5.6. Standpipe and Hose Systems (Dry/Wet Risers) - acceptance test and maintenance

5.6.1. Standpipe and Hose Systems shall be inspected and maintained as per minimum guidelines in accordance with Table 9.33. However, detailed acceptance, inspection tests and maintenance shall be as per NFPA 14 and NFPA 25.

Table 9.33.: Standpipe (Dry and Wet Riser) Testing, Inspection and Maintenance

ITEM	REQUIREMENTS
1. ACCEPTANCE TEST	**1. FLUSHING** i. The underground Piping shall be flushed. ii. The piping between the fire department connection and the check valve in the inlet pipe shall be flushed with a sufficient volume of water in order to remove any construction debris and trash accumulated in the piping prior to the completion of the system and prior to the installation of the Civil Defence connection. iii. The minimum flow rate shall not be less than the hydraulically calculated water demand flow rate of the system plus hose demands. **2. HYDROSTATIC TEST** i. All new systems, including the yard piping and fire department connections, shall be tested hydrostatically at not less than 13.8 bar (200 psi) of pressure for 2 hours, or at 3.5 bar (50 psi) in excess of the maximum pressure where the maximum pressure is in excess of 10.3 bar (150 psi). Pressure shall be maintained for 2 hours. ii. The inside standpipe system piping shall show no leakage. iii. Any leakage that results in a loss of pressure in excess of 0.1 bar (1½ psi) during a continuous 24-hour period shall be corrected. iv. The installing contractor shall furnish a certificate for flushing and hydrostatic test prior to the start of the fire pump and field acceptance test. v. Hose connections and Civil Defence breeching inlet connections shall be tested for compatibility. (All UAE Civil Defence connections are instantaneous coupling type). vi. The piping between the fire department connection and the check valve in the inlet pipe shall be tested hydrostatically in the same manner. vii. During the hydrostatic test, the pressure gauge at the top of each standpipe shall be observed and the pressure recorded. **3. FIELD ACCEPTANCE TEST** i. Testing shall be conducted while fire pumps are running for wet riser systems. ii. The water supply shall be tested to verify compliance with the design. This test shall be conducted by flowing water from the hydraulically most remote hose connections. iii. For a Dry Riser standpipe, a fire department pumper or portable pump of a capacity to provide required flow and pressure shall be used to verify the system design by pumping into the fire department connection. iv. A flow test shall be conducted at each roof outlet to verify that the required pressure is available at the required flow. v. The maximum flow to be demonstrated from a single hose connection shall be 946 L/min (250 gpm) for a 65-mm (2½-in.) connection and (379 L/min) 100 gpm for a 40-mm (1½-in.) connection and 50 gpm for a 25 mm connection. vi. The filling arrangement for suction tanks shall be verified by shutting down all supplies to the tank, draining the tank to below the designated low water level, and then opening the supply valve to ensure operation of its automatic features. vii. Each pressure-regulating device shall be tested to verify that the installation is correct, that the device is operating properly, and that the inlet and outlet pressures at the device are in accordance with the design. viii. Signs, both in English and Arabic shall be verified on site. ix. The consultant shall hand over one set of stamped record drawings and one copy of the completed test report to the building owner.