

# HOW DO WE DETERMINE COVERAGE AREA?

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

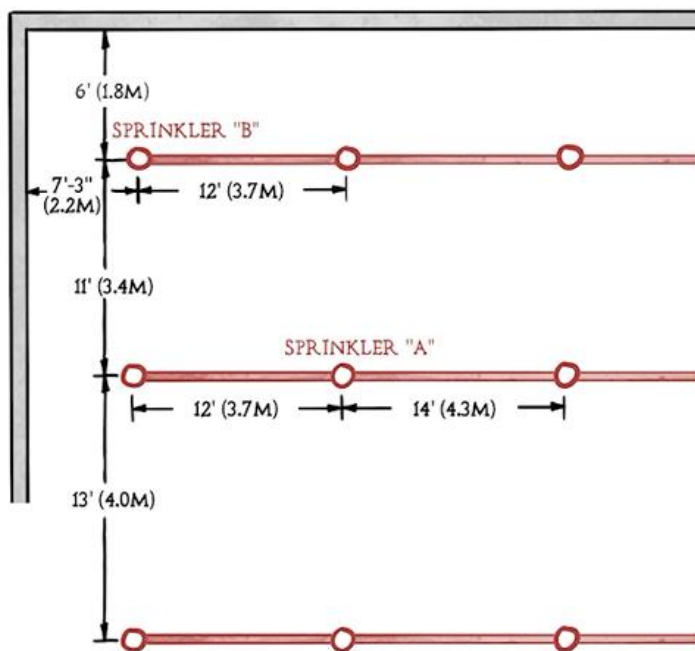
## SUMMARY

The **Coverage Area** is one of the key rules that we follow for sprinkler spacing. **How is Coverage Area calculated?**

- NFPA 13 defines the Coverage Area as:  $A = S \times L$ , where "A" is the Coverage Area, "S" is the greater of sprinkler-to-sprinkler spacing or twice the sprinkler-to-wall distance, along the branchline, and "L" is the greater of sprinkler-to-sprinkler spacing or twice the sprinkler-to-wall distance in the other direction.
- Coverage Area under the Small Room Rule is calculated differently: just the size of the room divided by the number of sprinklers.

What is the **Maximum Allowable Coverage Area**?

- In NFPA 13, the maximum coverage area is found in the spacing tables within the chapters specific to each type of sprinkler.
- For Standard Spray Uprights and Pendants, Light Hazard, for example, the maximum allowable Coverage Area is found in Table 10.2.4.2.1(a).



Example Calculation of Coverage Area using  $A = S \times L$

$$A = S \times L$$

**SPRINKLER B:**

$$A_b = (14.5') \times (12') = 174 \text{ sqft}$$

$$A_b = (4.4\text{m}) \times (3.7\text{m}) = 16.3 \text{ sqm}$$

**SPRINKLER A:**

$$A_a = (14') \times (13') = 182 \text{ sqft}$$

$$A_a = (4.3\text{m}) \times (4.0\text{m}) = 17.2 \text{ sqm}$$

## CODE/STANDARD REFERENCES



NFPA 13 – 2022: 9.5.2.1 Coverage Area Formula and Definition

NFPA 13 – 2022: Table 10.2.4.2.1 Sprinkler Spacing Tables for Standard Spray Uprights & Pendants

## VIDEO LINK

[www.meyerfire.com/university/coverage-area-for-standard-uprights-pendants](http://www.meyerfire.com/university/coverage-area-for-standard-uprights-pendants)

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