

3.4. Wet Riser Systems

- 3.4.1.** The requirements for the Wet Riser System material, design, installation shall be as per **Table 9.6.** and the General Requirements of **Table 9.3.**

Table 9.6: Wet Riser System Requirements

ITEMS	REQUIREMENTS
1. DEFINITION	i. Wet riser systems are pressurized with water having a permanent water supply from fire water pumps and fire water storage tanks. The wet riser system comprises of one or multiple vertical riser pipes or horizontal runs of piping that feed the Landing Valve connections. These risers are connected to fire pumps and fire water storage tanks located within the buildings. A 25mm diameter for Hose Reel System OR 40 mm diameter for Hose Rack system AND, 65 mm diameter for the landing Valve tapping will be made from the wet riser in each floor level and fitted with multipurpose hoses and nozzles that are placed inside a cabinet, known as Class III hose systems, for the use of the Civil Defence department personnel or other trained fire fighting personnel. In addition four way breeching inlets located at a ground level are connected to the bottom of the wet riser to pump water from the Civil Defence fire truck as supplementary water supply.
2. COMPONENTS	i. Fire Pumps, Controller, Fire Water Tank, Pipes, Fittings, Hose connection valve, Landing Valve, Hose Cabinet, Hose Reel/Hose Rack , Hose, Nozzle, Breeching inlet and Signs.
3. FIRE PUMP CAPACITY	i. The fire pump set shall consist of 1 Electric driven pump, 1 diesel driven pump and 1 electric Jockey pump, complete with controllers. ii. The fire Pump capacities shall comply with Section 4. iii. Pump pressure shall be such that the most remote landing valve pressure shall not be less than 6.9 bar.
4. PIPES	i. The minimum pipe size for serving a single 65 mm diameter hose valve shall be not less than 65 mm in diameter and the pipe line serving two or more hose valves shall be not less than 100 mm diameter. ii. The minimum wall thickness shall be as per schedule 40. iii. Pipes shall be rated for working pressure of 6.9 bar at the most remote point of the piping network. iv. 25 mm Hose reel or 40 mm Hose rack and 65 mm Landing valve tapping shall be made from the same wet riser.
5. FITTINGS	i. Fittings shall be rated for a working pressure of 6.9 bar at the most remote point of the piping network.
6. HYDRAULIC CALCULATIONS	i. The hydraulic calculation shall be performed using the Civil Defence listed and approved software based on the following criteria. a. Two numbers of landing valves on top most point of the hydraulically most unfavorable wet riser providing 250 gpm flow at 7 bar per outlet and one Landing valve outlet on the topmost point of the adjacent wet risers providing 250 gpm flow at 7 bar per outlet. ii. If a horizontal wet riser system provides supply for 3 or more landing valve outlets in a floor, the hydraulic calculation shall be based on 3 numbers of landing valve at remotest point of the hydraulically most unfavorable wet riser pipe providing 250 gpm flow at 7 bar per outlet and one landing valve outlet at the topmost point of each adjacent wet riser pipes providing 250 gpm flow at 7 bar per outlet.