



News and views from Fire & Security Consultancy Limited

A very modern tragedy... preventing self-storage facility fires

A year on from the Shurgard fire in Croydon, **Hunter Seymour** examines the concerns over fire related incidents at self-storage facilities.

Just over a year ago, on New Year's Eve and throughout New Year's Day 2019, a catastrophic fire in a Croydon self-storage facility – Shurgard – destroyed every item stored in over 1,000 rented units.

The toll of this devastating fire resulted in irreplaceable belongings being lost, whilst according to claimants, many small businesses also depended on these storage units, whose grim fate – with thousands of pounds worth of stock destroyed – forced many into bankruptcy.

So, the implications for fire risk management are grave. That is why we've asked leading UK fire risk policy-makers and policy-stakeholders to consider the current state of emergency preparedness in the self-storage sector and to offer pointers in counselling best practice. It's a multi-faceted view, yet bound by a common concern for due diligence in public safety.

As it is, the fallout from this one tragic example is powerfully symbolic of the socio-economic challenges of our times. It's not only the impermanence of the gig economy and the growth of the start-up e-commerce marketplace that has stimulated demand for low cost personal storage or storing of stock, but also the number of individuals in short-term accommodation who are regularly needing to upsize or downsize, dependent on current circumstance.

It's a trend that prompts two related questions. Is faith in the security of these self-storage facilities misplaced? And does current regulatory guidance specifically address the threats of fire posed by these facilities when we attempt to regard them by their unique frame of reference – namely, **self-service warehousing**.



Image courtesy of Business Sprinkler Alliance

Informed comment on self-storage fires

Clearly, the principal authority on the Regulatory Reform (Fire Safety) Order is The Home Office, who emphasises it makes "guidance available to support compliance with the Fire Safety Order. The guidance for factories and warehouses, including storage warehouses, is available. See publication: *Fire Safety Risk Assessment – Factories and Warehouses*."

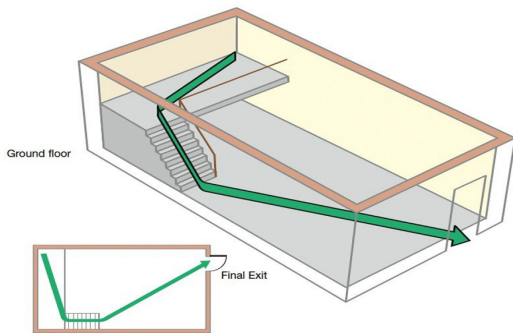
The very latest response on the Shurgard fire from the London Fire Brigade (LFB) states: "The cause of the fire has been recorded as undetermined." The Met Police also states: "The extent of the damage to the building has made it impossible to establish the cause of the fire . . . (the Met are) satisfied there is no cause to suspect a criminal act."

The LFB further advised: "We would recommend that all self-storage sites look at the possibility of retrofitting sprinklers if they do not already have them fitted. Sprinklers are the only system that tackles the fire immediately and they protect people and properties. Following the fire, Senior Fire Safety Officers liaised with the responsible person for the Croydon Shurgard facility and found the building to be broadly compliant with fire safety legislation."

The verdict of the Self Storage Association

The SSA (Self Storage Association) is clear about structural provision in self-storage facilities...
“to allow rapid detection of any fire”.

The primary focus on self-storage fire protection is to ensure that any people in the store have adequate time and means to exit the store safely. This is why we have 60-minute fire rated mezzanine floors, fire rated stairwells with fire doors for emergency exits and a maximum distance from every self storage unit to a fire exit amongst the other fire protection and warning systems.



In the case of the Shurgard fire, there were people in the building when the fire started and they all exited safely following the fire exits. There have been two significant fires pertaining to self storage buildings in the

UK since the industry began over 30 years ago and one more that was in an industrial complex that included self-storage. In all three cases the fire departments were confident that the building had been evacuated and chose to fight the fire externally rather than have their crew enter the burning building when no lives were at risk.

Self-storage buildings by their nature contain a range of materials, some of which are combustible; this is not dissimilar to a warehouse that the RRFSO risk guidance also applies to. The main difference is the large number of small rooms and corridors, which does make fighting the fire internally more challenging. Each self-storage unit would have a gap above the walls so that smoke and heat can escape and set off fire alarms and allow rapid detection of any fire.

