



SERVICE SPECIFICATION DOCUMENT

SERVICE & MAINTENANCE OF _____

AUTOMATIC SPRINKLER SYSTEMS

IN ACCORDANCE WITH BS EN 12845 2015 AND TB 203



Certificated contractor IL 5359



Member of tpt fire Systems Group of Companies
VAT No. 537 6513 32 Registered in England No. 2458917
UTR No. 80980 09401

Foreword

This specification has been developed in accordance with BS 12845:2015 and TB203 Care and Maintenance of Automatic Sprinkler Systems.

Please note that in addition to the requirement of this standard it may also be a legal requirement and a requirement of the fire risk assessment/strategy for the premises.

Failure to comply with legal requirements may result in civil or criminal prosecutions under The Regulatory Reform (Fire Safety) Order 2005.

The buildings insurer will also have a requirement for your automatic sprinkler system and associated pumping equipment to be serviced. Failure to do so may affect the premiums you are charged and level of cover offered.

Client Responsibilities

It is the client responsibility to ensure all connections with alarm systems and/or 3rd party monitoring systems are isolated while on site.

If required, it is also the client's responsibility to inform any 3rd parties that a maintenance visit is due to take place, this may include the insurer of the site or the local Fire Brigade.

Service Frequency

The Care and Maintenance of Automatic Sprinkler Systems procedures are set out within BSEN 12845 2015 & TB203.

The following specification covers all service activities required to be undertaken within a 12 month to be compliant with TB 203:2015. Please be aware further maintenance activities are required after 3, 5, 10 & 25 years. Please ask for further details.

Deviations to the specified routine including servicing frequency may have been requested through the instruction of the building management, the sites insurers or any other 3rd party with jurisdiction. Please check that your contract covers the sites maintenance requirements.

Workforce

We will send suitably qualified, competent and capable engineers to the site to carry out the maintenance visit.

Quality Assurance

As part of our commitment to quality and service, we will periodically carry out audits of service visits to ensure compliance to this specification.

Where compliance to this standard cannot be achieved due to site conditions or missing site information, we will record this on our service sheet and follow this up in writing.

Service Specification

1 - Weekly Routine

Checks

The following shall be checked and recorded:

- a) all water and air pressure gauge readings on installations, trunk mains and pressure tanks;
- b) all water levels in elevated private reservoirs, rivers, canals, lakes, water storage tanks (including pump priming water tanks and pressure tanks).
- c) Check to ensure the automatic infill of all water storage sources is working correctly
- d) the correct position of all stop valves which control the flow of water to the sprinkler system(s) from the water supply, up to and including the installation control valves stop valves but excluding the water undertaker's stop valve on a town main supply to the system.

The air pressure in the pipework in dry, alternate and pre-action installations should not fall at a rate of more than 1,0 bar per week or at a rate specified by the manufacturer, whichever is the lesser.

Water Motor Alarm Test

Each water motor alarm shall be sounded for no less than 30s, recording the before and after test pressures.

If mechanical alarm gongs are not present, then the pressure switch should be tested back to the alarm panel.

Automatic pump starting test

Tests on automatic pumps shall include the following;

- a) water pressure on the starting device shall be reduced, thus simulating the condition of automatic starting;
- b) when the pump starts, the starting pressure shall be checked and recorded;
- c) check that there is cooling water flowing through open circuit cooling systems"
- d) check diesel pump oil pressure;
- e) fuel and engine lubricating oil levels in diesel engines shall be checked;
- f) check the correct operation of any automatic ventilation louvres.

Diesel engine restarting test

Immediately after the pump start test, diesel engines shall be tested as follows:

- a) the engine shall be run for 30 minutes, or for the time recommended by the supplier. The engine shall then be stopped and immediately restarted using the manual start test button;
- b) the water level in the primary circuit of closed circuit cooling systems shall be checked.
- c) Oil pressure (where gauges are fitted), engine temperatures and coolant flow shall be monitored throughout the test. Oil hoses shall be checked and a general inspection made for leakage of fuel, coolant or exhaust fumes"

Trace heating and localised heating systems

Heating systems to prevent freezing in the sprinkler system shall be checked for correct function.

Fire and rescue service and remote central station alarm connection

The equipment for automatic transmission of alarm signals from a sprinkler installation to a fire and rescue service or remote manned centre (see BS EN 16.3) shall be checked for:

- a) continuity of the connection; and
- b) continuity of the connection between the alarm switch and the control unit, if the circuits are continuously monitored.

Water Storage Tank

Check to ensure the tank is full and the ball valve/s are operating correctly

Records

Complete insurer's weekly test card and weekly test service sheet

2 – Monthly Routine

The following checks and inspections shall include all tasks identified in the weekly routine.

Batteries

Check the electrolyte level of all battery cells, (including diesel engine starter batteries and those for control panel power supplies) and carry out all other maintenance procedures specified by the battery manufacturer. Check the battery charging voltage and make sure it has not changed.

Water storage tank security

The access ladder to all sprinkler water storage tanks shall be checked for correct housing and security and any tank ball valve covers shall be secured and locked. "

3 – Quarterly Routine

The following checks and inspections shall include all tasks identified in the weekly and monthly routines.

Water supplies and their alarms

Each water supply shall be tested with each control valve set in the system. The supply should be checked that it can deliver pressure at the appropriate flow rate shall be no less than the appropriate value

Alarm Valve - Ancillaries

All internal and external compensators & by-passes shall be checked for correct function. All drip velocity valves and drip unions shall be inspected and serviced.

