

U.S. Fire Administration / National Fire Academy

*Coffee Break Training***Topic: Determining “Inside” Hose Stream Demands**

Learning objective: The student shall be able to explain inside hose stream demands in conjunction with hydraulically calculated automatic sprinkler systems.

“Hose stream demand” is the amount of water that must be added to the sprinkler system hydraulic calculations so there is adequate supply to operate the sprinklers for effective fire control, **and** fill the hoses for fire extinguishment.

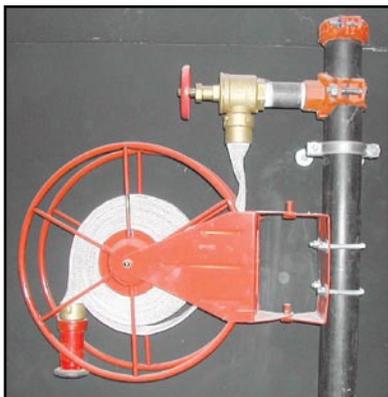
NFPA 13, *Standard for the Installation of Sprinkler Systems*, includes the following table for hose stream demands:

Occupancy	Inside Hose (gpm)	Total Combined Inside and Outside Hose (gpm)	Duration (minutes)
Light hazard	0, 50, or 100	100	30
Ordinary hazard	0, 50, or 100	250	60-90
Extra hazard	0, 50, or 100	500	90-120

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Why are there three values in the “Inside Hose” column; and how are they applied?

“Inside Hose” generally is defined as 1- to 1-1/2-inch standpipe hose that may be connected to the sprinkler system for initial fire attack by trained persons or during mop-up. These may be called Class II standpipes.



If a sprinkler system has no inside hose stations connected to it, the applied value is “0”. If the sprinkler system has one inside hose station, the designer must add 50 gallons per minute to the water supply requirements for the sprinkler system.

When the sprinkler system has two or more small hose stations attached to it, the designer must add 100 gpm to the water supply requirement for the sprinkler system. There are no additional requirements for more than two hose stations.

The flow values must be added into the calculations where the hose stations are connected to the sprinkler system. This is intended to assure that adequate water flow will reach the sprinklers even though the standpipe hoses may be in use simultaneously.

For additional information, refer to NFPA 13, *Standard for the Installation of Sprinkler Systems*, Chapter 11.