

12 Top Tips for Scaffolding and Fire

Version: 1.1

Date: 07th November 2024

Scaffolding may be erected to support refurbishment or new building works. This can increase the potential for fire damage, particularly where other combustible materials are stored, or hazardous activities undertaken in proximity.

This Loss Prevention Standard provides practical guidance on reducing the risks of loss or damage when scaffolding systems are in use.



12 Top Tips for Scaffolding and Fire



Introduction

Scaffolding against the external fasciae of buildings can present an increased risk of fire inception, spread and damage.

A [fire at the Rouen Cathedral in Normandy](#) in July 2024 has been linked to a plastic tarpaulin around refurbishment work scaffolding. [Fire caused significant damage to the scaffolded/covered old Stock Exchange building](#) in Copenhagen in April 2024, and the presence of combustible materials on scaffolding are thought to be the cause of [a fire at a business unit](#) in Northampton also in August 2024.

Note: This document relates to external temporary scaffolding structures and is focussed on Property loss prevention and related risk management guidance. It is not intended to address Liability exposures.



Understanding the Risks

A number of ignition hazards can be present on or near scaffolding including:

- Hot works such as brazing, cutting, drilling, grinding, welding etc.
- Smoking or E-Cigarettes.
- Malicious damage and arson.
- Lithium-ion batteries within **contractors'** tools, lighting, or E-Bicycles/E-Scooters etc., stored on any balconies.
- Extraction ductwork for such activities as deep fat frying or boilers from within the building.
- External exposures where a fire from an adjacent areas can spread to the scaffolding.
- Fireworks potentially landing on the structure – especially around key festivities such as New Year, November 5th, Thanksgiving etc.
- Lightning strike to the scaffolding or structure.

The potential for fire growth can be aided by the softwood boards (low quality finish with high surface area) used in most scaffolding systems, along with any combustible scaffold sheeting or netting utilised. Combustible construction materials can also be stored on, or in proximity to the scaffolded building, as can flammable gas cylinders, waste skips, pallets, and other combustible goods. Where the scaffold forms temporary structural support, e.g. hanging/cantilevered scaffold, façade retention, etc., the risks of early structural failure should also be anticipated.

Some fire risk management strategies and protections such as horizontal compartmentation, automatic sprinkler systems, automatic fire detection etc., can also be compromised by the scaffolding.

The building under construction or refurbishment may also feature:

- Combustible elements of construction, such as some insulated wall panels, screed systems, living walls etc.
- Temporary site buildings with increased fire hazards such as catering, clothes drying etc.

Note: The presence of a combustible structure outside of any building and the impact of the weather on any potential fire should always be considered.

Managing the Risks

1. Fire Safety Plan. A fire safety plan should be in place detailing:
 - ✓ The Fire Risk Assessment.
 - This should be completed by a suitably competent person.
 - Should address the fire risks associated with the scaffolding, as well as fire risks within the scaffolded property which may impact the scaffold structure.
 - ✓ Responsibilities for fire safety and fire inspections.
 - ✓ The site fire precautions – fire detection and alarms, extinguishers, risers, fixed fire protections etc.
 - ✓ Access routes and clearance for the Fire and Rescue Service.
 - ✓ Arrangements for isolating power in an emergency including power to any Photovoltaic/Solar systems.

The Aviva Loss Prevention Standard Fire Safety Legislation provides useful guidance in this regard.

2. Security. Review security plans to ensure the site security arrangements are adequate.
 - ✓ Good quality hoardings should be installed around construction sites and around individual scaffolded structures where not within a secured perimeter.
 - ✓ Any site gates for vehicles and persons should be locked outside of operational hours.
 - ✓ Remove scaffolding ladders or install secured ladder guards outside of operational hours to prevent unauthorised access to higher levels.
 - ✓ Where the property is not in occupancy, all windows and doors should be secured outside of operational hours.
 - ✓ Where present, Video Surveillance Systems (VSS) should be reviewed to ensure scaffolded structures are fully covered by camera equipment.
 - If not already configured to do so, the system should be monitored via an accredited Remote Video Response Centre (RVRC) and achieve level 1 police response.
 - ✓ Where not present, the use of temporary, detector activated Video Surveillance Systems should be considered.
 - Monitoring of such systems should be provided by the leasing company.
 - ✓ Response arrangements should be in place for any VSS related security concerns. The use of audio challenge, which would allow the RVRC to issue warnings to any unauthorised persons attempting to access the site or behaving suspiciously, should be considered.
 - ✓ Where warranted by the risk exposure, security guarding should be provided.
3. Hot Works. Hot work on, or in proximity to scaffolding should be the last resort and only undertaken where lower risk methods of work are not possible.
 - ✓ The Aviva Loss Prevention Standard – Hot Work Operations should be followed where hot works are unavoidable.
 - ✓ Ensure any cutting of combustible construction materials e.g. panels, claddings etc., is always subject to the site hot work controls, permits etc.
 - ✓ Fire watches should be undertaken for 240 minutes after the hot works, and only reduced where supported by a specific risk assessment. A minimum fire watch period of 120 minutes should be enforced.
 - Based on the arrangements of the scaffolding, fire watches provided at multiple levels through the structure may be warranted.
 - ✓ Thermographic cameras should be used throughout the process and during fire watches.

