

U.S. Fire Administration / National Fire Academy

Coffee Break Training

Topic: Property Protection or Life Safety Sprinklers

Learning objective: The student shall be able to explain the difference between sprinklers listed for residential occupancies or property protection.

A sprinkler is a sprinkler is a sprinkler, right? Wrong.

People often assume that because a building is equipped with automatic fire sprinklers they are designed for all hazards. Sprinklers designed for property protection have different operating characteristics from those designed for life safety.

Sprinklers intended for property protection must meet the performance standards established in Underwriters Laboratories (UL) Standard 199 “Automatic Sprinklers for Fire Protection Service.” Their discharge pattern is designed for fire control or suppression by wetting adjacent combustibles to keep the fire from spreading or, in the case of Early Suppression Fast Response (ESFR) sprinklers discharging an adequate volume and pressure to extinguish a fire before it spreads.

Sprinklers meeting UL Standard 199 can be used in systems designed in accordance with NFPA 13 or 13-R for those spaces not normally considered “residential,” such as storage, equipment, or mechanical rooms.

Sprinklers for life safety must meet the stringent requirements of UL Standard 1626, “Residential Sprinklers for Fire Protection Service.” While they also are considered to be fire control mode sprinklers, their discharge pattern and Response Time Index (RTI), make them suitable for installation in NFPA 13-R and 13-D design residential occupancies.

Listed residential sprinklers are designed to prevent flashover in the room of origin, to give occupants adequate time to escape. They are designed to wet the walls and ceilings of the enclosure, help keep carbon monoxide levels low, and maintain a tenable environment. Although they can be successful at controlling property fires, they are not designed to do that.

Fire inspectors may encounter sprinklers installed in the “incorrect” environment. When that occurs, inspectors should notify the property owner to have the appropriate sprinkler protection installed.

For additional information, refer to www.ul.com; NFPA 13, *Installation of Sprinkler Systems*; NFPA 13-R, *Installation of Sprinkler Systems in Multi-Family Dwellings up to and Including Four Stories in Height*; and NFPA 13-D, *Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes*.

