



Coffee Break Training - Fire Protection Series

Access and Water Supplies: Fire Flow Formulas: Part 16: Insurance Services Office Needed Fire Flow: Sprinkler Recognition

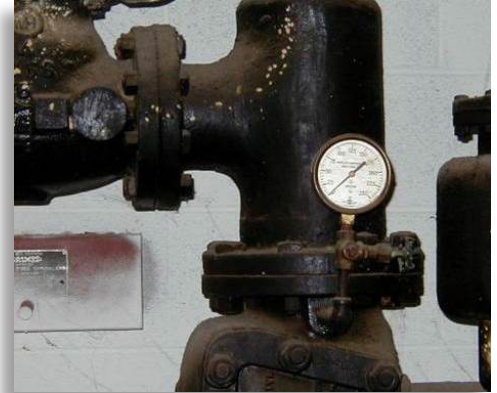
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Learning Objective: The student will be able to explain the Insurance Services Office (ISO) criteria for recognizing sprinkler protection in the Needed Fire Flow (NFF) formula.

Several of the recent Coffee Break Training segments have mentioned the role of automatic fire sprinkler systems in the ISO NFF formula. In order to obtain credit toward reducing or eliminating fire flow requirements for manual hose streams, the sprinkler systems must be in compliance with ISO standards.

ISO classifies a property as a sprinklered property if it meets the following conditions:

- The sprinklered building must have assured maintenance. Shut down, idle or vacant structures must have an acceptable person to watch the building or water flow and control valves supervised by remote or central station service.
- The installation has evidence of flushing and hydrostatic tests of the underground and aboveground pipe in accordance with National Fire Protection Association 13, *Standard for the Installation of Sprinkler Systems*.
- A full flow and main drain test has been witnessed within the last 48 months.
- Dry-pipe installations have evidence of a satisfactory or partly satisfactory dry-pipe trip test within the last 48 months.
- Fire pump installations have evidence and results of a fire pump test conducted within the last 48 months.
- The usable area **not** protected by sprinklers should not exceed the amounts in this table:



A sprinkler system that is inoperable or turned off like this, with no measurable water pressure, will not be recognized in the Insurance Services Office (ISO) Needed Fire Flow (NFF) formula.

Occupancy Combustibility Class*	Maximum Area
C-1	25% of total building area
C-2 or C-3	20% of total building area
C-4	10,000 ft ² (929 m ²) or 15% of total building area
C-5	5,000 ft ² (464 m ²) or 10% of total building area

*See Coffee Break Training FP-2013-46 for an explanation of ISO combustibility classes.

Notes: 1. The area limitations in this table do not include unused, unsprinklered areas, such as underfloor areas, attic areas, etc.

2. ISO classifies usable vacant areas as used areas.

3. ISO considers areas with obstructed sprinkler protection as unsprinklered. (See Coffee Break Training FP-2010-45.)

For self-study training on fire protection systems and equipment, visit NFA Online at www.usfa.fema.gov/nfa/nfaonline/.



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