

U.S. Fire Administration / National Fire Academy

Coffee Break Training

Topic: Clearance Beneath Sprinklers

Learning objective: The student shall be able to identify minimum clearance dimensions beneath sprinkler deflectors for various sprinkler types and conditions.

Every fire inspector knows that the clearance requirement between sprinkler deflectors and the top of storage is 18 inches, right?

Wrong. Clearance rules depend upon the sprinkler type and storage condition. As a general rule, NFPA 13, *Installation of Sprinkler Systems*, requires 18 inches of clearance, but makes the following modifications:

- For **standard pendent** and **upright spray (SSP/SSU) sprinklers**, the 18-inch dimension is not intended to limit the height of shelving or storage along a wall as illustrated below.
- For **sidewall (SW)** and **extended coverage upright** and **pendent (EC) sprinklers**, the 18-inch rule below deflectors applies.
- For **large drop (LD) sprinklers**--often found in storage occupancies--clearance between the sprinkler deflector and top of storage must be at least 36 inches.
- For **Early Suppression Fast Response (ESFR) sprinklers**, clearance between the sprinkler deflector and top of storage must be at least 36 inches.



NFPA 13 allows less than 18 inches clearance from ceiling sprinklers when large-scale fire tests for the particular hazard show less clearance is acceptable.

For additional information, refer to NFPA 13, *Installation of Sprinkler Systems*.