

Business Resilience Through Property Protection



About BSA

The BSA advocates business resilience by enhancing protection against fire through the increased acceptance and use of fire sprinklers in commercial and industrial premises.

Introduction

Large fires in industrial and commercial properties in the UK occur on a regular basis. Even if a business survives the incident, there will be impacts on trading, profitability and reputation, as well as negative impacts up and down its supply chain and environmental implications.

Businesses are made increasingly aware of the need to deal with the potential disruption from cyber and flood risks. However, at the same time fire remains the leading cause of commercial property loss.

Therefore, resilience to the threat of fire also needs to be seriously considered.

Having sprinklers fitted protects businesses in the long run, safeguarding them against potentially disastrous losses, which amount to £2.6 million each day across the UK. But this does not include other factors such as disruption to productivity, impact on the supply chain and the effect on the local community. By preventing large fires, sprinklers also protect the environment by avoiding CO₂ emissions, excess FRS water use and water supply contamination, and by preventing buildings from being destroyed by fire. We have heard time and again from fire services across the country that sprinklers are instrumental in preventing the spread of fire.

The Business Sprinkler Alliance aims to increase the acceptance and use of fire sprinklers in business premises and reduce the financial and economic cost of fires to businesses and UK plc, and the environmental and economic impact on local communities.

In the future, we hope that instead of people asking why they should install sprinklers, they will embrace them as a new and welcome norm.

Iain Cox
Chair, BSA

The Costs of Fires

Fires start in businesses across the country every day and the costs to UK plc, the national finances and the economy continue to rise.

The Association of British Insurers reported the total cost of property fire claims was £1,298 million in 2018. Commercial property fire claims represent 67% of this figure on an annual basis. While these fires have economic, social and environmental costs which go beyond individual businesses, these losses are avoidable, which is why businesses need to better understand the importance of physical resilience, with sprinkler systems the most effective fire protection for British property and businesses.

Moreover, these figures do not include £150 million of business interruption costs arising from fires in commercial premises. More broadly, the Fire Sector Federation has recently estimated that the total economic cost of fire annually is £9 billion.

In February 2020, more than **140 firefighters** attended a fire at a bakery in Wakefield. There were **no sprinklers installed in the plant** and it was **extensively damaged by the fire**. The company diverted operations to other bakeries in the group. Ultimately the site was not rebuilt with the **loss of over 100 jobs**.

In contrast, a fire in **October 2020** was started in a **depot in Hastings**. The depot was **protected with sprinklers** which activated to contain the fire. The damage was **minimal** and the depot was functioning again **within hours**.

The cost of commercial fire claims rose from £486 million in 2004 to £885 million in 2016.

Source: ABI Property Claims 2017 Q2

The Impact of Fire



Business Disruption

A major fire will cause disruption to operations and the delivery of services from a location. At the same time efforts are needed to manage expectations from customers and employees. The repair and rebuild of a facility can take many months. On top of which is the time needed to replace machinery and equipment. Finding alternative premises and equipment quickly is challenging.



Jobs losses

The disruption challenges can prove impossible for small businesses and some medium-sized ones to overcome. Larger businesses can choose to consolidate operations – sometimes in sites in other countries. This can have an impact on local employment and the loss of skilled workers both on a temporary and long-term basis.



Supply chain interruption

We live in an increasingly interconnected world. A fire that disrupts service and product delivery will cause an impact within the supply chain. Delays in delivery may be accepted otherwise customers go elsewhere and may never come back.



Local community impact

Nearly all fires cause transport disruption (road and often rail as well) while many require residential evacuations and school closures. The disruption or loss of a business can have a 'ripple' effect throughout the local economy.



Environmental impact

All fires create environmental impacts including needless carbon emissions and the use of vast amounts of water (more than 9 billion litres used by the Fire and Rescue Service annually) to put out fires in industrial and commercial buildings. These impacts would be lessened significantly if buildings were fitted with sprinkler systems. Fires also create unnecessary waste and use of resources as many buildings have to be demolished and rebuilt.

The True Cost of Fire

Insurance Isn't Enough

Insurance alone is not enough. From offices to industrial buildings, healthcare facilities to hotels; the impact of a major fire can be devastating and many businesses never recover. But the cost of fire in industrial and commercial buildings goes far beyond the expense and impacts on individual businesses and insured costs. Fires are the cause of significant economic, environmental and community costs, many of which are ultimately borne by the taxpayer.

