

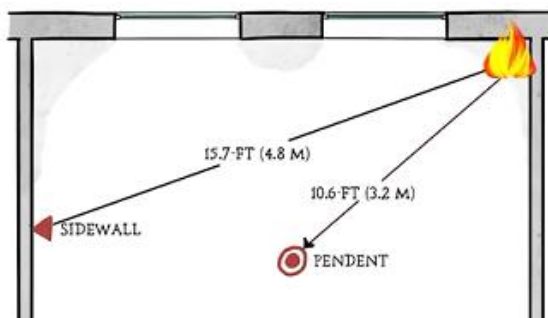
DOWNSIDE TO USING SIDEWALLS?

SPRINKLER TYPES & ORIENTATION SERIES BY MEYERFIRE UNIVERSITY | DECEMBER 2022

SUMMARY

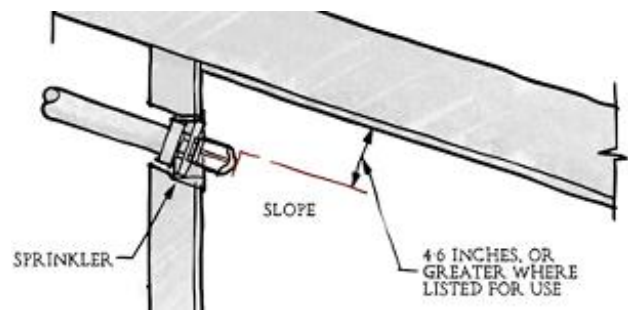
Sidewall sprinklers, as one of the three main orientations for fire sprinklers, have plenty of benefits. But they also carry drawbacks too. These include:

- **#1 Proximity to a Fire:** Sidewalls can be located further from a fire source. This affects the height that a sidewall sprinkler can be installed. It has to be low-enough to avoid a “dead air” in the corner of the ceiling, but high enough to still respond to a fire in its earlier growth stage.
- **#2 Ceiling & Roof Slopes:** Slopes add a level of complication with sidewalls. For sloped ceilings and roofs, heat rises with the slope. Locating a sidewall sprinkler on the side or bottom of a slope won't allow the sprinkler to activate. For slopes over 2 in 12, a sidewall sprinkler must be located at the high point of the slope and positioned to discharge downward.
- **#3 Coverage:** Sidewalls are especially susceptible to obstructions near the sprinkler, because they rely on an outward throw instead of a radially.
- **#4 Pressure:** Sidewall sprinklers, particularly extended coverage sprinklers, can require more pressure to cover the same amount of floor area as a pendent or upright sprinkler.



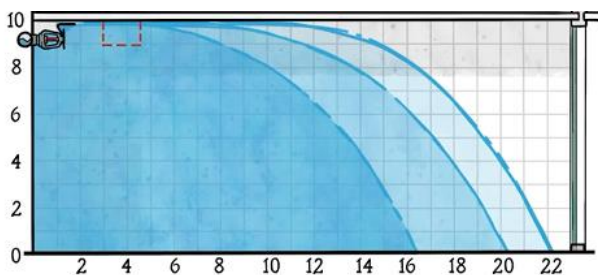
#1 Proximity to a Fire

(Sidewalls covering the same floor area can be further away from a fire)



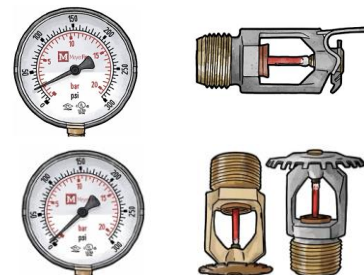
#2 Ceiling & Roof Slopes

(Slopes over 2 in 12 require the sidewall at the high point facing down; extended coverage sprinklers may have listing limitations as well)



#3 Obstructions

(Sidewalls are more sensitive to obstructions near them)



#4 Pressure

(Extended Coverage sidewalls may require more pressure to cover the same floor area than an upright or pendent sprinkler would.)

CODE/STANDARD REFERENCES



- NFPA 13 – 2022: 8.1.4 Minimum Operating Pressure for a Sprinkler
- NFPA 13 – 2022: 9.5.4.2 Deflector Aligned Parallel to Ceiling or Roof Slope
- NFPA 13 – 2022: 10.3.5.2.1 Sidewall Must be at High Point of Slope

VIDEO LINK

www.meyerfire.com/university/downside-to-using-sidewall-sprinklers

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