The standard self-storage contract prohibits the storage of certain items, including flammable and explosive materials. There is signage to this effect throughout the stores and in the reception area [. . .] Self-storage staff will also keep a look out for people

storing flammable items when they move in and when inspecting CCTV footage. It is very unusual for customers to be storing flammable items; mostly it is things like petrol lawn mowers that have not been emptied, or occasionally old paint tins that are identified.

Industry standard is that you must show two forms of ID including a photo ID and proof of address to take out a self-storage contract. This deters criminals from using the stores and helps ensure the store has accurate contact details for the customer.

Many stores also require registration of all people and vehicles entering the store for added security.

The Shurgard fire was a tragic event. Unfortunately the cause of the fire was never determined. What is clear is that all alarms and evacuation systems were in working order and the people in the store were effectively evacuated before the fire took hold. The relevant fire walls and compartments appear to have held for their designated times.

Gerda Boxes

The SSA also states: *“There have been no recommended changes to the industry from the insurers following the [Shurgard] fire. One item that was raised by the Fire Brigade was the content of the Gerda (High Security Premises Information) boxes. The association has advised on a standard layout of the Gerda box contents so that the fire department can find appropriate information quickly when they arrive on site.”*



Mezzanine floors in storage facilities

Specialists in beam and flame detectors, **FFE Limited**, consider the case for protection of mezzanine floors to be determined by storage unit height. *“The type of detection would be based on the clearance to the roof in the storage area.”* In this particular case, *“Beams might not be suitable due to the fact that they could be blocked. ASD [aspirating smoke detector] would be the likely choice. A Beam will be suitable for an application if the Beam itself will not be blocked by any obstruction as part of the day to day running of the site.”*

As to grating flooring, FFE advises that: *“Depending on the size of holes in the grating, it may be deemed that this is effectively a floor/ceiling and extra smoke detection equipment (i.e. a Beam) will be needed. Any obstacle which impedes the passage of smoke should be considered during a Fire Risk Assessment and the area divided by the grating may be deemed to be two separate areas needing their own protection, rather than the area be treated as just one area.”*

Learn more at ffeuk.com, or at **FIREX 2020** in May where the company will be exhibiting.

Call for regs to be tightened as a matter of urgency

At the time of the Shurgard fire, the insurance industry, represented by the ABI (Association of British Insurers), made clear the hazards for claimants finding themselves underinsured and unable to replace their belongings. *“If you have fallen victim to the blaze at the Croydon Shurgard self-storage facility you should have taken out the necessary contents insurance (which will cover fire damage as standard) at the start of your contract, as this is a compulsory element of the use of their facilities.”*

However, with regard to inadequate insurance, **Steve Reed**, MP for Croydon North, has pressed government to consider cases where *“more emergency support is available for the people facing real hardship and crisis as a result of the fire.”*

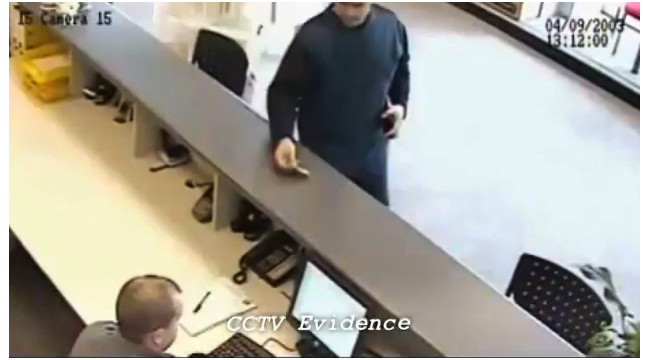
In his objections, he also pointed out that if the self-storage facility *“was fully compliant [with all UK fire safety regulations] those regulations need to be reviewed and tightened as a matter of urgency.”*

Vulnerability of unsprinklered buildings

The BSA (Business Sprinkler Alliance) stated that the Shurgard tragedy brought into sharp focus the wider impact of fire and the vulnerability of unsprinklered buildings. "Whilst thankfully no lives have been lost, there are many that will be affected by this fire," said **Iain Cox**, Chairman of the BSA. "There will be hundreds of insurance claims for lost possessions . . . the cost and environmental impact of this will be significant. Sprinklers are a proven method of controlling fires. They allow fire crews the time to safely gain access and extinguish fire and we welcome their consideration as a way of ensuring that properties of all types are adequately protected."

