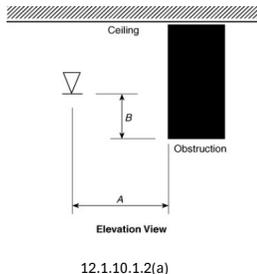


12.1.10 Residential Upright and Pendent

Table 12.1.10.1.2 Positioning of Residential Upright and Pendent

Distance from Sprinklers to Side of Obstruction (A)	Max above Bottom of Obstruction (B) [in. (mm)]
Less than 1 ft (300 mm)	0 (0)
1 ft (300 mm) to less than 1 ft 6 in. (450 mm)	0 (0)
1 ft 6 in. (450 mm) to less than 2 ft (600 mm)	1 (25)
2 ft (600 mm) to less than 2 ft 6 in. (750 mm)	1 (25)
2 ft 6 in. (750 mm) to less than 3 ft (900 mm)	1 (25)
3 ft (900 mm) to less than 3 ft 6 in. (1.1 m)	3 (75)
3 ft 6 in. (1.1 m) to less than 4 ft (1.2 m)	3 (75)
4 ft (1.2 m) to less than 4 ft 6 in. (1.4 m)	5 (125)
4 ft 6 in. (1.4 m) to less than 5 ft (1.5 m)	7 (175)
5 ft (1.5 m) to less than 5 ft 6 in. (1.7 m)	7 (175)
5 ft 6 in. (1.7 m) to less than 6 ft (1.8 m)	7 (175)
6 ft (1.8 m) to less than 6 ft 6 in. (2.0 m)	9 (225)
6 ft 6 in. (2.0 m) to less than 7 ft (2.1 m)	11 (275)
7 ft (2.1 m) and greater	14 (350)



12.1.10.1.2

Sprinklers shall be arranged to comply with one of the following arrangements:  
 (1) Sprinklers shall be in accordance with 9.5.5.2, Table 12.1.10.1.2, and Figure 12.1.10.1.2(a).  
 (2) Sprinklers shall be permitted to be spaced on opposite sides of obstructions not exceeding 4 ft (1.2 m) in width, provided the distance from the centerline of the obstruction to the sprinklers does not exceed one-half the allowable distance permitted between sprinklers.  
 (3) Obstructions located against the wall and that are not over 30 in. (750 mm) in width shall be permitted to be protected in accordance with Figure 12.1.10.1.2(b).  
 (4) Obstructions that are located against the wall and that are not over 24 in. (600 mm) in width shall be permitted to be protected in accordance with Figure 12.1.10.1.2(c).  
 The maximum distance between the sprinkler and the wall shall be measured from the sprinkler to the wall behind the obstruction and not to the face of the obstruction.

12.1.10.2.3\* Shadow Areas.

Shadow areas created by walls and partitions shall be permitted in the protection area of a sprinkler as long as the cumulative dry areas do not exceed 15 ft<sup>2</sup> (1.4 m<sup>2</sup>) per sprinkler.

12.1.8.1.1 Beamed Ceiling

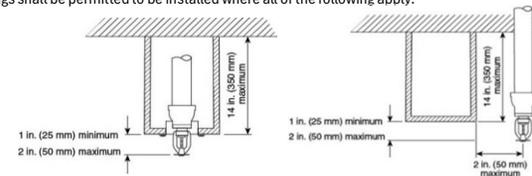
Pendent and upright sprinklers installed under beamed or beamed and sloped ceilings shall be permitted to be installed where all of the following apply:

- (1) Maximum beam depth of 14 in. (350 mm)
- (2) Maximum ceiling height of 24 ft (7.3 m)
- (3) Maximum ceiling slope of 8 in 12
- (4) Maximum compartment size of 600 ft<sup>2</sup> (56 m<sup>2</sup>)

12.1.8.1.2 (see figures to the right)

12.1.8.1.3 Concealed sprinklers shall be permitted to be installed in beams not greater than 4 in. (100 mm) in depth.

12.1.8.1.4 The highest sprinkler in the compartment shall be above all openings from the compartment into any communicated spaces.



12.1.10.2.1.3\*

Unless the requirements of 12.1.10.2.1.4 through 12.1.10.2.1.8 are met, sprinklers shall be positioned away from obstructions a minimum distance of four times the maximum dimension of the obstruction (e.g., truss webs and chords, pipe, columns, and fixtures) in accordance with Figure 12.1.10.2.1.3(a) and Figure 12.1.10.2.1.3(b).

- (A) The maximum clear distance required to obstructions in the horizontal orientation (e.g., light fixture and truss chords) shall be 36 in. (900 mm).
- (B) The maximum clear distance shall not be applied to obstructions in the vertical orientation (e.g., columns).

