The Special Rules for the Mulit-storeyed and Public Buildings, 1974

TAMILNADU
India

The Special Rules for the Mulit-storeyed and Public Buildings, 1974

Rule THE-SPECIAL-RULES-FOR-THE-MULIT-STOREYED-AND-PUBLIC-BUI of 1974

- Published on 1 March 1975
- Commenced on 1 March 1975
- [This is the version of this document from 1 March 1975.]
- [Note: The original publication document is not available and this content could not be verified.]

The Special Rules for the Mulit-storeyed and Public Buildings, 1974Published vide Notification G.O.Ms. No. 346, Rural Development and Local Administration, dated 1st March, 1975S. R. O. No. A-III(b)/175. - In exercise of the powers conferred by section 230 and sub-section (1) of section 347 of the [Chennai] [Substituted for the word 'Madras' by the City of Madras (Alteration of Name) Act, 1996 (Tamil Nadu Act 28 of 1996).] City Municipal Corporation Act, 1919 (Tamil Nadu Act IV of 1919), the Governor of Tamil Nadu hereby makes the following rules to regulate and restrict buildings and Use of sites as multi-storeyed buildings in the City of [Chennai] [Substituted for the word 'Madras' by the City of Madras (Alteration of Name) Act, 1996 (Tamil Nadu Act 28 of 1996).], the same having been previously published as required by clause (a) of section 348 of the said Act:-

1. Short title, extent and commencement.

(1)These rules may be called the Special Rules for the Mulit-storeyed and Public Buildings, 1974.(2)They shall extend to the City of [Chennai] [Substituted for the word 'Madras' by the City of Madras (Alteration of Name) Act, 1996 (Tamil Nadu Act 28 of 1996).].(3)They shall come into force at once.

2. Definitions.

- In these rules, unless there is anything repugnant to the subject or context,-(1)"Corporation" means the [Chennai] [Substituted for the word 'Madras' by the City of Madras (Alteration of Name) Act, 1996 (Tamil Nadu Act 28 of 1996).] City Municipal Corporation;(2)"Floor Area Ratio" means

the quotient obtained by dividing the total covered area (plinth area) on all floors and 100 by the area of the plot:

Floor area ratio =| Total covered areas of all floors x 100Plot area

(3)"Height of buildings" means the height measured from the average level of the central line of the street on which the site abuts. -(a)in the case of pitched roof, up to skyward surface of the root;(4)"Multi-storeyed buildings" means and includes all buildings with more than four floors (including the ground floor) or whose height is 15 meters or more measured from the average level of the central line of the street on which the site abuts, provided that staircase rooms, lift rooms, chimneys and elevated tanks above the top most floor and architectural features shall not be included in the number of floors in calculating the height of the building;(5)"Public building" means a building used or intended to be used either ordinarily or occasionally as a church, temple, chapel, mosque or any place of public worship, choultry, college, school, library, theatre, cinema, public concert room, public hall, kalyanamandapam, public bath, hospital, nursing home, hotel, restaurant, lodging, lecture room or any other place of public assembly.Explanation 1. - The terms used in these Rules, unless otherwise expressly stated or specifically defined under this rule, will have the same meanings as defined in the [Chennai] [Substituted for the word 'Madras' by the City of Madras (Alteration of Name) Act, 1996 (Tamil Nadu Act 28 of 1996).] City Municipal Corporation Act, 1919 (Tamil Nadu Act IV of 1919).Explanation 2. - Any term not specifically defined in this Rule shall have its ordinarily accepted meaning or such meaning as the context may imply; and if any dispute arises as regards the interpretation of any term, the decision of the Corporation Commissioner shall be final.

3. Application of rules.

- Every multi-storeyed building or public building to be constructed, reconstructed, added or altered shall comply with these special rules in addition to the [Chennai] [Substituted for the word 'Madras' by the City of Madras (Alteration of Name) Act, 1996 (Tamil Nadu Act 28 of 1996).] City Corporation Building Rules, 1972.

4. Application for approval of sites and buildings.

- Every application for approval of a site and for permission to construct or reconstruct or add or alter a building made under rule 3 of the [Chennai] [Substituted for the word 'Madras' by the City of Madras (Alteration of Name) Act, 1996 (Tamil Nadu Act 28 of 1996).] City Corporation Building Rules, 1972, shall be accompanied by the following additional particulars :-(1)Site plan showing-(a)the existing and proposed buildings in relation to the boundaries of the site and adjacent streets within a distance of 100 meters;(b)the means of access from the street or streets to all the buildings existing and proposed in the site, to the parking spaces and facilities provided in the site for scavenging and fire protection;(c)the spaces to be left about the building for access, parking, circulation, air, light and amenity.(2)Building plan showing-(a)floor plans of all floors and covered area, indicating clearly the line and spacing of all framing members and sizes and arrangement of forms and the position of staircases, ramps and lift wells;(b)the general layout of the columns and load bearing walls showing the estimated loads, including moments and torques coming on the

foundation units;(c)longitudinal and cross sections of the building to show size of footings, basement and superstructure, framing members and details of buildings and room heights and. of staircases, etc.;(d)in the case of constructions using steel structures, complete design drawings showing sizes, sections and relative location of the various steel members, floor levels, column centres and off sets;(e)in the case of prefabricated buildings, drawings describing the elements of the structure or assembly including all required data of physical properties of component materials with details of joints to an enlarged scale, location of services such as installation of pipes, wiring or other accessories in site or in the prefabricated element and location of handling arrangements for lifting and handling the prefabricated elements;(f)plans and sectional details of water supply and sewage systems of the building; and(g)plans and sectional details relating to the fire safety, detection and extinguishing system.(3)Detailed specifications giving-(a)type and grade of materials to be used ;(b)detailed computations and stress diagrams to show the efficiency and correctness of the design; and(c)type and condition of soil or rock to which the foundation transfers the loads.

4A. Water Conservation.

- For effective conservation of rain water, application for permission to construct or reconstruct or alter or add to a multi-storeyed or public building, shall contain water conservation proposals as detailed below :-(a)Tile and sloped terrace building. - (1) In the tiled or sloped building, semi circular gutters of width 15 to 25 centimeters of plastic or any other material shall be provided on the down side roof slopes of the building for harvesting rain water. The gutter shall be connected at the down stream end with a down pipe of 75 to 100 millimetres diameter, depending upon roof area and size of tank to convey the harvested rainwater from gutters to a plastic or any other material storage tank or sump (through a filter unit). An inlet screen (wire mesh) to prevent entry of dry leaves and other debris into the downpipe shall be fitted. The collected rainwater from the roof shall be allowed to pass through a filter unit. The filter unit is to be filled with suitable filter material such as well-burnt broken bricks (or pebbles) up to 15 centimetres from top. The top 15 centimetres shall be filled up with coarse sand. The filter unit shall be placed either over a storage tank or at bottom of the downpipe.(2)The filtered rain water shall be collected in a collection tank or storage tank placed over the ground or underground. The shape of the tank shall be cylindrical, rectangular or square of suitable size with a capacity ranging from 1,000 to 10,000 litres or even higher depending on the roof area. The material of construction shall be brick work, stone work, cement bricks, ferro-cement, High Density Polyethylene (HOPE), plain cement concrete or reinforced cement concrete. The storage tanks or collection tanks shall be provided with pipe fixtures at appropriate places to draw the water, to clean the tank and to dispose of the excess water depending upon use or reuse either to openwell or borewell or to percolation pit.(b)Ordinary building (Ground + First Floor). - (1) Percolation pits of 30 to 45 centimetres diameter and of depth adequate, not less than one metre, to recharge the ground, shall be made. This pit shall be filled with suitable filter material such as well-burnt broken bricks (or pebbles) up to 15 centimetres from top. The top 15 centimetres shall be filled up with coarse sand. The top of this pit shall be covered with perforated reinforced concrete cement (RCC) slab or of any other material, wherever considered necessary. The number of such percolation pits shall be provided on the basis of one pit per 30 square metres of available open terrace area or plinth area. The cross distance between the pits shall be minimum 3 metres.(2)Wherever an open well or borewell is available within the building premises, the rain

