



Tamil Nadu Fire & Rescue Services Department

Requirements of Fire safety
Installations & Life Safety Measures
for various types
of occupancies

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TAMIL NADU FIRE & RESCUE SERVICES DEPARTMENT
Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings.

Group A: Residential - (Less than 15 Mts in Height)

Sub Division A1 - Lodging or Rooming houses		
i) Up to 15 rooms		
S.No.	Types of Fire Protection (Active Defense)	Requirements
1.	Fire Extinguishers	Minimum 2 per floor, depending upon the area and travel distance.
2	Automatic Sprinkler system	Not required. (Note: To be provided if the basement area exceeds 200 m2)
3.	Terrace level over head tank	5,000 liters capacity (if basement is sprinklered.)
Life Safety (Passive Defense)		
4.	Staircase	2 Nos. should not be adjacent, away from each other if the building has ground + one or more floors
5.	Side Set Back area	As per the Development & Control Rules of CMDA area or Local Body area whichever is applicable.
6.	"Exit" signage	With alternate source of power supply or battery back-up with glow type
7.	Emergency Lights	At staircase landing and exit routes
8.	House keeping	Entire building should be maintained neat and clean
9.	Fire drill and fire order	Fire drill to be conducted once in a year, fire order should be prepared and kept ready.
10.	Cable and other ducts	Sealed at each floor level to check the spread of smoke, heat and flame.

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings.

Group A :Residential - (Less than 15 Mts in Height)

Sub Division A1 - Lodging or Rooming houses		
i) More than 15 rooms and up to 30 rooms		
S.No.	Types of Fire Protection (Active Defense)	Requirements
1.	Fire Extinguishers	Minimum 2 per floor, depending upon the area and travel distance.
2.	Hose Reel Assembly	Covering all area and floors, if any.
3.	Automatic Sprinkler System	Only for basement area, if the area is more than 200 sq.mts.
4.	Water: Terrace level tank	5000 liters (+ 5000 liters if the basement is sprinklered)
5.	Fire Pump	(a). 450 LPM (or) (b).900 LPM if the basement is sprinklered
Life Safety (Passive Defense)		
6.	Staircase	2 Nos. should not be adjacent, away from each other.
7.	Fire lift	1 No.
8.	Side Set Back area	As per the Development & Control Rules of CMDA area or Local Body area whichever is applicable.
9.	"Exit" signage	With alternate source of power supply or battery back-up with glow type
10.	Emergency Lights	At staircase landing and exit routes
11.	House keeping	Entire building should be maintained neat and clean
12.	Fire drill and fire order	Fire drill to be conducted once in a year, fire order should be prepared and kept ready.
13.	Cable and other ducts	Sealed at each floor level to check the spread of smoke, heat and flame.
14.	Fire Damper	To be provided at A/C. ducts for check the spread of heat, flame smoke and gases.

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings.

Group A: Residential - (Less than 15 Meters in Height)

Sub Division A1 - Lodging or Rooming houses - iii) More than 30 rooms		
1.	Fire Extinguishers	Minimum 2 per floor, depending upon the area and travel distance.
2.	Hose Reel Assembly	Covering all area of all floors (one per 1000 Square meters area.)
3.	Automatic Sprinkler System	Only for basement area, if the area is more than 200 sq.mts.
4.	Manually operated fire alarm (MCP) call points	To provided in each floor near exit door
5.	Water: Terrace level tank	(a).10,000 liters (or) (b). 15000 liters if the basement is sprinklered
6.	Fire Pumps	(a).450 LPM at terrace level (or) (b).900 LPM if the basement is sprinklered.
Life Safety (Passive Defense)		
7.	Staircase	2 Nos. should not be adjacent, away from each other.
8.	Fire lift	1 No.
9.	Side Set Back area	As per the Development & Control Rules of CMDA area or Local Body area whichever is applicable.
10.	"Exit" signage	With alternate source of power supply or battery back-up with glow type
11.	Emergency Lights	At staircase landing and exit routes
12.	House keeping	Entire building should be maintained neat and clean
13.	Fire drill and fire order	Fire drill to be conducted once in a year, fire order should be prepared and kept ready.
14.	Cable and other ducts	Sealed at each floor level to check the spread of smoke, heat and flame.
15.	Fire Damper	To be provided at A/C. ducts for check the spread of heat, flame smoke and gases.

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings.

Group A: Residential - (Less than 15 Meters in Height)

Sub Division A3 – Dormitories / A4 - Apartments Houses		
S.No.	Types of Fire Protection (Active Defense)	Requirements
1.	Fire Extinguishers	Minimum 2 per floor, depending upon the area and travel distance.
2.	Hose Reel Assembly	Covering all floors (Per 1000 Square meter area.)
3.	Automatic Sprinkler System	Only for basement area, if the area is more than 200 sq.mts.
4.	Water: Terrace level tank	(a). 5,000 liters (or) (b). 10000 liters if the basement is sprinklered.
5.	Fire Pump	(a). 450 LPM at terrace level. (or) (b). 900 LPM if the basement area is sprinklered
	Life Safety (Passive Defense)	
6.	Staircase	2 Nos. should not be adjacent, away from each other.
7.	Fire lift	1 No.
8.	Side Set Back area	As per the Development & Control Rules of CMDA area or Local Body area whichever is applicable.
9.	"Exit" signage	With alternate source of power supply or battery back-up with glow type
10.	Emergency Lights	At staircase landing and exit routes
12.	House keeping	Entire building should be maintained neat and clean
13.	Fire drill and fire order	Fire drill to be conducted once in a year, fire order should be prepared and kept ready.
14.	Cable and other ducts	Sealed at each floor level to check the spread of smoke, heat and flame.
15.	Fire Damper	Located at air conditioned ducts for check the spread of heat, flame smoke and gases.

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings.

Group A: Residential - (15 Meters and above but not exceeding 35 Meters)

Sub Division A3 - Dormitories		
Sub Division A4 - Apartments Houses		
S.No.	Types of Fire Protection (Active Defense)	Requirements
1.	Fire Extinguishers	Minimum 2 per floor, depending upon the area and travel distance.
2.	Hose Reel Assembly	Provided at each floor. (Per 1000 square meters area.)
3.	Down Comer system	Provided for each floor (per 1000 square meters area.)
4.	Automatic Sprinkler system	Only for basement area, if the area is more than 200 sq.mts.
5.	Fire Service Inlet	Provided at the Ground Floor.
6.	Manually operated fire alarm (MCP) Call points	To provided in each floor near exit door
7.	Water: Terrace level tank	25,000 liters.
8.	Fire Pump	900 LPM at terrace level tank.
	Life Safety (Passive Defense)	
9.	Staircase	2 Nos. should not be adjacent, away from each other.
10.	Fire lift	1 No. per 1200 m2
11.	Side Set Back area	7 mts all round the building
12.	"Exit" signage	With alternate source of power supply or battery back-up with glow type
13.	Emergency Lights	At staircase landing and exit routes
14.	Refuge Area	Refuge Area to be provided at or just above the height of 24 th meter if balcony is not provided.
15.	House keeping	Entire building should be maintained neat and clean
16.	Fire drill and fire order	Fire drill to be conducted once in a year, fire order should be prepared and kept ready.
17.	Cable and other ducts	Sealed at each floor level to check the spread of smoke, heat and flame.
18.	Fire Damper	Located at air conditioned ducts for check the spread of heat, flame smoke and gases.
19	Lightning Arrester	To be provided

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings.

Group A: Residential - (35 Meters and above but not exceeding 45 Meters)

Sub Division A3 – Dormitories / Sub Division A4 - Apartments Houses		
S.No.	Types of Fire Protection (Active Defense)	Requirements
1.	Fire Extinguishers	Minimum 2 per floor, depending upon the area and travel distance.
2.	Hose Reel Assembly	At all floors per 1000 Square meters area.
3.	Wet-riser	At all floors per 1000 Square meters area.
4.	Automatic Sprinkler system	Only for basement area, if the area is more than 200 square meters area.
5.	Fire Service Inlet	To be provided at the ground level
5.	Manually operated fire alarm (MCP) Call points	To provided in each floor near exit door
6.	Water: Underground tank	75,000 liters.
7.	Terrace level tank	5,000 liters (+ 5000 liters if the basement is sprinklered)
8.	Fire Pumps:	1 electric and 1 diesel pump of each capacity 1620 LPM and 1 electric pump 180 LPM (Jockey Pump) at ground level.
Life Safety (Passive Measure)		
9.	Staircase	2 Nos. (remote) should not be adjacent and away from each other
10.	Fire lift	1 No. per 1200 m ²
11.	Side Set Back area	7 meters all round the building
12.	"Exit" signage	With alternate source of power supply or battery back-up with glow type
13.	Emergency Lights	At staircase landing and exit routes.
14.	Refuge Area	Refuge Area to be provided at 24th meter level and at every 15 meters at higher level (i.e. 24th, 39mts) if balcony is not provided.
15.	House keeping	Entire building should be maintained neat and clean
16.	Cable and other ducts	Sealed at each floor level to check the spread of smoke, heat and flame.
17.	Fire drill and fire order	Fire drill to be conducted once in a year, FIRE ORDER prepared and kept ready
18.	Fire Damper	Located at air conditioned ducts for check the spread of heat, flame smoke and gases.
19.	Lightning Arrester	To be provided

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings.**

Group A: Residential - (45 meters and above but not exceeding 60 meters)

Sub Division A3 – Dormitories / Sub Division A4 - Apartment Houses		
Sl. No.	Types of Fire Protection (Active Defense)	Requirements
1.	Fire Extinguishers	Minimum 2 per floor, depending upon the area and travel distance.
2.	Hose Reel Assembly	At all floors per 1000 Square meters area.
3.	Wet-riser	At all floors per 1000 Square meters area.
4.	Yard Hydrant	All around the building at 30 meters interval.
5.	Automatic Sprinkler system	For the whole building including basement.
6.	Fire Service Inlet	At the ground level.
7.	Manually operated fire alarm (MCP) Call points	To provided in each floor near exit door
8.	Underground water tank	75,000 liters.
9.	Terrace level over head tank	10,000 liters.
10.	Fire Pumps at ground level	1 electric and 1 diesel pump of each capacity 2280 LPM and 1 electric pump 180 LPM (Jockey Pump)
Life Safety (Passive measure)		
11.	Staircase	2 Nos remote should not be adjacent away from each other
12.	Fire lift	1 No. per 1200 m2
13.	Side set back area	7 mts. all round the building
14.	"Exit" signages	With alternate source of power supply or battery back-up. with "GLOW" TYPE
15.	Emergency Lights	At staircase landing and exit routes.
16.	Refuge Area	Refuge Area to be provided at 24 th metre level and at every 15 mts at higher level (i.e 24 th , 39, 54 mts.) if balcony is not provided.
17.	House keeping	Entire building should be maintained neat and clean.
18.	Cable and other ducts	Sealed at each floor level to check the spread of smoke, heat and flame.
19.	Fire drill and fire order	Fire drill to be conducted once in a year, fire order should be prepared and kept ready.
20.	Fire Damper	Located at air conditioned ducts for check the spread of heat, flame smoke and gases.
21.	Lightning Arrester	To be provided.

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings.

Group A: Residential - (Above 60 meters)

Sub Division A3 – Dormitories / Sub Division A4 - Apartment Houses		
Sl. No.	Types of Fire Protection (Active Defense)	Requirements
1.	Fire Extinguishers	Minimum 2 per 600 square meters area per floor.
2.	Hose Reel Assembly	At all floors per 1000 square meters area.
3.	Wet-riser	At all floors per 1000 square meters area.
4.	Yard Hydrant	All around the building at 30 meters interval
5.	Automatic Sprinkler system	For the whole building including basement
6.	Fire Service Inlet	Provided at the ground level
7.	Manually operated fire alarm (MCP) Call points	Provided in each floor near exit door
8.	Automatic Detection and Alarm System	Provided to entire building
9.	Underground water tank	1,00,000 liters
10.	Terrace level over head tank	25,000 liters
11.	Fire Pumps at ground level	2 electric and 1 diesel pump of each capacity 2280 LPM and 1 electric pump 180 LPM (Jockey Pump)
Life Safety (Passive Defense)		
12.	Staircase	2 nos. remote from each other
13.	Fire lift	1 No. per 1200 m ²
14.	Side set back area	7 meters all round the building
15.	"Exit" signage	With alternate source of power supply or battery back-up with glow type
16.	Emergency Lights	At staircase landing and exit routes
17.	Fire Control Room	Should be provided
18.	Fire drill and fire order	Fire drill to be conducted once in a year, fire order should be prepared and kept ready.
19.	Helipad	Provision should be made for helipad
20.	Refuge Area	Refuge Area to be provided at 24th meter level and at every 15 meters at higher level (i.e. 24th, 39,54, 69 mts.etc)if balcony is not provided.

21.	House keeping	Entire building should be maintained neat and clean
22.	Cable and other ducts	Sealed at each floor level to check the spread of smoke, heat and flame.
23.	Fire Damper	Located at air conditioned ducts for check the spread of heat, flame smoke and gases.
24	Public Address system	Provided connecting all the floors individually and also collectively.
25	Lightning Arrester	To be provided

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings.

Group A: Residential - Hotels (Less than 15 Meters)

Sub Division A5 - Hotels		
i) Covered area not exceeding 300 m² on each floor		
Sl. No.	Types of Fire Protection (Active Defense)	Requirements
1.	Fire Extinguishers	Minimum 2 per floor, depending upon the area and travel distance.
2.	Hose Reel Assembly	Covering all areas of each floor.
3.	Automatic Sprinkler System	Only for basement area if the areas is more than 200 m ²
4.	Manually operated fire alarm (MCP) call points	To provided in each floor near exist door
5.	Terrace level over head tank	5,000 liters.
6.	Fire Pump	450 LPM at terrace level
Life Safety (Passive Defense)		
7.	Staircase (2 meter width)	2 nos. remote from each other
8.	Fire lift	1 No. per 1200 m ²
9.	Side Set Back Area	As per the Development & Control Rules of CMDA area or Local Body area whichever is applicable.
10.	"Exit" signage	With alternate source of power supply or battery back-up with glow type
11.	Emergency Lights	At staircase landing and exit routes.
12.	Fire Control Room	Should be provided
13.	Fire drill and fire order	Fire drill to be conducted once in a year, fire order should be prepared and kept ready.
14.	House keeping	Entire building should be maintained neat and clean.
15.	Cable and other ducts	Sealed at each floor level to check the spread of smoke, heat and flame.
16.	Fire Damper	Located at air conditioned ducts for check the spread of heat, flame smoke and gases.
17.	Lightning Arrester	To be provided

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings
Group A: Residential - Hotels (Less than 15 Mts)**

Sub Division A5 - Hotels		
ii) Covered area not exceeding 300 m² but not more than 1000 Sq.mtr. in each floor		
Sl. No.	Types of Fire Protection (Active Defense)	Requirements
1.	Fire Extinguishers	Minimum 2 per floor, depending upon the area and travel distance.
2.	Hose Reel Assembly	Covering all area of each floor.
3.	Wet Riser	Required to be provided for buildings with more than two stories
4.	Automatic Sprinkler System	Only for basement area if the areas is more than 200 Sq.mts.
5.	Manually operated fire alarm (MCP) call points	To provided in each floor near exist door
6.	Automatic detection and extinguishing system	Provided at each floor
7.	Underground static tank	50,000 liters
8.	Terrace Level	10,000 liters if the basement is sprinklerd (to be connected with Riser system)
9.	Fire Pumps	1 electric and 1 diesel pump of 1620 LPM at ground level
Life Safety (Passive measure)		
10.	Staircase (2 meters width)	2 nos. remote from each other.
11.	Fire lift	1 No. per 1200 m2
12.	Side Set Back Area	As per the Development & Control Rules of CMDA area or Local Body area whichever is applicable.
13.	"Exit" signage	With alternate source of power supply or battery back-up with glow type
14.	Emergency Lights	At staircase landing and exit routes.
15.	Fire drill and fire order	Fire drill to be conducted once in a year, fire order should be prepared and kept ready.
16.	House keeping	Entire building should be maintained neat and clean.
17.	Cable and other ducts	Sealed at each floor level to check the spread of smoke, heat and flame.
18.	Fire Damper	Located at air conditioned ducts for check the spread of heat, flame smoke and gases.
19.	Compartmentation (Wall)	Area more than 750 m2 on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.

