Staircase Policy:

This policy shall apply to all common staircases (excluding any ornamental staircase).

Design:

1. Staircase Width:

1. Clear width of staircase shall be as per DCPR (Table 16) / UDCPR (9.28.8) or as per CFO NOC.

2. For Mumbai [as per DCPR 2034]

Table No: 16

Minimum width of common Stairways/Corridors for various occupancies.

Sr. No.	Type of Occupancy	Minimum width of stairway/corridor (in meters) for buildings upto 70.00 m height	Minimum width of stair- way/corridor (in meters) for buildings more than 70.00 m height
1	Residential buildings-		
	(a) General	1.50	2.00
	(b) Row housing (2 storeyed) or internal staircase in duplex flat	0.90	-
	(c) Hotels	1.50	2.0
2	Educational buildings		
	(a) Upto 32 m high	1.50	-
	(b) Over 32 m high	2.0	-
3	Institutional buildings	1.50	2.0
4	Assembly buildings	2.0	2.0
5	Mercantile storage, hazardous buildings	1.50	2.0
6	Industrial Building	2.00	

3. For Maharashtra (except Mumbai Region) [as per UDCPR 2020]

9.28.8 Width of stair case

The minimum width of staircases/ corridors for various buildings shall be as below.

Table No.9G-Minimum width of staircase

S. No	Use of Building	Minimum width of Stair Case (in m.)
1	Residential Buildings a) Individual Housing upto G + 2 storeys b) Multi-storied Residential Building upto 15 m. height c) Multi-storied Residential Building above 15 m. & upto 24 m. height	 0.75 1.00 1.20
	d) Multi-storied Residential Building above 24 m. height	1.50
2	Residential hotel buildings	1.50
3	Assembly Building likes auditorium, theatres, cinemas, multiplex, mangal karyalaya, marriage halls, etc.	2.00
4	Institutional &Educational Buildings.	2.00
5	All other buildings excluding Sr.No. (1) to (4) above	1.50

2. Treads, Risers and Clear Headroom

Following norms shall apply w.r.t Treads, Risers and Clear Headroom in the staircase:

For Mumbai Region[as per DCPR 2034]

Segment	**Breadth of Tread mm (with nosing)**	**Height of Riser – preferred (range) mm**	**Maximum No. of risers per flight**	**Minimum Clear Headroom**
Residential	250 min; For Fire Escape 300 min	165 (150-175 max)	12	2.2m
All other building occupancy	300 min	165 (150-175 max)	12	2.2m

For Maharashtra (except Mumbai Region) [as per UDCPR 2020]

Segment	Breadth of Tread mm (with nosing)	Height of Riser – preferred (range) mm	Maximum No. of risers per flight	Minimum Clear Headroom
Residential	250 min	165 (150-175; max 190)	15 (Max 12 as per NBC)	2.2m
All other building occupancy	300 min	150 max	15 (Max 12 as per NBC)	2.2m

3. Staircase pressurization [as per NBC]:

Table 6 Pressurization of Staircases and Lift Lobbies
[*Clauses* 4.4.2.5 (b) *and* E-2]

Sl No.	Component	Height of Building		
		Less than 15 m	15 m to 30 m	More than 30 m
(1)	(2)	(3)	(4)	(5)
i)	Internal staircase not with external wall	Pressurized except for residential buildings (A-2 and A-4)	Pressurized	Pressurized
ii)	Internal staircase with external wall	Pressurized except for residential buildings (A-2 and A-4) or Naturally ventilated	Naturally ventilated or Pressurized	Cross-ventilated or Pressurized
iii)	Lift lobby	Not required at ground and above. However lift lobby segregation and pressurization is required for lift commuting from ground to basement	Naturally ventilated or Pressurized[1)]	Cross-ventilated or Pressurized[1)]

NOTES
1 The natural ventilation requirement of the staircase shall be, achieved through opening at each landing, of an area 0.5 m^2 in the external wall. A cross ventilated staircase shall have 2 such openings in opposite/adjacent walls or the same shall be cross-ventilated through the corridor.
2 Enclosed staircase leading to more than one basement shall be pressurized.

[1)] Lift lobby with fire doors (120 min) at all levels with pressurization of 25-30 Pa is required. However, if lift lobby cannot be provided at any of the levels in air conditioned buildings or in internal spaces where funnel/flue effect may be created, lift hoistway shall be pressurized at 50 Pa. For building greater than 30 m, multiple point injection air inlets to maintain desired pressurization level shall be provided. If the lift lobby, lift and staircase are part of firefighting shaft, lift lobby necessarily has to be pressurized in such case, unless naturally ventilated.

