

BITING THE FIRE DAMPER BULLET

The consequences of not maintaining fire dampers can be catastrophic and lead to loss of life. *Andrew Steel*, Managing Director of Airmec, examines the challenges for healthcare estates and the steps that need to be taken.

There's been a lot of talk about fire dampers in the media, reminding health estates managers of their obligations to inspect annually and maintain their infrastructure in working order. The estates teams are all too aware, however, that inspection is really the tip of the iceberg, and commissioning the inspection work is very unlikely to result in a simple tick in the compliance box.

A more realistic expectation is that you are going to be faced with a significant bill for remediation and replacement of damper units that can cost anything from £100 to £2000 plus, and in all likelihood extra costs of creating inspection hatches where none or too few exist. There will be an obligation to plan for repairs and replacements as soon as you become aware of failures at inspection, and whoever takes that message to the financial directors is not going to be much loved.

At recent IHEEM events we've heard stories of estates managers being interviewed by the Health and Safety Executive under caution. That only serves to underline the seriousness of the problems that could be lurking in your ductwork. If dampers fail, people may die. Probably the highest-profile instance of fire compartmentation failure was at Dusseldorf Airport in 1996, where 17 people were killed. The Rosapark Inquiry, after 14 elderly people died in a Lanarkshire care home in 2004, stressed that testing of shutter dampers should normally be carried out annually.

Clearly, out of sight cannot be out of mind, but estates managers cannot be expected to carry the can for historical neglect that may have been driven by

financial constraints. In theory, of course, just commissioning the inspection and kicking the report - the proof of the problem - upstairs could be enough to cover your personal responsibilities, but I have yet to meet a healthcare estates manager who adopts that sort of attitude!

Recorded inspection failures of dampers must be acted on and, while you generally aren't faced with the likelihood of having to shut down a facility overnight, you are going to have to negotiate funding for remediation and repairs, then plan the logistics of providing access to contractors as soon as practical. It is consequently probably sensible to approach inspection as the tip of the iceberg that it might become and view the inspection as scoping remedial works, not an end in itself.

To put this in perspective, we've recently been commissioned to complete an inspection in older buildings going back to the 1960s for one health organisation which covers over 4000 fire dampers. We were able to minimise the cost of the inspection itself by working in partnership with the hospital's own staff so that they ascertained the location of the dampers and our technician's time was wholly focused on the actual testing work, but the cost will still be likely to run into six figures. Furthermore, there will be no escaping the cost of the remediation work that will be uncovered.

It's not just an issue for older buildings either. While a layperson might assume that a modern PFI block has a comprehensive register of all assets, including fire dampers and that the ductwork design is compliant and includes sufficient access hatches for inspection work, this is not always

proving to be the case. A well-documented example is Birmingham's Queen Elizabeth Hospital where fire dampers were cited in a Channel 4 news report after insiders blew the whistle. In one section, 197 of 418 dampers could not be tested, due to insufficient access hatches having been installed by the PFI contractors. It is bad installation like this, as much as long-term wear and tear and accumulation of dirt and dust that we see every day as inspectors.

Some of the most common problems we encounter are:

- No access panels
- Inaccessible access panels or dampers
- Damper blades propped open
- Transport ties left in place
- Dampers skewed
- Broken springs
- Dampers fitted incorrectly
- Installation fixings block shutter movement
- Access panels too small or too distant
- Dirt and obstructions fouling damper channels
- Motors disconnected/loose on shaft
- Runner channel malformed or damaged
- Dampers installed remote from fire partitions
- Gaps to side of dampers

The parameters

So how do you scope and manage the whole process?

Within healthcare premises the Health and Technical Memorandum (HTM) 03-01 Heating and Ventilation Systems states that if ventilation ductwork penetrates the fabric of a building it should be designed and installed so as to contain the spread of fire and that it is the management's

responsibility to ensure that the standards applied during the design and installation are not reduced during the subsequent operation and maintenance of the equipment. HTM 03-01's recommendation is for annual fire damper testing. Now, maintaining the standards applied during design and installation might seem to be open to interpretation, given what I have already said about the frequency of poor installation, but the bottom line is that the HTM is unambiguous: you need to test, you need to test annually and you need to fix what's broken. That's simple enough and I will not paraphrase the de facto regulations here - but how to go about it?

Testing should be carried out by a competent person - and you are unlikely to have those specialist skills in house. Competency can be a difficult capability to define since there are no industry standard accreditations for this work, but proven experience and references go a long way to giving comfort that a contractor is competent. A specialist heating and ventilation ductwork services company is generally a good place to start, particularly ones that have a track record of undertaking HTM 03-01 compliant surveys and testing.

During inspection the damper must be physically dropped or actuated: that is the only way to confirm that it is in good working order. The responsible

person on the estates team should insist that a photo be provided of each dropped damper so that a record exists to verify that successful testing was completed. The whole process will also serve to confirm that your schedule (asset register) is accurate.

Professional fire damper testing specialists should be able to undertake routine maintenance as part of the testing process, for example, light oil lubrication of the runner channels or blade spindles, cleaning and, when possible, replacing fusible links if faulty. They should also be able to provide practical, workable recommendations for solutions to any problems found.

More complicated remedial works might require fitting more access hatches - thankfully a once and for all job - and refitting or replacing some dampers. While the clear majority of fire dampers are operated by fusible links, some premises have equipment that is linked to a central building management system and, there again, specialist skills are needed to coordinate testing. Either way, contractors should be able to demonstrate enough knowledge of healthcare operations to plan workable logistics for remedial work with you.

In fact, the hardest part of the job for you should be securing the budget, but bite the bullet by commissioning the inspection work, and at least you'll know what you're dealing with.



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