Nearly 300 firefighters tackle blaze in 475ft high Chechnyan skyscraper where tax-exile Gérard Depardieu was given a luxury flat

- The 40-storey high building in the Grozny City complex is the highest in Chechnya.

Overview of Essential Systems and Measures During an Evacuation

Fire has engulfed a 475ft apartment building under construction in Chechnya, a once war-torn republic in southern Russia.

Emergency officials say 30 people were evacuated but no one was injured after the blaze broke out at 6pm local time.

The buildings are part of a complex of high-rises under construction in the centre of Grozny, the Chechnyan capital.

State television pictures showed a huge plume of smoke rising into the sky and clinging to the sides of the building with bursts of yellow flames.
Scope

1. Emergency Voice Communication System
2. Usage of Fire Lift
3. Fire Command Centre
4. Evacuation Procedure
Emergency Voice Communication System

Two types of emergency voice communication system (VCS):

1. One-way VCS
   - A network of loudspeakers installed at strategic positions

2. Two-way VCS
   - A network of loudspeakers installed at strategic positions
   - A network of telephone handsets located at designated areas

Apart from VCS, there is the Public Address (PA) system.

The Need For VCS

1. Success of fire-fighting/rescue operations dependent on reliable voice communications among officers at scene
2. Occupants can be advised of the situation via VCS
3. Portable radio sets used by responders subjected to “blind spots”
Emergency Voice Communication System

One-way VCS to be provided as follows:-

1. For all large buildings under Purpose Groups III (not applicable to primary school, secondary school and junior colleges), IV, V, VI, VII & VIII with gross floor area greater than 5000m² or having a total occupant load exceeding 1000 persons; or
2. For all buildings belonging to Purpose Groups III, IV, V, VI, VII, and VIII of more than 24m in habitable height.

Exception
For hotel or health care buildings of less than 24m in habitable height, gross floor area (GFA) not greater than 5000m² and total occupant load (OL) not exceeding 1,000 persons, an ordinary PA system shall be provided.

Loudspeakers for the ordinary PA system shall be provided in every lift lobby, staircase enclosure and other strategic positions within audible distance of all parts of all storeys throughout the building.
Two-way VCS to be provided between the Fire Command Centre (FCC) and the following areas:-

1. Every fire-fighting lobby, including 1st storey;
2. All fire-fighting related mechanical equipment rooms inclusive of sprinkler pump room, wet rising main pump room, hose reel pump room, switch rooms and generator rooms;
3. All rooms housing smoke control equipment;
4. All lift machine rooms;
5. Fire lift;
   Where the lift car is equipped with built-in intercom system that complies with clause 9 of SS546, the two-way VCS can be exempted
6. Each area of refuge; and
7. Air-handling control rooms.
   Where AHU can be remotely monitored and controlled at the FCC, and cannot be by-passed locally, and the electrical cabling between AHU rooms and FCC are fire-rated, the two-way communication system can be exempted.
Emergency Voice Communication System

Where a one/two-way emergency communication system is required, it shall comply with the requirements stipulated in SS 546: Code of Practice for Emergency Voice Communication Systems in Buildings.

SINGAPORE STANDARD
SS 546 : 2009
(ICS 13.320; 91.120)

CODE OF PRACTICE FOR
Emergency voice communication systems in buildings

(Formerly CP 25)
Usage of Fire Lift

Conditions for requiring at least one fire lift are as follows:-
1. With the exception of Purpose Group I and II buildings, all other buildings shall be provided with at least two fire lifts if the habitable height exceeds 24m.
2. For Purpose Group II buildings, at least one fire lift shall be provided if the habitable height exceeds 24m.
3. All buildings shall also be provided with at least two fire lifts if the depth of the basement exceeds 9m below the average ground level.

A fire lift shall be adjacent and accessible to an exit staircase and be approached by a fire-fighting lobby at each storey.

The fire lift shaft shall be continuous throughout the building and serve every storey.
Usage of Fire Lift

The fire lift shall be located such that any part of every storey shall be accessible to fire-fighters from the fire lift.

Regardless of whether the building is installed with automatic sprinkler system, the number of fire lifts required shall be such that any part of a storey of the building is within 60m coverage from the fire lift door; subject to provisions of at least 2 fire lifts.

Homing of lifts

1. For buildings which are required to be provided with fire alarm system
2. For buildings which are required to have standby generating plant
3. For buildings which are not required to have standby generating plant
4. For mixed developments comprising residential and non-residential components
Usage of Fire Lift

Alternative designated floor
The alternative floor shall have minimum fire hazard and pre-selected for the homing of passenger lifts, and where people can escape to safety in an exit staircase or other exit from the lift landing door
1. If there is a fire it may be in the lift itself
2. There maybe smoke in the lift.
3. The lift may take you to an area with fire or smoke in it
4. If everyone uses lift it may become overloaded
5. Lift use may be required by the fire service
6. Will I be able to wait for the lift in safety?
7. Lift may fail trapping the occupants and requiring fire-fighters to divert from fire-fighting to rescue operation
8. Any rescue normally requires access to machinery space, a particular floor or roof
Fire Command Centre

A Fire Command Centre (FCC) shall be provided in any building, with the exception of buildings under Purpose Groups I & II (PG II having not more than two basement storeys used solely for car parking), which requires any of the following installation:

1. Fire lift;
2. Emergency voice communication system; and
3. Engineered smoke control system

An FCC shall be of adequate size to house all the terminals and supervisory or control equipment of the building’s fire protection and detection systems and a free working space of at least 6m²
Fire Command Centre

Planal Isometric view - Fire Command Centre
Fire Command Centre

- CCTV Screens
- Lift Supervisory Panel
- VCS
- Main Alarm Panel
Fire Command Centre

The FCC shall be located at the same level as the fire engine accessway or access road and in the following order of priority:-

1. Immediately adjacent to the fire-fighting lobby at the designated storey of the building
2. In the case where there is no fire-fighting lobby, it shall be located within vicinity of the fire engine accessway or access road and adjacent to one of the protected stairs serving all storeys of the development
3. At any other location as may be designated by the Relevant Authority

Air-conditioning or mechanical ventilation where required for the FCC shall be provided with secondary power supply and shall have ductworks independent of any other ductworks serving other parts of the building
Evacuation Procedures

Need for Efficient Evacuation During An Emergency
1. Lesser lives at risk
2. More systematic rescue operation
3. More options for fire-fighters to mitigate the situation

Three different evacuation models:-
1. Less than 8-storey building
2. More than 8-storey but less than 30-storey building
3. 31-storey or more building
A major fire broke out in a multi-storey building called, 'Naman Midtown' located next to Elphinstone station at 5:20 pm IST. Fire department officials have finally doused the fire. At least 20 people stuck within the premises and they were sent to the hospital for further treatment.

The main reason for the fire has been attributed to the Welding work that was being carried out. More details are awaited from fire Department and the BMC.

"As soon as the fire alarm went off, we ran away to safety. The fire department came instantly and started the rescue operations," said Chaya Kasar who works in the housekeeping department and resides in nearby Ambedkar Nagar Co-op housing society. Though different opinions surfaced, some nearby residents claim that the fire department took a long time to figure out the evacuation strategy as the back side entry was not feasible.
Two dead, two injured in Thane building fire

Cities | Reported by Saurabh Gupta (With PTI inputs), Edited by Amit Chaturvedi | Updated: March 16, 2014 11:57 IST

MUMBAI: A couple was burnt to death and two others were injured when a fire broke out in a 12-storey residential building in Thane, near Mumbai, early on.

The fire started on the 10th floor of Gulmohur building in Sundarban Park at around 6 am and soon spread to other floors, an official at the Thane Municipal Corporation disaster control room said.

10 fire engines were rushed to the spot and they were able to control the blaze in two and a half hours.

The cause of the fire is not yet known yet.

Story First Published: March 16, 2014 09:08 IST
Mumbai building fire: One fireman dies in multi-storey building fire in Andheri

Friday, 18 July 2014 - 3:30pm IST Updated: Friday, 18 July 2014 - 8.56pm IST | Place: Mumbai | Agency: DNA Web Team

DNA Webdesk

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A major fire broke out on 21st floor of Lotus Business park building at Andheri.

One fireman killed

One fireman died in the multi-storey building fire in Andheri.

Also read: Mumbai building fire: Rescue operation ends in tragedy

Fire brigade, Navy and Coast Guard personnel are fighting a grim battle to rescue firemen trapped on the terrace of a 22-storey commercial building blazing up in a western Mumbai suburb where two helicopters have been pressed into service to evacuate them.
Evacuation Procedures

Less than 8-storey building
1. Single-stage alarm
2. Evacuate immediately
3. Total evacuation, single-phase

Affordability
1. OL typically not large
2. Staircases able to handle the load
3. Does not lead to long queues at staircase exit doors (efficient evacuation)
Total evacuation on all floors upon 1st-stage alarm
Evacuation Procedures

8-storey to 30-storey building
1. Two-stage alarm
2. 1st alarm alert signal & standby for total evacuation
3. 2nd alarm is activated on all floors upon confirmation of fire
4. Total evacuation on all floors upon activation of 2nd alarm

Affordability
1. OL is moderate
2. 1st alarm gives ample warning to occupants to standby for evacuation
Total evacuation on all floors upon activation of 2\textsuperscript{nd}-stage alarm
Evacuation Procedures

More than 30-storey building
1. Two-stage alarm & phased-evacuation
2. 1st alarm will sound to alert with a broadcast of message
3. 2nd alarm will sound to evacuate by phases (instructional message)
   A. 1st phase: Occupants on the fire floor, 2 floors above & 2 floors below
   B. 2nd phase: Occupants on all floors above fire floor
   C. 3rd phase: All floors below the fire floor

Affordability
1. High OL
2. Phased-evacuation will prevent long queuing at exit staircase doors
3. Reduces potential stampede in the staircase core
1\textsuperscript{st} Phase: Fire floor and 2 floors above/below fire floor
2\textsuperscript{nd} Phase: All floors above fire floor
3\textsuperscript{rd} Phase: All floors below the fire floor


Evacuation Procedures

Conducting Checks at Affected Floor
1. View the CCTV
2. Check the Main Alarm Panel
3. Use the fire lift to access the floors
4. Check the Sub Alarm Panel
5. Proceed (buddy system) to affected area with caution