water collected from the open terrace shall be collected . through pipes of 150 millimetres diameter or other suitable sizes and led to a filter pit of size 60 centimetres x 60 centimetres x 60 centimetres (with appropriate filter material) and then led into the openwell or borewell through 150 millimetres diameter or other suitable pipes, after filling up a storage tank or sump.(3)Wherever existing water storage sumps are available, the rain water so collected, after it passes through the filter, shall be allowed to flow to the sump through closed pipes. An overflow pipe shall be provided to the storage sump so that the surplus water is led into the nearby openwell or borewell or percolation pit.(4)In addition to the percolation pits of 30 centimetres diameter to be provided at 3 metre interval, a pit of 1 to 1.5 metres width and appropriate depth, so as to recharge the ground, shall be provided all along the plinth boundary depending upon the soil classification below ground. This pit shall be filled with appropriate filter material namely, broken bricks, pebbles, broken stones etc., at the bottom and the top 15 to 25 centimetres shall be filled with coarse sand. The ground or pavement surface around the building shall be sloped towards the percolation pit so that the surplus rainwater from terrace and side open spaces etc., flow over this sloped surfaces and spread into the filter bed all around. Masonery dwarf walls of 5 to 7.5 centimetres or of suitable height depending upon the site condition shall be constructed, if necessary, at the entrance and exit gales to allow the surplus rain water collected within the compound to recharge the ground within the premises itself and from draining out to the road.(5)If the sub-soil is not a permeable one (namely, clay or black cotton) appropriate recharge structures, namely, recharge shaft or borepit shall be provided below the filtration pits so as to recharge the ground.(c)Group development, industries and institutional building. - (1) For buildings foreground + First floor or Ground + 2 floors and above located within Group development, industrial or institutional premises, the specification detailed in items (a), (b) and (c) above shall apply.(2)The surplus surface runoff rain water, in the open spaces within the Group development or industrial or institutional premises shall be allowed to rim towards collection drains of suitable size and these drains shall be constructed as rain water-friendly storm water drains. All the approach and access roads to the buildings within the group development or industrial or institutional premises shall also be provided with rain water-friendly storm water drains. These rain water-friendly storm water drains shall not have paved bottom. If adequate, spaces are available in low lying areas, percolation ponds of suitable size shall be formed and these rain water-friendly storm water drain shall be led into the percolation ponds recharging the ground.(3)For other localised low lying areas, recharge pits of size of minimum 1 metre x 1 metre x 1 metre or 1 metre diameter shall be provided wherever needed, so as to prevent rain water stagnation around the building. For other places, catch-water pit structures of size 30 centimetres diameter and 30 centimetres depth or higher depth as necessary shall be provided wherever necessary. For existing paved storm water drains, catch-water pits of 30 centimetres diameter and 30 centimetres depth or higher depth, as necessary, shall be provided at the bottom of these drains at 10 to 15 metre intervals. These catch-water pits should be filled with appropriate filter material as described in item (b) above for Ordinary building (Ground + First Floor).Explanation. - For the purpose of these rules, in regard to rain water harvesting structures are concerned any other modifications, additional structures or alternative designs, furnished by the applicant shall be considered for approval, if it conforms to rain water harvesting concept to the satisfaction of the competent authority for building plan approval. Provision of water harvesting structures for refuse of used water like water emanating from kitchens and bathrooms for flushing toilets, gardening shall be considered for approval on its merits.

4B. [Provision of Rain Water Harvesting Structure. [Inserted by G. O. Ms. No.62, MAWS (MA-1) department, dated 27th August 2003.]

- Notwithstanding anything contained in these rules,-(1)in every building owned or occupied by the Government or a statutory body or a company or an institution owned or controlled by the Government, rain water harvesting structure shall be provided in the manner specified in rule 4-A on or before the 10th October, 2003.(2)(a)Subject to sub-rule (1), every owner or occupier of a building shall provide rain water harvesting structure in such building in the manner specified in rule 4-A on or before the 31st August, 2003. If the owner or occupier of the buildings fails to provide the said rain water harvesting structure by the said date, the Commissioner or any person authorised by him in this behalf may, after giving notice to the owner or occupier of the building, cause rain water harvesting structure to be provided in such building and recover the cost of such provision along with the incidental expense thereof in the same manner as property tax. This however, does not absolve the liability of the owner or occupier of the building from providing the rain water harvesting structure before the 10th October, 2003.(b)If the owner or occupier of the building fails to provide rain water harvesting structure on or before the 10th October, 2003, the water supply connection provided to such building shall be disconnected till rain water harvesting structure is provided.]

4C. Separation of bath and wash basin water and reuse.

- Notwithstanding anything contained in these rules, every multi-storeyed and public building shall be provided with separate pipelines, one for collecting waste water from bath and wash basins and the other for connecting the toilets. The waste water from the toilets alone shall be connected to the street sewer. Each building shall have a separate downward pipeline to collect waste water from bath and wash basins and the collected waste water shall be treated adequately by organic or mechanical recycling and taken to a sump for onward pumping to the exclusive overhead tank or to a separate compartment or overhead tank for exclusive use of toilet flushing throughout cisterns. The excess waste water not reused for toilet flushing, shall be suitably connected to the rain water recharge structures for ground water recharge.Explanation. - For the purposes of these rules in regard to recycling systems are concerned, any other modification or additional structures, alternative designs furnished by the applicant shall be considered for approval, if it conforms to recycling concept to the satisfaction of the competent authority for building plan approval.

5. Conformance to National Building Code of India, 1970.

(1)In so far as the determination of sufficiency of all aspects of the structural design, building services, plumbing, fire protection, construction practices and safety are concerned the specifications, standards and code of practice recommended in the National Building Code of India, 1970, shall be fully conformed to and any breach thereof shall be deemed to be a breach of the requirements under these rules.(2)In so far as sufficiency of all aspects of structural design is concerned, the specifications, standards and all other details given in Part VI of the National Building Code of India, 1970 (vide - Appendix - B of these rules) shall in particular be fully

conformed to.(3)The Commissioner shall, while according his approval or permission, follow the code of practice and standard requirements recommended by the National Building Code of India, 1970.

6. Fire safety, detection and extinguishing systems.

(1)All buildings in their design and construction shall be such as to contribute to and adhere individually and collectively the safety of life from fire, smoke, fumes and panic arising from these or similar other causes.(2)In buildings of such size, arrangement or occupancy that a fire may not itself provide adequate warning to occupants, automatic fire detecting and alarm facilities shall be provided where necessary to warn occupants of the existence of fire, so that they may escape, or to facilitate the orderly conduct of fire exist drills.(3)Fire protecting and extinguishing system shall conform to the requirements in the National Building Code of India, 1970 as shown in Appendix - C to these Rules; and(4)A no objection certificate shall be obtained from the Director of Fire Services, [Chennai] [Substituted for the word 'Madras' by the City of Madras (Alteration of Name) Act, 1996 (Tamil Nadu Act 28 of 1996).], while submitting the application for permission to construct or reconstruct or add to or alter a building, regarding compliance with the provisions of sub-rule (3).(5)The person concerned shall, after the completion of the construction, obtain a certificate from the Director of Fire Services, [Chennai] [Substituted for the word 'Madras' by the City of Madras (Alteration of Name) Act, 1996 (Tamil Nadu Act 28 of 1996).], to the effect that the fire protecting and extinguishing systems have been installed in accordance with these rules and forward the same to the Commissioner, Corporation of [Chennai] [Substituted for the word 'Madras' by the City of Madras (Alteration of Name) Act, 1996 (Tamil Nadu Act 28 of 1996).].

7. Means of access and circulation.

(1)(a)There shall be provided from the street a clear way of not less than 5 meters in width separately for entrance and for exit, as a means of access to and from the building or buildings within the site, provided that where a site does not abut on a street the means of access to the site shall not be less than 12 meters from an existing public street.(b)The access way so provided, shall be maintained free from any obstruction or overhang or projection from the building below a height of 3 meters from the level of such access way.(c)The space so set apart as means of access shall be separately distinguished from any house gully or open space for amenity requirement prescribed under these rules.(d)Every such means of access shall be made drained and lighted to the satisfaction of the Commissioner and manhole covers or other drainage, water supply or any other fittings laid in such means of access shall be flush with the finished surface level so as not to obstruct the travel over the same.(e)Any person who undertakes any construction, reconstruction, addition or alteration to any building shall not reduce the access to any building previously existing below the minimum width prescribed under these rules.(2)(a)Every building meant for human occupation shall be provided with exits sufficient to permit safe escape of occupants in case of fire or other emergency.(b)An exit may be a doorway, corridor, passage way to an internal staircase or external staircase or to a varandah or roofs or terrace having access to the street or a staircase.Explanation. - Lifts and escalators shall not be considered as exits.(c)Exits shall be arranged as to provide continuous means of egress to the exterior of a building or an exterior open space leading to a street,

without passing through any occupied unit.(d)Exits shall be so located that the travel distance on the floor shall not exceed 22 meters in the case of residential and public buildings and 30 meters in the case of commercial, industrial and other buildings. There shall be at least two exits serving every floor and at least one of them shall lead to the staircase.Explanation. - Travel distance means the distance from any point of one floor area to any exit measured along the path of egress travel except that when floor areas are sub divided into rooms used singly or number of rooms and served by corridors or passages, the travel distance to be measured from the corridor entrance of such rooms or suits to the nearest staircase or varandah having access to the street.(e)Width of any exit shall not be less than 100 cm. and shall be determined for the total number of occupants as specified in the following table. The unit of exit width for measuring the capacity of exits shall be 25 cms. A clear width of 25 cm. shall be counted as an additional half and any width less than 25 cm. shall not be counted for calculating width :-

S. No.	Type of Occupancy	No. of occupants per unit size width	
Stair case	Doors		
(1)	(2)	(3)	(4)
1	Residential	25	75
2	Mixed and other uses including buildingspermitted in special areas notified.	50	75

8. Exits for public buildings.

(1)Every place of assembly, every tier balcony and every individual room used as a place of assembly in a public building shall have exits sufficient to provide for the total capacity thereof leading directly outside the building or to the staircases and ramps both.(2)There shall be at least two separate exits as remote from each other as practicable for each room, hall or place of assembly with a capacity of 600 persons, at least three separate exits when the capacity is between 600 to 1,000 and at least four separate exits when the capacity is over 1,000 :Provided that when the capacity is less than 100 persons, and no part of the room or hall of place or assembly is 15 meters from the doorway in the line of travel, a single doorway of 100 cm. may be permitted.