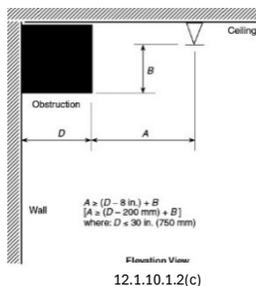
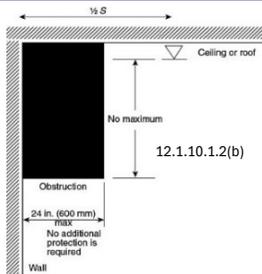
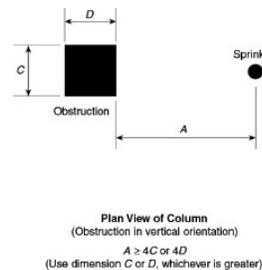
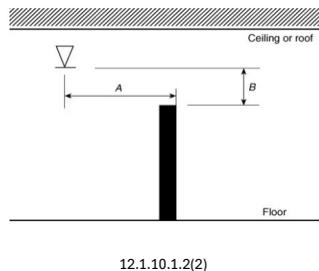
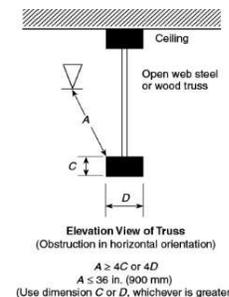


Table 12.1.10.2.2 Floor-Mounted obstruction Res SSU/SSP

Horizontal Distance (A)	Min Below Deflector (B) [in. (mm)]
6 in. (150 mm) or less	3 (75)
More than 6 in. (150 mm) to 9 in. (225 mm)	4 (100)
More than 9 in. (225 mm) to 12 in. (300 mm)	6 (150)
More than 12 in. (300 mm) to 15 in. (375 mm)	8 (200)
More than 15 in. (375 mm) to 18 in. (450 mm)	9 1/2 (240)
More than 18 in. (450 mm) to 24 in. (600 mm)	12 1/2 (315)
More than 24 in. (600 mm) to 30 in. (750 mm)	15 1/2 (390)
More than 30 in. (750 mm)	18 (450)



12.1.10.1.3(a)



12.1.10.1.3(b)

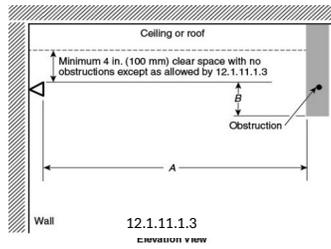
This does not cover all obstruction rules, for complete rules for obstruction please refer to the appropriate chapter referenced above

# NFPA 13 2019 CHAPTER 12 RESIDENTIAL SIDEWALL SPIRINKLERS

## 12.1.11 Residential Sidewall

Table 12.1.11.1.3 Positioning of Residential Sidewall

Distance from Sidewall (A)	Max Deflector (B) [in. (mm)]
8 ft (2.4 m) to less than 10 ft (3.0 m)	1 (25)
10 ft (3.0 m) to less than 11 ft (3.3 m)	2 (50)
11 ft (3.3 m) to less than 12 ft (3.7 m)	3 (75)
12 ft (3.7 m) to less than 13 ft (4.0 m)	4 (100)
13 ft (4.0 m) to less than 14 ft (4.3 m)	6 (150)
14 ft (4.3 m) to less than 15 ft (4.6 m)	7 (175)
15 ft (4.6 m) to less than 16 ft (4.9 m)	9 (225)
16 ft (4.9 m) to less than 17 ft (5.2 m)	11 (275)
17 ft (5.2 m) or greater	14 (350)



### 12.1.11.1.5\* Soffits and Cabinets.

Where soffits are used for the installation of sidewall sprinklers, the sprinklers and soffits shall be installed in accordance with 12.1.11.1.5.1, 12.1.11.1.5.2, or 12.1.11.1.5.3.

12.1.11.1.5.1 Where soffits exceed more than 8 in. (200 mm) in width or projection from the wall, pendent sprinklers shall be installed under the soffit.

12.1.11.1.5.2 Sidewall sprinklers shall be permitted to be installed in the face of a soffit located directly over cabinets, without requiring additional sprinklers below the soffit or cabinets, where the soffit does not project horizontally more than 12 in. (300 mm) from the wall.

12.1.11.1.5.3 Where sidewall sprinklers are more than 3 ft (900 mm) above the top of cabinets, the sprinkler shall be permitted to be installed on the wall above the cabinets where the cabinets are no greater than 12 in. (300 mm) from the wall.

12.1.11.1.6\* Obstructions on the wall opposite from the sidewall sprinkler shall be permitted where the obstruction is up to 2 ft (600 mm) deep and 2 ft (600 mm) wide.

