

NFRS Automatic Fire Suppression System Position Statement



NOTTINGHAMSHIRE
Fire & Rescue Service
Creating Safer Communities

As a fully contributing member of the National Fire Chiefs Council, Nottinghamshire Fire and Rescue Service supports and adopts their position, which is as follows:

Automatic fire suppression systems (AFSS), including sprinklers, are the most effective way to ensure that fires are suppressed, or even extinguished, before the fire service arrive. They save lives and reduce injuries, protect firefighters who attend incidents, and reduce the amount of damage to both property and the environment from fire. In the last 12 months, the National Fire Chiefs Council (NFCC) and the National Fire Sprinkler Network (NFSN) have worked together to investigate the effectiveness and reliability of sprinkler systems.

The evidence produced indicates that sprinkler systems operate on 94% of occasions, demonstrating very high reliability. Furthermore, it is evident that when they do operate they extinguish or contain the fire on 99% of occasions and are thus very effective. The research also found that, in both converted and purpose built flats, sprinklers are 100% effective in controlling fires.

NFCC recognise that AFSS are an effective part of an overall fire safety solution and can be used efficiently to improve fire safety in a range of new and existing buildings. NFCC support the concept of risk assessed retro fitting of sprinklers in existing buildings, and would also support the urgent review of ADB. NFCC also recommend that the thresholds that set the requirements for sprinkler systems should be refreshed to mirror the Scottish standards for new buildings. In addition NFCC recommend specific additional requirements in respect of existing high rise residential buildings are incorporated into the new ADB.

NFCC recommend premises designed for the care of vulnerable persons such as care homes, supported living, houses in multiple occupation, etc. should be fitted with a suitable sprinkler system.

NFCC supports the mandatory installation of sprinkler systems in certain types of higher risk buildings, such as nursing homes and single staircase high rise buildings.

- Educate the public and building owners to dispel the myths and understand the benefits of sprinklers
- Provide clear guidance on their consideration and implementation as part of a fire safety strategy
- Provide clear guidance within the service on their ongoing maintenance and operational considerations.

In regard to high rise buildings:

- NFCC recommend that the review of ADB specifies that sprinklers are a requirement in all **new** high rise residential structures above 18m (or as defined in any revised Approved Document B). Student accommodation should be included in this category of building.
- In respect of **existing** high rise residential buildings, NFCC recommend that where high rise residential buildings currently exceed 30m, there should be a requirement to retro fit sprinklers when these buildings are scheduled to be refurbished. Furthermore, NFCC recommend that sprinklers should be retro fitted where high rise residential buildings over 30 metres are served by a single staircase.
- NFCC will support Fire and Rescue Services who are receiving enquiries from, and providing support to, local authorities and Housing / Residents Associations, which are committing to install sprinklers in their high-rise stock.

In regard to car parks:

- Evidence derived from global research and research conducted by the Building Research Establishment (BRE) demonstrates the effectiveness of sprinklers controlling fires in car parks. It shows that the incidence of fatalities and injuries is zero and the property loss is around 95% lower than that of an uncontrolled fire. NFCC's position in relation to car parks is as follows:
- NFCC recommend that consideration is given to installing sprinklers in open sided car parks to protect property, including the fabric of the building. While there have been few incidences of fatalities in car parks, there have been recorded fatalities to firefighters due to structural collapse abroad.
- NFCC strongly recommends that enclosed car parks should be fitted with sprinklers, as is common in Europe and also recommended by NFPA 88 in the USA.
- NFCC strongly recommends that basement car parks and, in particular, those with associated accommodation above, are fitted with sprinklers. This is a common requirement in Europe and recommended by NFPA 88 in the USA. Research undertaken by the BRE in 2010 also supports this.
- NFCC strongly recommends that automated car parks are protected by sprinkler systems due to the extra density of fire loading created by stacking cars in carousel or racking systems. Increasingly this is being recommended globally and is also required by NFPA 88.
- NFCC calls for more research into fires and car parks and the design of car parks. NFCC believe the current design does not take into consideration the fire loading of modern vehicles, electric vehicles, LPG vehicles, and also the risk of running fuel fires from plastic fuel tanks.

In regard to other building types:

- NFCC recommend that sprinklers continue to be fitted in new **schools**, unless the risk is deemed exceptionally low, in line with the original intention of BB100. To drive consistency, NFCC recommend a standard approach is adopted to conducting the risk assessment, with the loophole closed, whereby an alternative is sought to avoid installing sprinklers when a risk assessment deems them other than low risk.

- NFCC recommend that the review of ADB includes lowering the threshold for the requirement to fit sprinklers in large structures such as **warehousing** to 4,000 square metres. (NFCC are supporting research to assess the ability of firefighters to safely perform rescues from large structures such as warehouses. The early results of this research suggest 4000m²).
- NFCC recommend that sprinklers are provided in **new residential care premises and specialised housing**.
- NFCC recommend that sprinklers are provided in facilities providing **waste management and recycling**. There is growing evidence that sprinklers are highly effective in controlling fires in these establishments. Uncontrolled fires in waste and recycling facilities are often prolonged and extremely resource intensive for Fire and Rescue Services and partner authorities. They are also commonly disruptive to local communities and to travel infrastructure.