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The best-loved myths about sprinkler systems...

...and the truth behind them

As long as sprinklers exist, their functions and characteristics will be surrounded by a multitude of inaccuracies and myths. Yet regardless of how often they are repeated, in truth they will never be more than what they really are - pure fiction.

While some of them could pass as plausible at first glance, others are positively absurd. nevertheless, the unifying factor for each and every one of them is that none of them, singly or collectively, have anything whatsoever to do with reality.

The first myth is (almost) as old as the sprinkler industry itself: **"Where there is a fire, all sprinklers are immediately activated"**.

The truth - a sprinkler system selectively operates to extinguish fires. In the event of a fire, only the sprinklers which have sensed an increase in temperature over a specific value operate. All other sprinklers remain closed but on alert and ready to act. Approximately 80% of fires are extinguished using a maximum of 4 sprinklers, and a high proportion of these involve only 1 sprinkler.

The second myth has almost become a legend over the years: **"Sprinklers release a huge amount of water and cause water damage as a result"**.

The truth - This too has no substance in reality. Sprinklers are constructed to only operate when the response temperature of the sprinkler is exceeded in the vicinity of the sprinkler.

When the combustion gas temperature in the area of the sprinkler exceeds the specific value set for the sprinkler to operate, a fire is already in progress.

In order to prevent serious damage the sprinkler operates and the fire is suppressed or extinguished in a specific and targeted manner with considerably less water than would be used by manual fire fighting actions which occurred later.

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In areas thought to be particularly sensitive to water such as museums or computer rooms, the sprinkler industry is only too pleased to act in an advisory capacity. A balanced view between the dangers to life and destruction of property by fire, against the undesirable effects of water on a relatively small and selective area of property where a fire is occurring, needs to be taken.

The third myth is quite simply ill-conceived nonsense: **"The biggest problem in the event of a fire is smoke and not heat. Therefore sprinklers are not the correct solution"**.

The truth – smoke is thought to be the main cause of death in fires. It is not possible to lose or endanger life from smoke (i.e. combustion gases) if there is no fire. Hence, the root of the problem is that it is the fire that is the cause of the problem, consequently rapidly suppress the fire and greatly reduce the combustion gases.

The fourth myth seems to have come straight from "Do It Yourself" fanatics. It is **"A sprinkler system is superfluous as buildings are already equipped with fire extinguishers"**.

The truth – fire extinguishers are there to fight small underdeveloped fires such as burning waste paper bins. However, this requires the fire to be discovered almost at its inception, and this is often not possible. Also, there is the question of the situation which occurs outside business hours or at the weekend when personnel are not in the building. Sprinklers offer buildings "round the clock" protection even when there is nobody available to operate a fire extinguisher which has to be done in a trained manner.

The fifth myth is nothing more than ignorance – **"A sprinkler system requires large volumes of water to be stored for extinguishing purposes."**

The truth – the opposite of the myth is in fact what occurs. In areas equipped with a sprinkler system, water storage is kept to a minimum with just enough water for the sprinkler systems relatively economic use of such water. Without a sprinkler system fires usually reach very large proportions before they are fought and then very large volumes of water are necessary.

The sixth myth has been proved to be overwhelmingly inaccurate. **"Sprinklers are so sensitive that they are even activated when someone smokes in the vicinity."**

The truth – sprinkler systems do not react to cigarette smoke. Sprinklers only operate when the heat produced from a fire is beginning to reach serious proportions. This is well proven over 100 years experience.

The seventh myth also has overwhelming proof of being untrue: **"Sprinklers are too slow to extinguish a fire in its early stages."**

The truth - in more than 60% of cases only 1 or 2 sprinklers are sufficient to successfully fight a fire. Sprinklers suppress fires and reduce and prevent further spread.

The eighth myth is proven to be seriously flawed: **"Sprinkler systems are too expensive."**

The truth - for an office building, a sprinkler system would cost roughly the same per square metre of surface area as laid carpets. In addition to this, cost effective construction materials can be used during the sprinkler system installation process. Insurance companies also provide incentives for the provision of sprinklers in the form of up to 65% premium discounts.

The ninth myth is nothing more than tiresome: **"Sprinkler systems endanger the jobs of the fire service."**

The truth - whilst there are fires, a fire service will be needed and is essential. Where a fire is such that it has caused the sprinklers to operate then it is essential to also call the fire brigade. Experience has shown that where sprinklers are installed, firefighters face a fire situation where the fire has been either suppressed and controlled by the sprinklers or completely extinguished, considerably reducing the risk of encountering dangerous combustion gases and disintegrating buildings.

Myth number ten: **"We don't need a sprinkler system - after all, we never have fires."**

Experience tells us that the development of a fire is a very real possibility at any time. The fact that many buildings have gone fire-free for decades does not mean that there is no danger of it ever happening. In fact, such a situation should be seen as pure luck, which could come to an end at any time. (Gelsenkirchen Administrative Court 5 K 101/85 of 14.11.1985; Münster Higher Administrative Court 10 A 363/86 of 11.12.1987).