### 12.1.11.2.1.3\*

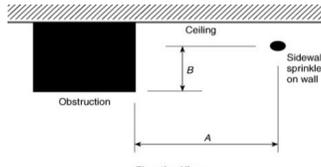
Unless the requirements of 12.1.11.2.1.4 through 12.1.11.2.1.7 are met, sprinklers shall be positioned away from obstructions a minimum distance of four times the maximum dimension of the obstruction (e.g., truss webs and chords, pipe, columns, and fixtures).

(A) The maximum clear distance required from obstructions in the horizontal orientation (e.g., light fixtures and truss chords) shall be 36 in. (900 mm).

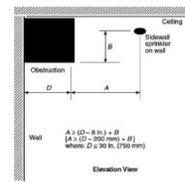
(B) The maximum clear distance shall not be applied to obstructions in the vertical orientation (e.g., columns).

### 1.11.1.4 Positioning of Sprinklers to Avoid Obstructions Along Wall (Residential Sidewall Spr)

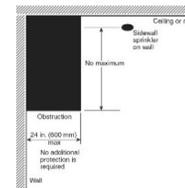
Distance from Sidewall Sprinkler to Side of Obstruction (A)	Max Above Bottom of Obstruction (B)
Less than 1 ft 6 in. (450 mm)	0 (0)
1 ft 6 in. (450 mm) to less than 3 ft (900 mm)	1 (25)
3 ft (900 mm) to less than 4 ft (1.2 m)	3 (75)
4 ft (1.2 m) to less than 4 ft 6 in. (1.4 m)	5 (125)
4 ft 6 in. (1.4 m) to less than 6 ft (1.8 m)	7 (175)
6 ft (1.8 m) to less than 6 ft 6 in. (2.0 m)	9 (225)
6 ft 6 in. (2.0 m) to less than 7 ft (2.1 m)	11 (275)
7 ft (2.1 m) to less than 7 ft 6 in. (2.3 m)	14 (350)



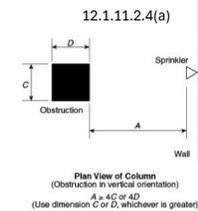
12.1.11.1.4(a)



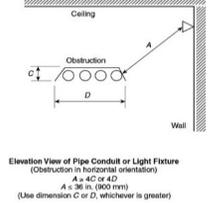
12.1.11.1.4(b)



12.1.11.1.4(c)



12.1.11.2.4(a)



12.1.11.2.4(b)

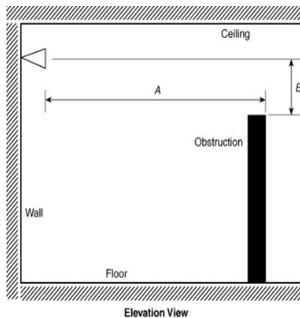
### 12.1.7.4

Residential sidewall sprinklers shall be permitted to be installed on opposing or adjacent walls, provided no sprinkler is located within the maximum protection (listed coverage) area of another sprinkler or unless separated by baffles that comply with the following:

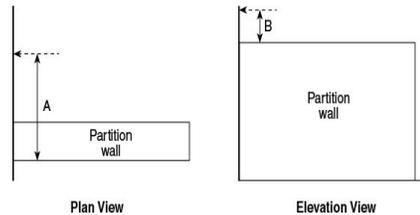
- (1) Baffles shall be arranged to protect the actuating elements.
- (2) Baffles shall be of solid and rigid material that will stay in place before and during sprinkler operation.
- (3) Baffles shall be not less than 8 in. (200 mm) long and 6 in. (150 mm) high.
- (4) The tops of baffles shall extend between 2 in. and 3 in. (50 mm and 75 mm) above the deflectors.
- (5) The bottoms of baffles shall extend downward to a level at least even with the deflectors.

### 12.1.11.2.2 Suspended or Floor-Mounted Obstructions (Residential Sidewall Spr)

Horizontal Distance (A)	Minimum Distance (B) [in. (mm)]
6 in. (150 mm) or less	3 (75)
More than 6 in. (150 mm) to 9 in. (225 mm)	4 (100)
More than 9 in. (225 mm) to 12 in. (300 mm)	6 (150)
More than 12 in. (300 mm) to 15 in. (375 mm)	8 (200)
More than 15 in. (375 mm) to 18 in. (450 mm)	9 1/2 (240)
More than 18 in. (450 mm) to 24 in. (600 mm)	12 1/2 (315)
More than 24 in. (600 mm) to 30 in. (750 mm)	15 1/2 (390)
More than 30 in. (750 mm)	18 (450)



12.1.11.2.2(a)



12.1.11.2.2(b)

This does not cover all obstruction rules, for complete rules for obstruction please refer to the appropriate chapter referenced above