

# METHOD STATEMENT FOR TESTING COMMISSIONING OF FIRE HOSE REEL

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## 1. DEFINITIONS / ABBREVIATIONS

### 1.1. Abbreviations

1. ICL - Inspection Check List
2. IR - Inspection Request
3. ITL -Independent Testing Laboratory
4. ITP - Inspection and Test Plan
5. ITR -Inspection & Test Requests
6. MAT - Material Submittal
7. MEP - Mechanical Electrical Plumbing
8. MET - Method Statement
9. MIR - Material Inspection Request
10. MSDS - Material Safety Data Sheet
11. PPE -Personal Protective Equipment
12. PQP -Project Quality Plan
13. PTW -Permit To Work ( Working at Height or enclosed spaces)
14. RA -Hazard Identification and Risk Assessment
15. RFIA - Request for Inspection and Approval
16. SPD - Shop Drawing
17. TBM - Temporary Bench Mark

## 2. PRE COMMISSIONING PROCEDURE

### 2.1. Definition

1. Fire Hose Reel -1” & 1 1/2” Fire Hose System
2. Automatic Wet System: It is a system that is attached to a water supply capable of supplying the system demand at all fires and that requires no action other than opening a hose valve to provide water at hose connection.
3. Minimum pressure requirement:
  - 3.1. Hydraulically designed to provide 10 GPM (37.85 lpm) at a minimum residual pressure of 2.2 bars at the outlet of the hydraulically most remote 1” dia. Hose reel connection.
  - 3.2. Hydraulically designed to provide 100 GPM (378.5 lpm) at a minimum residual pressure of 4.5 bars at the outlet of the hydraulic most remote 1 1/2” dia. Fire hose connection.

### 2.2. Visual Inspection

1. Prior to perform the Functional Test of the Hose Reel System the following visual Inspection shall be checked:
2. Check for approved make and recommended materials by the manufacturer / supplier are used at site.
3. Check that the Hose Reel Cabinets, Landing Valves and its accessories are installed as per the approved drawings for its quantity and location.
4. Check that the Fire Extinguishers are installed as per the approved drawings for its quantity, type and location.
5. Check that all the fire extinguishers are in proper condition for its pressure, Tag and mechanical seals.
6. Check the Painting of the piping system
7. Check all the valves, pipes and bolts are tightened properly.

8. Hydraulic testing of the piping system in accordance with NFPA and the approved Method of Statement.
9. Conduct a Flush test to remove all dirt and other debris, etc.

### **2.3. Hydrostatic Test**

1. Plug all the openings
2. Close all the drain valves.
3. Fill complete pipeline with water avoiding any air column. (For this purpose keep the drain valve at the highest elevation slightly open, while filling water when line is completely filled with water close the valve)
4. By a pressure pump pressurize the line to an intermediate pressure, say 100 psi. Wait for 5 minutes; check all major joints for any visible leak.
5. If the system is OK as per point No. 4 again pressurize the system to 150 psi and wait for 10 minutes for any drop in pressure or leakage.
6. If the system is found to be leak proof as per item No. 5 pressurizes the line to 200 psi and keep for 2 hrs.

### **2.4. Flushing**

1. Prior to perform the final Test of the internal fire hose reel and Fire Hose system a flush test shall be conducted as follows,
2. Pull the hose reel or fire hose outside the building or inside the toilet area
3. Direct the hose to a free direction.
4. Open the valve.
5. Keeps water going for 2-3 minutes?
6. Continue the flushing till all debris is removed and clean water is coming out.
7. Close the valve.
8. Repeat the same procedure for all others.

## **3. COMMISSIONING PROCEDURE**

### **3.1. Equipment/Instruments to be used**

1. Adjustable Spanner.
2. Pressure Gauges.
3. Pipe Wrench.

The following are to be checked prior to handover of the Fire Hose / Hose reel System to the Clients/ End Users.

1. All Fire Hose System Network and attached appurtenances subjected to system working pressure shall be hydrostatically tested at 200 psi. (13.8 bars) and shall maintain that pressure without loss for 2 hours. Loss shall be determined by a drop in gauge pressure.
2. The piping system shall be flush tested to ensure thorough cleaning of the network piping. The minimum flow rate shall be at least that necessary to provide a velocity of 3 m/ sec.
3. Ensure all the components of the fire cabinets are installed properly (landing valves, hose reels, extinguishers & fire hoses).
4. Check pressure in all the floors by using special adapter with calibrated pressure gauge and note the readings.
5. Open the lock shield valve of each hose reel and adjust its pressure to 3 - 4 bars through 1" PRV. The water throw should be 6 metre. (Hose reel should be opened inside toilets or outside the building to avoid any damages to other services).
6. Check all the fire extinguishers for its certification (inside pressure & hose connections also to be checked).
7. A system functional test may be conducted as given below once the entire Fire protection system is completed.