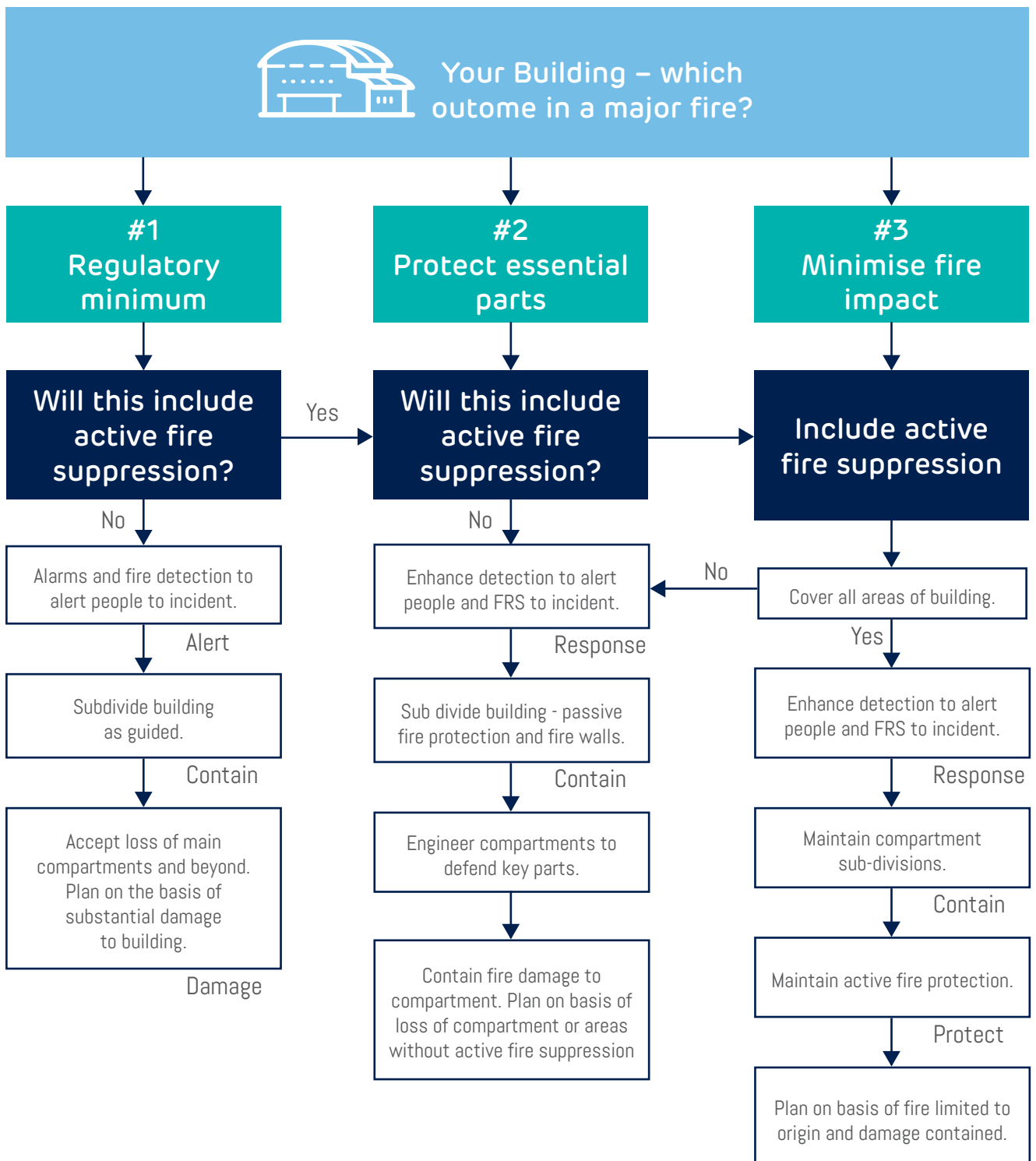
FIRE CREATES A RIPPLE EFFECT.

Whilst we would like to think of fire as an isolated, neatly packaged event, it very rarely is. Fire is never an isolated incident. When a fire happens in a single home, it may just be a case of one family being displaced, but when you have people living together in multiple residential units, the impact of a fire is much larger. This is the same argument we are making for our schools, hotels and care homes, as well as commercial and industrial buildings.

