

EUROFEU-Opinion
on
potential ban of PTFE for sealing materials in sprinklers by UPFAS
restriction
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1 Building regulations / Sprinkler systems

Sprinkler systems are required by law in many buildings to mitigate fire risks, enable the safe evacuation of people and animals and to support safe extinguishing measures by the fire brigade. Without sprinklers, many buildings cannot be built in compliance with the law, so that considerable economic damage is to be feared in the event of a possible PTFE ban for sprinklers.

2 Benefits of sprinklers / protection of people, property and the environment.

Sprinkler systems have existed since the end of the 19th century and are therefore one of the most proven fire protection devices on the market. They are extremely durable and at the same time extremely reliable, because their selective effect (only sprinkler heads directly above the source of the fire are triggered) prevents the spread of fire, contains the fire and in many cases extinguishes it completely. When a sprinkler system is triggered, the fire brigade is automatically called, which then carries out the remaining extinguishing work. Sprinkler systems are widely used throughout industry - they protect against fire hazards to people, property and the environment and safeguard production processes. Every fire fought by sprinkler systems prevents the release of huge quantities of environmentally hazardous substances. Sprinkler systems are therefore also sustainable because buildings are preserved and the products they contain do not have to be produced again.

3 Use of sprinklers / PTFE for sprinklers

PTFE material (PTFE seal) is used to seal the sprinkler. All currently approved sprinklers (VdS, FM, UL) and sprinklers requiring CE marking according to EN 12259-1 are affected. A ban on sprinklers with PTFE seals would have devastating effects on the protection of people, property and the environment.

The sprinklers of EUROFEU member companies are used worldwide. Every year, around 20 million sprinklers are installed in Germany and Europe - sealed with PTFE. The amount of PTFE per sprinkler is typically 0.035 g. This is equivalent to only about 700 kg of PTFE. This corresponds to only about 700 kg of environmentally neutral PTFE per year.

PTFE has been used in the manufacture of sprinklers for at least 40 years. This means that several hundred million sprinklers are installed in fire extinguishing systems throughout Europe.

A very long time ago, metal-to-metal seals (made of lead, among other materials) were used, but

they were not nearly as reliable as PTFE and were therefore no longer used.

4 Environmental aspect

The PTFE seal used behaves inertly to the environment. PFAS can no longer enter the environment after being processed as a seal. On the contrary, as already explained, sprinklers make a significant contribution to drastically reducing the harmful effects of fires on the environment.

5 Possible substitutes / Property of the PTFE seal

There are currently no known substitutes for PTFE seals with the same properties. The intrinsic properties of the material are to remain flexible over a very long period of use (hence to effectively seal sprinklers over the course of the installation's entire life-span) and to remain inert to metals and media used or contained in sprinkler systems. Therefore - from the current point of view - PTFE as a sealing material has no alternative. Sprinklers are extremely durable: the service life of sprinkler heads can last 50 years or more. During this entire time, it is imperative to ensure a reliable seal and yet immediate triggering in the event of a fire. If, for example, the sealing material were to stick to the closing element of the sprinkler due to unsuitable sealing, this could lead to failure (i.e. non-opening) of the sprinkler with all the resulting risks to life and limb, the environment and property damage. Alternative sealants would first have to be developed, subjected to years of internal long-term testing and then certified by third parties before they could be used. In addition, the capacities of test centres and notified bodies are not sufficient to carry out the corresponding tests for all manufacturers within a short period of time. Therefore, the use of PTFE in sprinklers must remain permitted.

6 Derogation for PTFE as a sealant in sprinkler applications

Due to the lack of equivalent substitute sealants, EUROFEU strongly recommends to consider a derogation for use of PTFE in sprinklers systems. The following reasons are decisive:

- a. Sprinklers are essential for fire protection. If they could not be used, the risk to life, health, property and the environment would be disproportionately increased.
- b. PTFE sealing materials must be allowed to continue to be used because the seal itself does not endanger the environment.