9. Aisles and spacing rows of seat.

(1)Clear aisles not less than 1.2 metres in width shall he provided at right angles to the line of seating in such number and manner that no seat shall be more than 3.8 metres away from an aisle measured in the line of seating.(2)Where all the aisles do not directly meet the exit doors, cross aisles of minimum 1 metre width and at the rate of one cross aisle for every 10 rows of seats shall he provided parallel to the line of seating so as to provide direct access to the exit.(3)Rows of seats between aisles shall not have more than 14 seats and in the case of such rows opening to an aisles at one end only, the number of seats shall not be more than 7.(4)There shall be a minimum space of 85 cm. between the backs of any two rows of seats and a minimum of 35 cm, between the back of an)' seat and the front of the seat immediately behind it as measured between plumb lines.

10. Floor area ratio and maximum plot coverage.

- The maximum floor area ratio and the minimum permissible plot coverage for different occupancies shall he as in the following Table:-

	Floor area ratio	Plot coverage
(i) Residential	200	50
(ii) Mixed and other used	250	50
(iii) Special areas notified by the Council withthe approval of the Government.	275	75

Explanation. - The following services and structures shall not be included in the determination of the floor area ratio and maximum plot coverage:-(a)A basement or cellar and space under a building constructed on stilts and used as parking space, store room and air conditioning plant room used as accessory to the principal use ;(b)Electric cabin or sub-station, watchman's booth, pump house and garbage shaft; and(c)Staircase room and lift rooms above the top most storey, architectural features, chimneys and elevated tanks.

11. Open space.

(1)(a)There shall be a permanent open space forming an integral part of the site and of a minimum extent specified in this rule, between each of the boundaries of the site and the building proposed within the site.(b)The extent of the open spaces specified in the above sub-rule which shall be co-extensive with the site boundaries, shall be as follows :-

Height of building above ground level	Required open spaces
(1)	(2)
(In Metres)	(In Metres)
Up to 15	4
20	5
25	6
30	7
35	8
40	9
45	10
50	11
55	12
60	13
65	14
70	15

75 metres and above	16

(c)The space specified above shall be kept open to-the sky and free from erection of any building other than a fence or compound wall:Provided that these open yards may be used for the provisions of open access ways to the buildings, parking facilities and common amenity open spaces.(2)(a)In the special areas notified where increased floor area ratio and plot coverage are allowed under rule 10, it shall be sufficient if the requirement of open spaces specified under clause (b) of sub-rule (1) is provided along the boundary of the site abutting the road and along any one of the other side boundaries of the site and building:Provided that where the site abuts two roads, the open spaces specified shall be provided along the two site boundaries abutting these roads :Provided further that where the site does not abut on to any public street, the open spaces specified shall be provided between any two boundaries of the site and the building:Provided further that where the site does not abut on to any public street permitted under these rules shall not exceed 30 metres:Provided also that the buildings of over 30 metres height may be permitted with the special approval of the Government subject to such special conditions as may be stipulated by the Government.

12. Lift.

(1)Every multi-storeyed building erected shall be provided with at least one lift in addition to the required staircase; provided that in case of existing building without insisting on the provision of lift as long as the additional floor space does not exceed 110 square metres.(2)The Corporation Commissioner may insist on more than one lift in each case on merits with reference to height, number of families, door space, use to which the building is put to.

13. Parking and parking facilities.

(1)(a)For the use of the occupants and the persons visiting the premises for the purpose of profession, trade business, recreation or any other work, parking space and parking facilities shall be provided within the site, to the satisfaction of the Corporation Commissioner and conforming to the standards specified in Appendix A to these Rules; and(b)Necessary provision shall also be made for the circulation of vehicles gaining access to and from (7) the parking spaces and facilities and (ii) the premises, into the street.(2)The parking spaces and facilities provided under this rule shall be maintained as such to the satisfaction of the Commissioner and conforming to any by law that may be made by the Corporation from time to time in this regard.

14. Architectural control.

(1)The design and plans of the building shall be made and countersigned by a qualified civil or structural Engineer and an Architect who should possess the qualification referred to in the Architects Act, 1972 (Central Act 20 of 1972) so as to become a member of the profession of Architects under the provisions of the said Act.(2)[The design and plan shall be scrutinised and approved by a panel comprising of the following members :-(i)Chief Engineer, Corporation of [Chennai];(ii)Joint Director of Town and Country Planning, Government of Tamil Nadu;(iii)Senior Town Planner of [Chennai] [Substituted for the word 'Madras' by the City of Madras (Alteration of

Name) Act, 1996 (Tamil Nadu Act 28 of 1996).] Metropolitan Development Authority;(iv)The Chief Architect of the State Government;(v)Director of Fire Services;(vi)Deputy Commissioner of Police (Traffic);(vii)Chief Engineer (Metro Board);(viii)Chief Engineer (Distribution), Tamil Nadu Electricity Board, the Chief Engineer, Corporation of [Chennai] [Substituted for the word 'Madras' by the City of Madras (Alteration of Name) Act, 1996 (Tamil Nadu Act 28 of 1996).], shall be the Chairman and Convenor of the Panel.](3)Any suggestions or alterations recommended by the panel shall be incorporated in the plans and shall be conformed to.Explanation. - The design and plan of all buildings shall be scrutinised and approved by the panel referred to in sub-rule (2) above. Where the height of any multi-storeyed building exceeds 30 metres in height, the special sanction of Government referred to in the proviso of rule 11 shall also be obtained by the Corporation Commissioner before according approval under rule 5(3).

15. Areas for multi-storeyed buildings.

(1)Any construction, reconstructtion, alteration or addition of or to a multi-storeyed building, shall be permitted only within the area approved for the constructions of multi- storeyed buildings in a Town Planning Scheme made under the Tamil Nadu Town Planning Act, 1920 (Tamil Nadu Act VII of 1920) or in a Development Plan under the Tamil Nadu Town and Country Planning Act, 1971 (Tamil Nadu Act 35 of 1972) or in areas so declared by a special resolution by the Council with the approval of Director of Town and Country Planning for the purpose and shall not exceed the maximum number of storeyes or maximum height prescribed for the individual area.(2)The minimum extent of site for construction of multi-storeyed buildings shall not be less than 4 grounds in extent and should have the shortest side not less than 24 metres and shall either abut on a street not less than 12 metres in width, or gain access from a public street of a width not less than 12 metres through a passage of not less than 12 metres :Provided that the height of multi-storeyed buildings should be regulated with reference to the extent of the site as given hereunder-

Height of building	Minimum extent of the site
15 metres	892 Sq. metres
20 metres	1338 Sq. metres
25 metres	1784 Sq. metres
30 meters	2230 Sq. metres

Note. - For every additional height of 5 metres or part thereof beyond 30 metres, the site must have a minimum additional extent of four grounds.

16. Penalties.

- Non compliance with the provisions of these rules shall be dealt with in accordance with the provisions contained in the [Chennai] [Substituted for the word 'Madras' by the City of Madras (Alteration of Name) Act, 1996 (Tamil Nadu Act 28 of 1996).] City Municipal Corporation Act, 1919 (Tamil Nadu Act IV of 1919).

17.

The Commissioner shall cause periodical inspection of multi-storeyed buildings to ensure that the fire safety, detection and extinguishing systems are maintained properly and continue to be operative. It shall be the duty of the persons in charge of the building to provide adequate and reasonable facilities for inspection at any time on any day between sunrise and sunset.Appendix A(See rule 13)

SI. No.	Land and building use	Number of units of parking space to be provided
(1)	(2)	(3)
1	Residential Multi-family dwellings.	One unit of 17 square metres for every 250square metres of floor area.
2	Commercial : ---(a) Shops and Shoppingcentres.	One unit of 17 square metres for the first 200square metres and one additional unit for every additional 100square metres of floor area.
	(b) Offices and Firms including Public Offices.	One unit of 20 square metres for every 200square metres for the first 1,000 square metres and oneadditional unit for every 100 square metres of floor areaexceeding 100 square metres.
	(c) Restaurants Hotels and Lodges.	One Unit of 17 square metres for every 25square metres of floor area actually used as restaurant and asone unit of 17 square metres for every 25 square metres of roomarea.
	(d) Hospitals and Nursing Homes.	One Unit of 17 square metres for every 50square metres of floor area.
3	Kalyanamandapam, Public hall, community centreand the like.	One unit of 20 square metres for every 200square metres of site area.
4	Warehousing and wholesale stores and industries.	One unit of 40 square metres for every 500square metres of floor area.
5	Other uses.	As may he decided by the panel mentioned underrule 14(2) subject to a maximum of one unit of 20 squaresmetres for every 200 square metres of floor area.