A sector under scrutiny

As we have seen, the Home Office insists that the publication "Fire Safety Risk Assessment – Factories and Warehouses" meets the case. But it's clearly on a case-by-case basis. And, as one fire risk expert reminds us: "It's all in the interpretation and thereby lies the conundrum." Therefore, self-storage facilities should certainly make the attempt to condense what may be considered as the guide's pertinent advice into a checklist, as timely reminder of best practice for preparing for the year ahead.



Fire risk checklist for self-storage facilities

Here is a provisional list of actions, with reference to the RRFSo, to refresh your overview of typical risks:

- You should conduct a fire risk assessment to re-evaluate the construction and layout of your building; an informed examination to see if there are any easy paths through which smoke and fire may typically spread. Remember, your fire risk assessment should be ongoing to reconsider any changes in facility usage or customer behaviour.
- Review fire-extinguishing devices and systems.
- Reassess fire exit signage and fire alarm alerts for optimum emergency response.
- You should re-evaluate facility management training and safety routines. Regular patrols of the facility can detect, by sight or smell, breaches of users' Terms and Conditions (e.g. leakages, spillage or fumes from prohibited flammable substances).
- Retraining if somebody's job changes with new duties.
- Overnight safety routines should include removal of vehicles parked adjacent to the storage facility. It is not unknown for parked cars to spontaneously burst into flames. Similarly, wheelie bins should not be kept adjacent to the facility.
- Special consideration should be given to the secure siting of fire detection or fire protection equipment to avoid interference from goods transferred to and from storage units. (For example, loaded trollies have been known to smash break-glass manual call points and trigger the false callout of emergency services.)
- Your CCTV, fenced perimeters, site lighting, and surveillance routines should be regularly reassessed to identify inefficiencies.
- Rigorous, scrupulous ID checking safeguards should be regularly reviewed to counter misuse of photographic identity or misrepresentation of storage unit ownership. Common cases involve domestic disputes, with false claims of shared ownership of property to gain admittance to storage unit rented by single key-holder.

Cautionary note: The potential criminal use of self-storage facilities is well known. In 2003, aided by false ID registration, a murderer hid the corpse of his victim in a Brighton self-storage unit. His arrest and conviction was due to the suspicions of vigilant staff who alerted the police.

Fire statistics see 'deeply concerning increases'

The National Fire Chiefs Council (NFCC) commented on the latest figures, which showed a 6% increase in fire deaths and a 19% increase in dwelling fire deaths.

In its response to the Home Office figures, covering the year ending June 2019, the NFCC noted that there has also been a 14% increase in the number of fires, and a 2% increase in the number of overall incidents attended, alongside a 16% increase in deliberate fires. While the increase in fires 'can be largely attributed' to a 28% increase in secondary fires 'due to last year's hot weather', false alarms 'continue to account for the majority' of incidents attended, at 40%.

Of the remaining number of incidents attended, fires accounted for 32% and non fire incidents 28%, with 268 fire related fatalities marking the aforementioned 6% increase, and 215 fire related fatalities in the last year accounting for the 19% increase. Fire and rescue services (FRSs) attended 182,491 fires, which marked the 14% increase; while 74% of primary dwelling fires were in houses, bungalows, converted

flats and other properties, with only 26% in purpose built flats.

With dwelling fires, 17% were in purpose built low rise flats or maisonettes of one to three storeys, while 7% were in medium rise flats of four to nine storeys, and 3% were in high rise flats of 10 storeys or higher. FRSs attended 798 fires in high rises, which marked a 2% decrease compared to the 811 attended in the previous year.

Roy Wilsher, NFCC chair, commented: 'It is deeply concerning to see this increase in the number of fatalities and fires. While there were no further reductions for fire and rescue services in the most recent government Spending Round, these figures illustrate why we must be resourced effectively; prevent fires, meet our statutory fire protection duties and deal with risk and demand.'

'For more than a decade, we saw a decline in incidents but worryingly, this seems to be reversing. Between 2013 and 2016, this had reduced to around half a million per year but this year this now stands at more than 573,000 incidents. I have written to Her Majesty's Inspectorate of Fire & Rescue Services (HMICFRS) to highlight the long term under investment in fire services which has impacted our core roles.'