20	Lightning Arrester	To be provided
21	Automatic Smoke vents	To be provided in the basement area and other enveloped (completely covered) areas in the floors

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings.**

Group A: Residential - Hotels (Less than 15 meters)

Sub Division A5 - Hotels iii) Covered area exceeding 1000 Square meter

Sl. No.	Types of Fire Protection (Active Defense.)	Requirements
1.	Fire Extinguishers	Minimum 2 per floor, depending upon the area and travel distance.
2.	Hose Reel Assembly	Covering all floors(Per 1000 m2)
3.	Wet Riser	Required to be provided for buildings with more one storey
4.	Yard Hydrant	Provided all around the building at 30 meters interval
5.	Fire Service Inlet	To be provided at the ground level
6.	Automatic Sprinkler System	To be provided in the entire building.
7.	Manually operated fire alarm (MCP) call points	To provided in each floor near exist door
8.	Automatic detection and Alarm system	Provided at each floor
9.	Underground static tank	1,00,000 literes.
10.	Terrace Level	10,000 liters if the basement is sprinklered.
11.	Pumps near underground static tank	One electric and one diesel pump of each capacity 1620 LPM and one electric pump of capacity 180 LPM
Life Safety (Passive Defense)		
12.	Staircase (2 meters width)	2 nos. remote from each other.
13.	Fire lift	1 No. per 1200 m2.
14.	Side Set Back Area	As per the Development & Control Rules of CMDA area or Local Body area whichever is applicable.
15.	"Exit" signage	With alternate source of power supply or battery back-up with glow type
16.	Emergency Lights	At staircase landing and exit routes.
17.	Fire Control Room	Should be provided
18.	Fire drill and fire order	Fire drill to be conducted once in a year, fire order should be prepared and kept ready.
19.	House keeping	Entire building should be maintained neat and clean.
20.	Cable and other ducts	Sealed at each floor level to check the spread of smoke, heat and flame.
21.	Fire Damper	Located at air conditioned ducts for check the spread of heat, flame smoke and gases.

22	Compartmentation (Wall)	Area more than 750 m2 on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.
23	Lightning Arrester	To be provided
24	Automatic Smoke vent system	To be provided in the basement area and other enveloped (completely covered) areas in the floors

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings
Group A: Residential - (15 meter and above but not exceeding 30 meter)**

Sub Division A5 - Hotels		
Sl. No.	Types of Fire Protection (Active Defense)	Requirements
1.	Fire Extinguishers	Minimum 2 per floor, depending upon the area and travel distance.
2.	Hose Reel Assembly	Provided at each floor (Per 1000 m2.)
3.	Wet-riser	Covering all the floors (Per 1000 m2).
4.	Yard Hydrant	All around the building at 30mts Interval
6	Fire Service Inlet	To be provided at the ground floor.
5.	Automatic Sprinkler System	Provided for the entire building including basement.
7.	Manually operated fire alarm (MCP) Call points	To provided in each floor near exit door
8.	Automatic Detection and Alarm system	Provided covering all the floors.
9.	Underground water tank	1,50,000 liters.
10.	Terrace level over head tank	20,000 liters.
11.	Fire Pumps at ground level	1 electric and 1 diesel pump of each capacity 2280 LPM and 1 electric pump 180 LPM (Jockey Pump)
Life Safety (Passive Defense)		
12.	Staircase (2 meters width)	2 nos. remote from each other (pressurization of staircases (Protected escape routes)
13.	Fire lift	1 No. per 1200 m2
14.	Side Set Back Area	7 meters all round the building
15.	"Exit" signage	With alternate source of power supply or battery back-up with glow type
16.	Emergency Lights	At staircase landing and exit routes.
17.	Fire Control Room	Should be provided
18.	Fire drill and fire order	Fire drill to be conducted once in a year, fire order should be prepared and kept ready.
19.	Refuge Area	Refuge Area to be provided at 24 th meters, if balcony is not provided.
20.	House keeping	Entire building should be maintained neat and clean.
21.	Cable and other ducts	Sealed at each floor level to check the spread of smoke, heat and flame.
22.	Fire Damper	Located at air conditioned ducts for check the spread of heat, flame smoke and gases.

23	Compartmentation (Wall)	Area more than 750 m2 on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.
24	Lightning Arrester	To be provided
25	Automatic Smoke vent system	To be provided in the basement area and other enveloped (completely closed) areas

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings.

Group A : Residential - (Above 30 meters)

Sub Division A5- Hotels . Sub ivision A6 - Hotels (Starred)		
Sl. No.	Types of Fire Protection (Active Defense)	Requirements
1.	Fire Extinguishers	Minimum 2 per floor, depending upon the area and travel distance.
2.	Hose Reel Assembly	Covering each floor (Per 1000 m2).
3.	Wet-riser	Covering all the floors (Per 1000 m2).
4.	Yard Hydrant	All around the building at 30meters interval
5.	Automatic Sprinkler System	To be provided for the Entire building including basement.
6.	Fire Service Inlet	To be provided at the ground level
6.	Manually operated fire alarm (MCP) Call points	To provided in each floor near exit door
7.	Automatic Detection and Alarm system	Provided for the entire building
8	Automatic Smoke vent system	To be provided in the basement area and other enveloped(completely covered) areas in the floors.
9.	Underground water tank	2,00,000 liters
10.	Terrace level over head tank	20,000 liters .
11.	Fire Pumps at ground level	2 electric and 1 diesel pump of each capacity 2280 LPM and 1 electric pump 180 LPM (Jockey Pump)
Life Safety (Passive Defense)		
12.	Staircase (2 meters width)	2 nos. remote from each other (Pressurization to be done for all the staircases)
13.	Fire lift	1 No. per 1200 m2
14.	Side Set Back Area	7 meters all round the building
15.	"Exit" signage	With alternate source of power supply or battery back-up with glow type
16.	Emergency Lights	At staircase landing and exit routes.
17.	Fire Control Room	Should be provided
18.	Fire drill and fire order	Fire drill to be conducted once in a year, fire order should be prepared and kept ready.

19.	Helipad	Provision should be made for helipad for the buildings above 60 meters.
20.	Refuge Area	Refuge Area to be provided at 24 th meter level and at every 15 meters at higher level (i.e 24 th , 39, 54 meters etc.)
21.	House keeping	Entire building should be maintained neat and clean.
22.	Evacuation route plan.	This plan should be displayed in each at prominent places.
23.	Cable and other ducts	Sealed at each floor level to check the spread of smoke, heat and flame.
24.	Fire Damper	Located at air conditioned ducts for check the spread of heat, flame smoke and gases.
25	Public Address system	To be provided covering all the floors either individually or collectively or both
26	Compartmentation (Wall)	Area more than 750 m ² on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.
27	Lightning Arrester	To be provided

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings.

Group B: Educational Buildings (Less than 15 meters in Height, Ground + One Storey)

Sub Division B1 – Schools up to Senior Secondary Level		
Sub Division B2 - All others/training Institutions		
Sl.No	Types of Fire Protection (Active Defense)	Requirements
1	Fire Extinguishers	Minimum 2 Nos per Floor
2	Automatic Sprinkler System	Only for basement area if the area is more than 200 Sq.m
3	Water: Terrace Level Tank	5000 Liters if the basement is sprinklered.
4	Fire Pump at Terrace Level	450 LPM capacity if the basement is sprinklered.
	Life Safety (Passive Measure)	
5	Staircase (1.5 mts width)	2 Nos. Location of staircase should not be adjacent and away from each other.
6	Side set back area	As per the Development & Control Rules of CMDA area or Local Body area whichever is applicable.

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings

Group B: Educational Buildings (Less than 15 meters in Height, Ground + Two or more stories)

Sub Division B1 – Schools up to Senior Secondary Level		
Sub Division B2 - All others/training Institutions		
Sl.No	Types of Fire Protection (required (Active Measures)	Requirements
1	Fire Extinguishers	Minimum 2 Nos per Floor
2	Hose Reel Assembly	Covering all floors (Per 1000 m2)
3	Automatic Sprinkler System	Only for basement area if the area is more than 200 m2
4	Water: Terrace Level Tank	10000 Liters (+5000 liters if the basement is provided with sprinkler system)
5	Fire Pump at Terrace Level	An electric pump of capacity 450 LPM (+ 450 LPM if the basement is sprinklered)
6	Fire Service Inlet	To be provided at the ground floor level
	Life Safety (Passive Measure)	
6	Staircase (1.5 meters width)	Minimum of 2 Nos. Location should not be adjacent, and away from each other.
7	Side set back area	As per the Development & Control Rules of CMDA area or Local Body area whichever is applicable.
8	Lightning Arrester	To be provided

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings
Group B: Educational Buildings (15 meters and above but not exceeding 30
meters in Height)**

Sub Division B1 – Schools up to Senior Secondary Level Sub Division B2 - All others/Training Institutions		
Sl.No	Types of Fire Protection (Active Defense)	Requirements
1	Fire Extinguishers	Minimum 2 Nos per Floor
2	Hose Reel Assembly	To be provided at all floors (Per 1000 m2.)
3	Down Comer	To be provided at all floors (Per 1000 m2.)
4	Manually operated Fire Alarm call points (MCP)	For each Floor
5	Automatic Sprinkler System	Only for basement area if the area is more than 200 sq.mt.
6	Water: Terrace Level Tank	25000 Liters.
7	Fire Pump at Terrace Level	Pump of capacity 900 LPM.
Life Safety (Passive Defense)		
8	Staircase (1.5 meters width)	Minimum of 2 Nos. Location should not be adjacent, away from each other. (Remote from each other)
9	Class Room Exits	Every Room with capacity of over 45 persons in area shall have at least two doorways.
10	Side Set Back area	7 meters all around the building
11	“Exit” Signage’s	Shall be clearly visible and the route to reach the exits shall be clearly marked and signs posted to guide the occupants of the floor.
12	Emergency Lights	At Staircase landing and exit routes.
13	Lightning arrester	Should be Provided
14	Public Address System	Should be provided for an announcement during the emergency
15	Do’s and Don’ts laminated hanging pads	Should be available in all floors in prominent places.
16	Assembly Point	Assembly points should be designated at the ground floor occupants of each floor.
17	Refuge area	Refuge area to be provided at 24 th meter level.
18	House Keeping	Entire building should be maintained neat and clean.
19	Fire Drill and Fire Order	Fire Drill should be conducted once in 6 months and Fire order should be prepared kept ready.

20	Evacuation route plan	This plan should be displayed in each at prominent places.
21	Compartmentation (Wall)	Area more than 750 m ² on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.
22	Smoke vent system	To be provided in the basement area and other enveloped (completely covered) areas in the floors

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings.

Group C: Institutional - (Less than 15 meters)

Sub Division C1 - Hospitals, Sanatoria and Nursing Homes.		
Less than 15 meters in height with plot area up to 1000 Sq.mt.		
i. Up to ground + 1 storey with no beds		
Sl. No.	Types of Fire Protection (Active Defense)	Requirements
1.	Fire Extinguishers	Minimum 2 per floor, depending upon the area and travel distance.
2.	Hose Reel Assembly	To be provided covering all floors (Per 1000 m2)
3.	Automatic Sprinkler System	Provided in the basement if the area is 200 m2 and above.
4.	Manually operated fire alarm (MCP) Call points	To provided in each floor near exit door
5.	Water: Terrace level tank	2,500 liters. (+ 2500 liters if the basement is provided with sprinkler system.)
Life Safety (Passive measure)		
6.	Staircase (2 meters width)	Minimum of 2 nos. remote from each other
7.	Ramp	1 no. for easy evacuation of stretcher patients.
8.	Compartmentalization	Area more than 500 m2 on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.
9.	Fire lift	1 no. with a provision to evacuate the stretcher patients.
10.	Smoke Ventilation System	To be provided in the basement area and other enveloped (completely covered) areas in the floors.
11.	Fire resistance compartment	At suitable floors for intermediate evacuation of intensive care patients.
12.	Side Set Back Area	As per the Development & Control Rules of CMDA area or Local Body area whichever is applicable.
13.	"Exit" signage	With alternate source of power supply or battery back-up with glow type
14.	Lightning arrester	Should be provided
15.	Public Address System	Should be provided for announcement during emergency

16.	Training	Nurses and male staff should be trained in preliminary fire fighting and evacuation management during emergency
17.	Separate toilets	Specially designed toilets for the physically challenged patients should be provided at each floor.
18.	Authorised persons should available to handle flammable, poisonous and anastasia medicines.	To minimize the fire hazard
19.	LPG cylinders should not be kept or used in the basement for cooking or heating	To minimize the fire hazard
20.	The distribution system of oxygen meet the requirements of standard practice.	To minimize the fire hazard.
21.	Means of escape and exit width	As per NBC specifications
22.	Do's & Don'ts laminated hanging pads	Should be available in all floors in prominent places
23.	Parking facility	Separate provision should be made for parking of vehicles. At any cost side set back area should not be used for parking of vehicles.
24.	Ambulance	Ambulance position should be marked visibly.
25.	Assembly Point	Assembly points should be designated at the ground for occupants of each floor.
26.	Fire drill and fire order	Fire drill to be conducted once in a year, fire order should be prepared and kept ready.
27.	Cable and other ducts	Sealed at each floor level to check the spread of smoke, heat and flame.
28.	Fire Damper	To be provided in the A/C ducts for check the spread of heat, flame smoke and gases.

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings**

Group C: Institutional - (Less than 15 meters)

Sub Division C1 - Hospitals, Sanatoria and Nursing Homes.		
Less than 15 meters in height with plot area up to 1000 Sq.mt.		
ii. Up to ground plus one storey with beds		
iii. Ground plus two or more stories, with no beds		
iv. Ground plus two or more stories, with beds		
Sl. No.	Types of Fire Protection Required (Active Measures)	Requirements
1.	Fire Extinguishers	Minimum 2 per floor, depending upon the area and travel distance.
2.	Hose Reel Assembly	To be provided covering all the floors (Per 1000 m ²)
3.	Down Comer system	To be provided covering all floors for the building categories (ii) and (iii) and not required for category (iv)
4.	Wet Riser system	(a) Not required for categories (i), (ii) and (iii). (b) To be provided covering all the floors
3.	Automatic Sprinkler System	Provided in the basement if the area exceeds 200 m ² .
4.	Manually operated fire alarm (MCP) Call points	To provided in each floor near exit door
5.	Automatic Detection and alarm System	To be provided for all the floors category iii and iv only.
6.	Water: (a) Terrace level tank: (b) Under Ground Tank:	(a) 5,000 liters.(+ 5000 liters if the basement is provided with sprinkler system) for categories (ii),(iii) and (iii). (b) 50000 liters for category (iv) only
7.	Fire pumps	(a) 450 LPM (+ 450 LPM if the basement is provided with the sprinkler system) at terrace level for (ii) (iii) only and (b) One electric and one diesel pump of each capacity 1620 LPM and an electric pump of capacity 180 LPM at ground level tank for category (iv) only
Life Safety (Passive measure)		
8.	Staircase (2 meters width)	Minimum of 2 nos. at remote distance.
9.	Ramp	1 no. for easy evacuation of stretcher patients.
10.	Compartmentalization	Area more than 500 m ² on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.
11.	Fire lift	1 no. with a provision to evacuate the stretcher patients.
12.	Smoke Ventilation System	To be provided in the basement area and other enveloped (completely covered) areas in the floors.

