



## Automatic Sprinklers: Hanger Installations

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**Learning Objective:** The student shall be able to identify the minimum hanger and rod dimension requirements for iron or steel sprinkler pipes.

**F**ire sprinkler systems must be adequately supported by connecting the hangers to the building structure, not to another pipe as illustrated in today's picture.

Hangers are intended to support the sprinkler system to hold it in place away from other building components, and restrain its movement in the event that a sprinkler operates. With some exceptions, National Fire Protection Association (NFPA) 13, *Standard for the Installation of Sprinkler Systems*, requires each section of sprinkler pipe to be supported by a hanger connected to a structural member.

Hangers should support the added load of the water-filled pipe plus a minimum of 250 lb (114 kg) applied at the point of hanging. There are three exceptions in the installation standard:

1. Listed flexible sprinkler hose fittings and their anchoring components when installed in accordance with the requirements of the listing, including any installation instructions.
2. Branch line hangers attached to metal a deck for supporting only pipe 1 inch (25 mm) or smaller in size, by drilling or punching the vertical portion of the metal deck and using through bolts.
3. Toggle hangers for supporting only pipe 1-1/2 inches (40 mm) or smaller in size under ceilings of hollow tile or metal lath and plaster.

The metal rods that connect the hanger to the structure also must meet the minimum requirements on the following table:

| Pipe size (diameter)  |     | Rod size (diameter) |      |
|-----------------------|-----|---------------------|------|
| Inches                | mm  | Inches              | mm   |
| Up to and including 4 | 100 | 3/8                 | 9.5  |
| 5                     | 125 |                     |      |
| 6                     | 150 |                     |      |
| 8                     | 200 | 1/2                 | 12.7 |
| 10                    | 250 |                     |      |
| 12                    | 300 |                     |      |
|                       |     | 5/8                 | 15.9 |

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For additional information, refer to NFPA 13, Chapter 9.



This pipe should be suspended from the structure, not another pipe.