'NFCC will also continue to press both the Home Office and the Ministry of Housing, Communities and Local Government (MHCLG) for further investment, particularly in fire protection. The recent findings of the Grenfell Inquiry Phase 1 report, coupled with recommendations from Dame Judith Hackitt's review into building regulations, will lead to increased pressures on fire services. Therefore, we need to ensure services are given the support to transform to meet any challenges head on, with confidence.'

Cladding concerns in tower blocks continue

Concerns over cladding in tower blocks continue post-Grenfell, demonstrated by two recent examples in the north of England.

The Cale Cross office block in Newcastle is set to replace its current aluminium cladding, as it is set to be turned into a series of flats after a scheme was revealed in 2019 by London-based M7 Real Estate.



Plans have been lodged to replace the aluminium cladding on the outside of Cale Cross House before it is turned into apartments, as the material does

New student blocks handed enforcement notice

The Croft in Derby was handed the notice by Derbyshire Fire and Rescue Service (DFRS) after an inspection, with students offered alternative accommodation until issues are resolved.

Derby Telegraph reported on the enforcement notice DFRS handed to the University of Derby in relation to the eight and nine storey blocks, which were only opened to students in September 2019 and which include 326 bedrooms. The £23m complex was handed the notice in December after DFRS inspected it, with students offered free alternative accommodation 'until the fire safety issues have been resolved'.

Constructed by Prosperity Capital, the buildings include a gym and cinema, with university deputy vice chancellor **Malcolm Todd** commenting: 'Following a recent inspection carried out by Derbyshire Fire and Rescue Service at The Croft accommodation, an enforcement notice has been issued. This notice includes some safety remediations that The Croft have been instructed to make relating to the fire safety and precautions in place on the premises.

'They have been given two months to comply with the enforcement notice, and, in the

not comply with post-Grenfell fire safety rules. According to documents lodged with Newcastle City Council, the existing cladding "would not be compliant" with fire safety regulations for residential accommodation. A statement from England Lyle Good town planners on behalf of the developer reads: "The changes to the present cladding system are required in light of our client's intention to convert the building to residential apartments in line with the current prior approval consent, specifically due to changes to Building Regulations post-Grenfell; we understand that the present system would not be compliant with the relevant regulations from a fire safety perspective for residential accommodation."

The council has identified 11 buildings in the city with aluminium composite material (ACM) cladding, following the Government's national building safety programme established in response to Grenfell. According to a spokesperson, eight of these buildings have now had their cladding removed and replaced, while progress is being made on two more, with an ongoing investigation taking place on the extent of the work to the last.

meantime, are entitled to continue to operate The Croft as normal. As your safety is of our highest concern, we can provide you with alternative accommodation and we would like to offer you a place in one of our university owned halls of residence, Princess Alice Court, which is less than 500 metres away from The Croft.

'This accommodation we would offer you free of charge until the issue has been resolved at The Croft or until the end of the current academic year. If you are planning on staying in The Croft over this holiday period and would like to move to Princess Alice Court, you are more than welcome and we would encourage you to do so.'

The complex 'can continue to operate as normal while improvements are made', with one unnamed parent stating that their son had received a letter in late December. They added: 'I was shocked when my son received the letter because The Croft has only been open since September. He's home for Christmas now, but I don't want him to move back in until all the work has been done.

'It has made me feel anxious and I've emailed The Croft to say I'm concerned about this. He is paying good money for something that isn't safe. I'm really impressed by the university's response to this, offering free accommodation until everything is sorted.'

A spokesman for Prosperity Capital said the works were set to have been completed 'by

Cladding in Yorkshire

While this may show that progress is being made on cladding related fire issues, in other news before Christmas, the West Yorkshire Fire and Rescue Service (WYFRS) have notified the owners of 13 blocks of flats that they will shut them down unless steps are taken to remove dangerous cladding. The Service has written to the individuals legally responsible for the block with a timeline, committing to when the cladding/insulation will be removed. The owners or managers have been asked to respond by 10th January. It's been a mixed response so far, with one company having applied for government funding to replace the cladding, while another has taken steps to rehouse its current residents.

The Deputy Chief Fire Officer, **Dave Walton**, said: "we do not wish to cause any alarm, we must be clear in advance that prohibition of the entire building, or parts of it, will be one of our considerations if we are not satisfied with the response provided to us by those responsible for your building."