13.	Side Set Back Area	As per the Development & Control Rules of CMDA area or Local Body area whichever is applicable.
14.	"Exit" signages	With alternate source of power supply or battery back-up with glow type
15.	Lightning arrester	Should be provided
16.	Public Address System	Should be provided for announcement during emergency
17.	Training	Nurses and male staff should be trained in preliminary fire fighting and evacuation management during emergency
18.	Separate toilets	Specially designed toilets for the physically challenged patients should be provided at each floor.
19.	Authorized persons should be available to handle flammable, poisonous and Anastasia medicines.	To minimize the fire hazard
20.	LPG cylinders should not be kept or used in the basement for cooking or heating	To minimize the fire hazard
21.	The distribution system of oxygen meet the requirements of standard practice.	To minimize the fire hazard
22.	Means of escape and exit width	As per NBC specifications
23.	Do's & Don'ts laminated hanging pads	Should be available in all floors in prominent places
24.	Parking facility	Separate provision should be made for parking of vehicles. At any cost side set back area should not be used for parking of vehicles.
25.	Ambulance	Ambulance position should be marked visibly.
26.	Assembly Point	Assembly points should be designated at the ground for occupants of each floor.
28.	Refuge Area	Compartmentation of two hour fire resistance with area not less than 25m ² or an area equivalent to 2m ² per patient in each floor for intermediate evacuation of intensive care patients.
29.	Fire drill and fire order	Fire drill to be conducted once in a year, fire order should be prepared and kept ready.
30.	Cable and other ducts	Sealed at each floor level to check the spread of smoke, heat and flame.
31.	Fire Damper	Located at air conditioned ducts for check the spread of heat, flame smoke and gases.

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings.**

Group C: Institutional - (Less than 15 mts)

Sub Division C1 - Hospitals, Sanatoria and Nursing Homes.		
Less than 15 meters in height with plot area more than 1000 m²		
Sl. No.	Types of Fire Protection (Active Defense)	Requirements
1.	Fire Extinguishers	Minimum 2 per floor, depending upon the area and travel distance.
2.	Hose Reel Assembly	To be provided at all floors (Per 1000 m ²)
3.	Wet Riser	To be provided at all floors (Per 1000 m ²)
4.	Yard Hydrant	Provided all around the building at 30 Mtr. Interval.
5.	Automatic Sprinkler System	Only basement is provided if it is more than 200 m ²
6.	Manually operated fire alarm (MCP) Call points	To provided in each floor near exit door
7.	Automatic Detection and alarm System	To be provided for all the floors
8.	Underground static water tank	100,000 liters.
9.	Terrace level tank	10,000 liters
10.	Fire pump at ground level	One electric and one diesel pump of each capacity 1620 LPM and one electric pump of capacity 180 LPM
	Life Safety (Passive measure)	
11.	Staircase (2 meters width)	Minimum of 2 nos. at remote distance
12.	Ramp	1 no. for easy evacuation of stretcher patients.
13.	Compartmentalization	Area more than 500 m ² on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.
14.	Fire lift	1 no. with a provision to evacuate the stretcher patients.
15.	Smoke Ventilation System	To be provided in the basement area and other enveloped (completely covered) areas in the floors.
17.	Side Set Back Area	As per the Development & Control Rules of CMDA area or Local Body area whichever is applicable.
18.	"Exit" signage	With alternate source of power supply or battery back-up with glow type
19.	Lightning arrester	Should be provided

20.	Public Address System	Should be provided for announcement during emergency
21.	Training	Nurses and male staff should be trained in preliminary fire fighting and evacuation management during emergency
22.	Separate toilets	Specially designed toilets for the physically challenged patients should be provided at each floor.
23.	Authorised persons should available to handle flammable, poisonous and anastasia medicines.	To minimize the fire hazard
24.	LPG cylinders should not be kept or used in the basement for cooking or heating	To minimize the fire hazard
25.	The distribution system of oxygen meet the requirements of standard practice.	To minimize the fire hazard
26.	Means of escape and exit width	As per NBC specifications
27.	Do's & Don'ts laminated hanging pads	Should be available in all floors in prominent places
28.	Parking facility	Separate provision should be made for parking of vehicles. At any cost side set back area should not be used for parking of vehicles.
29.	Ambulance	Ambulance position should be marked visibly.
30.	Assembly Point	Assembly points should be designated at the ground for occupants of each floor.
31.	Refuge Area	Compartmentation of two hour fire resistance with area not less than 25m ² or an area equivalent to 2m ² per patient in each floor for intermediate evacuation of intensive care patients.
32.	Fire drill and fire order	Fire drill to be conducted once in a year, fire order should be prepared and kept ready.
33.	Cable and other ducts	Sealed at each floor level to check the spread of smoke, heat and flame.
34.	Fire Damper	Located at air conditioned ducts for check the spread of heat, flame smoke and gases.

Requirements of Fire Safety Arrangements and Life Safety Measures for Various uses of Buildings

Group C: Institutional - (Above 15meters but not exceeding 24 meters)

Sub Division C1 - Hospitals, Sanatoria and Nursing Homes.		
Sl. No.	Types of Fire Protection (Active Defense)	Requirements
1.	Fire Extinguishers	Minimum 2 per floor, depending upon the area and travel distance.
2.	Hose Reel Assembly	Provided at all floors (Per 1000 m2)
3.	Wet-riser	Provided at all floors (Per 1000 m2)
4.	Yard Hydrant	All around the building at 30mts interval
5.	Automatic Sprinkler System	To be provided in suitable places In consultation with Fire and Rescue Services Department
6.	Manually operated fire alarm (MCP) Call points	To provided in each floor near exit door
7.	Automatic Detection and Alarm system	For entire building
8.	Underground water tank	100,000 liters
9.	Terrace level over head tank	20,000 liters
10.	Fire Pumps at ground level	1 electric and 1 diesel pump of capacity 2280 LPM and 1 electric pump 180 LPM (Jockey Pump)
Life Safety (Passive measure)		
11.	Staircase (2 meters width)	Minimum of 2 nos. at remote distance
12.	Ramp	1 no. for easy evacuation of stretcher patients.
13.	Compartmentalization	Area more than 500 m2 on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.
14.	Fire lift	1 no. with a provision to evacuate the stretcher patients.
15.	Smoke Ventilation System	Automatic system should be provided for visibility during emergency.
16.	Fire resistance compartment	At suitable floors for intermediate evacuation of intensive care patients.
17.	Side Set Back Area	7 meters all round the building
18.	"Exit" signage	With alternate source of power supply or battery back-up with glow type
19.	Lightning arrester	Should be provided

20.	Public Address System	Should be provided for announcement during emergency
21.	Training	Nurses and male staff should be trained in preliminary fire fighting and evacuation management during emergency
22.	Separate toilets	Specially designed toilets for the physically challenged patients should be provided at each floor.
23.	Authorised persons should available to handle flammable, poisonous and anastasia medicines.	To minimize the fire hazard
24.	LPG cylinders should not be kept or used in the basement for cooking or heating	To minimize the fire hazard
25.	The distribution system of oxygen meet the requirements of standard practice.	To minimize the fire hazard
26.	Means of escape and exit width	As per NBC specifications
27.	Do's & Don'ts laminated hanging pads	Should be available in all floors in prominent places
28.	Parking facility	Separate provision should be made for parking of vehicles. At any cost side set back area should not be used for parking of vehicles.
29.	Ambulance	Ambulance position should be marked visibly.
30.	Assembly Point	Assembly points should be designated at the ground for occupants of each floor.
31.	Refuge Area	Compartmentation of two hour fire resistance with area not less than 25m ² or an area equivalent to 2m ² per patient in each floor for intermediate evacuation of intensive care patients.
32.	Fire drill and fire order	Fire drill to be conducted once in a year, fire order should be prepared and kept ready.
33.	Cable and other ducts	Sealed at each floor level to check the spread of smoke, heat and flame.
34.	Fire Damper	Located at air conditioned ducts for check the spread of heat, flame smoke and gases.

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings
Group C: Institutional - (Above 24 meters but not exceeding 30 meters)**

Sub Division C1 - Hospitals, Sanatoria and Nursing Homes.		
Sl. No.	Types of Fire Protection Required (Active Measures)	Requirements
1.	Fire Extinguishers	Minimum 2 per floor, depending upon the area and travel distance.
2.	Hose Reel Assembly	To be provided at all floors(Per 1000 m2)
3.	Wet-riser	To be provided at all floors(Per1000 m2).
4.	Yard Hydrant	All around the building at 30mts interval
5.	Automatic Sprinkler System	To be provided in suitable places in consultation with Fire and Rescue Services Department
6.	Manually operated fire alarm (MCP) Call points	To provided in each floor near exit door
7.	Automatic Detection and Alarm system	For entire building
8.	Underground water tank	150,000 liters
9.	Terrace level over head tank	20,000 liters.
10.	Fire Pumps at ground level	2 electric and 1 diesel pump of each capacity 2280 LPM and 1 electric pump 180 LPM (Jockey Pump)
Life Safety (Passive measure)		
11.	Staircase (2 meters width)	Minimum of 2 nos at remote distance
12.	Ramp	1 no. for easy evacuation of stretcher patients.
13.	Compartmentalization	Area more than 500 m2 on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.
14.	Fire lift	1 no.(per 1200 m2) with a provision to evacuate the stretcher patients.
15.	Smoke Vent System	To be provided in the basement area and other enveloped (completely covered) areas in the floors.
16.	Fire resistance compartment	At suitable floors for intermediate evacuation of intensive care patients.
17.	Side Set Back Area	7 meters all round the building
18.	"Exit" signage	With alternate source of power supply or battery back-up with glow type
19.	Lightning arrester	Should be provided

20.	Public Address System	Should be provided connecting all floors for announcement, either collectively or individually, during emergency
21.	Emergency Response Team & Training	Nurses and male staff should be trained in preliminary fire fighting and evacuation management during emergency.
22.	Separate toilets.	Specially designed toilets for the physically challenged patients should be provided at each floor.
23.	Authorized persons should be available to handle flammable, poisonous and Anastasia medicines.	To minimize the fire hazard.
24.	LPG cylinders should not be kept or used in the basement for cooking or heating.	To minimize the fire hazard
25.	The distribution system of oxygen meet the requirements of standard practice	To minimize the fire hazard
26.	Means of escape and exit width	As specified in NBC
27.	Do's Don'ts laminated hanging pads	Should be available in all floors in prominent places.
28.	Parking facility	Separate provision should be made for parking of vehicles. At any cost side set back area should not be used for parking of vehicle.
29.	Ambulance	Ambulance position should be marked visibly.
30.	Assembly point	Assembly points should be designated at the ground for occupants of each floor.
31.	Refuge area	Compartmentation of two hour fire resistance with area not less than 25m ² or an area equivalent to 2m ² per patient in each floor for intermediate evacuation of intensive care patients.
32.	Fire drill and fire order	Fire drill to be conducted once in a year, fire order should be prepared and kept ready.
33.	Cable and other ducts	Sealed at each floor level to check the spread of smoke, heat and flame.
34.	Fire Damper	Located at air conditioned ducts for check the spread of heat, flame smoke and gases.

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings.

Group C: Institutional - (Above 15 meters but not exceeding 24 meters)

Sub Division C2 - Custodial Institutions		
Sub Division C3 - Penal and Mental Institutions		
Sl. No.	Types of Fire Protection (Active Defense)	Requirements
1.	Fire Extinguishers	Minimum 2 per floor, depending upon the area and travel distance.
2.	Hose Reel Assembly	Provided at all floors (Per 1000 m2)
3.	Wet-riser	Provided at all floors (Per 1000 m2)
4.	Yard Hydrant	All around the building at 30mts Interval
5.	Automatic Sprinkler System	To be provided in suitable places in consultation with Fire and Rescue Services Department.
6.	Fire Service Inlet	To be provided at the ground Floor
7.	Manually operated fire alarm (MCP) Call points	To provided in each floor near exit door
8.	Automatic Detection and Alarm system	Provided for the entire building
9.	Underground water tank	75,000 liters
10.	Terrace level over head tank	10,000 liters
11.	Fire Pumps at ground level	1 electric and 1 diesel pump of each capacity 2280 LPM and 1 electric pump 180 LPM (Jockey Pump)
Life Safety (Passive measure)		
12.	Staircase (2 meters width)	Minimum of 2 nos. at remote distance.
13.	Ramp	1 no. for easy evacuation of stretcher patients.
14.	Compartmentalization	Area more than 500 m2 on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.
15.	Fire lift	1 no. (per 1200 m2) with a provision to evacuate the stretcher patients.
16.	Smoke Ventilation System	To be provided in the basement area and other enveloped (completely covered) areas in the floors.
17.	Emergency Lightings	Covering all escape routes ways.
18.	Side Set Back Area	7 meters all round the building

19.	"Exit" signage	Suitable type of announcement should be available to handle the patients.
20.	Lightning arrester	Should be provided
21.	Public Address System	Should be provided for announcement during emergency
22.	Emergency Response Team & Training	Nurses and male staff should be trained in preliminary fire fighting and evacuation management during emergency.
23.	Special Training	Sufficient number of specially trained persons should be available round the clock to deal with different class of mental challenged patients.
24.	Separate toilets	Specially designed toilets for the physically challenged patients should be provided at each floor.
25.	Authorized persons should be available to handle flammable, poisonous and Anastasia medicines.	To minimize the fire hazard
26.	LPG cylinders should not be kept or used in the basement for cooking or heating	To minimize the fire hazard
27.	The distribution system of oxygen meets the requirement of standard practice.	To minimize the fire hazard
28.	Means of escape and exit width	As per NBC specifications
29.	Do's & Don'ts laminated hanging pads	Should be available in all floor in prominent places.
30.	Parking facility	Separate provision should be made for parking of vehicles. At any cost side set back area should not be used for parking of vehicles.
31.	Ambulance	Ambulance position should be marked visibly
32.	Assembly point	Assembly points should be designated at the ground for occupants of each floor.
33.	Refuge area.	Compartmentation of two hour fire resistance with area not less than 25m ² or an area equivalent to 2m ² per patient in each room for intermediate evacuation of intensive care patients.
34.	Fire drill and fire order	Fire drill to be conducted once in a year, fire order should be prepared and kept ready.

35.	Cable and other ducts	Sealed at each floor level to check the spread of smoke, heat and flame.
36.	Fire Damper	Located at air conditioned ducts for check the spread of heat, flame smoke and gases.

