5.5. Fire Pumps-acceptance test and maintenance

5.5.1. Fire Pumps shall be inspected and maintained as per minimum guidelines in accordance with **Table 9.32.** However, detailed acceptance, inspection tests and maintenance shall be as per **Manufacturer's instruction manual, NFPA 20 and NFPA 25.**

Table 9.32.: Fire Pump Testing, Inspection and Maintenance

ITEM	REQUIREMENTS
1. ACCEPTANCE TEST	**1. FLUSHING** i. The suction piping shall be flushed prior to hydrostatic tests. ii. Where the maximum flow available from the water supply cannot provide a flow of 150 percent of the rated flow of the pump, the flushing flow rate shall be the greater of 100 percent of the rated flow of the connected fire pump or the maximum flow demand of the fire protection system. **2. HYDROSTATIC TEST** i. Suction and discharge piping shall be hydrostatically tested at not less than 200 psi (13.8 bar) pressure or at 50 psi (3.4 bar) in excess of the maximum pressure to be maintained in the system, whichever is greater. ii. The pressure shall be maintained for 2 hours. iii. The installing contractor shall furnish a certificate for flushing and hydrostatic test prior to the start of the fire pump field acceptance test. **3. FIELD ACCEPTANCE TEST** i. All electric wiring to the fire pump motor(s), including control (multiple pumps) interwiring, normal power supply, alternate power supply, and jockey pump, shall be completed and checked by the electrical contractor prior to the initial startup and acceptance test. ii. A copy of the manufacturer's certified pump test curve shall be available for comparison with the results of the field acceptance test. iii. The test procedures as per the manufacturer's manual shall be followed and their results shall be verified. iv. The actual unadjusted fire pump discharge flows and pressures installed shall meet or exceed the fire protection system's demand. v. The fire pump shall perform at minimum, rated, and peak loads without an objectionable overheating of any component. vi. Vibrations of the fire pump assembly shall not be of a magnitude to pose potential damage to any fire pump component. vii. Where simultaneous operation of multiple pumps is required as part of a system design, the acceptance test shall include a flow test of all pumps operating simultaneously. viii. The maximum flow available shall be 150% of the rated flow of the pump. ix. For electric motors operating at a rated voltage and frequency, the ampere demand on each phase shall not exceed the product of the full-load ampere rating times the allowable service factor as stamped on the motor nameplate. x. The voltage at the motor contactor ouput lugs shall not vary more than 5% below or 10% above rated (nameplate) voltage during the test xi. The fire pump or foam concentrate pump shall be in operation for not less than 1 hour. xii. Consultant shall hand over one set of stamped record drawings and one copy of the completed test report to the building owner.