



# RESIDENTIAL FIRE SPRINKLER

## (Guidelines for a “Bucket Test”)



### Scope and Purpose

To establish an acceptable method for conducting functional flow testing of residential NFPA 13D and 13R fire sprinkler systems.

### Special Provisions

- An “in-service” pressure test is required in addition to this “functional flow test.”
- All testing equipment, e.g., valves, sprinklers, flow pipes, containers, etc. shall be provided for by the installing contractor.

### General Requirements/Procedures

- ❑ Locate the hydraulically most remote two sprinklers (as indicated on approved plans).
- ❑ Verify sprinkler control valve is closed.
- ❑ Drain system piping.
- ❑ Remove selected remote sprinklers from system.
- ❑ Install two “full flow” quarter turn ball valves at selected sprinkler locations.
- ❑ Remove fusible element and deflectors from design specified sprinklers.
- ❑ Install “test sprinklers” into ball valves.
- ❑ Replace next head upstream from test heads with 200 psi calibrated pressure gauge.
- ❑ Open riser control valve to charge the system.
- ❑ Place a 2-inch or larger PVC pipe of adequate length over sprinkler orifice of selected test heads so as to direct the discharge into a calibrated container of approximately 30 gallons.
- ❑ Flow the most remote test head for 30 seconds. Record the static pressure prior to flow and the residual pressure during the 30-second flow test.
- ❑ Measure the volume of water in container and multiply by 2. Record the results and empty container.
- ❑ Flow the two most hydraulically remote heads for 30 seconds. Record the static pressure prior to flow and the residual pressure during the 30-second flow test.
- ❑ Measure the volume of water in containers and multiply by 2. Record the results and empty container.
- ❑ Verify that flow rates and pressures are within manufacturer’s specifications for coverage area of the sprinklers.

### Results:

	Coverage Area*	PSI	Minimum Flow*	Static Pressure Prior to Flow Test	PSI	Actual Flow
One Head						
Two Heads						