



Information Services

Technical Information Memorandum

From the National Office

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Dry Powder Extinguishers in Churches	62	January, 2008

A recent malicious damage attack to a Grade 1 listed thirteenth century church in Lincolnshire has highlighted the potential of some dry powder extinguishers to cause extensive damage if used in the wrong environment.

The attack at St Mary & St Nicolas Church, Spalding involved the unloading of a number of portable fire extinguishers, some of which included dry powder.

A dry powder extinguisher was liberally sprayed throughout the church resulting in widespread contamination of both the building and its contents.

Contamination affected the heating and electrical systems, stained glass windows (which are predominantly by Clayton and Bell), the pipe organ, brassware, a painted chancel ceiling, an ornately carved wooden chancel screen, and the carved wooden pulpit.

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, 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 will have to be cleaned to restore the visual appearance of the church and to eliminate the risk of subsequent corrosive and/or abrasive damage.

Clean-up operations will involve vacuuming the powder, followed by appropriate restoration work using professional cleaning services (conservators will need to be 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.

In light of this incident, parishes should be mindful of the dangers posed by the potentially corrosive contents of some dry powder extinguisher and 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. It is also recommended that parishes consider replacing existing dry powder extinguisher with a suitable alternative extinguisher when they are reaching the end of their service life.

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