

Testing and Approvals

FM Global Testing — Approval Standard FM1637*

FlexHead® series 2000 stainless steel sprinkler connections

Hydrostatic Strength Test

A sample FlexHead was subjected to a hydrostatic pressure of four (4) times the rated working pressure of 175 psi (1205 kpa) to 700 psi (4825 kpa) for a period of five minutes. The assembly showed no signs of rupture, cracking, permanent distortion, or deterioration of performance characteristics. *The FlexHead successfully passed this test.*

Vibration Test

A sample FlexHead was secured to a vibration table. The FlexHead hose was bent in a 90° angle and pressurized to 90 psi (620 kpa) and the mounting bracket and hose were then subjected to a total of 25 hours of severe vibration conditions. After the successful completion of the vibration tests the sample was subjected to the hydrostatic pressure test at 700 psi and showed no signs of deterioration. *The FlexHead successfully passed this test.*

Friction Loss (Equivalent length of pipe)

To determine the effect of the FlexHead to the discharge coefficient of the sprinkler, the average friction loss through the FlexHead shall be equated to the theoretical length of nominal 1" diameter schedule 40 sprinkler pipe which would produce the same amount of friction loss. *Please see friction loss table.*

Vacuum Test

A sample FlexHead was subjected to a vacuum of 25 inHG for a period of five minutes. After the successful completion of the Vacuum Test the sample was subjected to the hydrostatic pressure test at 700 psi and showed no signs of deterioration. *The FlexHead successfully passed this test.*

Pressure Cycling Test

A sample FlexHead was filled with water and bent at a 90° angle and subjected to 20,000 cycles of pressure varying from 0 psi (0 kpa) to 175 psi (1205 kpa) at a rate of approximately 6 cycles per minute. After the successful completion of the pressure cycling tests the sample was subjected to the hydrostatic pressure test at 700 psi and showed no signs of deterioration. *The FlexHead successfully passed this test.*

Fatigue Test

A sample FlexHead was subjected to 50,000 cycles of repeated flexing at a rate of 5 to 30 cycles per minute per section 8.3 of ISO standard 10380. After the successful completion of the fatigue test the sample was subjected to the hydrostatic pressure test at 700 psi and showed no signs of deterioration. *The FlexHead successfully passed this test.*

Head Deployment

A sample FlexHead installed in a suspended ceiling was fitted with a sprinkler head and pressurized to 26–175 psi. The sprinkler head was then activated by a heat source at various pressures, and the sprinkler head deployed. The assembly showed no signs of distortion or deterioration of performance on the assembly or sprinkler head. *The FlexHead successfully passed this test.*

* Condensed Summary — Please see approval standard for full testing and approval criteria.