

U.S. Fire Administration / National Fire Academy

Coffee Break Training

Topic: Sprinkler Performance Categories

Learning objective: The student shall be able to distinguish between control mode and suppression mode automatic sprinklers.

Many people don't realize that, until recently, automatic fire sprinklers were not intended to suppress a fire when they operate. Sprinklers were designed to detect, control, and report a fire; holding it in check until the fire suppression forces arrived to complete extinguishment with hoselines.

The sprinkler designer--in concert with the building owner and code enforcement officer--must decide what performance objectives are needed on a specific project.

- **Control-mode sprinklers** confine a fire by prewetting combustibles surrounding the fire area and by cooling hot gases at the ceiling.

CONTROL MODE SPRINKLERS	
TYPE	TYPE
Standard Spray Pendent	Standard Spray Upright
Large Drop	Old Style/Conventional
Quick Response Extended Coverage	Standard Response Extended Coverage
Horizontal Sidewall	Vertical Sidewall
Residential	Flush, Recessed, Concealed
Flow Control (On-Off)	Corrosion Resistant
High Temperature, Wax Coated	Intermediate Level (Water Shielded)
Nozzles	Open
Quick Response	Special
Specific Application	Spray

- **Suppression-mode sprinklers**, such as Early Suppression, Fast-Response (ESFR) sprinklers are designed to knock down a fire as fast as possible using an aggressive large-drop spray and a flame-penetrating central core of water.

SUPPRESSION MODE SPRINKLERS	
TYPE	TYPE
Early Suppression, Fast Response	Quick Response, Early Suppression*

* Not yet available.

For additional information, refer to National Fire Protection Association (NFPA) 13, Standard for the Installation of Sprinkler Systems™, Chapter 3; and the Underwriters Laboratories (UL) Fire Protection Equipment Directory, product categories VNIV, VNWH, and VKKW.