Appendix B[Part VT-Section I][National Building Code of India, 1970]Design Loads and other Forces for Design of Masonry Structure[See Special Rule 5(2) of Multi-Storeyed Buildings]

1. Dead loads. - The dead load in a building shall comprise the weight of all walls, partitions floors and roofs and shall include the weights of all other permanent constructions in the building. The dead load is determined adopting the dead weight of the construction materials and given in the following Table:-

Description of construction materials	Weight in Kg./M3		
(a)	(1)	Brick in mud lime or cement mortar	1,920
(2)	Coarsed rubble in lime or cement mortar	2,240	
(3)	Laterite in lime mortar	2,000	
(4)	Concrete in lime or cement mortar	(a) 1,920 (Brick, Jally)(b) 2,240 (hard broken stone)	
(5)	Random rubber in lime or cement mortar	2,240	
(6)	Lime stone	2,400 to 2,640	
(7)	Sand stone	2,240 to 2,400	
(8)	Cuddappa slabs	2,720	
(9)	Ashlar	2,720	
(10)	Granite stone	2,640 to 2,800	
(11)	Reinforced concrete	2,400	
(12)	Cast Iron	7,030 to 7,130	
(13)	Wrought Iron	7,700	
(14)	Steel	7,850	
(15)	Teak	625	
(16)	Pine	610	
(17)	Oak	863	
(18)	Fir	430 to 469	
Description of roof materials and roofs	Weight in Kg./M3		
(b)	(1)	Corrugated iron sheet (1.25 mm)	10/56
(2)	Corrugated iron sheet (1.00 mm)	360	
(3)	Brick in mud, lime or cement mortar	1,920	
(4)	Coarsed rubble in lime or cement mortar	2,240	
(5)	Laterite in lime mortar	2,000	
(6)	Concerete in lime or cement mortar	(a) 1,920 (brick jally)(b) 2,240 (hand broken stone)	
(7)	Random rubble in lime or cement mortar	2,240	
(8)	Lime stone	2,400 to 2,640	

(9)	Sand stone	2,240 to 2,400

2. Live loads. - (a) Live loads on floors -

(i)Live loads on floors shall comprise all loads other than dead loads. The minimum live loads on different floors for different uses are specified in the following table in terms of uniformly distributed static loads.(ii)In designing the walls, columns, piers, their supports and foundations, the following reduction in assumed total live loads on floors may be made :-

Number of floors carried by member underconsideration	Per cent, reduction of total live load on allfloor above the member under consideration
1	9
2	10
3	20
4	30
5 or more	40

(iii)No reduction shall be made in the case of warehouse, garages and other buildings used for storage purposes and for factories and workshops designed for 500 Kg./M.(Live loads on floors)

Types of floors	Minimum live loads per kg/M2of floorarea	Alternative minimum live load
(1)	(2)	(3)
Floors in dwelling houses, tenements, hospitalwards, bedrooms and private sitting rooms in hostels anddormitories.	200	
Office floors other than entrance halls, floorsof light work rooms.	*250-400	
Floors of banking halls, office entrance hallsand reading rooms.	300	
Shop floors used for the display and sale ofmerchandise, floors of work rooms generally floors of class roomsin school, floors or places of assembly with fixed seating,restaurants, circulation space in machinery halls, power station,etc., where not occupied by plant of equivalent.		Subject to a minimum total load of 2.5 times thevalues in column (4) for any given slab panel and six times thevalues in column (4) for any given beam.
Floors of warehouses, workshops, factories andother buildings or parts of buildings of similar category forlight weight loads, office floors for storage and filingpurposes, floors of places of assembly without fixed seating,public rooms in	500	This total shall be assumed uniformlydistributed on the entire area of the slab, panel or the entirelength of the beam.

hotels, dance halls, waiting halls, etc.		
Floors of warehouses workshops factories andother buildings parts of buildings of similar category for mediumweight loads.	750	
Floors of warehouses, workshops, factories andother buildings or parts of buildings of similar category forheavy weight loads; floors of book stores and libraries, roofsand pavement lights over basements projecting under the publicfoot Path	1,000	
Floors of warehouses, workshops, factories andother buildings or parts of buildings of similar category forlight weight loads, office floors for storage and filingpurposes, floors of places of assembly without fixed seating,public rooms in hotels, dance halls, waiting halls, etc.	500	This total shall be assumed uniformlydistributed on the entire area of the slab, panel or the entirelength of the beam.
Floors used for garage for vehicles notexceeding 2-5 tonnes gross weight:-Slabs	400	The work combination of actual wheel loadswhichever is greater.
Beams	250	The work combination of actual wheel loads,whichever is greater.
Floors used for garages for vehicles notexceeding 4 tonnes weight	750	Subject to a minimum of one and a half tonnesmaximum wheel load but not less than 900 Kg. considered to bedistributed over 5 cm2.
Stairs landings and corridors for lass 200loading but not liable over crowding.	300	Subject to a minimum of 130 Kg. concentratedload at the unsupported end of each step for stairs constructedout of structurally independent canti lever stops.
Stairs landings and corridors for class 200loading but liable to over crowding and for all other classes	500	
Balconies not liable to over crowding:-		
For Class 200 loading. 300		
For all other classes. 506		
Balconies liable to over crowding.		
For Class 200 loading	300	
For all other classes	506	
Balconies liable to over crowding	500	

*. The lower value of 250 Kg./M2 should be taken where separate storage facilities are provided and the higher value of 400 Kg./M2 should be taken where such provisions are lacking.Explanation 1. - A reference to a "floor" includes a reference to any part of that floor, and a reference to "slabs" includes boarding and beams or ribs spaced not further apart than one metre between centres, and a reference to "beams" means all other beams and ribs.Explanation 2. - Under loading class No. 250, the reference to light work rooms envisages rooms in which some light machines (for example, sewing machines used by milliners or tailors) are operated without a central power driven unit that is, the machines are independently operated either by hand or by small motors. Under loading class No. 400, the reference to "workmen" generally envisages the installation of machines operated with a central power driven unit, with the individual machines being belt driven.Explanation 3. - "Fixed sealing" implies that the removal of the seating and the use of the space for other purposes is improbable. The maximum likely load in this case, is, therefore, closely controlled.Explanation 4. - The loading in workshops, warehouses and factories varies considerably and so three loadings under the terms "light", "medium" and 'heavy' are introduced in order to allow for more economical designs but the terms have no special meaning in themselves other than live load for which the relevant floor is designed. It is however, important particularly in the case of heavy weight loads, to assess the neutral loads to ensure that they are not in excess of 1,000 Kg/M2, in cases where they arc in excess, the design shall be based on the actual loading.Explanation 5. - The load classification for stairs, corridors, balconies and landings provide for the fact that these often serve several occupancies and are used for transporting the furniture and goods.(b)Live loads on roofs. - Allowance for live load on flat roofs, sloping roofs and curved roofs shall be as given in the following Table :-Live Load on Floors

Types of floors	Live had measured on plan	Minimum live load measured on plan
(1)	(2)	(3)
Flat slopping or curved roof with slopes up toand including 10 degrees---(a) Access Provide	150 Kg/m2	375 Kg. uniformly distributed over any span ofone metre width of the roof slab and 900 Kg uniformly distributedover the span in the case of all beams.
(b) Access not provided except for maintenance.	75 Kg/m2	190 Kg. uniformly except for distributed overany span of one metre width of the roof slab and 450 Kg.uniformly ; distributed over the span in the case of beams.
Sloping roof with slope greater than 10 degrees.	(a) For roof membrane sheets or purlines-75Kg/m2loss Kg/m2for every degree increasein slope over ten degrees.	Subject to a minimum of 40 Kg/m2
Sloping roof with slope greater than 10 degrees.	(b) For members supporting the roof membrane androof purlines, such as trusses, beams, girders, etc., 2/3 of loadin (a) (c)	Subject to a minimum of 40 Kg/m2

	Loads in (a) and (b) do not include loads due to snow,rain, dust collection, etc., and the effects of such loads shallbe appropriately considered.	
Curved roofs with slope at springing greaterthan 10 degrees.	(75-345 r3) Kg/m2where rh/1. h = the height of the highest point of the structuremeasured from its springing ; and 1 = chord width of the roof ifsingly curved and shorter of the two sides if doubly curved.	Subject to a minimum of 40 Kg/m2

Note. - For special types of roofs with highly permeable and absorbent material, the contingency of roof material increasing in weight due to absorption of moisture shall be provided for.(c)Impact and variations. - For structures carrying live loads which induce impact or vibrations, the live load shall be increased as follows:-(i)For frame supporting lifts and hoists 100 per cent.(ii)For foundations, footings and piers supporting lifts and hoisting apparatus-40 per cent.(iii)For light machinery, shaft or motor units-20 per cent, minimum,(iv)For reciprocating machinery or power units-50 per cent, minimum.

