

SPRINKLER LAYOUT: PEAKED ROOFS

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

SUMMARY

Peaked roofs and ceilings present a unique challenge for fire sprinklers.

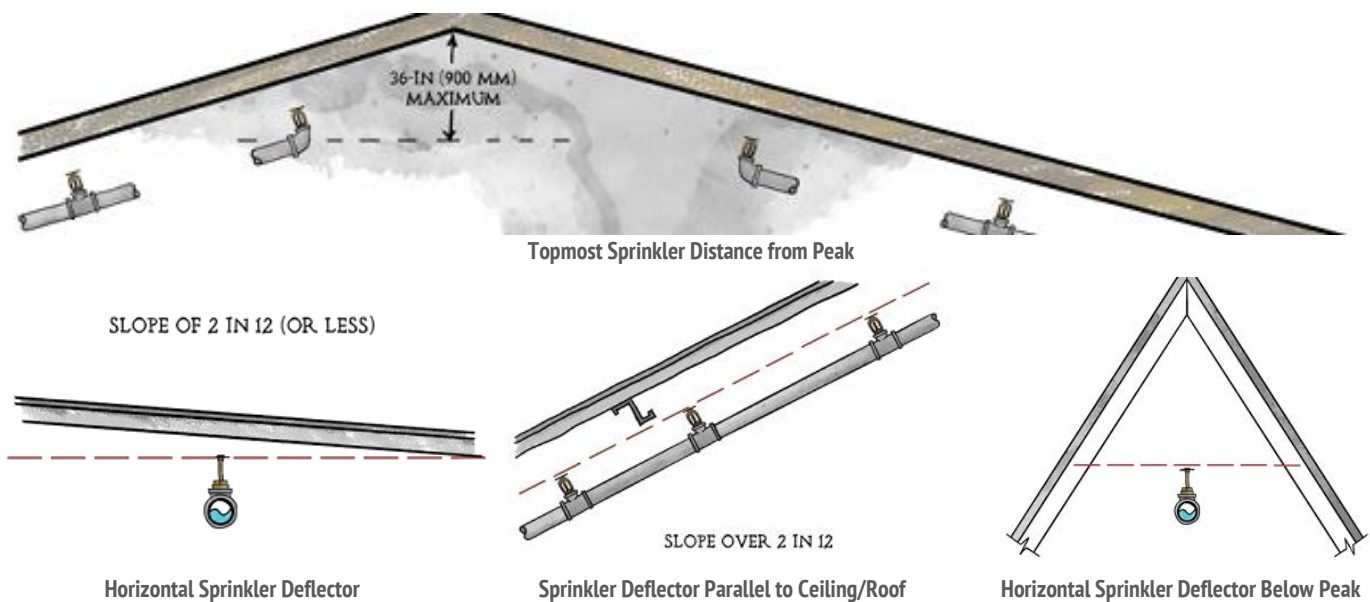
- When ceilings or roofs slope along a single ridge, **heat tends to collect at the peak** before collecting and descending downward in elevation.
- To keep the ceiling cool and avoid delays in activation, NFPA 13 requires the **topmost sprinkler below or near the peak to be within 36-inches (900 mm) vertically from the peak**.

One note about slopes:

- For **slopes of 2 in 12 or less**, sprinkler deflectors are allowed to be installed **parallel to the floor**.
- For **slopes greater than 2 in 12**, sprinkler deflectors are required to be installed **parallel to the ceiling/roof**.
- For a sprinkler directly below a peak with a steep slope, the deflector is required to be installed horizontal (parallel to the floor).

Other odd situations that NFPA 13 addresses:

- **Saw-toothed roofs** require the topmost sprinkler to be within 36-inches (900 mm), but measured along the slope.
- **Double joist construction**, and **sloped combustible attic situations** are addressed in NFPA 13, however, we may not be able to or want to use standard spray sprinklers for those applications (special application sprinklers like combustible concealed sprinklers or attic sprinklers may be better suited for those applications).



CODE/STANDARD REFERENCES



- NFPA 13 – 2022: 10.2.6.1.3.1 Topmost Sprinkler at Peak within 36-inches (900 mm) of Peak
- NFPA 13 – 2022: 10.2.6.1 Double Joist Construction and Light Hazard Combustible Attic Spaces
- NFPA 13 – 2022: 10.2.6.2 Deflector Orientation for Standard Spray Uprights & Pendants

VIDEO LINK

www.meyerfire.com/university/sprinkler-layout-for-pendants-uprights-peaked-roofs

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