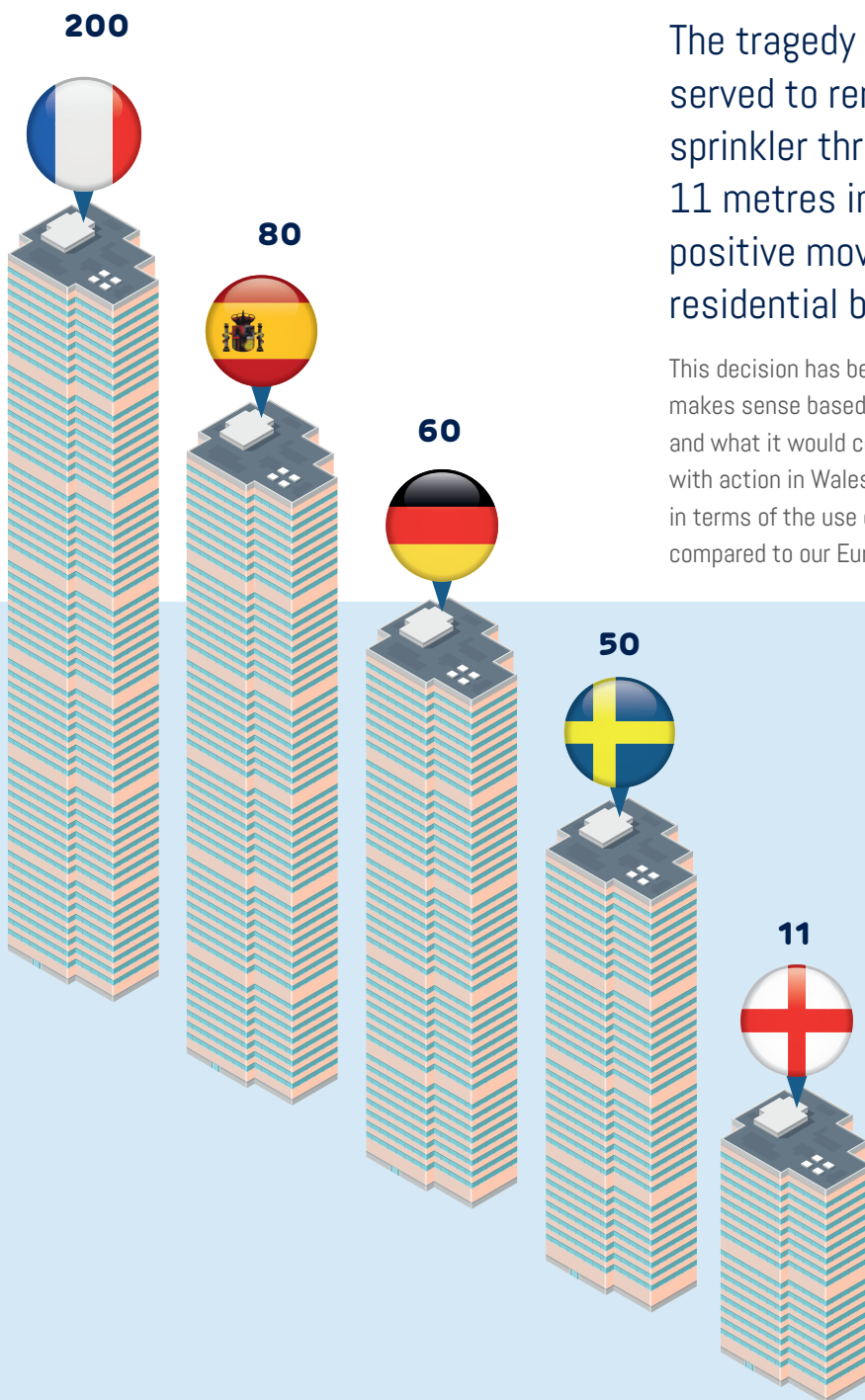
If we are to learn anything from the Covid-19 pandemic, it is that the crisis has highlighted how interconnected we all are. Similarly, a fire will not only impact one person or one company; its impact radiates out. If we do not do something we will continue to see large, dangerous, destructive and costly fires. Moreover, the trend for larger industrial and commercial buildings means we could see even larger fires with more business and supply chain impacts, local disruption and job losses. These and fires in residential and institutional buildings all place burdens on local authorities with costs ultimately borne by the taxpayer.



You have a decision to make



Leading in Europe



The tragedy of the Grenfell fire has only served to remind us that lowering the sprinkler threshold from 30 metres to 11 metres in England is a good and positive move for fire safety in new-build residential buildings.

