

## Not Life Saving; Life Safety

Sprinklers are **Life Safety** devices, they are not **Life Saving** devices. Sprinklers' primary function is to protect the assets (structure).

Contrary to what you see in Hollywood, sprinklers do not come on for a trash can fire. The temperature inside a room has to reach well over the "activation temperature" of a sprinkler head (say 165 F) before that happens. That, coupled with the fact that oxygen is consumed and toxic smoke is emitted, guarantees a zero percent survivability in the room.

Someone is in an area where there is a fire, will probably not be saved by a sprinkler.

A sprinkler is a Life Safety device in that - should a fire start in an unoccupied part of a structure - the fire may be controlled giving occupants time to escape, as well as greatly reducing the hazard to firefighters.

That said, sprinklers need several things to ensure they work properly.

**Adequate water** - You'd be surprised how little pressure there is at the end of a city main water line. But water supply is the most critical item. Another aspect of this is keeping your sprinkler valves locked/chained open. This ensures an errant contractor or malicious person can't turn off the water.

**Inspecting and Testing** - Like any system, sprinklers need to be inspected and tested. One thing to be aware of is there are required testing intervals, and recommended testing intervals. Many of the latter schedules come from companies like *FM Global*. Here they statistically analyze a system failure, and develop an interval that is designed to stop a greater percent of fire. For example, look at the previous comment about valves locked open. Inspecting valves visually (i.e. the lock/chain is still there). Most jurisdictions will have this as monthly, whereas weekly inspections will stop a greater percent of fires due to improperly closed valves, statistically speaking.

**System Design** - Maybe this is really number one; and this does happen a lot. Typically a building is designed, constructed and inspected; with a certain end result planned, say an office building. The sprinkler system, including parameters like water flow rates and head spacing density, are properly designed. Then, like it always happens, the inside of the building changes over the years. Walls are moved; more cardboard and plastic is stored, additional processes using flammable liquids move in, et cetera. So you now have a sprinkler system where the original design is compromised. This is mitigated by re-engineering the system, which can mean something as simple as adding more heads, to replacing the entire system with larger diameter piping.

**No blocked flow** - Anything blocking sprinkler water flow is also important, as one function of a sprinkler is to wet materials not involved with the fire. This pre-wetting reduces the chance these materials will become involved with the surrounding fire. However, if you have rack storage with solid metal or plywood shelves, the water flow from top to bottom is blocked, and the water can't flow downwards. The best solution is to replace the solid shelving with sturdy wire shelves. The open space in the wire shelves allows water to flow downwards

## App Corner - NIOSH SLM

Although there are better Sound Level Meter apps (from companies like Faber and Studio Six), the National Institute for Occupational Safety and Health released their own.

Truth be told its not a bad app, in that it is free. There are a lot of features that it lacks compared to others (support for calibrated microphones, data logging, optional Octave Band Analysis), but it is a useful tool. One just hopes not too much tax money was spent on this, when there are literally hundreds of SLM apps out there.