3. Wind load. - The wind load on a building shall be calculated on the basis of the basic wind pressure, given in the following Table, which is the equivalent static pressure in the direction of flow of wind :-

(a)Basic Wind pressure for the City. -

Height in meters	Pressures in Kg/m2
(1)	(2)
Up to 30	200
35	208
40	210
45	217
50	222
60	230
70	236
80	244
100	254
120	264
150	276

For intermediate heights, interpolated values may be adopted.(b)Wind pressure on roofs. - For flat and porched roots, the wind pressures and sections normal to the surface due to wind blowing at right angles to the ridge shall be determined by multiplying the basic wind pressure (p) with the factors given in the Table below:-Wind Pressure on Roofs(Wind Normal and Ridges)

Slope of roof on	External

		Wind pressure
(1)	(2)	(3)
Windward side	Wind ward slope	Lee ward slope
0°	--- 1.00 P	--- 0.50 P
10°	--- 0.70 P	--- 0.50 P
20°	--- 0.40 P	--- 0.50 P
30°	--- 0.10 P	--- 0.50 P
40°	--- 0.10 P	--- 0.50 P
50°	--- 0.30 P	--- 0.50 P
60°	--- 0.40 P	--- 0.50 P
70°	--- 0.50 P	--- 0.50 P
80°	--- 0.50 P	--- 0.50 P
90°	--- 0.50 P	--- 0.50 P

Seismic loads. - The seismic coefficients, stress increase, design live loads as stipulated in the National Building Code of India, 1970, shall be ta ken into account while designing the structures.Appendix-C

1. Types of Construction

1.0General. - The design of any building and the type of materials used in its construction are important factors in making the building resistant to a complete burnout and in preventing the rapid spread of fire, smoke or fumes, which may otherwise contribute to the loss of lives and property.The fire resistance of building or its structural elements is expressed in hours against specified test load which is expressed in kilo calories per metre square and against a certain intensity of fire. The fire resistance test for structure shall be done in accordance with the recommendation of the National Building Code, 1970. For the purpose of National Building Code, the types of construction according to fire resistance shall be classified into four categories, namely, Type 1 construction, Type 2 construction, Type 3 Construction and Type 4 Construction. The fire resistance of structural components of each type of construction shall be in accordance with the recommendation of the National Building Code, 1970.Note 1 : In Type 1 Construction, All Structural Components Shall Be 4 Hour Fire Resistance;Note 2 : In Type 2 Construction, All Structural Components Shall Be 3 Hour Fire Resistance;Note 3 : In Type 3 Construction, All Structural Components Shall Be 2 Hour Fire Resistance;Note 4 : In Type 4 Construction, All Structural Components Shall Be 1 Hour Fire Resistance;1.1The fire resistance of various materials and construction schemes shall conform to accepted standards of the National Building Code, 1970.

2. Fire Zones

2.1Demarcation. - The city shall be demarcated into distinct zones, based on fire hazard inherent in

the buildings and structures according to occupancy which shall be called the Tire Zones'2.2Number and designation of Fire Zones.2.2.1. The number of fire zones in a city depends upon the existing layout, types of building construction, classification of existing buildings based on occupancy and the expected future development of the city or area.2.2.2. The fire zones shall be designated as follows :-(a)Fire Zone No. 1.(b)Fire Zone No. 2. and(c)Fire Zone No. 3.2.2.2.1. Fire Zone No. 1. - This shall comprise of areas having residential (Group A), educational (Group B), institutional (Group C) and assembly (Group E) and retail mercantile (Group F) buildings or areas which are under development for such occupancies.2.2.2.2. Fire Zone No. 2. - This shall comprise of business (Group E) and industrial buildings (Group G sub-divisions G 1 and G 2) except high hazard industrial buildings (Sub-division G 3) or areas which are under development for such occupancies.2.2.2.3. Fire Zone No. 3. - This shall comprise of, areas having high hazard industrial buildings (A Sub-division G 3), Storage buildings (Group H) and buildings for hazardous uses (Group J) or areas which are under development for such occupancies.2.3Change in the fire zone boundaries. - When the boundaries of any fire zone are changed or when it is intended to include other areas or types of occupancies, in any fire zone, it shall be done by following the same procedure as for promulgating new times or ordinance or both.2.4Overlapping Fire Zones2.4.1. When any building is so situated that it extends to more than one fire zone, it shall be deemed to be in the fire zone in which the major portion of the building or structure is situated.2.4.2. When any building is so situated that it extends equally to more than one fire zone, it shall be deemed to be in the fire zone having more hazardous occupancy buildings.2.5Temporary Buildings2.5.1. Temporary buildings shall be permitted only in the fire zones No. 1 and No. 2, as the case may be, according to the purpose for which these are to be used, by special permit from the authority (i.e. the Commissioner, Corporation of [Chennai] [Substituted for the word 'Madras' by the City of Madras (Alteration of Name) Act, 1996 (Tamil Nadu Act 28 of 1996).]) for a limited period and subject to such conditions as may be imposed in the permit.2.5.2. Such buildings shall be completely removed on the expiry of period specified in the permit.2.6Restrictions on the type of construction for new buildings.2.6.1. Buildings erected in Fire Zone No. 1 shall conform to construction of Types 1, 2,3 or 4.2.6.2. Buildings erected in Fire Zone No. 2 shall conform to construction of Types 1, 2 or 3.2.6.3. Buildings erected in Fire Zone No. 3 shall conform to construction of Type 1 or 2.

3. General Requirements of All Individual Occupancies

3.1General. - All buildings shall satisfy certain requirements which contribute, individually and collectively, to the safety of life from fire smoke, fumes and panic arising from these or similar causes. There are however, certain general principles and common requirements which arc applicable to all or most of the occupancies. They are given in 3.1.1 to 3.1.123.1.1. Maximum height. - Every building shall be restricted in it; height above the ground Level and the number of storeys depending upon its occupancy and type of construction. The maximum permissible height for any combination of occupancy and types of construction should necessarily be related to the width of street fronting the building, or floor area ratios and the fire fighting facilities available.3.1.2. Maximum floor area. - The maximum permissible area in terms of floor area ratios for different groups of occupancies and different types of construction shall be according to Table 1 below.3.1.2.1. Each portion of a building which is separated by one or more continuous fire resisting walls, having a fire resistance of not less than 4 hours, extending from the foundation to 1 m above the roof at all

points may be considered to be a separate building for the calculation of maximum permissible height and floor areas, provided that openings, if any, in the separating wall arc also protected by fire assemblies.Floor Area Ratios for Buildings Facing one Public Street of 9 m. widthUL - Unlimited NP - Not permitted

Occupancy - Classification	Type of Construction			
(1)	(2)			
	Type 1	Type 2	Type 3	Type 4
Residential	UL	200	140	100
Educational	UL	200	140	100
Institutional	UL	150	100	80
Assembly	UL	100	70	50
Business	UL	290	230	160
Mercantile	800	180	140	100
Industrial	750	190	160	130
Storage	600	150	130	100
Hazardous	280	110	90	NP