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings.**

Group C: Institutional - (24 meter and above but not exceeding 30 meter)

Sub Division C2 - Custodial Institutions		
Sub Division C3 - Penal and Mental Institutions		
Sl. No.	Types of Fire Protection (Active Defense)	Requirements
1.	Fire Extinguishers	Minimum 2 per floor, depending upon the area and travel distance.
2.	Hose Reel Assembly	Provided at all floors (Per 1000 m2)
3.	Wet-riser	Provided at all floors (Per 1000 m2)
4.	Yard Hydrant	All around the building at 30mts Interval
5.	Automatic Sprinkler System	To be provided in suitable places in consultation with Fire and Rescue Services Department.
6.	Fire Service Inlet	To be provided at the ground floor level
7.	Manually operated fire alarm (MCP) Call points	To provided in each floor near exit door
8.	Automatic Detection and Alarm system	Provided for the entire building
9.	Underground water tank	100,000 liters
10.	Terrace level over head tank	20,000 liters
11.	Fire Pumps at ground level	2 electric and 1 diesel pump of each capacity 2850 LPM and 1 electric pump 180 LPM (Jockey Pump)
Life Safety (Passive measure)		
12.	Staircase (2 meters width)	Minimum of 2 nos at remote distance
13.	Ramp	1 no. for easy evacuation of stretcher patients.
14.	Compartmentalization	Area more than 500 m2 on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.
15.	Fire lift	1 no. (per 1200 m2) with a provision to evacuate the stretcher patients.
16.	Smoke Ventilation System	To be provided in the basement area and other enveloped (completely covered) areas in the floors.
17.	Emergency Lightings.	To be provided covering all escape routes and ways.

18.	Side Set Back Area	7 meters all round the building
19.	"Exit" signage	Suitable type of announcement should be available to handle the patients.
20.	Lightning arrester	Should be provided
21.	Public Address System	Should be provided connecting all floors for announcement, either collectively or individually, during emergency
22.	Emergency Response Team & Training	Nurses and male staff should be trained in preliminary fire fighting and evacuation management during emergency.
23.	Special Training	Sufficient number of specially trained persons should be available round the clock to deal with different class of mental challenged patients.
24.	Separate toilets	Specially designed toilets for the physically challenged patients should be provided at each floor.
25.	Authorized persons should available to handle flammable, poisonous and Anastasia medicines.	To minimize the fire hazard
26.	LPG cylinders should not be kept or used in the basement for cooking or heating	To minimize the fire hazard
27.	The distribution system of oxygen meets the requirement of standard practice.	To minimize the fire hazard
28.	Means of escape and exit width	As per NBC specifications
29.	Do's & Don'ts laminated hanging pads	Should be available in all floor in prominent places.
30.	Parking facility	Separate provision should be made for parking of vehicles. At any cost side set back are should not be used for parking of vehicles.
31.	Ambulance	Ambulance position should be marked visibly
32.	Assembly point	Assembly points should be designated at the ground for occupants of each floor.
33.	Refuge area.	Compartmentation of two hour fire resistance with area not less than 25m ² or an area equivalent to 2m ² per patient in each from for intermediate evacuation of intensive care patients.

34.	Fire drill and fire order	Fire drill to be conducted once in a year, fire order should be prepared and kept ready.
35.	Cable and other ducts	Sealed at each floor level to check the spread of smoke, heat and flame.
36.	Fire Damper	Located at air conditioned ducts for check the spread of heat, flame smoke and gases.

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings

Group D: Assembly Buildings (Less than 10 meter in Height, up to 300 persons)

Sub Division D1 - Buildings having a theatricals or motion picture or any other stage and fixing seats for over 1,000 persons		
Sub Division D2 - Buildings having a theatrical or motion picture or any other stage and fixed seats upto 1,000 persons.		
Sub Division D3 - Buildings without a permanent stage having accommodation for 300 or more persons but no permanent seating arrangement.		
Sub Division D4 - Buildings without a permanent stage having accommodation for less than 300 persons with no permanent seating arrangement.		
Sub Division D5-All other structures including temporary structures designed for assembly of people not covered by sub-divisions D-1 to D4, at ground level.		
Sl. No	Types of Fire Protection (required (Active Measures)	Requirements
1	Fire Extinguishers	Minimum 2 Nos per Floor
2	Hose Reel Assembly	Provided at all floors (Per 1000 m2).
3	Down Comer	Provided at all floors (Per 1000 m2).
4	Manually operated Fire Alarm call points (MCP)	For each Floor
5	Automatic Sprinkler System	Only for basement area if the area is more than 200 m2
6	Fire Service Inlet	To be provided at the ground floor level
6	Terrace Level over head tank	10,000 Liters capacity. Add 5,000 Liters capacity if the provision of Sprinkler system in the basement.
7	Fire Pump at Terrace Level	Pump of capacity 450 LPM. If the provision of sprinkler system to be provided, then 900 LPM
Life Safety (Passive Measure)		
8	Staircase (2 meters width)	Minimum of 2 Nos. Location should not be adjacent, and should be away from each other. (Remote from each other)
9	Side Set Back area	As per the Development & Control Rules of CMDA area or Local Body area whichever is applicable.
10	“Exit” Signage’s	Shall be clearly visible and the route to reach the exits shall be clearly marked and signs posted to guide the occupants of the floor.
11	Emergency Lights	At staircase landing and exit routes.
12	Lightning arrester	Should be provided
13	Public Address System	Should be provided for an announcement during the emergency
14	Do’s and Don’ts laminated hanging pads	Should be available in all floors in prominent places.

15	Assembly Point	Assembly points should be designated at the ground floor occupants of each floor.
16	House Keeping	Entire building should be maintained neat and clean.
17	Fire Drill and Fire Order	Fire Drill should be conducted once in 6 months and Fire order should be prepared kept ready.
18	Evacuation route plan	This plan should be displayed in each at prominent places.
19	Automatic Smoke vent system	To be provided in the basement

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings
Group D: Assembly Buildings (Less than 10 meters in Height, more than
300 persons)**

<p>Sub Division D1 - Buildings having a theatricals or motion picture or any other stage and fixing seats for over 1,000 persons</p> <p>Sub Division D2 - Buildings having a theatrical or motion picture or any other stage and fixed seats upto 1,000 persons.</p> <p>Sub Division D3 - Buildings without a permanent stage having accommodation for 300 or more persons but no permanent seating arrangement.</p> <p>Sub Division D4 - Buildings without a permanent stage having accommodation for less than 300 persons with no permanent seating arrangement.</p> <p>Sub Division D5-All other structures including temporary structures designed for assembly of people not covered by sub-divisions D-1 to D4, at ground level.</p>		
Sl. No	Types of Fire Protection (required (Active Measures)	Requirements
1	Fire Extinguishers	Minimum 2 Nos per Floor
2	Hose Reel Assembly	Provide at all floors (Per 1000 m2).
3	Down Comer	Provided at all floors (Per 1000 m2).
4	Manually operated Fire Alarm call points (MCP)	For each Floor
5	Automatic Sprinkler System	Only for basement area if the area is more than 200 m2
6	Fire Service Inlet	To be provided at the ground floor level
6	Terrace Level over head tank	15,000 Liters. Add 5,000 Liters if the provision of Sprinkler system is provided in the basement
7	Fire Pump at Terrace Level	Pump of capacity 900 LPM.
	Life Safety (Passive Measure)	
8	Staircase (2 mts width)	Minimum of 3 Nos. Location should not be adjacent, and should be away from each other. (Remote from each other)
9	Side Set Back area	As per the Development & Control Rules of CMDA area or Local Body area whichever is applicable.
10	“Exit” Signage’s	Shall be clearly visible and the route to reach the exits shall be clearly marked and signs posted to guide the occupants of the floor.
11	Emergency Lights	At staircase landing and exit routes.
12	Lightning arrester	Should be provided
13	Public Address System	Should be provided for an announcement during the emergency

14	Do's and Don'ts laminated hanging pads	Should be available in all floors in prominent places.
15	Assembly Point	Assembly points should be designated at the ground floor occupants of each floor.
16	House Keeping	Entire building should be maintained neat and clean.
17	Fire Drill and Fire Order	Fire Drill should be conducted once in 6 months and Fire order should be prepared kept ready.
18	Evacuation plan	This plan should be displayed in each at prominent places.
19	Automatic Smoke vent system	To be provided in the basement area

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings**
**Group D: Assembly Buildings (Above 10 meters, but not exceeding 15
meters in Height)**

Sub Division D1 - Buildings having a theatricals or motion picture or any other stage and fixing seats for over 1,000 persons		
Sub Division D2 - Buildings having a theatrical or motion picture or any other stage and fixed seats upto 1,000 persons.		
Sub Division D3 - Buildings without a permanent stage having accommodation for 300 or more persons but no permanent seating arrangement.		
Sub Division D4 - Buildings without a permanent stage having accommodation for less than 300 persons with no permanent seating arrangement.		
Sub Division D5 - All other structures including temporary structures designed for assembly of people not covered by sub-divisions D-1 to D4, at ground level.		
Sl. No	Types of Fire Protection (Active Defense)	Requirements
1	Fire Extinguishers	Minimum 2 Nos per Floor
2	Hose Reel Assembly	Provided at all floors (Per 1000 m2).
3	Wet riser	Provided at all floors (Per 1000 m2).
4	Manually operated Fire Alarm call points (MCP)	For each Floor
5	Automatic detection and Alarm System	For entire building
6	Automatic Sprinkler System	Only for basement area if the area is more than 200 m2.
7	Fire Service Inlet	To be provided at the ground floor level
7	Underground water tank	50,000 Liters capacity.
8	Terrace Level over head tank	5,000 Liters capacity. Add 5000 liters if basement is sprinklered.
9	Fire Pump at Ground level	1 electric and 1 diesel pump of each capacity 2280 LPM and 1 electric pump 180 LPM (Jockey Pump).
Life Safety (Passive Measure)		
10	Staircase (2 mts width)	3 Nos should not be adjacent, away from each other. (Remote from each other)
11	Side Set Back area	As per DCR in CMDA Area
12	“Exit” Signage’s	Shall be clearly visible and the route to reach the exits shall be clearly marked and signs posted to guide the occupants of the floor.
13	Emergency Lights	At staircase landing and exit routes.
14	Lightning arrester	Should be provided
15	Public Address System	Should be provided for an announcement during the emergency

16	Smoke Vent System	To be provided in the basement area and other enveloped (covered area) area of floors.
17	Do's and Don'ts laminated hanging pads	Should be available in all floors in prominent places.
18	Assembly Point	Assembly points should be designated at the ground floor occupants of each floor.
19	House Keeping	Entire building should be maintained neat and clean.
20	Entrance gate width and height	Not less than 4.5 meter and 5 meters respectively.
21	Fire Drill and Fire Order	Fire Drill should be conducted once in 6 months and Fire order should be prepared kept ready.
22	Evacuation plan	This plan should be displayed in each at prominent places.
23	Training	Staffs should be trained in preliminary fire fighting and evacuation management during emergency.
24	Parking facility	Separate provision should be made for parking of vehicles. At any cost side set back area should not be used for parking of vehicles.

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings**
**Group D: Assembly Buildings (Above 15 meter, but not exceeding 24 meter
in Height)**

Sub Division D1 - Buildings having a theatricals or motion picture or any other stage and fixing seats for over 1,000 persons		
Sub Division D2 - Buildings having a theatrical or motion picture or any other stage and fixed seats upto 1,000 persons.		
Sub Division D3 - Buildings without a permanent stage having accommodation for 300 or more persons but no permanent seating arrangement.		
Sub Division D4 - Buildings without a permanent stage having accommodation for less than 300 persons with no permanent seating arrangement.		
Sub Division D5 - All other structures including temporary structures designed for assembly of people not covered by sub-divisions D-1 to D4, at ground level.		
Sl. No	Types of Fire Protection (required (Active Measures)	Requirements
1	Fire Extinguishers	Minimum 2 Nos per Floor
2	Hose Reel Assembly	Provided at all floors (Per 1000 m2).
3	Wet riser	Provided at all floors (Per 1000 m2).
4	Yard Hydrant	At all around the building
5	Fire service inlets	Provided at ground level
6	Manually operated Fire Alarm call points (MCP)	For each Floor
7	Automatic detection and Alarm System	For entire building
8	Automatic Sprinkler System	To be installed in entire building
9	Underground water tank	75,000 Liters capacity.
10	Terrace Level over head tank	10,000 Liters capacity.
11	Fire Pump at Ground level	1 electric and 1 diesel pump of each capacity 2280 LPM and 1 electric pump 180 LPM (Jockey Pump).
Life Safety (Passive Measure)		
12	Staircase (2 meter width)	Minimum of 3 Nos. Location should not be adjacent, and should be away from each other. (Remote from each other)
13	Side Set Back area	7 meter all around the building
14	“Exit” Signage’s	Shall be clearly visible and the route to reach the exits shall be clearly marked and signs posted to guide the occupants of the floor.
15	Emergency Lights	At staircase landing and exit routes.
16	Lightning arrester	Should be provided
17	Public Address System	Should be provided for an announcement during the emergency

18	Smoke Ventilation System	To be provided in the basement area and other enveloped (covered area) area of floors.
19	Do's and Don'ts laminated hanging pads	Should be available in all floors in prominent places.
20	Assembly Point	Assembly points should be designated at the ground floor occupants of each floor.
21	House Keeping	Entire building should be maintained neat and clean.
22	Entrance gate width and height	Not less than 4.5 meter and 5 meter respectively.
23	Fire Drill and Fire Order	Fire Drill should be conducted once in 6 months and Fire order should be prepared kept ready.
24	Evacuation plan	This plan should be displayed in each at prominent places.
25	Training	Staffs should be trained in preliminary fire fighting and evacuation management during emergency.
26	Parking facility	Separate provision should be made for parking of vehicles. At any cost side set back area should not be used for parking of vehicles.
27	Fire lift	1 No.(per 1200 m ²) with a provision for evacuation
28	Compartmentalization	Area more than 750 m ² on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.
29	Means of escape and exit	Staircases should be pressurized to prevent smoke spread.

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings**
**Group D: Assembly Buildings (Above 24 meter, but not exceeding 30meter
in Height)**

Sub Division D1 - Buildings having a theatricals or motion picture or any other stage and fixing seats for over 1,000 persons		
Sub Division D2 - Buildings having a theatrical or motion picture or any other stage and fixed seats upto 1,000 persons.		
Sub Division D3 - Buildings without a permanent stage having accommodation for 300 or more persons but no permanent seating arrangement.		
Sub Division D4 - Buildings without a permanent stage having accommodation for less than 300 persons with no permanent seating arrangement.		
Sub Division D5 - All other structures including temporary structures designed for assembly of people not covered by sub-divisions D-1 to D4, at ground level.		
Sl. No	Types of Fire Protection (required (Active Measures)	Requirements
1	Fire Extinguishers	Minimum 2 Nos per Floor
2	Hose Reel Assembly	Provided at all floors (Per 1000 m2).
3	Wet riser	Provided at all floors (Per 1000 m2).
4	Yard Hydrant	At all around the building
5	Fire service inlets	Provided at ground level
6	Manually operated Fire Alarm call points (MCP)	For each Floor
7	Automatic detection and Alarm System	For entire building
8	Automatic Sprinkler System	To be installed in entire building
9	Underground water tank	100,000 Liters.
10	Terrace Level over head tank	20,000 Liters.
11	Fire Pump at Ground level	2 electric and 1 diesel pump of each capacity 2280 LPM and 1 electric pump 180 LPM (Jockey Pump).
Life Safety (Passive Measure)		
12	Staircase (2 mts width)	Minimum of 3 Nos. Location should not be adjacent, and should be away from each other. (Remote from each other)
13	Side Set Back area	7 meters all around the building
14	“Exit” Signage’s	Shall be clearly visible and the route to reach the exits shall be clearly marked and signs posted to guide the occupants of the floor.
15	Emergency Lights	At staircase landing and exit routes.
16	Lightning arrester	Should be provided

17	Public Address System	Should be provided for an announcement during the emergency
18	Smoke Vent System	To be provided in the basement area and other enveloped (covered area) area of floors.
19	Do's and Don'ts laminated hanging pads	Should be available in all floors in prominent places.
20	Assembly Point	Assembly points should be designated at the ground floor occupants of each floor.
21	House Keeping	Entire building should be maintained neat and clean.
22	Entrance gate width and height	Not less than 4.5 meter and 5 meter respectively..
23	Fire Drill and Fire Order	Fire Drill should be conducted once in 6 months and Fire order should be prepared kept ready.
24	Evacuation route plan	This plan should be displayed in each at prominent places.
25	Training	Staffs should be trained in preliminary fire fighting and evacuation management during emergency.
26	Parking facility	Separate provision should be made for parking of vehicles. At any cost side set back area should not be used for parking of vehicles.
27	Fire lift	1 per 1200 m ² .1 No. with a provision for evacuation
28	Compartmentalization	Area more than 750 m ² on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.
29	Means of escape and exit	Staircases should be pressurized to prevent smoke spread during evacuation.
30	Refuge Area	Refuge area to be provided at 24th meter level.