This decision has been supported by overwhelming evidence and makes sense based on the potential for damage and loss of life, and what it would cost to install sprinklers. These factors along with action in Wales and Scotland place us in a leading position in terms of the use of sprinklers within fire regulation when compared to our European neighbours.

Lagging in Europe

UK Businesses believe they are protected by current fire safety guidance. However, this is not the case¹.

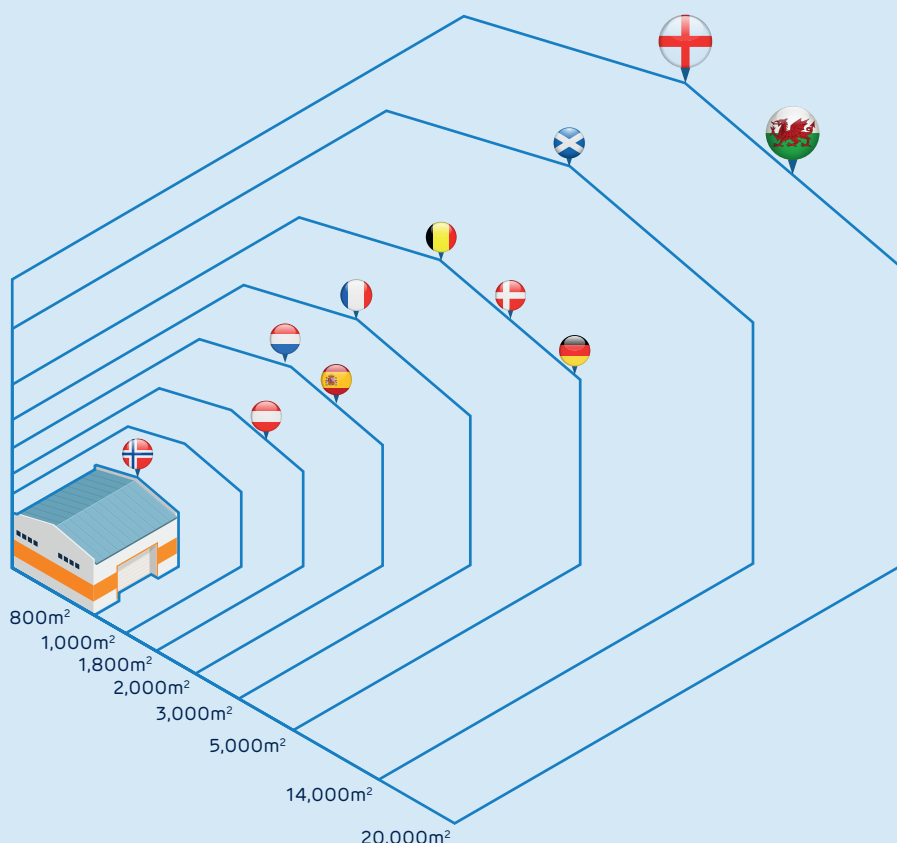
The guidance aims for building design to ensure safe evacuation of occupants in the event of a fire, it does not consider the protection of the building and its contents. The element of property protection is for the user and developer of the property to be aware of, consider and take action upon.

However, according to research carried out by YouGov for the Business Sprinkler Alliance, nearly seven out of ten (69%) businesses are unaware that current building regulations guidance in the UK does not consider elements that protect property against

the devastating effects of fire. The fundamental misunderstanding of the current fire safety guidance that is used to implement Building Regulations results in a false sense of protection for building owners and occupiers.

The most cost-effective time to add fire protection features to protect property is during construction. Therefore, it is vital to have this discussion early in the development process to take advantage of the opportunities in terms of layout, land use and avoid future cost.

The current fire safety guidance in England and Wales does not require sprinklers in single storey industrial buildings other than warehouses.



Fire safety guidance in EU warehouses with respect to installation of fire sprinklers

Most have set their compartment size limits on the basis of the intervention of the fire service. It is notable that the UK has guidance that allows compartments that are 3 to 4 times larger than our nearest neighbours.

¹ You Gov: BSA Perception Measurement, June 2016

One Rule for One, and One for Another



The arbitrary nature of the regulations

When you look at the devastating fire that tore through the CUBE building, a mid-rise student accommodation in Bolton, many will find it hard to realise that the new height requirement for sprinkler installation does not apply to student accommodation such as this.