Note 1. - This Table has been prepared, taking into account the combustible content in the different occupancies as well as the fire resistance offered by the type of construction.Note 2. - This Table should be modified by the authority concerned taking into account the other aspects as given below :-(a)Density,(b)Traffic consideration,(c)Parking spaces, and(d)Local fire fighting facilities.Note 3. - The floor area ratios specified in this Table may be increased by 20 percent for the following services :-(a)A basement or cellar and space under a building constructed on stilts and used as a parking space, store room and air conditioning plant room used as accessory to the principal use;(b)Electric cabin or sub-station, watchman's booth, pump house and garbage shaft;(c)Projections and necessary buildings as specifically exempted under the National Building Code, 1970;(d)Staircase room and lift rooms above the top most storey, architectural features, chimneys and elevated tanks of dimensions as permissible under the National Building Code, 1970.3.1.3. Open Spaces. - The open spaces around or inside a building shall conform to the prescribed requirements under the special rule for the multi-storeyed building and public building rules.3.1.4. Mixed occupancy. - When any building is used for more than one type of occupancy, it shall conform to the requirements for the most hazardous of the occupancies. If mixed occupancies are separated by a separating wall of 4 hours, fire rating the occupancies shall be treated individually.3.1.4.1. Openings in separation walls and floors. - (a) For type 1 to 3 construction, a doorway or opening in a separating wall of a floor shall be limited to 5.0 m in area with a maximum height of 2.75 m and a maximum width of 2.1 m. The wall openings shall be protected with fire resisting doors or steel rolling shutters conforming to National Building Code, 1970. All openings in the floors shall be protected by vertical enclosures extending above and below such openings, the walLs of such enclosures having a fire resistance of not less than 4 hours and all openings therein being protected with a fire resisting assembly having a fire resistance rating as specified in 3.1.5.(b)For type 4 construction, openings in the separation walls or floors shall have two hours fire resisting assemblies.3.1.5. Fire stop or enclosure of all openings. - Where openings are permitted they shall not exceed three fourths the area of the wall in

case of an external wall and they shall be protected with fire resisting assemblies or enclosures having a fire resistance equal to that of the wall or floor in which these are situated. Such assemblies and enclosures shall also be capable of preventing the spread of smoke or fumes through the openings so as to facilitate the safe evacuation of building in case of a fire.3.1.6. Fire detecting arid extinguishing system. - In buildings of such size, arrangement or occupancy that a fire may not itself provide adequate warning to occupants, automatic fire detecting and alarm facilities shall be provided where necessary to warn occupants of the existence of fire, so that they may escape or to facilitate the orderly conduct of fire exist drills.3.1.6.1. Fire protecting and extinguishing system shall conform to accepted standards and shall be installed in accordance with the recommendation of the National Building Code, 1970.3.1.6.2. Water supply for fire righting purposes. - (a) Depending upon the construction, location and occupancy, it may be necessary to have hydrant protection in some .buildings over 15 m height and this shall be decided in consultation with the authority concerned. Hydrants shall be installed in all buildings over 24 m height. In all building over 60 m in height, special pressure reducing and special pump arrangements shall be made.(b)The choice location and installation of wet or dry' hydrants as well as the risers, branch pipes, hoses, pumping system to be adopted shall be done in accordance with prescribed standards of the National Building Code, 1970.(c)Source of water for buildings. - (1) For buildings up to 60 m in height-Each wet hydrant installation shall be fed by a pump rated to deliver 2.275/1 min. The pump shall draw its water from a storage tank which shall have an effective capacity of not less than 2,00,000 litres in addition to the provisions for replenishment specified in (d) and (e) below.(2)For buildings over 60 m. in height-ln buildings over 60 m in height, arrangements shall be made to avoid undesirably high pressures in the risers and hose pipes. It shall be ensured that there is a pressure of 3 kg/cm2 at each of the top most hydrants. This may produce undesirable high pressure in some of the lower hydrants and hoses, to avoid such special pressure reducing arrangements at those landing valves shall be provided.(d)Town's Mains. - Where there is a suitable town's main, a connection shall be taken from it to the storage tank through suitable ball valves.(e)Emergency water supply to tank. - The storage tank shall be provided with a 150 nun. fire brigade pumping in connection to discharge at least 2,275/1 min into the tank. This connection shall be fitted with a fire brigade connector with four 63 mm. instantaneous inlets arranged in a wall box at a suitable position at street level. This fire brigade connection shall not be connected directly into the storage tank, but arranged to discharge not less than 150 mm above the top edge of the tank. The connection shall be fitted with stop valve in a position approved by the fire brigade. An overflow connection discharging to a visible drain point shall be provided from each storage tank. This overflow' shall be capable of disposing of the 2,275/1 min. pumped into the tank through the fire brigade inlets.3.1.7. Lighting and ventilation. - Lighting and ventilation requirements of different rooms/areas in any occupancy shall be as prescribed in the National Building Code, 1970.3.1.7.1. Air conditioning and ventilating system shall be so installed and maintained as to minimize the danger of spread of fire, smoke or fumes thereby from, one floor or fire area to another, or from outside into any occupied building or structure.3.1.7.2. Air conditioning and ventilating systems circulating air to more than one floor or fire area shall be provided with dampers designed to close automatically in case of fire and thereby prevent spread of fire or smoke. Such systems shall 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 shall be designed to remain in operation.3.1.7.3. Air conditioning systems serving large places of assembly (over 1,000 persons), large departmental stores or hotels with over 500 rooms shall be provided

with effective means for preventing circulation of smoke into the system in the case of fire in air filters or from other sources drawn into the system even though there is insufficient heat to actuate heat sensitive devices controlling fans or dampers. Such means shall consist of approved photo electric or other smoke sensitive controls or if approved by the authority concerned may be manually operated controls in case where qualified personnel responsible for operation of controls are continuously on duty while the premises are occupied.3.1.7.4. Smoke venting facilities, where required for safe use of exits in windowless buildings, underground structures, large areas factories or where required by other provisions of the National Building Code shall be automatic in action.3.1.7.5. National draft smoke venting shall utilize roof vents or vents in walls at or near the ceiling level; such vents shall be normally open or, if closed, shall be designed for automatic opening in case of fire, opening by release of heat sensitive elements, such as fusible links by the breakage of glass or mel ting of plastic under the influence of heat or by other approved means.3.1.7.6. Where smoke venting facilities are installed for purposes of exit safely in accordance with the requirements of the National Building Code, these shall be adequate to prevent dangerous accumulation of smoke during the period of time necessary to evacuate the area served, using available exit facilities with a margin of safety to allow for unforeseen contingencies, it is recommended that smoke exhaust equipment should have a capacity of approximately a five minute air change.3.1.7.7. The discharge aperture of all natural draft smoke vents shall be so arranged as to be readily susceptible to opening by fire service personnel.3.1.7.8. Power operated smoke exhausting system may be substituted for natural draft vents only by specific permission of the authority concerned.3.1.8. Installations of chimney and heating apparatus shall be as prescribed in National Building Code.3.1.9. Special hazards. - In addition to the factors covered by 3.1.1. to 3.1.8., there are certain aspects applicable to particular occupancies only, which may affect the spread of fire smoke or fumes and thus the safe evacuation of the building in case of fire. Some such aspects are :(a)interior finish and decoration;(b)seating, aisles, railings and turnstiles in places of assembly;(c)service equipment and storage facilities in buildings other than storage buildings; and(d)hazards on stage in waiting spaces, projection booths, etc., in theatres and cinemas.3.1.10. Exceptions and deviations. - In case of practical difficulty or to avoid unnecessary hardship without sacrificing reasonable safety, the authority, i.e., Commissioner, Corporation of [Chennai] [Substituted for the word 'Madras' by Tamil Nadu Act 28 of 1996.] or Government, as the case may be, exempts from the National Building Code.3.1.11. Surface finishes3.1.11.1. The use of flammable surface finishes on walls and ceilings affects the safety of the occupants of a building. Such finishes tend to spread the fire and even though the structural elements may be adequately fire resistant, serious danger to life may result. It is essential therefore to have adequate precaution to minimize spread of flame on wall and ceiling surfaces.3.1.11.2. The susceptibility to fire of various types of all surfaces is determined in terms of the rate of spread of fire. Based upon the rate of spread of fire, surfacing materials shall be considered as divided into four classes as follows :-Class 1 : Surfaces of very low flame spread. - Those surfaces on which not more than 19 cm. effective spread of flame occurs.Class 2 : Surfaces of low flame spread. - These surfaces on which the effective spread of flame neither exceeds 30 cm. during the first 19 minutes nor exceeds a final value of 60 cm.Class 3 : Surfaces of medium flame spread. - Those surfaces on which the effective spread of flame neither exceeds 30 cm. during the first 19 minutes nor exceeds 85 cm. during the first 10 minutes.Class 4 : Surfaces of rapid flame spread. - Those surfaces on which the effective spread of flame exceeds 30 cm. during the first 1-1/2 minutes or exceeds 85 cm. during the first 10 minutes.3.1.11.3. The situation in which materials

failing into various classes shall be used in house construction is given below :-

Class 1	Class 2	Class 3
(1)	(2)	(3)