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings**

Group D: Assembly Buildings

Sub Division : D-6 (Not exceeding 30 meter in Height)		
Sl. No	Types of Fire Protection (required (Active Measures)	Requirements
1	Fire Extinguishers	Minimum 2 Nos per Floor
2	Hose Reel Assembly	Provided at all floors (Per 1000 m2).
3	Wet riser	Provided at all floors (Per 1000 m2).
4	Yard Hydrant	At all around the building
5	Fire service inlets	Provided at ground level
6	Manually operated Fire Alarm call points (MCP)	For each Floor
7	Automatic detection and Alarm System	For entire building
8	Automatic Sprinkler System	To be installed in entire building
9	Underground water tank	(a) 100,000 Liters.(D 1 to D 5) (b) 200,000 Liters for Multiplex (D-6)
10	Terrace Level over head tank	20,000 Liters capacity.
11	Fire Pump at Ground level	2 electric and 1 diesel pump of each capacity 2850 LPM and 1 electric pump of 180 LPM (Jockey Pump) for D 6.
	Life Safety (Passive Defense)	
12	Staircase (2 meters width)	Minimum of 3 Nos. Location should not be adjacent, should be away from each other. (Remote from each other).In case of mixed occupancy, the escape route should not cross through another occupancy. Otherwise a separate additional escape route should be provided.
13	Side Set Back area	7 meters all around the building
14	“Exit” Signage’s	Shall be clearly visible and the route to reach the exits shall be clearly marked and signs posted to guide the occupants of the floor.
15	Emergency Lights	At staircase landing and exit routes.
16	Lightning arrester	Should be provided
17	Public Address System	Should be provided for an announcement during the emergency
18	Smoke Vent System	To be provided in the basement area and other enveloped (covered area) area of floors.
19	Do’s and Don’ts laminated	Should be available in all floors in

	hanging pads	prominent places.
20	Assembly Point	Assembly points should be designated at the ground floor occupants of each floor.
21	House Keeping	Entire building should be maintained neat and clean.
22	Entrance gate width and height	Not less than 4.5 meter and 5 meter respectively.
23	Fire Drill and Fire Order	Fire Drill should be conducted once in 6 months and Fire order should be prepared kept ready.
24	Evacuation route plan	This plan should be displayed in each at prominent places.
25	Training	Staffs should be trained in preliminary fire fighting and evacuation management during emergency.
26	Parking facility	Separate provision should be made for parking of vehicles. At any cost side set back area should not be used for parking of vehicles.
27	Fire lift	1 No.(per 1200 m2) with a provision for evacuation
28	Compartmentalization	Area more than 750 m2 on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.
29	Means of escape and exit	Staircases should be pressurized to prevent spread of smoke in the escape route during evacuation.
30	Refuge Area	Refuge area to be provided at 24th meter level.

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings**

Group D: Assembly Buildings

Sub Division: D-7 All other structures, elevated or underground, for assembly of people not covered by sub-divisions D-1 to D-6.		
Sl. No	Types of Fire Protection (required (Active Measures)	Requirements
1	Fire Extinguishers	Minimum 2 Nos per Floor
2	Hose Reel Assembly	Provided at all floors (Per 1000 m2).
3	Wet riser	Provided at all floors (Per 1000 m2).
4	Yard Hydrant	At all around the building
5	Fire service inlets	Provided at ground level
6	Manually operated Fire Alarm call points (MCP)	For each Floor
7	Automatic detection and Alarm System	For entire building
8	Automatic Sprinkler System	To be installed in entire building
9	Manual panel gas flooding	To be provided
10	Underground water tank	1,00,000 Liters..
11	Terrace Level over head tank	20,000 Liters.
12	Fire Pump at Ground level	2 electric and 1 diesel pump of each capacity 2850 LPM and 1 electric pump 180 LPM (Jockey Pump).
Life Safety (Passive Defense)		
13	Staircase (2 meters width)	Minimum of 3 Nos. Location should not be adjacent, and should be away from each other. (Remote from each other)
14	Side Set Back area	7 meters all around the building
15	“Exit” Signage’s	Shall be clearly visible and the route to reach the exits shall be clearly marked and signs posted to guide the occupants of the floor.
16	Emergency Lights	At staircase landing and exit routes.
17	Lightning arrester	Should be provided
18	Public Address System	Should be provided for an announcement during the emergency
19	Smoke Ventilation System	To be provided in the basement area and other enveloped (covered area) area of floors.
20	Do’s and Don’ts laminated hanging pads	Should be available in all floors in prominent places.
21	Assembly Point	Assembly points should be designated at the ground floor occupants of each floor.

22	House Keeping	Entire building should be maintained neat and clean.
23	Entrance gate width and height	Not less than 4.5 meter and 5 meter respectively.
24	Fire Drill and Fire Order	Fire Drill should be conducted once in 6 months and Fire order should be prepared kept ready.
25	Evacuation route plan	This plan should be displayed in each at prominent places.
26	Training	Staffs should be trained in preliminary fire fighting and evacuation management during emergency.
27	Parking facility	Separate provision should be made for parking of vehicles. At any cost side set back area should not be used for parking of vehicles.
28	Fire lift	1 No. with a provision for evacuation
29	Compartmentalization	Area more than 750 m ² on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.
30	Means of escape and exit	Staircases should be pressurized to prevent spread of smoke in the escape routes during emergency evacuation.
31	Refuge Area	Refuge area to be provided at 24th meter level.

Note: All underground shopping area should be fully air-conditioned.

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings

Group E: Business Buildings (Less than 10 meter in Height)

Sub Division : E-1 Offices, banks, professional establishments, like offices of architects, engineers, doctors, lawyers and police stations.
 Sub Division : E-2 Laboratories, research establishments, libraries and test houses.
 Sub Division : E-3 Computer installations
 Sub - Division : E-4 Telephone Exchanges
 Sub - Division : E-5 Broadcasting stations and T.V. Stations.

Sl. No	Types of Fire Protection (required (Active Measures)	Requirements
1	Fire Extinguishers	Minimum 2 Nos per Floor
2	Hose Reel Assembly	Provided at all floors (Per 1000 m2).
3	Down comer	Provided at all floors (Per 1000 m2).
4	Manually operated Fire Alarm call points (MCP)	For each Floor
5	Automatic Sprinkler System	Only for basement area if the areas is more than 200 m2.
6	Terrace Level over head tank	10,000 Liters. Add 5000 liters if the basement is sprinklered.
7	Fire Pump at Terrace level	Electric pump of capacity 450 LPM. If the basement is sprinklered then 900 LPM.
Life Safety (Passive Measure)		
8	Staircase (2 mts width)	2 Nos. Location should not be adjacent, and should be away from each other. (Remote from each other)
9	Side Set Back area	As per the Development & Control Rules of CMDA area or Local Body area whichever is applicable.
10	“Exit” Signage’s	Shall be clearly visible and the route to reach the exits shall be clearly marked and signs posted to guide the occupants of the floor.
11	Emergency Lights	At staircase landing and exit routes.
12	Lightning arrester	Should be provided
13	Public Address System	Should be provided for an announcement during the emergency
14	Smoke Vent System	To be provided in the basement area and other enveloped area of the building.
15	Do’s and Don’ts laminated hanging pads	Should be available in all floors in prominent places.
16	Assembly Point	Assembly points should be designated at the ground floor occupants of each floor.
17	House Keeping	Entire building should be maintained neat and clean.

18	Entrance gate width and height	Not less than 4.5 meters and 5meter respectively.
19	Fire Drill and Fire Order	Fire Drill should be conducted once in 6 months and Fire order should be prepared kept ready.
20	Evacuation plan	This plan should be displayed in each at prominent places.
21	Training	Staffs should be trained in preliminary fire fighting and evacuation management during emergency.

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings**

Group E: Business Buildings (Above 10 meter and up to 15 meter in Height)

Sub Division : E-1 Offices, banks, professional establishments, like offices of architects, engineers, doctors, lawyers and police stations.
 Sub Division : E-2 Laboratories, research establishments, libraries and test houses.
 Sub Division : E-3 Computer installations
 Sub - Division : E-4 Telephone Exchanges
 Sub - Division : E-5 Broadcasting stations and T.V. Stations.

Sl. No	Types of Fire Protection (required (Active Measures)	Requirements
1	Fire Extinguishers	Minimum 2 Nos per Floor
2	Hose Reel Assembly	Provided at all floors (Per 1000 m2).
3	Wet riser	Provided at all floors (Per 1000 m2).
4	Yard Hydrant	At all around the building
5	Fire service inlets	Provided at ground level
6	Manually operated Fire Alarm call points (MCP)	For each Floor
7	Automatic detection and Alarm System	For entire building
8	Automatic Sprinkler System	Only for basement area if the areas is more than 200 m2.
9	Underground water tank	50,000 Liters.
10	Terrace Level over head tank	5000 Liters. Add 5000 liters if the basement is sprinklered.
11	Fire Pumps	a) 1 electric and 1 diesel pump of each capacity 2280 LPM and 1 electric pump 180 LPM (Jockey Pump) at ground level b) 450 LPM at terrace level. Add 450 LPM if the basement is sprinklered..
	Life Safety (Passive Measure)	
12	Staircase (2 meters width)	Minimum of 2 Nos. Location should not be adjacent, and should be away from each other. (Remote from each other)
13	Side Set Back area	As per the Development & Control Rules of CMDA area or Local Body area whichever is applicable.
14	“Exit” Signage’s	Shall be clearly visible and the route to reach the exits shall be clearly marked and signs posted to guide the occupants of the floor.
15	Emergency Lights	At staircase landing and exit routes.

16	Lightning arrester	Should be provided
17	Public Address System	Should be provided for an announcement during the emergency
18	Smoke Vent System	To be provided in the basement area and other enveloped (completely covered) areas in the floors
19	Do's and Don'ts laminated hanging pads	Should be available in all floors in prominent places.
20	Assembly Point	Assembly points should be designated at the ground floor occupants of each floor.
21	House Keeping	Entire building should be maintained neat and clean.
22	Entrance gate width and height	Not less than 4.5 Mts and 5 Mts.
23	Fire Drill and Fire Order	Fire Drill should be conducted once in 6 months and Fire order should be prepared kept ready.
24	Evacuation route plan	This plan should be displayed in each at prominent places.
25	Training	Staffs should be trained in preliminary fire fighting and evacuation management during emergency.
26	Parking facility	Separate provision should be made for parking of vehicles. At any cost side set back area should not be used for parking of vehicles.
27	Compartmentalization	Area more than 750 m ² on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.
28	Means of escape and exit	Minimum 2 Nos.

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings.

Group E: Business Buildings (Above 15 meter and up to 24 meter in Height)

Sub Division : E-1 Offices, banks, professional establishments, like offices of architects, engineers, doctors, lawyers and police stations.		
Sub Division : E-2 Laboratories, research establishments, libraries and test houses.		
Sub Division : E-3 Computer installations		
Sub - Division : E-4 Telephone Exchanges		
Sub - Division : E-5 Broadcasting stations and T.V. Stations.		
Sl. No	Types of Fire Protection (required (Active Measures)	Requirements
1	Fire Extinguishers	Minimum 2 Nos per Floor
2	Hose Reel Assembly	Provided at all floors (Per 1000 m2).
3	Wet riser	Provided at all floors (Per 1000 m2).
4	Yard Hydrant	At all around the building
5	Fire service inlets	Provided at ground level
6	Manually operated Fire Alarm call points (MCP)	For each Floor
7	Automatic detection and Alarm System	For entire building
8	Automatic Sprinkler System	To be installed in entire building
9	Underground water tank	75,000 Liters.
10	Terrace Level over head tank	10,000 Liters.
11	Fire Pump at Ground level	1 electric and 1 diesel pump of each capacity 2280 LPM and 1 electric pump 180 LPM (Jockey Pump).
Life Safety (Passive Defense)		
12	Staircase (2 meters width)	Minimum of 2 Nos. Location should not be adjacent, and should be away from each other. (Remote from each other)
13	Side Set Back area	7 meters all around the building
14	“Exit” Signage’s	Shall be clearly visible and the route to reach the exits shall be clearly marked and signs posted to guide the occupants of the floor.
15	Emergency Lights	At staircase landing and exit routes.
16	Lightning arrester	Should be provided

17	Public Address System	Should be provided for an announcement during the emergency
18	Smoke Vent System	Automatic system should be provided for visibility during emergency
19	Do's and Don'ts laminated hanging pads	Should be available in all floors in prominent places.
20	Assembly Point	Assembly points should be designated at the ground floor occupants of each floor.
21	House Keeping	Entire building should be maintained neat and clean.
22	Entrance gate width and height	Not less than 4.5 Mts and 5 Mts.
23	Fire Drill and Fire Order	Fire Drill should be conducted once in 6 months and Fire order should be prepared kept ready.
24	Evacuation route plan	This plan should be displayed in each at prominent places.
25	Training	Staffs should be trained in preliminary fire fighting and evacuation management during emergency.
26	Parking facility	Separate provision should be made for parking of vehicles. At any cost side set back area should not be used for parking of vehicles.
27	Compartmentalization	Area more than 750 m ² on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.
28	Means of escape and exit	Staircases should be pressurized to prevent smoke spread.

