Dry powder extinguishers

Caution in the use of dry powder extinguishers

A recent malicious damage attack to a Grade I Listed thirteenth century church in our Diocese has highlighted the potential of some dry powder extinguishers to cause extensive damage if used in the wrong environment.

The dangers

Electronic equipment can be particularly sensitive to the powder used in some extinguishers, and, in any environment where moisture’s present, the powder can develop into an acidic solution.

At St Mary & St Nicolas, Spalding, the dry powder released contained a formula of ingredients, including mono-ammonium phosphate and ammonium sulphate, which has the potential to cause considerable damage to the fabric of the building and its contents. This is due to its corrosive and abrasive qualities.

All contaminated surfaces had to be cleaned to restore the visual appearance of the church and to eliminate the risk of subsequent corrosive and/or abrasive damage.

Cleaning up

Clean-up operations involved vacuuming the powder, followed by appropriate restoration work using professional cleaning services (conservators were used in respect of the painted chancel ceiling, chancel screen and pulpit).

The pipe work and electronic circuitry to the pipe organ are particularly susceptible to attack from corrosive deposit. High level surfaces should also be attended to carefully - to prevent future deposition of powder onto the area below, and damage to the stonework at high level.

The organ had to be fully dismantled to permit cleaning and to gain access for cleaning at high levels, internal scaffolding had to be erected. As a result, a number of planned events, including a carol service for a local radio station, had to be cancelled, resulting in a loss of revenue to the church.

What you can do
In light of this incident, parishes should be mindful of the dangers posed by the potentially corrosive contents of some dry powder extinguishers and the risks involved when they're discharged.

Both water and carbon dioxide portable fire extinguishers are suitable for most fire scenarios within a church building. Where parishes have existing dry powder extinguishers, they should take steps to ensure they are not located in inappropriate places, for example in close proximity to pipe organs and organ blowers, paintings and expensive altar furnishings like frontals.

We would also recommend that parishes consider replacing existing dry powder extinguishers with a suitable alternative extinguisher when they reach the end of their service life. This is usually highlighted during fire risk assessments.

Adopting such an approach, and avoiding the use of dry powder extinguishers can significantly reduce the consequences of any accidental or malicious use of extinguishers.

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