

5.8. Foam Systems - acceptance test and maintenance

- 5.8.1.** Foam Systems shall be inspected and maintained as per minimum guidelines in accordance with **Table 9.35**. However, detailed acceptance, inspection tests and maintenance shall be as per **NFPA 13, NFPA 11, NFPA 16 and NFPA 25**.

Table 9.35.: Foam Systems Testing, Inspection and Maintenance

ITEM	REQUIREMENTS
1. ACCEPTANCE TEST	<p><u>1. FLUSHING</u></p> <ul style="list-style-type: none"> i. Water supply mains shall be flushed before connecting to system piping. ii. The minimum flow rate shall not be less than the hydraulically calculated water demand flow rate of the system plus hose demands. <p><u>2. HYDROSTATIC TEST</u></p> <ul style="list-style-type: none"> i. The piping network 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 piping, joints and discharge devices 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. <p><u>3. FIELD ACCEPTANCE TEST</u></p> <ul style="list-style-type: none"> i. The tests for total flooding systems shall establish that all automatic closing devices for doors, windows, and conveyor openings, and automatic equipment interlocks, as well as automatic opening of heat and smoke vents or ventilators, will function upon system operation. ii. Deluge and pre-action and sprinkler systems shall be tested as per Table 9.33. iii. The foam quality (expansion and one-quarter drain time) or foam discharge shall be conducted, or the foam discharge shall be visually inspected to ensure that it is satisfactory for the purpose intended. iv. The foam proportion shall not be less than rated concentration. v. Where conditions permit, flow tests shall be conducted to ensure that the hazard is fully protected in conformance with the design specification vi. Waterflow detecting devices including the associated alarm circuits shall be flow tested through the inspector's test connection and shall result in an audible alarm on the premises within 5 minutes after such flow begins and until such flow stops vii. Testing shall be conducted while fire pumps are running. viii. For Foam sprinkler systems, at least one remote sprinkler head shall be burst open with heating device and associated system functions such as alarm gong operation, fire pump operation, flow switch operation etc. shall be tested and verified. ix. The automatic operation of a deluge or pre-action valve shall be tested in accordance with the manufacturer's instructions. x. All control valves shall be fully closed and opened under the system water pressure to ensure proper operation. xi. Signs, both in English and Arabic shall be verified on site. xii. The consultant shall hand over one set of stamped record drawings and one copy of the completed test report to the building owner.