In June of last year, the 'cladding crisis' continued, as HPL cladding tests were finally planned two years on from the Grenfell disaster, with the Government also being criticised for focusing too narrowly on Grenfell-style cladding, as many other materials remain untested.

the time the students return from the Christmas break this year,' adding: 'Prosperity Capital take fire safety and the safety of the students at The Croft very seriously and it is our absolute priority. The Croft was completed in September 2019 with full certification and full compliance with building regulations, and therefore in turn the fire regulations.

'We received a recent routine visit from the fire officer with some improvement recommendations. We have already taken the decision to proceed with the additional improvement works reported on by the fire officer. This work commenced last week and should be complete by the time the students return from the Christmas break.

'Two items which we need to investigate further is the upgrading of the fire alarm and sprinkler system which were both designed and installed by specialist companies and Prosperity Capital has certification confirming full compliance with the fire regulations (building regulations). We will arrange a meeting with the fire officer as soon as possible to review further.'

A spokeswoman for Derbyshire Fire and Rescue Service added: 'On Friday, December 20, 2019, Derbyshire Fire and Rescue Service issued an enforcement notice in respect of The Croft. Fire safety inspectors from Derbyshire Fire and Rescue Service are working with the university and those responsible for fire safety measures in the building.'

Government will consider more £200m cladding fund bids despite deadline passing

The government will continue to consider applications to the £200m private sector cladding remediation fund despite the deadline closing on New Year's Eve.

BY NATHANIEL BARKER

The Ministry of Housing, Communities and Local Government (MHCLG) confirmed that it would still consider allocating funding for applications which have not yet been completed if they are submitted as quickly as possible. However, it said the 31 December deadline for the fund will not be extended and would not reveal how long it would continue to consider applications.

Organisations responsible for affected buildings that delay applications unjustifiably should expect further action, MHCLG added, although it did not specify what action would be taken.

Flat owners affected by the cladding crisis raised concerns in November about missing the deadline because of the onerous conditions required for applications, such as carrying out a survey to ascertain the full costs of work and securing signed state aid forms from all leaseholders.

Figures released by the government last month revealed that as of 30 November only two applications to the private sector

remediation fund had been approved, with completed applications submitted for a further 29 buildings.

There were 95 buildings identified as being in scope for funding at the time, with work on most of the other 175 private residential high rises with dangerous aluminium composite material (ACM) cladding not yet remediated being funded by the building owner or through warranty claim.

Ministers have set a June 2020 deadline for unsafe ACM cladding to be removed and replaced on all private sector tower blocks. The government is working with named contacts at each affected building in an attempt to speed up the work.

A spokesperson for MHCLG said: "It is completely unacceptable that people are having to live in buildings with unsafe ACM cladding on them.

"We have made £200m available to building owners to deal with this problem and announced legislation in the Queen's Speech to strengthen enforcement powers

to hold building owners and managers to account. We have written to building owners to reiterate their responsibility in keeping residents' safe and we will not hesitate to name and shame those who do not have a clear plan to safeguard their residents."

The £200m fund was announced in May last year and opened in September following pressure on the government to increase the slow pace of cladding remediation work in the private sector.

It followed a similar £400m fund for affected high rises owned by social landlords. Leaseholders in a block wrapped in another type of dangerous cladding – high-pressure laminate – this week criticised the government for ignoring their requests for help as they face a payment deadline for bills of up to £25,000 each to fix the building.

Inside Housing has called for the government to cover the cost of cladding works on private blocks through the **End Our Cladding Scandal** campaign run alongside affected leaseholders.

The Lith-Ex Fire Extinguisher Range from Firechief

Lithium batteries present a more frequent fire hazard each day as the number of consumer and industrial goods powered by them increases. Firechief have launch the ground breaking and highly effective Lith-Ex Fire Extinguisher range.



Firechief is proud to introduce the **Firechief Lith-Ex** extinguisher range, the fire extinguishers available for tackling Lithium-ion battery fires. The high performance Lith-Ex extinguishers contain AVD (Aqueous Vermiculite Dispersion) compound - a revolutionary fire extinguishing agent - and are designed to target high risk fires of a limited size. They are suited to confined spaces such as homes, hotel rooms, vehicles, public transport, aviation, marine or leisure and dedicated processes where in all instances fires need to be suppressed in their infancy before developing into a fully established fire.