Requirements of Fire Safety Installations and Life Safety Measures for Various Categories

Group E: Business Buildings (Above 24 Mts and upto 30 Mts in Height)

Sub Division : E-1 Offices, banks, professional establishments, like offices of architects, engineers, doctors, lawyers and police stations.		
Sub Division : E-2 Laboratories, research establishments, libraries and test houses.		
Sub Division : E-3 Computer installations		
Sub - Division : E-4 Telephone Exchanges		
Sub - Division : E-5 Broadcasting stations and T.V. Stations.		
Sl. No	Types of Fire Protection (required (Active Measures)	Requirements
1	Fire Extinguishers	Minimum 2 Nos per Floor
2	Hose Reel Assembly	Per 1000 Sq.mts.
3	Wet riser	Per 1000 Sq.mts.
4	Yard Hydrant	At all around the building
5	Fire service inlets	Provided at ground level
6	Manually operated Fire Alarm call points (MCP)	For each Floor
7	Automatic detection and Alarm System	For entire building
8	Automatic Sprinkler System	To be installed in entire building
9	Underground water tank	1,00,000 Liters capacity.
10	Terrace Level over head tank	20,000 Liters capacity.
11	Fire Pump at Ground level	2 electric and 1 diesel pump of each capacity 2280 LPM and 1 electric pump 180 LPM (Jockey Pump).
Life Safety (Passive Measure)		
12	Staircase (2 mts width)	2 Nos should not be adjacent, away from each other. (Remote from each other)
13	Side Set Back area	7 mts all around the building
14	“Exit” Signage’s	Shall be clearly visible and the route to reach the exits shall be clearly marked and signs posted to guide the occupants of the floor.
15	Emergency Lights	At staircase landing and exit routes.
16	Lightning arrester	Should be provided
17	Public Address System	Should be provided for an announcement during the emergency

18	Smoke Vent System	To be provided in the basement area and other enveloped (completely covered) areas in the floors.
19	Do's and Don'ts laminated hanging pads	Should be available in all floors in prominent places.
20	Assembly Point	Assembly points should be designated at the ground floor occupants of each floor.
21	House Keeping	Entire building should be maintained neat and clean.
22	Entrance gate width and height	Not less than 4.5 meters and 5meter respectively.
23	Fire Drill and Fire Order	Fire Drill should be conducted once in 6 months and Fire order should be prepared kept ready.
24	Evacuation route plan	This plan should be displayed in each at prominent places.
25	Training	Staffs should be trained in preliminary fire fighting and evacuation management during emergency.
26	Parking facility	Separate provision should be made for parking of vehicles. At any cost side set back area should not be used for parking of vehicles.
27	Fire lift	1 No. (per 1200 m ²) with a provision for evacuation
28	Compartmentalization	Area more than 750 m ² on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.
29	Means of escape and exit	Staircases should be pressurized to prevent spread of smoke in the escape routes.
30	Refuge Area	Refuge area to be provided at 24th meter level.
31	Fire Tower	As per NBC specifications

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings

Group E: Business Buildings (Above 30 meter in Height)

Sub Division : E-1 Offices, banks, professional establishments, like offices of architects, engineers, doctors, lawyers and police stations.

Sub Division : E-2 Laboratories, research establishments, libraries and test houses.

Sub Division : E-3 Computer installations

Sub - Division : E-4 Telephone Exchanges

Sub - Division : E-5 Broadcasting stations and T.V. Stations.

Sl. No	Types of Fire Protection (required (Active Measures)	Requirements
1	Fire Extinguishers	Minimum 2 Nos per Floor
2	Hose Reel Assembly	Provided at all floors (Per 1000 m2).
3	Wet riser	Provided at all floors (Per 1000 m2).
4	Yard Hydrant	At all around the building
5	Fire service inlets	Provided at ground level.
6	Manually operated Fire Alarm call points (MCP)	For each Floor
7	Automatic detection and Alarm System	For entire building
8	Automatic Sprinkler System	To be installed in entire building
9	Underground water tank	200,000 Liters.
10	Terrace Level over head tank	20,000 Liters.
11	Fire Pump at Ground level	2 electric and 1 diesel pump of each capacity 2850 LPM and 1 electric pump 180 LPM (Jockey Pump).
	Life Safety (Passive Defense)	
12	Staircase (2 meters width)	Minimum of 2 Nos. Location should not be adjacent, should be away from each other. (Remote from each other)
13	Side Set Back area	7 meters all around the building
14	“Exit” Signage’s	Shall be clearly visible and the route to reach the exits shall be clearly marked and signs posted to guide the occupants of the floor.
15	Emergency Lights	At staircase landing and exit routes.
16	Lightning arrester	Should be provided

17	Public Address System	Should be provided for an announcement during the emergency
18	Smoke Vent System	To be provided in the basement area and other enveloped (completely covered) areas in the floors.
19	Do's and Don'ts laminated hanging pads	Should be available in all floors in prominent places.
20	Assembly Point	Assembly points should be designated at the ground floor occupants of each floor.
21	House Keeping	Entire building should be maintained neat and clean.
22	Entrance gate width and height	Not less than 4.5 meter and 5 meter respectively.
23	Fire Drill and Fire Order	Fire Drill should be conducted once in 6 months and Fire order should be prepared kept ready.
24	Evacuation plan	This plan should be displayed in each at prominent places.
25	Training	Staffs should be trained in preliminary fire fighting and evacuation management during emergency.
26	Parking facility	Separate provision should be made for parking of vehicles. At any cost side set back area should not be used for parking of vehicles.
27	Fire lift	1 No.(per 1200 m ²) with a provision for evacuation
28	Compartmentalization	Area more than 750 m ² on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.
29	Means of escape and exit	Staircases should be pressurized to prevent spread of smoke in the escape routes.
30	Refuge Area	Refuge area to be provided at 24th meter level.
31	Fire Tower	As per NBC specifications

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings

Group F: Mercantile Buildings (Less than 15 meter in Height, Ground + 1 storey with total covered area not exceeding 500 sq.mts)

Sub Division : F-1 Shops, stores, departmental, stores markets with area upto 500 m ² .		
Sub Division : F-2 Shops, Stores, departmental stores markets with area more than 500 m ² .		
Sl. No	Types of Fire Protection (required (Active Measures)	Requirements
1	Fire Extinguishers	Minimum 2 Nos per Floor
2	Hose Reel Assembly	Provided at all floors (Per 1000 m ²).
3	Down comer	Provided at all floors (Per 1000 m ²).
4	Manually operated Fire Alarm call points (MCP)	Not required
5	Automatic Sprinkler System	Only for basement area if the area is more than 200 m ²
6	Terrace Level over head tank	5000 Liters. Add 5000 liters if the basement is sprinklered.
7	Fire Pump at Terrace level	450 LPM. If the basement is sprinklered then 900 LPM.
Life Safety (Passive Measure)		
8	Staircase	Minimum of 2 Nos. Location should not be adjacent, and should be away from each other. (Remote from each other)
9	Side Set Back area	As per the Development & Control Rules of CMDA area or Local Body area whichever is applicable.
10	“Exit” Signage’s	Shall be clearly visible and the route to reach the exits shall be clearly marked and signs posted to guide the occupants of the floor.
11	Emergency Lights	At staircase landing and exit routes.
12	Public Address System	Should be provided for an announcement during the emergency
13	Do’s and Don’ts laminated hanging pads	Should be available in all floors in prominent places.
14	Assembly Point	Assembly points should be designated at the ground floor occupants of each floor.
15	House Keeping	Entire building should be maintained neat and clean.

16	Entrance gate width and height	Not less than 4.5 Mts and 5 Mts.
17	Fire Drill and Fire Order	Fire Drill should be conducted once in 6 months and Fire order should be prepared kept ready.
18	Evacuation route plan	This plan should be displayed in each at prominent places.
19	Training	Staffs should be trained in preliminary fire fighting and evacuation management during emergency.

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings

Group F: Mercantile Buildings (Less than 15 meter in Height, Ground + 1 storey covered area exceeding 500 sq.mts)

Sub Division : F-1 Shops, stores, departmental, stores markets with area upto 500 m ² .		
Sub Division : F-2 Shops, Stores, departmental stores markets with area more than 500 m ² .		
Sl. No	Types of Fire Protection (required (Active Measures)	Requirements
1	Fire Extinguishers	Minimum 2 Nos per Floor
2	Hose Reel Assembly	Provided at all floors (Per 1000 m2).
3	Down comer	Provided at all floors (Per 1000 m2).
4	Fire Service Inlet	To be provided at the ground floor level.
4	Manually operated Fire Alarm call points (MCP)	For each Floor
5	Automatic Sprinkler System	Only for basement area if the area is more than 200 m2
6	Terrace Level over head tank	25,000 Liters.
7	Fire Pump at Terrace level	900 LPM .
Life Safety (PassiveDefense)		
8	Staircase	Minimum of 2 Nos. Location should not be adjacent, and should be away from each other. (Remote from each other)
9	Side Set Back area	As per the Development & Control Rules of CMDA area or Local Body area whichever is applicable.
10	“Exit” Signage’s	Shall be clearly visible and the route to reach the exits shall be clearly marked and signs posted to guide the occupants of the floor.
11	Emergency Lights	At staircase landing and exit routes.
12	Public Address System	Should be provided for an announcement during the emergency
13	Do’s and Don’ts laminated hanging pads	Should be available in all floors in prominent places.
14	Assembly Point	Assembly points should be designated at the ground floor occupants of each floor.

15	House Keeping	Entire building should be maintained neat and clean.
16	Entrance gate width and height	Not less than 4.5 Mts and 5 Mts.
17	Fire Drill and Fire Order	Fire Drill should be conducted once in 6 months and Fire order should be prepared kept ready.
18	Evacuation route plan	This plan should be displayed in each at prominent places.
19	Training	Staffs should be trained in preliminary fire fighting and evacuation management during emergency.
20	Compartmentation	Area more than 750 m ² on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings

Group F: Mercantile Buildings (Less than 15 meter in Height, more than Ground + 1 storey)

Sub Division : F-1 Shops, stores, departmental, stores markets with area upto 500 m ² .		
Sub Division : F-2 Shops, Stores, departmental stores markets with area more than 500 m ² .		
Sl. No	Types of Fire Protection (required (Active Measures)	Requirements
1	Fire Extinguishers	Minimum 2 Nos per Floor
2	Hose Reel Assembly	Provided at all floors (Per 1000 m2).
3	Down comer	Provided at all floors (Per 1000 m2).
4	Manually operated Fire Alarm call points (MCP)	For each Floor
5	Automatic Sprinkler System	Only for basement area if the area is more than 200 m2
6	Terrace Level over head tank	10,000 Liters capacity.
7	Fire Pump at Terrace level	900 LPM Terrace pump
Life Safety (Passive Measure)		
8	Staircase	Minimum of 2 Nos. Location should not be adjacent, and should be away from each other. (Remote from each other)
9	Side Set Back area	As per the Development & Control Rules of CMDA area or Local Body area whichever is applicable.
10	“Exit” Signage’s	Shall be clearly visible and the route to reach the exits shall be clearly marked and signs posted to guide the occupants of the floor.
11	Emergency Lights	At staircase landing and exit routes.
12	Lightning arrester	Should be provided
13	Public Address System	Should be provided for an announcement during the emergency
14	Smoke Vent System	To be provided in the basement area and other enveloped (completely covered) areas in the floors.
15	Do’s and Don’ts laminated hanging pads	Should be available in all floors in prominent places.
16	Assembly Point	Assembly points should be designated at the ground floor occupants of each floor.

17	House Keeping	Entire building should be maintained neat and clean.
18	Entrance gate width and height	Not less than 4.5 meter and 5meter.
19	Fire Drill and Fire Order	Fire Drill should be conducted once in 6 months and Fire order should be prepared kept ready.
20	Evacuation route plan	This plan should be displayed in each at prominent places.
21	Training	Staffs should be trained in preliminary fire fighting and evacuation management during emergency.
22	Parking facility	Separate provision should be made for parking of vehicles. At any cost side set back area should not be used for parking of vehicles.
23	Compartmentation	Area more than 750 m ² on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings

Group F: Mercantile Buildings (Above 15 meter but not exceeding 24 meter in Height)

Sub Division : F-1 Shops, stores, departmental, stores markets with area upto 500 m ² .		
Sub Division : F-2 Shops, Stores, departmental stores markets with area more than 500 m ² .		
Sl. No	Types of Fire Protection (required (Active Measures)	Requirements
1	Fire Extinguishers	Minimum 2 Nos per Floor
2	Hose Reel Assembly	Provided bat all floors (Per 1000 m2).
3	Wet riser	Provided at all floors (Per 1000 m2).
4	Yard Hydrant	At all around the building
5	Fire service inlets	Provided at ground level
6	Manually operated Fire Alarm call points (MCP)	For each Floor
7	Automatic detection and Alarm System	For entire building
8	Automatic Sprinkler System	To be installed in entire building
9	Underground water tank	100,000 Liters.
10	Terrace Level over head tank	10,000 Liters.
11	Fire Pump at Ground level	2 electric and 1 diesel pump of each capacity 2280 LPM and 1 electric pump 180 LPM (Jockey Pump).
Life Safety (Passive Measure)		
12	Staircase	Minimum of 2 Nos. Location should not be adjacent, and should be away from each other. (Remote from each other)
13	Side Set Back area	7 meters all around the building
14	“Exit” Signage’s	Shall be clearly visible and the root to reach the exits shall be clearly marked and signs posted to guide the occupants of the floor.
15	Emergency Lights	At staircase landing and exit routes.
16	Lightning arrester	Should be provided

17	Public Address System	Should be provided for an announcement during the emergency
18	Smoke Vent System	To be provided in the basement area and other enveloped (completely covered) areas in the floors.
19	Do's and Don'ts laminated hanging pads	Should be available in all floors in prominent places.
20	Assembly Point	Assembly points should be designated at the ground floor occupants of each floor.
21	House Keeping	Entire building should be maintained neat and clean.
22	Entrance gate width and height	Not less than 4.5 Mts and 5 Mts.
23	Fire Drill and Fire Order	Fire Drill should be conducted once in 6 months and Fire order should be prepared kept ready.
24	Evacuation route plan	This plan should be displayed in each at prominent places.
25	Training	Staffs should be trained in preliminary fire fighting and evacuation management during emergency.
26	Parking facility	Separate provision should be made for parking of vehicles. At any cost side set back area should not be used for parking of vehicles.
27	Fire lift	1 No. with a provision for evacuation
28	Compartmentation	Area more than 750 m ² on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.
29	Means of escape and exit	Staircases to be pressurized to prevent spread of smoke in the escape routes during emergency evacuation..

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings

Group F: Mercantile Buildings (Above 24 meter but not exceeding 30 meter in Height)

Sub Division : F-1 Shops, stores, departmental, stores markets with area upto 500 m ² .		
Sub Division : F-2 Shops, Stores, departmental stores markets with area more than 500 m ² .		
Sl. No	Types of Fire Protection (Active Defense)	Requirements
1	Fire Extinguishers	Minimum 2 Nos per Floor
2	Hose Reel Assembly	Provided at all floors (Per 1000 m2).
3	Wet riser	Provided at all floors (Per 1000 m2).
4	Yard Hydrant	At all around the building
5	Fire service inlets	Provided at ground level
6	Manually operated Fire Alarm call points (MCP)	For each Floor
7	Automatic detection and Alarm System	For entire building
8	Automatic Sprinkler System	To be installed in entire building
9	Underground water tank	150,000 Liters.
10	Terrace Level over head tank	10,000 Liters.
11	Fire Pump at Ground level	2 electric and 1 diesel pump of each capacity 2280 LPM and 1 electric pump 180 LPM (Jockey Pump).
Life Safety (Passive Defense)		
12	Staircase	Minimum of 2 Nos. Location should not be adjacent, and should be away from each other. (Remote from each other)
13	Side Set Back area	7 meters all around the building
14	“Exit” Signage’s	Shall be clearly visible and the route to reach the exits shall be clearly marked and signs posted to guide the occupants of the floor.
15	Emergency Lights	At staircase landing and exit routes.
16	Lightning arrester	Should be provided

17	Public Address System	Should be provided for an announcement during the emergency
18	Smoke Vent System	To be provided in the basement area and other enveloped (completely covered) areas in the floors.
19	Do's and Don'ts laminated hanging pads	Should be available in all floors in prominent places.
20	Assembly Point	Assembly points should be designated at the ground floor occupants of each floor.
21	House Keeping	Entire building should be maintained neat and clean.
22	Entrance gate width and height	Not less than 4.5 Mts and 5 Mts.
23	Fire Drill and Fire Order	Fire Drill should be conducted once in 6 months and Fire order should be prepared kept ready.
24	Evacuation plan	This plan should be displayed in each at prominent places.
25	Training	Staffs should be trained in preliminary fire fighting and evacuation management during emergency.
26	Parking facility	Separate provision should be made for parking of vehicles. At any cost side set back area should not be used for parking of vehicles.
27	Fire lift	1 No. with a provision for evacuation
28	Compartmentalization	Area more than 750 m ² on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.
29	Means of escape and exit	Minimum 2 Nos.
30	Refuge Area	Refuge area to be provided at 24th meter level.
31	Fire Tower	As per NBC specifications. Staircases should be pressurized to prevent spread of smoke in the escape routes.

