

Table 9.19.: Highrise Building Fire Protection Systems

CATEGORY	SYSTEM REQUIREMENTS	COMBINED FIRE PUMP SET AND FIRE WATER TANK CAPACITIES
C. HIGHRISE BUILDING HAVING HEIGHT OF MORE THAN 23 M BUT BELOW 45 M AND PLOT AREA EXCEEDING 20,000 M²	<ul style="list-style-type: none"> i. Sprinklers shall be provided throughout the building including basements and podiums (open as well as closed) as per Section 3.5. ii. Auxiliary rooms and various areas of the building shall be protected as per Table 9.30. iii. A wet riser System shall be provided throughout the building as per Section 3.4. iv. The wet risers shall be interconnected both at lowest level and at the highest level of each zone. v. Yard Fire Hydrants shall be provided as per Section 3.11. vi. Yard hydrants shall not be required where infrastructure yard hydrants are available within 60 m of such towers. 	<ul style="list-style-type: none"> vii. Where a fire pump set is combined and serves yard hydrants and internal building systems, capacity of the fire pump set shall be 1000 gpm irrespective of number of standpipes, at pressure as required to satisfy 6.9 bar at the most remote landing valve and the yard hydrant. viii. The combined water tank shall have capacity of 60 minutes of operation, complete with low water level detection, dedicated direct breeching inlet for refilling and instantaneous refilling arrangement for utility water supply.
D. HIGHRISE BUILDING HAVING HEIGHT OF MORE THAN 23 M BUT BELOW 45 M AND PLOT AREA LESS THAN 20,000 M²	<ul style="list-style-type: none"> i. Sprinklers shall be provided throughout the building including basements and podiums (open as well as closed) as per Section 3.5. ii. Auxiliary rooms and various areas of the building shall be protected as per Table 9.30. iii. A wet riser System shall be provided throughout the building as per Section 3.4. iv. The wet risers shall be interconnected both at lowest level and at the highest level of each zone. 	<ul style="list-style-type: none"> v. The capacity of the fire pump set shall be 750 gpm if the building has 2 standpipes and 1000 gpm if the building has more than 2 standpipes. vi. Pressure shall be as required to satisfy 6.9 bar at the most remote landing valve. vii. The water tank shall have a capacity of 60 minutes of operation, complete with low water level detection, dedicated direct breeching inlet and instantaneous refilling arrangement for utility water supply..

Points to Ponder

In some of the full scale fires, a water tank meant for 60 minutes of operation duration, was emptied in 15 minutes due to the operation (bursting, activation and spraying) of several sprinklers, quickly exceeding the design area of the sprinkler operation.