



Feature **Fire Safety**

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The hidden fire danger in ductwork

Richard Norman, managing director of duct and ventilation cleaning services provider **Indepth Hygiene Services**, explains the importance of keeping industrial ductwork clean

Ductwork in industrial facilities is often quite literally 'out of site,' often running behind walls and in spaces above the ceiling. So, it is easy to understand how this, coupled with budgets being squeezed, can lead to the maintenance of ducting to slip 'out of mind' too.

However, dirty and badly maintained ductwork can represent a serious fire risk and fires within ductwork systems can be difficult to contain and extinguish.

Ductwork can also provide the ideal conditions for fires to start and then spread rapidly through a building. They may contain highly combustible dust and debris and there will, typically be plenty of drafts to fan the flames; fire can also break out of ductwork into other parts of the building. In addition, ductwork is often difficult to access, making the fire service's job harder, and increasing the potential for major property damage.

One particular concern is grease extract ventilation systems linked to catering facilities. According to a survey of fire officers these systems pose the greatest risk to safety of building occupants; in fact they state that 'in 9 out of 10 fires linked to catering facilities, uncleaned grease deposits in extract ducting have ignited to make fires more widespread and destructive.'

Shifting responsibility

The Fire Safety Order shifted responsibility for protecting building occupants from the dangers of fire, from the fire authorities to owners/managers of the premises. The fire authorities have powers to ensure compliance with the Order; failure to comply risks fines, closure of premises and even imprisonment. It has real teeth, the 'responsible person' can be prosecuted for failing to fulfil his responsibilities to protect building occupants and, in the event of death or injury resulting from a fire, be subject to criminal prosecution.

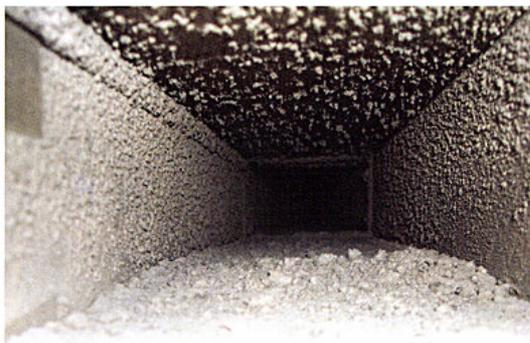
There is also the issue of property insurance warranties – particularly in the case of grease extracts. Increasingly, insurers are requiring

cleaning – either six monthly or annually as a minimum. Indepth Hygiene has provided expert witness services in court cases dealing with disputes involving fires in grease extract systems. Insurers are disputing claims where there is evidence of non-compliance with the law. Furthermore, the country's leading property insurers are demanding in policy warranties that grease extract systems are cleaned in their entirety.

Regular inspection and cleaning

So, an essential element of fire prevention in an industrial environment has to be regular and thorough ductwork inspection and cleaning. In any event it is a legal requirement to have general ventilation systems inspected regularly and the findings recorded, with

Dirty and badly maintained ductwork can represent a serious fire risk. These images show typical ductwork, before and after cleaning has taken place



regular cleaning required according to findings and guidance provided by B&ES TR/19 and the BS EN 15780.

A number of considerations surround the implementation of an effective ductwork cleaning programme. Suitable and sufficient access hatches are essential, for example, to ensure that ductwork can be effectively maintained and cleaned. The UK industry standard B&ES TR/19 provides guidance on where hatches should be sited, dependant on type and location

of ductwork. In addition, the ductwork itself should be readily accessible without any hazard or obstacles to the cleaning operatives.

Fire dampers are easily overlooked, as they also remain largely out of site. However, regular checking is essential, not least for peace of mind of knowing that should a fire break out they will do their job in helping to save lives and protect the property. Fire dampers are also subject to building regulations. BS9999 requires that they should be tested by a competent person at regular intervals which should be no less than two-years apart, and more frequently where dampers are in high fire risk areas.

Fire risk assessments should be prepared to identify risks and action taken to eliminate or at the very least minimise them. Failure to have prepared fire risk assessments and to have taken action will constitute a breach of the Fire Safety Order and could result in substantial fines and closure of the premises.

Poorly completed fire risk assessments often overlook areas such as fire compartmentation in roof spaces. This means that if a fire occurs it spreads rapidly because expected fire resistant structures are missing. The potential for fire breaking out of ductwork and spreading into roof spaces and wall voids is a huge risk, and it is vital to ensure that all ductwork is installed and insulated to minimise this danger.

Businesses need to pay attention to fire risk management. If it is not done in-house, it is important to ensure that it is outsourced to a company accredited by the Fire Protection Agency (FPA), Institute of Fire Engineers (IFE) or the National Examination Board in Occupational Safety and Health (NEBOSH). Failure to do this could lead to substantial financial implications if a fire was to occur.

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