May be used in any situation except on walls and ceilings of staircases and passages. Should be used only in living rooms and bedrooms (but not rooms in the roof) and only as a lining to solid walls and partitions. Not on staircase or corridors.3.1.11.4. Materials of Class 4 which include untreated wood fibre boards may be used as ceiling linings, provided the ceiling is at least 2.3 m from the upper surface of the floor below, and the wall surfaces conform with requirements of Class 1, Class 4 materials shall not be used in kitchens, passages and staircases. Some types contain bitumen and in addition to risk from spread of fire emit dense smoke on burning; such materials shall be excluded under these conditions.3.1.11.5. When frames, walls, partitions or floors are lined with combustible materials, the surfaces on both sides of the materials shall conform to the appropriate class because there is considerable danger from fire starting and rapidly spreading within the concealed cavity unknown to the occupants whose escape may be hampered thereby.3.1.12. Glazing3.1.12.1. Building of types 1 to 4 construction shall employ one of the two types of glazing described in 3.1.12.2. and 3.1.12.3. except that type 4 construction may have the alternative of hardwood sashes of frames or both.3.1.12.2. Wired glass shall comply with the following requirements:-(a)Thickness of glass. - The thickness of glass shall be not less t ban 6.5 mm.(b)Embedded wire netting. - Embedded wire netting shall be not larger than 2.5 mm. mesh.(c)Size of squares of glass. - The area shall be not exceed 2,500 cm.(d)Sashes and frames. - The sashes or frames or both shall be entirely of iron or other hard metal securely bolted or keyed into the wall except in the case of panels in internal doors.(e)Setting of glass. - The squares of glass shall be set in rebates or grooves not less than 6.5 mm. in width or depth with due allowance for expansion and shall be secured by hard metal fastenings to the sashes or frames independently of any lead, cement or putty used for weather propping purposes.3.1.12.3. Electro copper glazing shall comply with the following requirements:-(a)Thickness of glass shall be not less than 6.5 mm.(b)Size of squares of glass shall not exceed 100 cm.(c)Section lights. - The square glasses to be formed by electro copper glazing into sectional lights shall not exceed 0.37 m. in area.(d)Sashes and frames. - The sashes or frames or both shall be entirely of iron or other hard metal, securely bolted or keyed into the wall except when in panels in internal doors.(e)Fixing of sectional lights. - The sectional light shall be set in rebates or grooves not less than 6.5 mm. in width or depth with due allowances for expansion and shall be secured by hard metal fastenings to the sashes or frames independently of any lead, cement or putty used for weather proofing purposes.3.1.12.4. No wall opening exceeding 5 m. be deemed capable of efficient protection by wired glass or electro copper glazing.3.1.12.5. Hard metal casements not exceeding 0.8 m. fitted with wired glass or electro copper glazing in accordance with 3.1.12.2. and 3.1.12.3. secured to the frames by hard metal hinges not more than 60 cm. apart and by fastenings at top, centre and bottom shall be permissible.3.1.13. Skylights3.1.13.1. Wired glass for skylights or monitor lights shall comply with the following requirements:-(a)Thickness of glass shall be not less than 6.5 mm.(b)Embedded wire netting shall be not larger than 2.5 cm. mesh.(c)Frames and glazing. - The frames shall be continuous and divided by bars spaced at not more than 70 cm centres. The frame and bars shall be of iron or other hard metal, and supported on a curb either of metal or of wood covered with sheet metal. The glass shall be secured by hard metal fastenings to the frame and bars independently of any lead, cement or putty used for weather proofing purposes.3.1.13.2. No sky light opening exceeding 10 m. shall be deemed capable of efficient

protection by wired glass.3.1.14. Fire lifts. - Where applicable, fire lifts shall be provided with a minimum capacity for 6 passengers and fully automated with emergency switch of ground level. In general, buildings over 24 m. in height shall be provided with fire lifts.

4. Exit Requirements

4.1General4.1.1. Every building, meant for human occupancy shall be provided with exits sufficient to permit safe escape of occupants, in case of fire or other emergency.4.1.2. In every building, exits shall comply with the minimum requirements of this part, except those not accessible for general public use.4.1.3. All exits shall be free of obstruction.4.1.4. No building shall be altered so as to reduce the number, width or protection of exits to less than that required.4.1.5. Exits shall be clearly visible and the routes to reach the exits shall be clearly marked and sign posted to guide the population of floor concerned.4.1.6. Where necessary, adequate and reliable illumination shall be provided for exits.4.1.7. Fire fighting equipment shall be suitably located and clearly marked.4.1.8. Alarm devices shall be installed to ensure prompt evacuation of the population concerned.4.1.9. Fire resisting doors or roller shutters shall be provided at appropriate places along the escape routes to prevent spread of fire and smoke; and particularly at the entrance of lifts and stairs where a 'funnel or flue effect' may be created inducing an upward spread of fire. In case these doors or shutters have to be kept closed for security reasons, arrangements may be made to get them opened by the owners concerned in cases of emergencies.4.1.10. All exits shall provide continuous means of egress to the exterior of a building or to an exterior open space leading to a street.4.1.11. Exits shall be so arranged that they may be reached without passing through another occupied unit.4.2Types of Exit.4.2.1. An exit may be doorway, corridor, passageways to an internal staircase or external staircase, or to a verandah or terraces which have access to the street or to the roof of a building. An exit may also include a horizontal exit leading to an adjoining building at the same level.4.2.2. Lifts and escalators shall not be considered as exits.4.3Arrangement of Exit4.3.1. Exits shall be so located that the travel distance on the floor shall hot exceed that in Table 2. For floors with sprinklers, which are not part of requirements for the floor and occupancy, the travel distance in Table 2 may be increased by 50 per cent.Travel distance for occupancy and type of construction

SI. No.	Group of occupancy	Construction	
		Type 1 and 2	Type 3 and 4
(1)	(2)	(3)	(4)
(1)	Residential	m.22.5	m.22.5
(2)	Educational	22.5	22.5
(3)	Institutional	22.5	22.5
(4)	Assembly	30.0	30.0
(5)	Business	45.0	30.0
(6)	Mercantile	30.0	30.0
(7)	Industrial	30.0	30.0
(8)	Storage	30.0	30.0
(9)	Hazardous	22.5	22.5

4.3.2. The travel distance to an exit from the dead end of a corridor shall not exceed half the distance specified in Table 2 except in educational, assembly and institutional occupancies in which case it shall not exceed 6 m.4.3.3. Whenever more than one exit is required for any room space of floor of a building exits shall be placed as remote from each other as possible and shall be arranged to provide direct access in separate directions from any point in the area served.4.4Capacity of exits4.4.1. The unit of exit width, used to measure capacity of any exit shall be 50 cm. A clear width of 25 cm. shall be counted as an additional half unit. Clear widths less than 25 cm. shall not be counted for exit width.4.4.2. Occupants per unit exit width shall be in accordance with Table 3.Occupants Per Unit Exit Width

SI. No.	Group of occupancy	Number of occupants	
		Stairways	Doors
(1)	(2)	(3)	(4)
(1)	Residential	25	75
(2)	Educational	25	75
(3)	Institutional	25	75
(4)	Assembly	60	90
(5)	Business	50	75
(6)	Mercantile	50	75
(7)	Industrial	50	75
(8)	Storage	50	75
(9)	Hazardous	25	40

4.4.2.1. Sprinkler allowance. - When a building is protected with automatic sprinkler system and such a system is not required specifically by the National Building Code, the capacity per storey unit width of exit of stairways in Table 3 may be increased by 50 per cent.4.4.3. Horizontal exit allowance. - When horizontal exit is provided in buildings of mercantile, storage, industrial, business and assembly occupancies, the capacity per storey per unit width of exit of stairways in Table 3 may be increased by 50 percent and in buildings of institutional occupancy by 100 per cent.4.4.4. Combined total allowance. - When both automatic sprinklers and horizontal exits are provided, the capacity per unit width of exit of stairways may be double the values specified in Table 3.4.5Occupant Load. - For determining the exits required the number of persons within any floor area or the occupant load shall be based on the actual number of occupants but in no case less than that specified in Table 4.Occupant Load(Clause 4.5)

SI. No.	Group of occupancy	Occupant load gross area1in m2person
(1)	(2)	(3)
(1)	Residential	12.5
(2)	Educational	4
(3)	Institutional	15@
(4)	Assembly ---(a) with fixed or loose seats anddance floors(b) without seating facilities including dining room	061.5
(5)		3

	Mercantile---(a) Street floor and sales basement(b) Upper sale floors	
(6)	Business and industrial	10
(7)	Storage	30
(8)	Hazardous	10

