

# Sprinkler design

[Business](#)



The rises in loss of property and life with regard to accidental fires have increased not only because of carelessness in handling inflammable equipment but also poorly designed fire fighting equipment. Successful fire accident prevention occurs only if proper strategies are put in place to curb fire accidents from taking place or putting up properly designed fire fighting equipment to reduce loss of property during fire accidents.

This essay attempts to bring to light the importance of the sprinkler systems in fighting fires and mainly focuses on their design and usage. Sprinklers have widely been used to put off fires in many commercial buildings and institutions, but their design is essential in their effective operation during fire outbreaks. The mission of the United States Fire Administration is to minimize losses related to life and economy as a result of fire and other emergencies, through leadership, support, management and advocacy. This should be everyone's motto to protect his or her property from fire accidents. The introduction of the sprinkler technology showed a downward trend in loss of property in fire related accidents for the first few years in America, but as news spread, the losses started increasing. This is mainly due to the design and installation of the sprinklers in buildings which has been done poorly in most premises that have them.

On Tuesday, October 29, 1996, a fire broke out in a records archive building protected with automatic sprinklers. It took over ten hours to bring the situation under control, with the successful employment of fire extinguishing staff and equipment. Loss of records storage boxes worth \$3 million from water and smoke, destruction of steel racks and damage to structures near the fire region and neighboring fire divisions. The replacement and

restoration of the salvage structures was approximately worth \$2 million. The fire department realized that after the fire started, workers may have been overdue in instantly informing the fire department while they tried to quench the fire. The source of the fire is believed to be an electrical fault.

The successful management of this fire can be accredited to the function of fire partition walls propped by a large fire control force. Successful precautions like standard operating measures and prior planning also contributed. Companies gave a thumbs-up to the automatic sprinkler systems at siamese links and assessed the fire separation walls openings. The significance of the overall strategic plan was maintained by the constant water supply to sustain the many hand lines plus master streams, and the automatic sprinkler systems. Brambles Information Management was among the most affected business, since they lost photographs, cardboard boxed papers, and fiscal records for customers. The only advantage that they had is that the building being fire resistant and it did not collapse.

Every tenant had the key to the lock of each unit for accessibility for security purposes; however, it did not get in the way of the automatic sprinkler water supply. Sprinkler heads were fixed at the ceiling only and demarcated using ordinary hazard plan. There was no attempt to position a sprinkler head in every storage locker. The operating temperature of the automatic sprinkler heads was not installed in the building. Apparently, the company always applied the use of standard, 1/2 inch orifice sprinkler heads. The servicing of the sprinklers had been done by an unskilled person, and one of the automatic sprinkler control valves where the fire originated had been left closed after the fire and it may have been shut at the time of ignition.

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The automatic sprinklers may have been put off. This was due to the explanation that the automatic sprinklers were old and needed change. Shelves in the building were high enough to block the sprinklers from detecting fire and spraying water.