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings
Group F: Mercantile Buildings**

Sub Division : F-3 Underground shopping centers. Storage and service facilities incidental to the sale or merchandise and located in the same building shall be included under this group.		
Sl. No	Types of Fire Protection (required (Active Measures)	Requirements
1	Fire Extinguishers	Minimum 2 Nos per Floor
2	Hose Reel Assembly	Provided per 1000 Sq.mts.
3	Wet riser	Provided per 1000 Sq.mts.
4	Yard Hydrant	At all around the building
5	Fire service inlets	Provided at ground level
6	Manually operated Fire Alarm call points (MCP)	For each Floor
7	Automatic detection and Alarm System	For entire building
8	Automatic Sprinkler System	To be installed in entire building
9	Underground water tank	150,000 Liters.
10	Terrace Level over head tank	10,000 Liters.
11	Fire Pump at Ground level	2 electric and 1 diesel pump of each capacity 2280 LPM and 1 electric pump 180 LPM (Jockey Pump).
Life Safety (Passive Measure)		
12	Staircase	Minimum of 2 Nos. Location should not be adjacent, should be away from each other. (Remote from each other)
13	Side Set Back area	As per the Development & Control Rules of CMDA area or Local Body area whichever is applicable.
14	“Exit” Signage’s	Shall be clearly visible and the route to reach the exits shall be clearly marked and signs posted to guide the occupants of the floor.
15	Emergency Lights	At staircase landing and exit routes.
16	Lightning arrester	Should be provided
17	Public Address System	Should be provided for an announcement during the emergency

18	Smoke Ventilation System	To be provided in the basement area and other enveloped (completely covered) areas in the floors.
19	Do's and Don'ts laminated hanging pads	Should be available in all floors in prominent places.
20	Assembly Point	Assembly points should be designated at the ground floor occupants of each floor.
21	House Keeping	Entire building should be maintained neat and clean.
22	Entrance gate width and height	Not less than 4.5 Mts and 5 Mts.
23	Fire Drill and Fire Order	Fire Drill should be conducted once in 6 months and Fire order should be prepared kept ready.
24	Evacuation plan	This plan should be displayed in each at prominent places.
25	Training	Staffs should be trained in preliminary fire fighting and evacuation management during emergency.
26	Parking facility	Separate provision should be made for parking of vehicles. At any cost side set back area should not be used for parking of vehicles.
27	Compartmentalization	Area more than 750 m ² on individual floor shall be segregated by fire resistance wall to contain the spread of fire, smoke and heat.
28	Means of escape and exit	Staircases should be pressurized to prevent smoke spread in the escape routes during emergency evacuation..
29	Under Ground Shopping	To be completely Air Conditioned

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings
Group G: Industrial Building. Up to 18M Built up area 100Sq.mt (1000sft)**

Sub Division G1 – (Above 18M Height not permitted) .Low Hazard Industries Service station, Canning Factories, Confectionery Manufacturing, Engineering workshop, Roasting Grindings Factories, Sugar candy Manufacturing, Tanneries and etc., Refer NBC Annex – B.		
S.No	Types of Fire Protection (Active Defense)	Requirements
1	Fire Extinguishers	Min 2Nos Per Floor of 100 m2 or 6 Buckets of Water and Sand.
2	Automatic Sprinkler System	Only for Basement area if the area is more than 200 m2.
3	Terrace level water tank	5000 liters if the basement is provided with sprinkler system
4	Fire Pump	450 LPM if Basement is provided with sprinkler system
Life Safety (Passive Measures)		
5	Staircase	Minimum of 2 Nos. Location should not be adjacent and should be away from each other. (remote from each other)
6	Side set Back area (above 15mtrs Height)	7 Meters all around the Building.
7	“Exit” Signage’s	With Glow type (alternate source of power supply or battery backup)
8	House Keeping	Entire building should be maintained neat and clean.

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings
Group G: Industrial Building. Up to 18M- Built up area more than 100 m2
and up to 500 m2.**

Sub Division G1 – (Above 18M Height not permitted). Low Hazard Industries Service station, Canning Factories, Confectionery Manufacturing, Engineering workshop, Roasting Grindings Factories, Sugar candy Manufacturing, Tanneries and etc., Refer NBC Annex – B.		
S.No	Types of Fire Protection (Active Defense)	Requirements
1	Fire Extinguishers	Min 2Nos Per Floor
2	Hose Reel Assembly, Down comer System	Per 1000 m2
3	Down Comer System	To be provided covering all blocks.
4	Automatic Sprinkler System	Only for Basement area if the area is more than 200 m2.
5	Terrace level water tank	5000 liters. Add 5000 liters if the basement is provided with sprinkler system.
6	Fire Pump	450 LPM at terrace level
Life Safety (Passive Defense)		
7	Staircase	Minimum of 2 Nos. Location should not be adjacent and should be away from each other.
8	Side set Back area (above 15mtrs Height)	7 meters all around the Building.
9	“Exit” Signage’s	With Glow type (alternate source of power supply or battery backup)
10	House Keeping	Entire building should be maintained neat and clean.

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings

Group G: Industrial Building. Up to 18M & Built up Area more than 500 m²

Sub Division G1 – (Above 18M Height not permitted). Low Hazard Industries Service station, Canning Factories, Confectionery Manufacturing, Engineering workshop, Roasting Grindings Factories, Sugar candy Manufacturing, Tanneries and etc., Refer NBC Annex – B.		
S.No	Types of Fire Protection required (Active Measures)	Requirements
1	Fire Extinguishers	Min 2Nos Per Floor
2	Hose Reel Assembly, Down comer System, Wet riser	Per 1000 m ²
3	Yard Hydrant	All around the Industrial Building at 30mtr Interval
4	Automatic Sprinkler System	For Entire Building
5	Automatic Detection and Alarm System	At each Floor in consultation with Fire Department
6	Under ground static water tank	100000 liters.
7	Terrace level Tank	10000 liters.
8	Fire Pumps	One Electrical and a diesel pump of each capacity 2280 LPM and One electrical pump of capacity 180 LPM (Jockey pump)
Life Safety (Passive Measures)		
9	Staircase	Minimum of 2 Nos. Location should not be adjacent and should be away from each other. (remote from each other)
10	Side set Back area (above 15mtrs Height)	7 meters all around the Building.
11	“Exit” Signage’s	With Glow type (alternate source of power supply or battery backup)
12	House Keeping	Entire building should be maintained neat and clean.

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings

**Group G: Industrial Building. Up to 18M Built up Area 100Sqm (1000sft)
Built up area 100sqm to 500 sqm**

Sub Division G2– (Above 18M Height not permitted). Moderate Hazard Industries Aluminum Factories, Bakeries and Biscuit Factories, Cable Manufacturing, Coir Factories and etc., Refer NBC Annex – B.		
S.No	Types of Fire Protection (Active Defense)	Requirements
1	Fire Extinguishers	Min 2Nos Per Floor of 100 m2
2	Hose Reel assembly	Per 1000 m2
3	Automatic Sprinkler System	Entire Building
4	Terrace Level water tank	10000 liters.
5	Fire Pump	450 LPM in case of built up area is up to 100 m2. 900 LPM in case of built up area is up to 500 m2.
Life Safety (Passive Measures)		
6	Staircase	Minimum of 2 Nos. Location should not be adjacent and should be away from each other. (remote from each other)
7	Side set Back area (above 15mtrs Height)	7 meters all around the Building.
8	“Exit” Signage’s	With Glow type (alternate source of power supply or battery backup)
9	House Keeping	Entire building should be maintained neat and clean.

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings**

Group G: Industrial Building. Up to 18M
III) Built up Area 500 m² and up to 1000 m²
IV) Built up area more than 1000 m²

Sub Division G2– (Above 18M Height not permitted). Moderate Hazard Industries Aluminum Factories, Bakeries and Biscuit Factories, Cable Manufacturing, Coir Factories and etc., Refer NBC Annex – B.		
S.No	Types of Fire Protection required (Active Measures)	Requirements
1	Fire Extinguishers	Min 4Nos Per Floor
2	Hose Reel assembly	Per 500 m ²
3	Wet Riser System	Per 500 m ² Building above 15M in Height.
4	Yard Hydrant	All around the building at 30 meters interval
5	Manually operated Fire Alarm call points (MCP)	For each Floors
6	Automatic detection and Alarm System	At each floors consultation with fire departments.
7	Automatic Sprinkler System	Entire Building
8	Under ground Water Tank	75000 liters in case of build up area is up to 1000 m ² . 100000 liters in case of build up area is more than 1000 m ²
9	Terrace Level water tank	20000 liters.
10	Fire Pump	One Electrical and a diesel pump of each capacity 2280 LPM and One electrical pump of capacity 180 LPM (Jockey pump)
Life Safety (Passive Defense)		
11	Staircase	Minimum of 2 Nos. Location should not be adjacent and should be away from each other. (remote from each other)
12	Side set Back area (above 15mtrs Height)	7 meters all around the Building.
13	“Exit” Signage’s	With Glow type (alternate source of power supply or battery backup)
14	House Keeping	Entire building should be maintained neat and clean.

Requirements of Fire Safety Installations and Life Safety Measures for Various Categories

Group G: Industrial Building. Up to 15 Meter

I) Built up Area Upto 50 sqm

II) Builtup area more than 50 sqm and up to 150 sqm

Sub Division G3 – (Above 15M Height not permitted). High Hazard Industries Chemical Industries, Bulk storage of flammable liquids, Petroleum Factories and etc., Refer NBC Annex – B.		
S.No	Types of Fire Protection (Active Measures)	Requirements
1	Fire Extinguishers	Min 2Nos Per Floor
2	Hose Reel Assembly, Down comer System	Per 500 m2
3	Automatic Detection system	(a) Not required in case of built up area up to 50 m2 (b) Required in case of built up area exceeds 50 m2
4	Automatic Sprinkler system	Required for the entire building irrespective of built up area
4	Terrace level water tank	5000 liters (up to built up area 150 m2)
5	Fire Pump	450 LPM at terrace level
Life Safety (Passive Defense)		
6	Staircase	Minimum of 2 Nos. Location should not be adjacent and should be away from each other. (remote from each other)
7	Side set Back area (above 15mtrs Height)	7 meters all around the Building.
8	“Exit” Signage’s	With Glow type (alternate source of power supply or battery backup)
9	House Keeping	Entire building should be maintained neat and clean.
10	Smoke and Fire Vents	Provided at suitable locations with suitable designs
11	Roof Screens / Curtain Boards	To be provided from the roof downwards at specific interval to prevent lateral spread of smoke and heat (30 meters interval)
12	Explosion Relief Vents	To be provided at suitable places with suitable size, wherever applicable

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings**

Group G: Industrial Building. Up to 15M

III) Built up Area more than 150 m² and up to 300 m²

IV) Built up area more than 300 m² up to 500 m²

Sub Division G3 – (Above 15M Height not permitted).High Hazard Industries Chemical Industries, Bulk storage of flammable liquids, Petroleum Factories and etc., Refer NBC Annex – B.		
S.No	Types of Fire Protection (Active Defense)	Requirements
1	Fire Extinguishers	Min 4Nos Per Floor
2	Hose Reel Assembly	Per 500 m ²
3	Wet Riser System	Per 500 m ²
4	Automatic Sprinkler System	Entire Building
5	Automatic detection and Alarm System	At each floors consultation with fire departments.
6	Yard Hydrants	(a) Not required for the built up area up to 300 m ² (b) Provided if the built up area exceeds 300 m ²
7	Fire Service Inlet	To be provided at the ground floor level
8	Under ground Water Tank	25000 liters for built up area up to 300 m ² 50000 liters for more than 300 m ² area
9	Terrace level water tank	10000 liters for built up area up to 300 m ² area 20000 liters for more than 300 m ² area
10	Fire Pumps	(a) At ground :One Electrical and a diesel pump of each capacity 1620 LPM and One electrical pump of capacity 180 LPM. At Terrace:450 LPM for area up to 300 m ² (b) At ground :One Electrical and a diesel pump of each capacity 1620 LPM and One electrical pump of capacity 180 LPM. At Terrace:900 LPM for area up to 500 m ²
Life Safety (Passive Defense)		
11	Staircase	Minimum of 2 Nos. Location should not be adjacent and should be away from each other. (remote from each other)
12	Side set Back area (above 15mtrs Height)	7 meters all around the Building.
13	“Exit” Signage’s	With Glow type (alternate source of power supply or battery backup)
14	House Keeping	Entire building should be maintained neat and clean.
15	Emergency Lights	At Staircase landing and exit routes
16	Lighting arrester	Should be provided

17	Public Address System	Should be provided for an announcement during the emergency.
18	Do's and Don'ts laminated hanging pads	Should be available in all floors in prominent places.
19	Assembly Point	Assembly points should be designated at the ground floor occupants of each floors.
20	Fire drill and Fire order	Fire Drill should be conducted once in 6 months and fire order should be prepared kept ready.
21	Evacuation plan	This plan should be displayed in each at prominent places.
22	Smoke and Fire Vents	Provided at suitable locations with suitable designs
23	Roof Screens / Curtain Boards	To be provided from the roof downwards at specific interval to prevent lateral spread of smoke and heat (30 meters interval)
24	Explosion Relief Vents	To be provided at suitable places with suitable size, wherever applicable

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings**
Group G: Industrial Building. Above 15 mtrs in height not permitted.
V) Built up area more than 500 sqm

Sub Division G3 – High Hazard Industries Chemical Industries, Bulk storage of flammable liquids, Petroleum Factories and etc., Refer NBC Annex – B.		
S.No	Types of Fire Protection (Active Defense)	Requirements
1	Fire Extinguishers	Min 4Nos Per Floor
2	Hose Reel Assembly	Per 500 m2
3	Wet Riser System.	Per 500 m2
4	Yard Hydrant	At all around the building
5	Manual operated Fire Alarm call points (MCP)	Provided
6	Automatic Sprinkler System	Provided for entire building
7	Automatic detection and Alarm System	At each floors consultation with fire departments.
8	Under ground Water Tank	100000 liters.
9	Terrace level water tank	20000 liters.
10	Fire Pumps	One Electrical and a diesel pump of each capacity 2280 LPM and One electrical pump of capacity 180 LPM Jockey pump. (900 LPM Terrace Pump)
Life Safety (Passive Defense)		
11	Staircase	Minimum of 2 Nos. Location should not be adjacent and should be away from each other. (remote from each other)
12	Side set Back area	7 meters all around the Building.
13	“Exit” Signage’s	With Glow type (alternate source of power supply or battery backup)
14	House Keeping	Entire building should be maintained neat and clean.
15	Emergency Lights	At Staircase landing and exit routes
16	Lighting arrester	Should be provided
17	Public Address System	Should be provided for an announcement during the emergency.
18	Do’s and Don’ts laminated hanging pads	Should be available in all floors in prominent places.
19	Assembly Point	Assembly points should be designated at the ground floor occupants of each floors.
20	Fire drill and Fire order	Fire Drill should be conducted once in 6 months and fire order should be prepared kept ready.
21	Evacuation route plan	This plan should be displayed in each at prominent places.

