture shall be erected in such staircase well.

16.11 LOCATION OF OPENINGS :

Every person who undertakes construction work on a building shall so locate every opening abutting on any open space that the sill of such opening shall not be less than 90 cms. above the level of the floor from which such opening is accessible. Provided that if such opening is to be constructed flush with floor level its lower portion for a height of 90 cms. shall be protected by bars or grill or similar other devices to the satisfaction of the Competent Authority.

16.12 STAIRWAY :

Stairway shall conform to the following provisions in addition to items (i) to (vii) below. In addition, in order to satisfy fire fighting requirements any stairway identified as an exit stairway shall conform to requirement stippled in fire protection regulations provided in these regulations.

(i) **Width :-** The minimum width of a staircase other than a fire escape shall be as given in Table here under.

TABLE

Minimum width of common Stairway/Corridors for occupancies

Sr. No.	Type Of occupancy	Minimum width of staircase/ Stairway/Corridor (in meters)
(1)	(2)	(3)
1	Residential building (a) Low rise (b) Hotels and High rise	1.2 1.5
2	Educational building (a) Upto 24 m. high (b) Over 24 m. high	1.5 2.0
3	Institutional buildings (i.e. hospital) (a) Upto 10 beds (b) Over 10 beds	1.5 2.0
4	Assembly buildings	2.0
5	Mercantile. business. industrial storge. hazardous. buildings (a) Low Rise (b) High Rise	1.5 2.0

(ii) **Flight :-** No flight shall contain more than 14 risers. but in residential buildings. in narrow plots and in high density Housing a single flight staircase may be permitted.

(iii) **Risers :-** The maximum height of a riser shall be 19 cm. in a residential building and 16

cm. in any other occupancy. However, on an internal stairway within a dwelling unit a riser may be 25 cm. high.

- (iv) **Treads :-** The minimum width of the tread without nosing shall be 25 cm. for staircase of a residential building, other than fire escapes. In other occupancies the minimum width of the tread shall be 30cm. It shall have a non-slippery finish and shall be maintained in that fashion.
- (v) **Head room :-** The minimum head room in a passage under the landing of a staircase under the staircase shall be 2.1 m.
- (vi) **Floor indicator :-** The number of each floor shall be conspicuously painted in figures at least 15 cm. large on the wall facing the flight of a stairway or at such suitable place as is distinctly visible from the flights.
- (vii) **Hand Rail :-** Hand rail a minimum height of 0.9 m. from the centre of the tread shall be provided.

16.13 RAMPS :

(1) Ramps for pedestrians :

- (a) **General :-** The provisions applicable to stairway shall generally apply to ramps. A ramp in a hospital shall not be less than 2.25 Mts. wide in addition to satisfy the fire fighting requirements.
- (b) **Slope :-** A ramp shall have slope of not more than 1:10. it shall be of non- slippery material.
- (c) **Handrail :-** A handrail shall be provided on both the sides of the ramp.

(2) **Ramps for handicapped people :-** The provision of the ramp with a handrail to every public building on ground floor only as compulsory for handicapped people, as per the revised National Building Code.

(3) **Ramp for basement or storied parking :-** For parking spaces in a basement and upper at least two ramps of adequate width and slope shall be provided preferably at the opposite and such ramps may be permitted in the side and rear marginal open spaces, after leaving sufficient space for movement of firefighting equipments.

16.14 ROOFS :

(i) **Effective drainage of rain water :-** The roof of a building shall be so constructed or framed as to permit effectual drainage of the rain water therefrom by means of rain water pipes at the scale of at least one pipe of 10 cm. diameter for every 40 sq.m. of roof area. Such pipes shall be so arranged, jointed and fixed as to ensure that the rain water is carried away from the building without causing dampness in any part of the walls or foundations of the building or those of adjacent buildings.

(ii) **Manner of fixing rain water pipes :-** Rain water pipes shall be affixed to the outside of the walls of the building or in recesses or chases cut or formed in such walls or in such other manner as may be approved by the Competent Authority.

16.15 TERRACE :

Terraces shall be free from partitions of any kind and accessible by a common staircase

16.16 PARAPET :

Parapet walls and handrails provided on the edges of the roof, terrace, balcony, etc. shall

not be less than 1.15 Mts. from the finishing floor level and not more than 1.3 Mts. height above the unfinished floor level Parapet construction shall be made of material and design. such that it ensure optimum safety to the user/occupants of the building.

16.17 MOSQUITO-PROOF WATER TANK :

Water storage tank shall be maintained that perfectly mosquito-proof condition. by providing a properly fitting hinged cover and every tank more than 1.50 Mts. in height shall be provided with a permanently fixed iron ladder to enable inspection by anti-malaria staff.

16.18 REFUSE AREA/DISPOSAL OF SOLID WASTE :

Wherever a property is developed or redeveloped a space for community-Bin for disposal of Solid Waste shall be provided in the road-side front marginal open space. The owners/occupants shall be required to provide the community-Bin with air-tight cover on top at the standards prescribed as follows :

- (i) The size of community bin (container) shall be calculated at the rate of 10 liters capacity per tenement dwelling unit. for Residential use of building: provided that the maximum capacity of container shall be 80 liters. The numbers of bins shall be calculated on the basis of total no. of dwelling units/tenements.
- (ii) The size of community-Bin (container) shall be calculated at the rate of the 20 liters capacity for each 100 SMT of floor-area. in case of non-residential use of building. provided that the maximum capacity of container shall be 80 liters. The number of bins shall be calculated on the basis of total no. of dwelling units/ tenements.
- (iii) Provided that in case of Hospitals, Hotels, Restaurants like uses the disposal of Solid Waste shall be carried out as per the norms decided by the authority from time to time.

16.19 DISCHARGE OF RAIN WATER :

No roof or terrace abutting on a public street shall be constructed without providing sufficient of downtake pipes and such pipes shall be so fixed as to discharge the rain water at a level not higher than 0.6 metre above the street level.

16.20 CONSERVATION OF ARTIFACTS, STRUCTURES AND PRECINCTS OF HISTORICAL AND/OR AESTHETICAL AND/OR ARCHITECTURAL AND/OR CULTURAL VALUE (HERITAGE BUILDING AND HERITAGE PRECINCTS)

No development or redevelopment or change of use or engineering operations or additions. alterations. repairs. renovations including the painting of buildings. replacement of special features or demolition of the whole or part thereof or plastering of heritage buildings and/or heritage precincts and pols shall be allowed except with the written permission of the competent authority.

16.21 PROVISION OF LETTER BOX

In all case of building having more than two floors including ground floor a letter boxes for each.

separate unit shall be provided at ground floor level in such a way that post man can easily deliver the posts in them.