The 11-metre guidance also does not apply to care homes, therefore fires such as the one that ravaged the Beechmere Care Home in Cheshire are not covered. It makes one question the nature of the regulatory system and why other building types are not covered by this change to sprinkler requirements. If we have the evidence, why are we not doing it? There is the evidence

for high-rise residential, student accommodation, care homes and warehouses but why are we not setting guidance for these buildings? The BSA believes that sprinkler systems should be considered more readily as a viable option right across the built environment whether it is a hospital, school, retail or leisure facility, or commercial and industrial building.

Safety is the new sustainability

The need to consider the overall sustainability of the built environment to make sure we build and renovate in a low carbon and circular way will require all stakeholders to build better. This will mean broadening the view of sustainability to consistently consider fire safety and resilience.

Historically, actions we take in the name of sustainability have created some challenges from a fire perspective. Not that sustainability was wrong, but we need to think of the impact of these actions, particularly the impact on fire. A fire that destroyed the largely complete Carbon Neutral Laboratory in Nottingham is a prime example. The timber construction, so prized for its sustainability credits, meant the building was vulnerable to such a fire, especially as the building did not have active fire protection.

The laboratory in Nottingham was rebuilt in line with regulations, but using the same design principle and materials as before. There was no increase in fire resilience and no active fire protection. The very same building went on to win the 'Sustainability Project of the Year' at the annual Building Awards.

None of the metrics that define prized sustainability awards consider fire or its impact. A building that burns to the ground and needs to be rebuilt does not incur any penalty in these schemes. Fire is simply an issue that is not covered in those scoring schemes, or it would seem in the judging panels for sustainability ratings and prizes.

A future view of the world wherein protecting the hard-won resources so that they can be used and reused leads to a path where minimising fire incidents will be important. Active protection systems will increasingly make sense for this reason. They will also make sense when thinking of the desire for buildings that can be flexible in use throughout their life. The whole life cost of a building and its value will be tied to both these concepts.



Industrial and Commercial

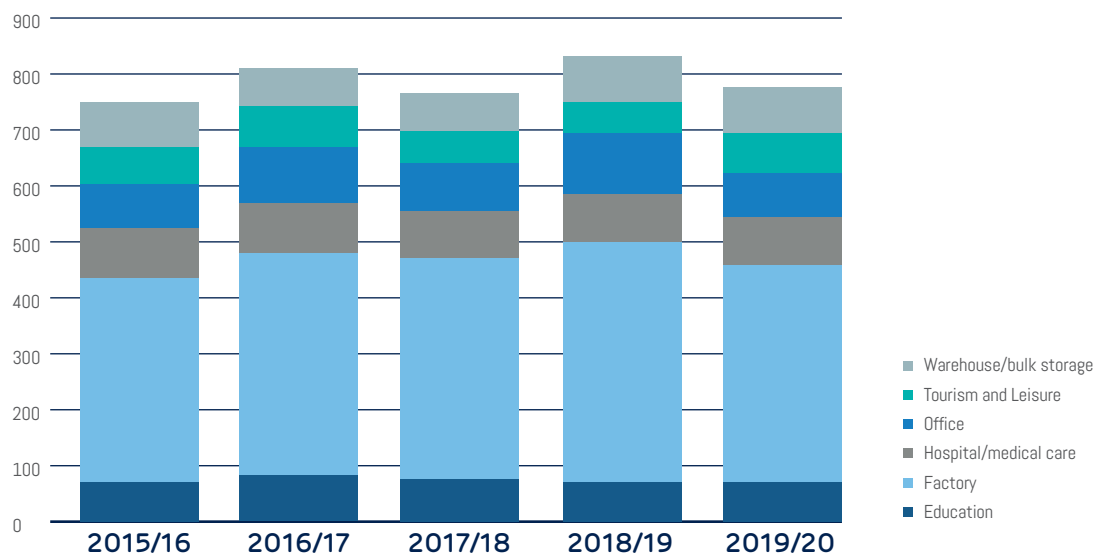
Automatic fire sprinkler systems are critical to physical resilience and business continuity. Large, single-storey buildings are not designed to withstand fire, and without sprinklers the contents often have sufficient combustible loading for the fire to spread and overwhelm any firefighting effort.

When a fire starts in a building fitted with a fully functioning sprinkler system, it has a high probability of being contained from the outset, controlling or extinguishing the fire in advance of Fire and Rescue Services' arrival. In the vast majority of cases, the impacted business is fully-functioning within hours.