22	Means of Escape and Exit	Minimum 2 Nos.
23	Smoke and Fire Vents	Provided at suitable locations with suitable designs
24	Roof Screens / Curtain Boards	To be provided from the roof downwards at specific interval to prevent lateral spread of smoke and heat (30 meters interval)
25	Explosion Relief Vents	To be provided at suitable places with suitable size, wherever applicable

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings

Group H: Storage Building. Above 15 meters in height not permitted.

I) Below 15 meters in Height and covered area less than 250 m²

Cold storage, fright depots, store houses, garages and etc.,		
S.No	Types of Fire Protection (Active Defense)	Requirements
1	Fire Extinguishers	Min 2 Nos Per Floor
2	Hose Reel Assembly	Provided (Per 500 m ²)
3	Automatic Sprinkler System	Provided for entire building
4	Under ground water tank	25000 liters
5	Terrace level water tank	5000 liters
6	Fire Pumps	One electric and a diesel pump of each capacity 1620 LPM and a electric pump of capacity 180 LPM jockey pump.
Life Safety (Passive Defense)		
7	Staircase	Minimum of 2 Nos. Location should not be adjacent and should be away from each other. (remote from each other)
8	Side set Back area	As per DCR in CMDA Area
9	“Exit” Signage’s	With Glow type (alternate source of power supply or battery backup)
10	House Keeping	Entire building should be maintained neat and clean.
11	Emergency Lights	At Staircase landing and exit routes
12	Lighting arrester	Should be provided
13	Public Address System	Should be provided for an announcement during the emergency.
14	Do’s and Don’ts laminated hanging pads	Should be available in all floors in prominent places.
15	Assembly Point	Assembly points should be designated at the ground floor occupants of each floors.
16	Fire drill and Fire order	Fire Drill should be conducted once in 6 months and fire order should be prepared kept ready.
17	Evacuation route plan	This plan should be displayed in each at prominent places.
18	Means of Escape and Exit	Minimum 2 Nos.

**Requirements of Fire Safety Installations and Life Safety Measures for
Various Categories**

Group H: Storage Building. Above 15 meters in height not Permitted.

II) Below 15 meters in Height and covered area more than 250 m2.

i) Ground floor only. ii) Ground plus one Floor.

Cold storage, fright depots, store houses, garages and etc.,		
S.No	Types of Fire Protection (Active Defense)	Requirements
1	Fire Extinguishers	Min 2Nos Per Floor
2	Hose Reel Assembly	Provided (Per 500 m2)
3	Wet Riser	Provided (Per 500 m2)
4	Yard Hydrant	All around the Building
5	Automatic Sprinkler System	Provided for entire building
6	Automatic Detection and Fire alarm System	Provided for entire building
7	Under ground water tank	(a) 50000 liters for Ground floor only. (b) 75000 liters for Ground + one floor.
8	Terrace level water tank	10000 liters.
9	Fire Pumps	(a) Ground level: One electric and a diesel pump of each capacity 2280 LPM and a electric pump of capacity 180 LPM jockey pump. (b) At terrace level: 450 LPM
Life Safety (Passive Defense)		
10	Staircase (Ground plus one floor)	Minimum of 2 Nos. Location should not be adjacent and should be away from each other. (remote from each other)
11	Side set Back area	As per DCR in CMDA Area
12	“Exit” Signage’s	With Glow type (alternate source of power supply or battery backup)
13	House Keeping	Entire building should be maintained neat and clean.
14	Emergency Lights	At Staircase landing and exit routes
15	Lighting arrester	Should be provided
16	Public Address System	Should be provided for an announcement during the emergency.
17	Do’s and Don’ts laminated hanging pads	Should be available in all floors in prominent places.
18	Assembly Point	Assembly points should be designated at the ground floor occupants of each floors.

19	Fire drill and Fire order	Fire Drill should be conducted once in 6 months and fire order should be prepared kept ready.
20	Evacuation route plan	This plan should be displayed in each at prominent places.
21	Means of Escape and Exit	Minimum 2 Nos.

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings

Group H: Storage Building. Above 15 meters in height not permitted.
ii) Below 15 meters in Height and covered area more than 250 m2.
iii) More than Ground plus one floor.

Cold storage, freight depots, store houses, garages and etc.,		
S.No	Types of Fire Protection (Active Defense)	Requirements
1	Fire Extinguishers	Min 2Nos Per Floor
2	Hose Reel Assembly	Provided (Per 500 m2)
3	Wet Riser	Provided (Per 500 m2)
4	Yard Hydrant	All around the Building
5	Automatic Sprinkler System	Provided for Entire Building
6	Automatic Detection and Fire alarm System	Provided for Entire Building
7	Under ground water tank	100000 liters.
8	Terrace level water tank	10000 liters.
9	Fire Pumps	(a) At ground level: One electric and a diesel pump of each capacity 2280 LPM and a electric pump of capacity 180 LPM jockey pump. (b) At Terrace level: 450 LPM
Life Safety (Passive Measures)		
10	Staircase	Minimum of 2 Nos. Location should not be adjacent and should be away from each other. (remote from each other)
11	Side set Back area	As per DCR in CMDA Area
12	“Exit” Signage’s	With Glow type (alternate source of power supply or battery backup)
13	House Keeping	Entire building should be maintained neat and clean.
14	Emergency Lights	At Staircase landing and exit routes
15	Lighting arrester	Should be provided
16	Public Address System	Should be provided for an announcement during the emergency.
17	Do’s and Don’ts laminated hanging pads	Should be available in all floors in prominent places.
18	Assembly Point	Assembly points should be designated at the ground floor occupants of each floors.

19	Fire drill and Fire order	Fire Drill should be conducted once in 6 months and fire order should be prepared kept ready.
20	Evacuation route plan	This plan should be displayed in each at prominent places.
21	Means of Escape and Exit	Minimum 2 Nos.

**Requirements of Fire Safety Arrangements and Life Safety Measures for
Various Uses of Buildings
Group J: Hazardous Building. Above 15 meters in height not Permitted.
1) Single storey Building**

Storage, Handling, Manufacture or Processing of highly combustible or explosive materials or products which are liable to burn with extreme rapidity. Highly toxic, corrosive alkalis, acids or other liquids and etc., refer NBC		
S.No	Types of Fire Protection (Active Defense)	Requirements
1	Fire Extinguishers	Min 2Nos Per Floor
2	Hose Reel Assembly	Provided (Per 500 m ²)
3	Yard Hydrant	All around the Building
4	Manual operated Fire Alarm call points (MCP)	Provided
5	Automatic Sprinkler System	Provided for Entire Building
6	Automatic Detection and Fire alarm System	Provided for Entire Building
7	Under ground water tank	Minimum 4 hrs fire fighting requirements
8	Fire Pumps	Pump capacity shall be based on the covered area of the building
Life Safety (Passive Measures)		
9	Side set Back area	As per DCR in CMDA Area
10	“Exit” Signage’s	With Glow type (alternate source of power supply or battery backup)
11	House Keeping	Entire building should be maintained neat and clean.
12	Emergency Lights	At Staircase landing and exit routes
13	Lighting arrester	Should be provided
14	Public Address System	Should be provided for an announcement during the emergency.
15	Do’s and Don’ts laminated hanging pads	Should be available in all floors in prominent places.
16	Assembly Point	Assembly points should be designated at the ground floor occupants of each floors.
17	Fire drill and Fire order	Fire Drill should be conducted once in 6 months and fire order should be prepared kept ready.
18	Evacuation route plan	This plan should be displayed in each at prominent places.
19	Means of Escape and Exit	Minimum 2 Nos.

Requirements of Fire Safety Arrangements and Life Safety Measures for Various Uses of Buildings

**Group J: Hazardous Building. Above 15 meters in height not Permitted.
2) More than one floor building but not exceeding 15meter in height.**

Storage, Handling, Manufacture or Processing of highly combustible or explosive materials or products which are liable to burn with extreme rapidity. Highly toxic, corrosive alkalis, acids or other liquids and etc., refer NBC		
S.No	Types of Fire Protection (Active Defense)	Requirements
1	Fire Extinguishers	Min 2Nos Per Floor / Depends upon the floor area and Hazard
2	Hose Reel Assembly	Provide (Per 500 m2)
3	Wet Riser System cum Down comer System	Provided (Per 500 m2)
4	Yard Hydrant	All around the Building at 30 Mt. Interval
5	Manual operated Fire Alarm call points (MCP)	Provided near the exit doors
6	Automatic Sprinkler System	Provided for Entire Building
7	Automatic Detection and Fire alarm System	Provided for Entire Building
8	Under ground water tank	Minimum 4 hrs fire fighting requirements
9	Terrace level Tank	50000 liters
10	Fire Pumps	Ground Pump capacity shall be based on the covered area of the building. 900 LPM Terrace level pump.
Life Safety (Passive Measures)		
11	Staircase	Minimum 2 nos. Location should not be adjacent, should be away from each other. Remote from each other.
12	Side set Back	As per DCR in CMDA Area
13	“Exit” Signage’s	With Glow type (alternate source of power supply or battery backup)
14	House Keeping	Entire building should be maintained neat and clean.
15	Emergency Lights	At Staircase landing and exit routes
16	Lighting arrester	Should be provided
17	Public Address System	Should be provided for an announcement during the emergency.
18	Do’s and Don’ts laminated hanging pads	Should be available in all floors in prominent places.
19	Assembly Point	Assembly points should be designated at the ground floor for occupants of each floors.

20	Fire drill and Fire order	Fire Drill should be conducted once in 6 months and fire order should be prepared and kept ready.
21	Evacuation route plan	This plan should be displayed in each floor at prominent places.
22	Means of Escape and Exit	Minimum 2 Nos. Dependents upon the type of construction, occupancy, travel distance, Fire load and Time of Evacuation.

TERMINOLOGY - AS PER NATIONAL BUILDING CODE OF INDIA :

PART 4 FIRE AND LIFE SAFETY

[(SECOND REVISION OF SP 7 (PART 4)]

Automatic Fire Detection and Alarm System

Fire alarm system comprising components for automatically detecting a fire, initiating an alarm of fire and initiating other actions as appropriate.

Automatic Sprinkler System—A system of water pipes fitted with sprinkler heads at suitable intervals and heights and designed to actuate automatically, control and extinguish a fire by the discharge of water.

Down-comer — An. arrangement of fire fighting within the building by means of down-comer pipe connected to terrace tank, through terrace pump, gate valve and non-return valve and having mains not less than 100 mm internal diameter with landing valves on each floor/landing. It is also fitted with inlet connections at ground level for charging with water by pumping from fire service appliances and air release valve at roof level to release trapped air inside.)

Emergency Lighting—Lighting provided for use when the supply to the normal lighting falls

Emergency Lighting System—A complete but discrete emergency lighting installation from the standby power source to the emergency lighting lamp(s), for example, self-contained emergency luminaire or a circuit from central battery generator connected through wiring to several escape luminaries

Escape Lighting — That part of emergency lighting -which is provided to ensure that the escape route is illuminated at all material times, for example, at all times when persons are on the premises, or at times the main lighting is not available, either for the whole building or for the escape routes.

Fire Door — A fire-resistive door approved for openings in fire separation

Fire Exit—A way out leading to an escape route having panic bar hardware provided on the door

Fire Lift — The lift installed to enable fire services personnel to reach different floors with minimum delay, having such features as required in accordance with this Part.

Fire Tower — An enclosed staircase which can only be approached from the various floors through landings or lobbies separated from both the floor areas and the staircase by" fire-resisting doors, and open to the outer air.

Means of Egress — A continuous and unobstructed way of travel from any point in a building or structure to a place of comparative safety

Travel Distance — The distance to be travelled from any point in a building to a protected escape route, external escape route or final exit.

Wet Riser — An arrangement for fire fighting within the building by means of vertical rising mains not less than 100 mm nominal diameter with landing valves on each floor/landing for fire fighting purposes and permanently charged with water from a pressurized supply.

Fire Tower

Fire towers are the preferred type of escape route for storeyed buildings and these shall be considered as the safest route for escape. Their number, location and size shall depend on the building concerned, and its associated escape routes.

In high rise buildings with over 8 storeys or 24 m in height, at least one required means of egress shall preferably be a fire tower.

The fire towers shall be constructed of walls with a 2 h fire resistance rating without openings other than the exit doorways, with platforms, landings and balconies having the same fire-resistance rating.

Fire Lifts

Where applicable, fire lifts shall be provided with a minimum capacity for 8 passengers and fully automated with emergency switch on ground level. In general, buildings 15 m in height or above shall be provided with fire lifts.

In case of fire, only fireman shall operate the fire lift. In normal course, it may be used by other persons.

Each fire lift shall be equipped with suitable inter-communication equipment for communicating with the control room on the ground floor of the building.

The number and location of fire lifts in a building shall be decided after taking into consideration various factors like building population, floor area, compartmentation, etc.

Emergency and Escape Lighting

Emergency lighting shall be powered from a source independent of that supplying the normal lighting [*see good practice [4(17)]*].

Escape lighting shall be capable of:

- a) Indicating clearly and unambiguously the escape routes,
- b) Providing adequate illumination along such routes to allow safe movement of persons towards and through the exits,
- c) Ensuring that fire alarm call points and fire-fighting equipments provided along the escape routes can be readily located.

The horizontal luminance at floor level on the centreline of an escape route shall be not less than 10 lux. In addition, for escape routes up to 2 m wide, 50 percent of the route width shall be lit to a minimum of 5 lux.

The emergency lighting shall be provided to be put on within 1 s of the failure of the normal lighting supply.

Escape lighting luminaires should be sited to cover the following locations:

- a) Near each intersection of corridors,
- b) at each exit door,
- c) Near each change of direction in the escape route,
- d) Near each staircase so that each flight of stairs receives direct light,
- e) Near any other change of floor level,
- f) Outside each final exit and close to it,
- g) Near each fire alarm call point,
- h) Near fire-fighting equipment, and
- j) To illuminate exit and safety signs as required by the enforcing authority"

Emergency lighting systems shall be designed to ensure that a fault or failure in any one luminaire does not further reduce the effectiveness of the system.

The luminaires shall be mounted as low as possible, but at least 2 m above the floor level.

Signs are required at all exits, emergency exits and escape routes, which should comply with the graphic requirements of the relevant Indian Standards.

Emergency lighting luminaires and their fittings shall be of non-flammable type.

It is essential that the wiring and installation of the emergency lighting systems are of high quality so as to ensure their perfect serviceability at all times.

The emergency lighting system shall be capable of continuous operation for a minimum duration of 1 h and 30 m even for the smallest premises.

The emergency lighting system shall be well maintained by periodical inspections and tests so as to ensure their perfect serviceability at all times,

Illumination of Means of Exit

Staircase and corridor lights shall conform to the following:

- a) The staircase and corridor lighting shall be on separate circuits and shall be independently connected so that it could be operated by one switch installation on the ground floor easily accessible to fire fighting staff at any time irrespective of the position of the individual control of the light points, if any. It should be of miniature circuit breaker type of switch so as to avoid replacement of fuse in case of crisis;
- b) Staircase and corridor lighting shall also be connected to alternative supply. The alternative source of supply may be provided by battery continuously trickle charged from the electric mains; and
- c) Suitable arrangements shall be made by installing double throw switches to ensure that the lighting installed in the staircase and the corridor does not get connected to two sources of supply simultaneously. Double throw switch shall be installed in the service room for terminating the stand-by supply.