1. The gross area shall mean plinth area or covered area.

Occupant load in dormitory portions of homes for the aged, orphanages, insane asylums, etc., where sleeping accommodation is provided, shall be calculated at not less than 7.5 m. gross area/person.The gross area shall include, in addition to the main assembly room or space if any occupied connecting room or space in the same storey or in the storeys above or below. Where entrance is common to such rooms and spaces and they are available for use by the occupants of the assembly place. No deductions shall be made in the gross area for corridors, closets or other subdivisions ; the area shall include all space serving the particular assembly occupancy.4.5.1. Mezzanine. - The occupant load of a mezzanine floor discharging through a floor below shall be added to the main floor occupancy and the capacity of the exits shall be designed for the total occupancy load thus established.4.6Number of Exits4.6.1. Minimum number. - There shall not be less than two exits serving every floor area above and below floor (1) (the ground floor); at least one of them shall be internal enclosed stairway.4.7Doorways4.7.1. Every exit doorway shall open into an enclosed stairway, a horizontal exit, on a corridor or passageway providing continuous and protected means of egress.4.7.2. No exit doorway shall be less than 100 cm. in width. Doorways shall not be less than 200 cm. in height.4.7.3. Exit doorway shall open outwards, that is, away from the room but shall not obstruct the travel along any exit. No door, when opened, shall reduce the required width of stairway or landing to less than 90 cm. overhead or sliding doors shall not be installed.4.7.4. Exit door shall not open immediately upon 'a flight of stairs; a landing equal to at least the width of the door shall be provided in the stairway at each door way; level of landing shall be the same as that of the floor which it serves.4.7.5. Exit doorways shall be openable from the side which serve without the use of a key.4.7.6. Revolving doors4.7.6.1. Revolving doors shall not be used as required exits except in residential, business and mercantile occupancies, but shall not constitute more than half the total required door width.4.7.6.2. When revolving doors are considered as required exit way, the following assumptions shall be made :-(a)Each revolving door shall be credited one half a unit exit width;(b)Revolving doors shall not be located at the foot of a stairway. Any stairway, served by a revolving door shall discharge through a lobby or foyer.4.8Corridors and Passageways4.8.1. Exit corridors and passageways shall be of width not less than the aggregate required width of exit doorways leading from them in the direction of travel to the exterior.4.8.2. Where stairways discharge through corridors and passageways, the height of corridor and passageways shall not less than 2.4 m.4.9Stairways4.9.1. Interior stairs shall be constructed of non-combustible materials throughout.4.9.2. Interior staircase shall be constructed as a self contained unit with at least one side adjacent to an external wall and shall be completely enclosed.4.9.3. A staircase shall not be arranged round a lift shaft unless the latter is entirely enclosed by a material of fire resistance rating as that for type of construction itself.4.9.4. Hollow combustible construction shall not be permitted.4.9.5. The minimum width of an internal staircase shall be 100 cm.4.9.6. The minimum width of treads without nosing shall be 25 cm. for an internal

staircase. The treads shall be constructed and maintained in a manner to prevent slipping.4.9.7. The maximum height of riser shall be 19 cm. and they shall be limited to 12 per flight.4.9.8. Hand rails shall be provided with a minimum height of 100 cm. and shall be firmly supported.4.10Fire Escapes or External Stairs4.10.1. Fire escapes shall not be taken into account in calculating the evacuation time of a building.4.10.2. All fire escapes shall be directly connected to the ground.4.10.3. Entrance to fire escape shall be separate and remote from the internal staircase.4.10.4. The route to fire escape shall be free of obstructions at all times, except a doorway leading to the fire escape which shall have the required fire resistance.4.10.5. Fire escape shall be constructed of non-combustible materials.4.10.6. Fire escapes stairs shall have straight flight not less than 75 cm. wide with 15 cm. treads and risers not more than 19 cm. The number of risers shall be limited to 16 per flight.4.10.7. Hand rails shall be of a height not less than 100 cm.4.10.8. Spiral fire escape. - The use of spiral staircase shall be limited to low occupant load and to a building of height 9 m. unless they are connected to platforms, such as balconies and terraces to allow escapes to pause.A spiral fire escape shall be not less than 100 cm. in diameter and shall be designed to give adequate head room.4.11Roof Exit. - In all buildings over three storeys in height and with roofs sloping less than 20 degrees, access to the roof shall be provided continuous from the street, where roofs are used as roof gardens or for other habitable purposes, sufficient stairways shall be extended to it to provide the necessary exit facilities required for such occupancy.4.12Horizontal Exits4.12.1. The width of horizontal exit shall be same as per the exit door ways (See 4.7)4.12.2. A horizontal exit shall be equipped with at least one fire door of self closing type.4.12.3. Floor area on the opposite or refuge side of a horizontal exit shall be sufficient to accommodate occupants of the floor areas served, allowing not less than 0.3 m. per person. The floor area shall be provided with the exits adequate to meet the requirements of this part. At least one of the exits shall lead directly to the exterior or street.4.12.4. Mere there is a difference in level between connected areas for horizontal exit ramps, not more than 1 in 8 in slope shall be provided; steps shall not be used.4.12.5. Doors in horizontal exits shall be openable at all times.4.13Fire Tower. - Fire towers are the preferred types of escape route for storeyed buildings and their application shall be considered as the safest route to escape, the location and size shall depend on the building concerned, and its associated escape routes.4.13.1. In every mercantile, industrial, business, assembly buildings other than theatres, institutional and residential buildings, over 6 storeys or 25 m. in height, at least one required means of egress shall be a fire tower.4.13.2. The enclosure of fire towers shall be constructed of walls with a 4 hour fire resistance rating without openings other than the exit doorways, with platforms, landings and balconies of not less than 3 hour fire resistance rating.4.14Ramps with a slope of not more than 1 in 10 may be substituted for and shall comply with all the applicable requirements of required stairways as to enclosure, capacity and limiting dimensions except in existing buildings and where specified in 8 to 16 for special uses and occupancies, larger slopes may be permitted but in no case greater than 1 in 8. for all slopes exceeding 1 in 10 and wherever the use in such as to involve danger of slipping, the ramp shall be surfaced with approved non-slipping material.Alarm SystemsA.1. GeneralA.1.1. Manually operated fire alarm equipment shall be provided wherever specified for individual occupancies.A.1.2. Where buildings are divided by separating walls into separate fire sections with adequate safeguards against fire spread from one section to another, each section may be considered as a separate building for the purposes of application of fire alarm system requirement based on size of building or population.A.1.3. All alarm systems and equipment shall be of approved types suitable for the purpose for which installed and they shall conform to accepted

standards.A.1.4. Alarm systems shall be under the supervision of a responsible person who shall cause proper tests to be made at specified intervals and have general charge of all alterations and additions.A.1.5. Alarm systems shall be tested at not less than weekly intervals, except as otherwise specified by the applicable provisions of individual occupancies.A.1.6. Fire alarm signalling equipment shall be restored to service as promptly as possible after each test or alarm and shall be kept in normal conditions for operation. Equipment requiring rewinding or replenishing shall be rewound or replenished as promptly as possible after each test or alarm.A.1.7. All manually operated sending stations and alarm sounding devices in a single system shall be of the same general type.A.2. Alarm, Sending StationsA.2.1. Manually operated sending stations shall be provided near all main exits and in the natural path of escape from fire, at readily accessible points which are not likely to be constructed.A.2.2. Sending stations shall be so located that from any part of the building not more than 60 m. will have to traversed in order to reach a sending station on the same floor of 30 m. and one flight of stairs to reach a sending station upon another floor located in the natural path of escape from fire.A.3. Sounding DevicesA.3.1. Required sounding devices shall be used for fire alarm purposes only.A.3.2. Alarm sounding devices shall be provided of such character and so distributed as to be effectively heard in every room above all other sounds. Visible alarm devices may be used in lieu of audible devices only where specifically permitted for hospitals and institutions and for places of assembly.A.3.3. Alarm sounding devices shall be distinctive in pitch and quality from all other sounding devices.A.3.4. National Building Code signals indicating where the alarm originates shall not be used except to such extent as permitted by the applicable provisions for individual occupancies, or as specifically authorised by the authority.A.3.5. Systems shall be so arranged that no manual intervention will be required, following the actuation of a sending station, for causing effective response of all required sounding devices. No facilities shall be provided whereby it is possible to control or modify such response except where otherwise specifically permitted for hospitals, institutions, hotels and places of assembly by the applicable provisions of individual occupancies.A.4. Automatic Fire DetectionA.4.1. Automatic fire detection systems where installed to meet specific requirements of individual occupancies shall be of approved types and shall, be so installed as to provide effective warning of incipient fire in any part of the premises.A.4.2. Automatic sprinkler systems installed in accordance with practice prescribed standards of National Building Code and provided with water flow alarm signals fulfil the functions of automatic fire detection in addition to the primary function of fire extinguishment and may be used in lieu of automatic fire detection system.A.4.3. Connections may be made between required manually operated alarm systems and automatic fire detection systems or automatic sprinkler systems, provided that the effectiveness and dependability of operation of the alarm from manual sending stations is not thereby impaired.A.5. Incidental FunctionsA.5.1. Manually or automatically operated fire alarm systems may be arranged for the accomplishment of incidental functions, such as the release of self opening or self closing doors, cutting off supplies of gas, fuel, oil or electric power, switching on emergency lights, the stopping of air supply ventilating fans and the like, in so far as the accomplishment of such incidental functions does not in any way impair the effectiveness or reliability of the required sounding devices in response to the required sending stations.A.6. Municipal Fire Department NotificationA.6.1. Arrangements shall be made for the prompt notification of the public lire department or such other outside assistance as may be available in case of fire or other emergency.A.6.2. Automatic fire department connections shall be so arranged as to permit drills to be conducted by those in authority without calling out the fire department and so

that the actuation of any required alarm sending station will surely call such department.[As substituted by G. O. Ms. No. 908 RDLA dated 20th May, 1981 Published at page 398 of Part III Section (l)(a) in SRO A-185/81 and by G. O. Ms. No: TRDLA dated 2nd January, 1982 at page 10S of III (i)(a) Notifications SRO A-53/82.]