The sector includes an extensive range of building types from heavy manufacturing to food distributors, light assembly to bulk warehouses, cold storage to data hosting centres. Regardless of the property type, automatic fire sprinkler systems are the most effective means to protect a business and property from fire.

Statistics on larger fire incidents

These figures are for fires across the UK where the Fire and Rescue Service have attended with four or more fire appliances. An incident with four or more fire appliances is a good indicator of a larger fire incident needing additional resources. On this basis it is clear that there is on average one large industrial fire incident every day.





ONE IN FIVE WAREHOUSES WILL HAVE A FIRE REQUIRING THE ATTENDANCE OF FIREFIGHTERS OVER THE COURSE OF ITS LIFETIME.



SPRINKLERS ENSURE THAT FIRES ARE CONTROLLED OR EXTINGUISHED BEFORE THE FIRE AND RESCUE SERVICE ARRIVE THEREBY ENSURING THAT DAMAGE AND IMPACTS ARE MINIMAL – MOST SPRINKLERED BUSINESSES ARE FUNCTIONING AND IN BUSINESS AGAIN WITHIN HOURS OF A FIRE INCIDENT.



SPRINKLERED FIRES ARE ESTIMATED TO RELEASE BETWEEN 7.8% AND 21.6% LESS CARBON EMISSIONS, COMPARED WITH AN UNSPRINKLERED FIRE IN A SIMILAR BUILDING.

Industrial & Commercial Fires: The Facts

There have been **22,600** fires in industrial and commercial premises in the **past 3 years**

- The total cost of property fire claims was **£1,298 million** in 2018 according to the ABI. Commercial property fire claims represent **67%** of this figure on an annual basis. There is a further **£100 million** of business interruption costs arising from fires in commercial premises in each year.
- Fire losses in warehouses make up around **10%** of the total cost of all fires with average losses exceeding £1 million. The total annual cost to the UK economy of fires in English and Welsh warehouses without fire sprinkler systems is **£232 million**.
- Only 20% of warehouses between **2,000m² and 10,000m²** are fitted with fire sprinkler systems. For warehouses larger than **10,000m²**, it is estimated that **67%** are fitted with sprinklers.
- The increased use of fire sprinklers to combat fire would save an estimated nine billion litres of water per year; the equivalent of five times the UK's entire annual bottled water consumption.
- Fires in business buildings without sprinklers emit more than **350,000 tonnes** of CO₂ each year, the equivalent of the annual CO₂ emissions of more than **140,000 cars**.
- Sprinklers are **99% effective** in controlling or extinguishing fires where they are present and operate. Analysis of property loss claims indicates the average fire loss in a sprinklered building is one sixth of that of a building with no sprinklers.

1 Efficiency and Effectiveness of Sprinkler Systems in the United Kingdom: An Analysis from Fire Service Data, NFSN, May 2017

The Benefits of Sprinkler Systems

Fire sprinklers provide automatic and immediate onsite protection. To make an informed choice, it is critical that organisations understand the risks and consider the benefits that fire sprinklers can bring to protecting industrial and commercial buildings. In doing so, they provide employee safety, business continuity and resilience that extends to the UK economy.

1

Protect assets

Sprinklers protect occupants, firefighters, property, machinery and supplies.

2

Save money

Losses from fires in buildings protected by sprinklers are estimated to be only one sixth of those in unprotected buildings.

3

Effective and reliable

Sprinklers control or extinguish fires in 99% of cases.¹

4

Reduced disruption

Sprinklers reduce costs and disruption to the business and community.

5

Cost-effective installation

The average cost of installing a sprinkler system in a commercial or industrial building will be between £35 per square metre and £45 per square metre.²

6

Insurance discounts

The combination of the reduced potential for loss and lower disruption will factor into fire insurance premiums.

7

Design freedom

Sprinklers help reduce building costs through increased flexibility of internal layout and larger compartment sizes.

8

Less water

Sprinklers use much less water to extinguish a fire than fire brigade hoses – and so lead to much less water damage.

9

Environmental protection

Sprinklers protect the environment from damaging emissions of smoke or large amounts of contaminated water.³

10

Peace of mind

Sprinklers mitigate the risk of fire and protect businesses from disruption.