Electrical supplies

Any secondary electrical supplies from diesel generators shall be checked for satisfactory operation.

Stop valves

All stop valves controlling the flow of water to sprinklers shall be operated to ensure that they are in working order, and securely refastened in the correct mode. This shall include the stop valves on all water supplies, at the alarm valve(s) and all zone or other subsidiary stop valves.

Flow Alarms

Flow switches shall be tested and checked for correct function i.e. signalling back to a central monitoring panel, including Fire In Pump House alarms

Spare Heads

The number and condition of replacement parts held as spare shall be checked. The number of spare sprinkler heads per system shall not be less than:-

- 6 for Light Hazard (LH) Installations
- 24 for Ordinary Hazard (OH) Installations
- 36 for High Hazard, Process (HHP) and High Hazard, Storage (HHS)

Review of hazard

The effect of any changes of structure, occupancy, storage configuration, heating, lighting or equipment of a building or hazard classification or installation design shall be identified in order that the appropriate corrective action may be taken immediately. Please refer to the Hazard Review form for further details.

The review shall be carried out by one of the following procedures:

- (a) an inspection by a competent person, for example by an engineer from a sprinkler servicing contractor; or
- (b) the user shall submit a completed return to the sprinkler servicing contractor detailing any changes as specified in TB203.3.2.3.

4 - Half Yearly Routine

The following checks and inspections shall include all tasks identified in the weekly, monthly and quarterly routines.

Wet and Dry Alarm valves

The moving parts of dry alarm valves, pre-action valves, and any accelerators and exhausters, shall be exercised in accordance with the suppliers' instructions.

Water supplies

Each water supply shall be tested to verify pressure and flows. Where flow test equipment is also installed at the installation control valve sets, they shall be tested to verify the pressures and flows specified are achieved.

Pump(s) if fitted shall start automatically. It shall be verified that both pump starting pressure switches operate correctly.

Each water supply pump in the installation shall be tested at the full load condition (by means of the test line connection coupled to the pump delivery branch downstream of the pump outlet non-return valve) and shall give the pressure/flow values stated on the nameplate.

Appropriate allowances shall be made for pressure losses in the supply pipe and suction tank head gain.

Low water level switches in suction lift header tanks shall be tested for correct function.

Automatic Air Compressors

Undertake the following checks:-

- a) Check and adjust if required the compressor automatic operational start and stop pressures.
- b) Ensure correct operation of contactor/starter unit and that excessive oscillation is not evident
- c) Ensure correct operation of air loading device, where fitted
- d) Check level of oil in air compressor and top up if required

Pressure Maintenance Pumps

Undertake the following checks:-

- a) Check and adjust if required the compressor automatic operational start and stop pressures.
- b) Ensure correct operation of contactor/starter unit and that excessive oscillation is not evident
- c) Check non-return valves for correct operation

Electrical supplies

Any secondary electrical supplies from diesel generators or other sources shall be verified by the user to the sprinkler service contractor to be operating satisfactorily."

Stop valves

All stop valves controlling the flow of water to sprinklers shall be operated to ensure that the stop valve and any monitoring are in working order, and securely refastened in the correct mode. This shall include the stop valves on all water supplies, at the alarm valve(s) and all zone or other subsidiary stop valves.

5 – Yearly Routine

Water supply stop valves, alarm and non-return valves

All water supply stop valves, alarm and non-return valves shall be examined and replaced or overhauled as necessary.

Drain down systems and internally inspect and service wet alarm valve, dry pipe valves and pre-action/deluge control valves

Dismantle and inspect pump non-return valves and/or towns main non-return valves

Dismantle and clean flow meters located on tank infill lines, pump flow test arrangements and at installation control valves

Pump suction chambers and screens

In natural water supplies, settling chambers and screens shall be taken out and inspected as necessary

Flow alarms

Flow alarm devices (flow switches and/or pressure switches), other than those

Diesel engine failed-to-start test

The failed-to-start alarm shall be tested. Immediately after this test, the engine shall be started using the manual starting system.

Water storage tanks

Water storage tank float valves shall be maintained in accordance with the manufacturers' instructions and checked to ensure they function correctly.

Check accuracy of tank capacity/level gauges

Check correct operation of tank high or low level warning switches

Check tank heating element

Review of hazard

Where the quarterly review of hazard takes the form of returns submitted by the user, at least one review per year shall be carried out by a site visit by a competent person, for example an engineer from a sprinkler servicing contractor reporting on details.

Sprinklers, multiple controls and sprayers

Sprinklers, multiple controls and sprayers affected by deposits (other than paint) shall be carefully cleaned. Painted or distorted sprinkler heads, multiple controls or sprayers shall be replaced.

Any petroleum jelly coatings shall be checked. Where necessary the existing coatings shall be removed and the sprinklers, multiple controls or sprayers shall be coated twice with petroleum jelly (in the case of glass bulb sprinklers to the sprinkler body and yoke only)."

Pipework and pipe supports

Pipework and hangers shall be checked for integrity and condition and rectified or replaced as necessary. Bitumen-based paint on pipework, including the threaded ends of galvanized pipework and hangers, shall be renewed as necessary. Protective wrapping on pipes shall be repaired as necessary.

Verify with the user that the sprinkler system is satisfactorily earthed. Sprinkler pipework shall not be used for earthing electrical equipment and any earthing connections from electrical equipment shall be removed and alternative arrangements made.

Replacement parts

The number and condition of replacement parts held as spare shall be checked.

Block Plans

Check to ensure block plans are in place in relevant site locations and are up to date.

Fire and rescue service and remote central station alarm

The electrical installation shall be checked.