Currently (2021), for Mumbai Region, in the case of staircase, lift lobby, fire lift lobby if naturally ventilated then neither pressurization nor cross ventilation is required.

4. Notes:

a. Avoid void/stairwell between the two flights.
b. Depth of landing / midlanding should be equal to (max. 200 mm less than) width of the staircases (single tread).
c. The flight width shall be taken from edge to edge as per a. (no additional adjustment for space taken by handrail etc.)
d. In case of floors having FTF height <= 2.1 m, the staircase should be designed as follows:
    1. Take height of the said 'less than full height floor' (h1) and add the height of the floor immediately below (h2). Take this height (h = h1+h2) and divide by 2 (h/2).
    2. There will be 2 full stairwells (2 landings + 2 mid-landings + 4 flights), each climbing a height of h/2, which will enable a person to climb from the floor below 'the less than full height floor' to the floor above 'the less than full height floor'.
    3. See reference section below as **Annexure B**, which is based on example of a building with typical FTF height of 3.15 m and fire check floor of 2m FTF height. In such case, h is 5.15 m and h/2 is 2.575 m.
e. In any building with more than one staircase, the purpose of the additional staircase is to provide an alternate means of escape if there is fire in one of the staircases. Hence, the staircases should be located in a manner such that there is maximum distance between the entries to the two staircases and there is minimal chance of fire from one staircase spreading to the other. As far as possible, the two staircases should be located diagonally or atleast, horizontally opposite to each other and should not be located on the same side of the core. If the two staircases are to be located on the same side of the core for any reason, explicit approval of HoD-Design or Director-Design should be taken.
f. All attempts should be made to reduce non-public area staircase area and costs, since it is a purely functional part of the development, with limited aesthetic value.

Construction:

a. Factory made pre-cast staircases in all buildings with height > 70 m viz. where crane and man/material hoist is available,
b. Cast in-situ staircases in all other buildings.

Finishes:

a. If Factory made pre-cast staircases are used: No further finish, just clean raw concrete. It is to be ensured that the specifications of the treads are such that they come with appropriate nosing and grooves. The said staircases shall also have pre-cast joints (or equivalent) for the railing fixitivity.
b. If cast in-situ staircases are used:
    i. For Treads: Use 300 x 300 x 9 mm or 300 x 265 x 9 mm, Vitrified Tiles from Pavit/Zealtop or equivalent with appropriate nosing and treads.
    ii. Raw Risers, kept either raw or finished with grey plaster. No paint to be applied to this surface.
    iii. Landing/mid-landing finished with vitrified tiles 300 X 300 X 9 mm, from Pavit / Zealtop or equivalent.
    iv. Good quality cement paint (grey)), approx., INR 6 – 7 psf , which is difficult to write on, upto full height on the staircases walls, ceiling & staircase waist slab. Prior to painting, adequate surface preparation to be done by grinding, hole filling etc.

c. If a particular level of the staircase of likely to be used frequently by residents eg. To access the garden on the terrace level, then one of the staircases for such usage is to be identified as a front of house staircase and finishing is to be upgraded as follows:
   i. For Treads: Granite / other stone with appropriate nosing and treads.
   ii. For Risers: Granite / other stone with appropriate nosing and treads.
   iii. Landing/mid-landing finished with granite/other stone.
   iv. Good quality paint on walls and ceiling.

Signage:

The floor numbers shall be **painted** on one of the walls (preferably at the landing) at a height which is easily visible (eye-level) &at such suitable place to be distinctly visible from the staircase flights.

Railing:

a. Height of 1000mm above finished tread.
b. Should support a continuous load of 50 plf (75 kg-m) or a concentrated load of 200 pounds (90 kg). Max. tolerance for this is -20% viz. continuous load of 60 kg-m or concentrated load of 72 kg.
c. Located on the side away from the staircases parapet walls.
d. Material: MS section or equivalent, with paint (red/black/yellow etc.)
e. Railing shall be fixed with vertical members on mid-landing and landing (not on the side of the stair), without any holes/openings to be made on the finishing material of tread. If the tread is finished with pre-cast cement treads, the screws/bolts should be so designed that they get fixitivity into the base concrete layer.
f. Please refer to **Annexure A** for reference images/detail.
g. No handrail shall be provided on the staircase parapet wall side, except in case of buildings having height > 150 m above ground in which case such handrail shall be provided bolted onto the parapet wall.

