1.4. Automatic Sprinkler Systems

1.4.15. Types of Sprinklers, based on Coverage

1.4.15.1. Standard Coverage Sprinkler Head

A sprinkler that directs from 40 percent to 60 percent of the total water initially in a downward direction and that is designed to be installed with the deflector either upright or pendent. Nominal K-factors for standard ½ in. [12.7 mm] sprinklers are 5.6 [K_m = 80].

1.4.15.2. Extended Coverage Sprinkler Head

Extended coverage sidewall sprinklers are used in the horizontal position. They have larger areas of coverage than the areas of coverage allowed for standard sidewall sprinklers. They may be used in light-hazard occupancies.

1.4.15.3. Large Drop Sprinkler Head

A type of specific application control mode sprinkler sprinklers with a nominal K-factor of 11.2 (Km = 160) The deflector of a large drop sprinkler is specially designed and, combined with the greater discharge, produces large drops of such size and velocity as to enable the spray to penetrate strong updrafts generated by high-challenge fire hazards.

1.4.16. Types of Sprinklers, based on Heat Sensing Element

1.4.16.1. Standard Response Sprinkler Head

A type of spray sprinkler that has thermal sensitivity measured in response time index (RTI) of 80 $(meters\text{-}seconds)^{1/2}$ or more.

1.4.16.2. Early Suppression Fast-Response (ESFR) Sprinkler

A type of fast-response sprinkler that has thermal sensitivity measured in response time index (RTI) of 50 $(meter\text{-}seconds)^{1/2}$ or less and is listed for its capability to provide fire suppression of specific high-challenge fire hazards.

1.4.17. Closed Array

A storage arrangement where air movement through the pile is restricted because of 6-in. (152-mm) or less vertical flues.

1.4.18. Open Array

A storage arrangement where air movement through the pile is enhanced because of vertical flues larger than 6 in. (152 mm).