

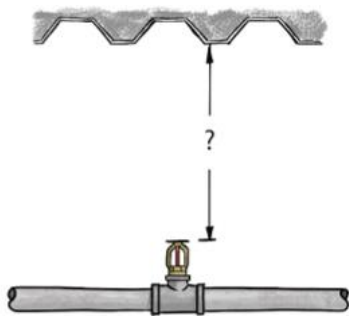
# SPRINKLER HEIGHT: UNOBSTRUCTED

LAYOUT FOR STANDARD SPRAY SPRINKLERS SERIES BY MEYERFIRE UNIVERSITY | NOVEMBER 2022

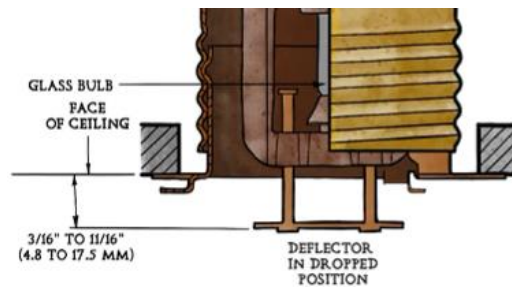
## SUMMARY

This video is specific to **standard spray, pendent & upright sprinklers**. The allowable height from NFPA 13 depends on whether we have Obstructed or Unobstructed Construction. In this summary we're covering Unobstructed Construction.

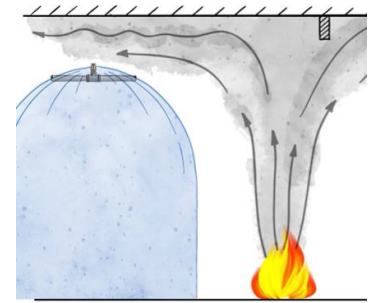
- For Unobstructed Construction, in general, the **sprinkler deflector needs to be 1-12 inches (25-300 mm) from the ceiling or roof deck**. If this is a corrugated metal deck, then we're allowed to measure from the bottom of the deck as long as the depth of the deck is 3 inches (75 mm) or less.
- **Why 1-inch (25 mm) minimum?** For uprights, this is to allow enough room to unthread and replace a sprinkler.
- **Why the 12-inch (300 mm) maximum?** For unobstructed construction, the heat plume will pass more smoothly horizontally and less deep, so we want the sprinkler to be nearer the ceiling to stay within the heat plume.
- An exception to this range included "ceiling type" recessed or concealed sprinklers, where the **sprinkler is installed in accordance with its listing**.
- Also, where we have changes in ceiling heights, NFPA 13 also gives us guidance on **how to space sprinklers to the change in ceiling height**.



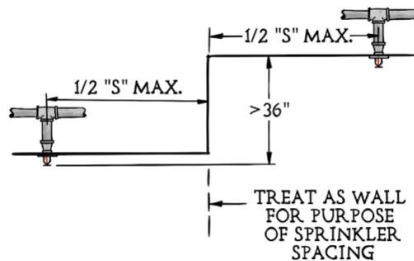
**Sprinkler Deflector Distance to Ceiling/Roof**  
(Note measurement from deflector to deck)



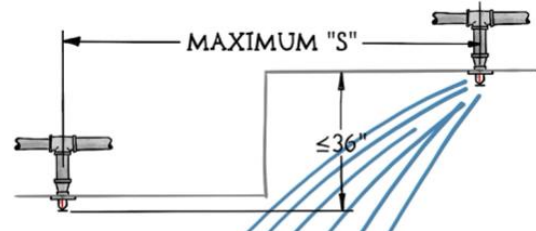
**Concealed Sprinkler Dropped Deflector**  
(Not required to be 1" 25-mm minimum if installed per listing)



**Unobstructed Construction**  
(heat plume stays closer to the ceiling, so less tolerance for the sprinkler to be located lower)



**Change in Ceiling Elevation More than 36-inches (910 mm)**  
(Note that the change is treated as if there were a wall in-between)



**Change in Ceiling Elevation 36-inches (910 mm) or Less**  
(higher sprinkler **must** meet obstruction rules, but otherwise is spaced normally)

## CODE/STANDARD REFERENCES



NFPA 13 – 2022: 9.5.4.1.1 Chapter-Specific Requirements Apply to Sprinkler Height

NFPA 13 – 2022: 10.2.6 Deflector Heights for Standard Spray Upright & Pendent Sprinklers

## VIDEO LINK

[www.meyerfire.com/university/height-of-pendents-uprights-unobstructed](http://www.meyerfire.com/university/height-of-pendents-uprights-unobstructed)

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