Doors:

a. All doors to the any staircase which serves as a fire exit should be FRD doors (with 2-hour fire rating), if building height is more than 30 m above ground.
b. These doors shall have:
   i. paint finish on the staircase side; and
   ii. On passage/lobby side, have finish matching the general finish.
   iii. The doors of the staircases to open in the direction of emergency exit (inside the stairwell). They should preferably be planned in such manner that they do not hamper the public movement on the staircase.

Staircase Windows:

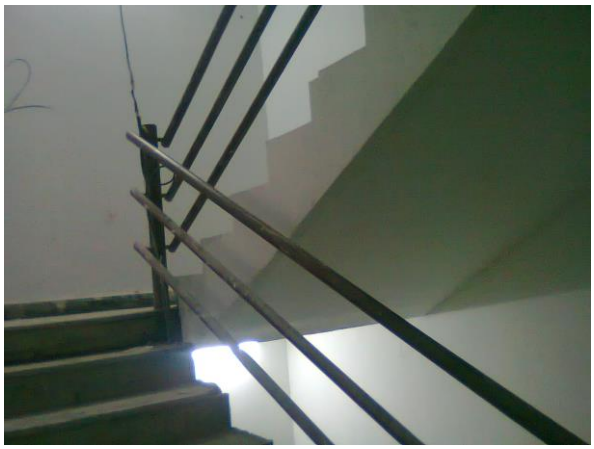
Hinges of windows to be selected & adjusted in such a way that the window (regular openable or top/bottom hung, whichever is most cost effective) should not open more than 30 degrees.

Note: For ornamental staircases which are visible in/from public areas and likely to be frequently used (eg. main staircases in mall, the staircases for L1 to L2 in Lodha Excelus, Mahalaxmi), finishes shall be as per standards prescribed by the Project Architect.

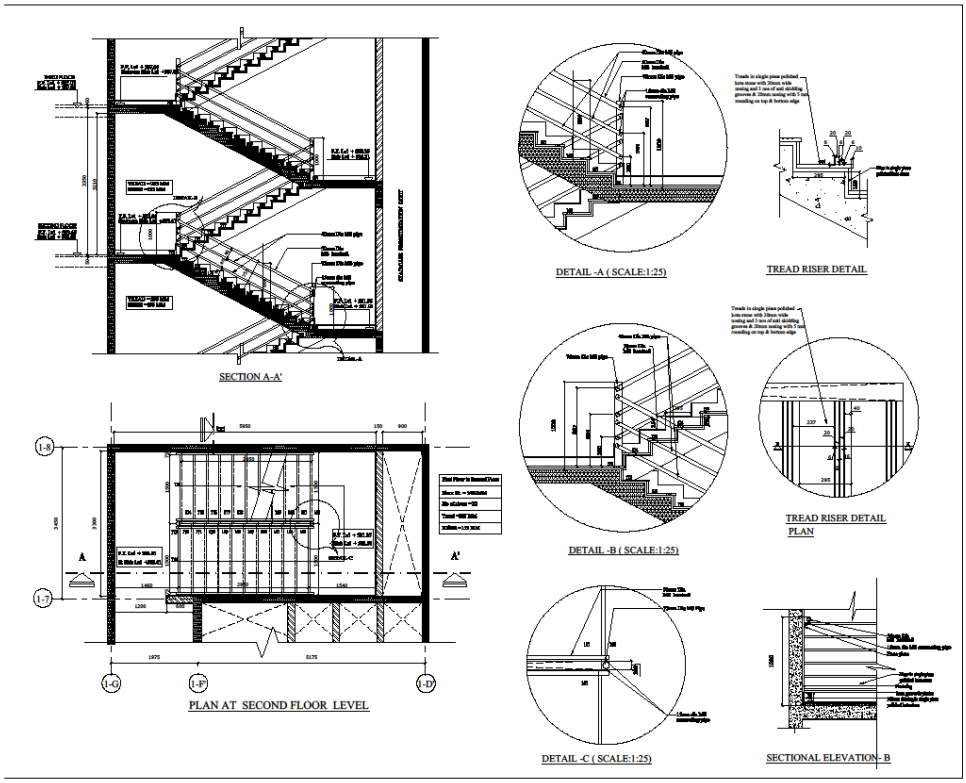
Annexure A



Image is not exact in the fixing details of the railing and the well being present, but is indicative of the nature of the staircase.



Railing as per details below done at Lodha Bellezza, Hyderabad



ANNEXURE B

Sample of design of staircase to serve floors <= 2.1 m FTF height