¹ Efficiency and Effectiveness of Sprinkler Systems in the United Kingdom: An Analysis from Fire Service Data, NFSN, May 2017

² T&T International Cost Trend Data for the UK 2019

³ Assessing the role of fire sprinklers, Bureau Veritas, August 2011

The Cost of Sprinklers



Sprinklers are a key component in the long-term fire protection strategy and if considered early in the design process, they can be included at little cost to delivering the building project.

On average, for an industrial building the cost of automatic fire protection will be in the range of a few per cent of the overall building cost. Recent figures note between £35 and £45 per square metre*. To gain the maximum advantage from the installation of sprinklers they should be designed into building plans. Sprinkler systems need ongoing maintenance and rather like a vehicle need an annual service with weekly and monthly checks.

These checks can be completed by a trained employee. Insurers are so confident of the value of sprinklers that they normally allow significant premium discounts for protected properties. The benefit of a sprinkler system is realised over the lifetime of the building – with its value becoming most evident when activated allowing the building and its contents to survive the fire incident and the business to continue with minimal disruption.

A sprinkler system should therefore not be considered as a one-off short-term expense as a part of the build, but as a long-term investment ensuring that the building is resilient to fire over its lifetime.

Over the lifetime of a warehouse larger than 2000m², the whole life costs will on average be **3.7 times lower in warehouses which have sprinkler systems installed.**

* T&T International Cost Trend Data for the UK 2019

Fire Incidents



Every year there are hundreds of fires in industrial and commercial buildings. In many cases these fires results in job losses and even business closures. The following are just a few examples.

Beechemere Care Home

At the Beechemere Care Home, 16 fire engines and more than 70 firefighters attended a blaze which started in the roof but completely destroyed the timber-framed complex. One hundred and twenty three residents were saved from the residential apartments in Crewe when the fire took hold.



August 19th 2019



Bakery, Wrexham

A large fire that started in the production area of a commercial bakery caused a roof collapse and challenges for the fire and rescue service who had to remove metal work to extinguish the fire correctly. The newly rebuilt bakery, which opened in the summer of 2021, is four times the size of the original and one of the most modern in Europe. Unlike the original bakery, the new high-tech bakery features an automatic sprinkler system.

Bakery, Wakefield

More than 140 firefighters attended a fire at a bakery in Wakefield. There were no sprinklers installed in the plant and it was extensively damaged by the fire. The damage had a reported cost of £30M. The company diverted operations to other bakeries in the group. Ultimately the site was not rebuilt with the loss of over 100 jobs.



Moorfield Hotel

A fire at the 100-bed Moorfield Hotel in Brae quickly engulfed the building. Whilst thankfully staff and residents were evacuated safely, firefighting efforts were hampered by time and distance to the remote location and the fact that under current building regulation guidance, the hotel was not guided to have sprinklers.



July 27th 2020



August 29th 2020



Kent Foods fire

A fire at this site in Basildon destroyed the warehouse and offices. More than 100 firefighters attended the fire which saw the loss of this 7,500m² building. Operations had to be redistributed to meet customer demands. Planning and rebuilding the warehouse will take over 15 months.

AF Blakemore & Son

An automatic sprinkler system activated and extinguished a fire in the early hours at a food distribution warehouse, minimising damage and ensuring the business would be able to return to operations later that day with little disruption. Had the fire not been contained it would have caused significant damage to this logistics business which supplies food products across a network of Spa stores across southeast England. The warehouse was below 20,000m², which under current English guidance meant it was not required to have sprinklers.



October 4th 2020

August 19th 2021



RAM Enterprises

A fire that ripped through an unsprinklered warehouse required 10 fire engines and 70 firefighters to tackle the blaze at its height. Thankfully, none of the 25 staff members were injured in the blaze at the RAM Enterprise building in Ash Green, and while it destroyed the building, the Fire and Rescue Service were able to prevent the fire from spreading to adjacent businesses.

Summary

A large fire can disrupt business operations and perhaps ruin a business in a matter of minutes. Developers, real estate owners, business owners and building operators need to be aware of the financial benefits and design freedoms provided by automatic sprinkler systems and consider the installation of sprinklers at the start of a new project. By doing so, they can gain a significant return on investment.

As well as saving lives and allowing businesses to get back to normal as soon as possible, sprinklers are very important to the environmental agenda and for corporate social responsibility actions. Their contribution to fire protection allows fire damage to be mitigated quickly, thereby minimising economic loss and business disruption.



Business Sprinkler Alliance

BUSINESS RESILIENCE THROUGH PROPERTY PROTECTION

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