

D. Environmental Conditions

In the event of a fire, a post-fire inspection should be made of all sprinklers within the fire area. In situations where the fire was quickly controlled or extinguished by one or two sprinklers, it may only be necessary to replace the activated sprinklers. Care should be taken that the replacement sprinklers are of the same make and model or that they have compatible performance characteristics.

Soot-covered sprinklers should be replaced because deposits can result in corrosion of operating parts. In the event of a substantial fire, special consideration should be given to replacing the first ring of sprinklers surrounding the operated sprinklers due to the potential for excessive thermal exposure, which could weaken the response mechanisms.

The conditions described in this section can have a detrimental effect on the performance of sprinklers by affecting water distribution patterns, insulating thermal elements, delaying operation, or otherwise rendering the sprinkler inoperable or ineffectual.

Severely loaded or corroded sprinklers should be rejected as part of the visual inspection. Such sprinklers could be affected in their distribution or other performance characteristics not addressed by routine sample testing. Lightly loaded or corroded sprinklers could be permitted for continued use if samples are selected for testing based on worst-case conditions and the samples successfully pass the tests.