Lith-Ex extinguishers are ideally suited for Lithium-based battery fires such as those which may occur with personal electronic devices, for example, mobile phones and tablets. They can also be used to protect against fires where batteries are under charge, and where batteries are stored; for example, goods distribution, battery collection bins, battery recycling locations, public services, battery charging stations and many other scenarios.

The Lith-Ex Extinguisher is compact, lightweight, easy to store, non-toxic and environmentally friendly. It will extinguish uncontrollable flames, quickly cool the excessive heat and prevent re-ignition, something that an ABC powder extinguisher or other liquid-based extinguishers will not be able to do on a Lithium-ion battery fire.

How it works:

When a lithium-ion cell goes into thermal runaway (increase in temperature) there are multiple possible sources of heat; for example:

- **Combustion** – burning of electrolyte, packaging etc.,
- **Ohmic** – resistive heating caused by high current flow through short circuits,
- **Thermodynamic** – if the electrodes are no longer isolated then the system will revert to its lowest energy state for that temperature as long as the activation energy is met,
- **Chemical** – reaction of the electrode material with other components of the battery (electrolyte), thermal decomposition of the metal oxide electrode, especially cobalt oxide.

In addition to this multitude of mechanisms, the design of the cell often prevents direct access of the extinguishing agent to the source of the fire. Thus, it is difficult to extinguish the fire, permanently cool all of the components to below their auto-ignition temperature and prevent re-ignition by delayed reaction processes.

Benefits of choosing Lith-Ex:

Water is a good agent for extinguishing and cooling Class A fires; however, water has a problem in that it flows away from the target and hence requires continuous discharge until the fire is extinguished and cooled. For class A fires this is not usually an issue but for a battery in thermal runaway, heat generating processes continue until all the stored energy is dissipated; this means that the temperature can rise again leading to re-ignition. What is needed is an agent that can overcome these limitations.

AVD is a stable dispersion of refractory vermiculite platelets in water. When applied to the initial fire, AVD quickly extinguishes it; the water cools the system, the high surface area mineral platelets interrupt the radical chain reaction and a refractory film forms which impedes oxygen diffusion to the fuel source.

Another advantage of AVD is that as it dries it forms a thermally insulating film which reduces the risk of thermal runaway propagation to adjacent cells. The non-combustible vermiculite film also coats the packaging of adjacent cells preventing the spread of fire. The film also isolates combustible components from the air, preventing ignition.

The Firechief high-performance Lith-Ex extinguishers are designed, tested and manufactured in Europe, ensuring complete control over the quality of this technically advanced product. Together with our technical expertise and support, Lith-Ex extinguishers are a safe and reliable choice.

Committed to quality & the environment:

As you would expect from a UK company that is committed to quality, we adhere to relevant industry standards. Lith-Ex Extinguishers are certified according to the European standard EN3-7:2004 + A1:2007.

The extinguishing agent AVD is environmentally friendly and is made from naturally occurring vermiculite which is propelled using nitrogen.

This Fire Extinguisher offers protection against class A, Lithium and Electrical type fires.

Top tips to minimize the risk of fire or explosion:

The risk of fire or explosion increases if the Lithium-Ion battery is exposed to hot conditions or the battery or internal components are damaged, so simply dropping or crushing your mobile phone could cause it to catch fire. To reduce the risk of a battery fire incident:

- Avoid storing devices with lithium-ion batteries in places with high temperatures such as in a hot vehicle or even a warm pocket.
- Avoid overcharging your devices.
- Avoid keeping all your lithium ion battery devices together. When you travel, especially on a plane, you'll likely have all your electronic items in one bag. This may be unavoidable but try to keep some space between the devices. Although having lithium-ion batteries in close proximity does not increase the risk of a fire, if there is an accident, the other batteries could catch fire and make the situation worse. Lithium Battery Fires can quickly exceed temperatures of 800°C – three times hotter than an oven!

The Firechief range of products set the standard for those who are seeking competitively priced, superior quality, UK-approved fire safety products. Look out for the Firechief brand for products you can trust to help keep you safe.

Find out more at firechiefglobal.com or call **0330 999 0019** to find your local stockist.