4. Housekeeping. Close attention should be paid to the site housekeeping arrangements:
- ✓ Remove any surplus scaffolding boards and coverings/netting from the site, or to a secured container, store, or compound at least 10 metres from significant site buildings.
 - ✓ Site skips and other waste receptacles for storing combustible materials at least 10 metres from scaffolded areas/significant site buildings.
 - ✓ Remove any combustible materials associated with the building works daily. Where this cannot be achieved, store such materials within a secured container, store, or compound at least 10 metres from significant site buildings.
 - ✓ Ensure combustible materials to be used as part of the building works, are only bought onto site as needed and stored as far from buildings as achievable, or within a secured container, store, or compound at least 10 metres from scaffolding structures.
 - ✓ Ensure a daily close down inspection is undertaken of the scaffolding to check for housekeeping concerns.
 - Ensure any unused materials are removed to safe storage.
 - Ensure no waste, shavings, waste bins, packaging or bagged waste are on or in proximity to the scaffolded areas.
 - ✓ Cut back of any vegetation at least 1.5 metres from around the scaffolding, particularly during periods of hot/dry weather.
 - ✓ Prohibit site waste burning, and not within 50 metres of any building or valuable assets.
 - ✓ Ensure smoking rules are followed and enforced:
 - Inspect the area daily for signs of rule breaking.
 - Request occupiers do not smoke on balconies whilst the scaffolding is erected.
 - Prohibit the use, charging and disposal of e-Cigarettes on the site.
 - ✓ Ensure occupiers are not using any balconies and that they are maintained clear of combustible items, E-bicycles/E-scooters, gas cylinders, barbecue fuel etc., whilst scaffolding is erected.

The Aviva Loss Prevention Standards Housekeeping – Fire Prevention and Control and Management of Combustible Waste Materials provides useful guidance in this regard.

5. Scaffolding and Coverings.
- ✓ Ensure the scaffolding structure is designed by competent and accredited scaffolding company, and following erection signed off by the temporary works supervisor.
 - Complex scaffolding may require an independent design check by a competent designer.
 - Ensure appropriate scaffolding tags are used to indicate the safety status of the structure.
 - ✓ Ensure the ground surface has been assessed as suitable for temporary structure and **doesn't feature any** underground structures.
 - ✓ Ensure all scaffolding is protected against vehicle impact.
 - ✓ Use non-combustible decking for scaffolding (e.g. metal decking) where possible.
 - ✓ If timber boards are required, then fire retardant scaffolding boards should be considered.
 - This should be investigated where the building features combustible external cladding or other combustible finishing materials.
 - Where the building is of non-combustible construction, the use of fire retardant scaffolding is recommended for at least the lower level of the scaffolding structure. This can help reduce the potential for arson damage or fire spread from ignited materials at ground level.
 - Ensure scaffolding boards are located a satisfactory distance from any timber balconies.
 - ✓ Any protective coverings, or boards over finished works, should be non-combustible.
 - Ensure weight loadings due to wind, snow, ice etc., have been considered by a competent company.

- ✓ Any scaffolding coverings/netting etc., should achieve at least a fire retardant rating.
 - In the United Kingdom, conformance with the requirements of LPS 1215: Requirements for the LPCB Approval and Listing for Fire Performance of Containment Net and Sheet Materials for External Use on Construction Sites or Certifire Technical Schedule 62, Reaction to Fire Performance Requirements: Materials, Either Sheet or Net, Used to Clad Scaffolding is recommended.
 - Alternatively, products achieving at least B classification under BS EN 13501-1 Fire classification of construction products and building elements - Classification using data from reaction to fire tests are recommended.
 - Any printing on scaffold covering should be undertaken using non-flammable inks and should not impact fire performance of the covering.
 - Ensure coverings and timber boards are not installed in proximity to kitchen extraction or boiler flues.
- ✓ Avoid the use of rubbish slides where possible.
- ✓ Dismantle the scaffolding as soon as practically possible and remove from the site.

6. Flammable Liquids/Materials. Flammable liquids, hazard materials, any flammable gas cylinders etc., should be minimised and stored within appropriate approved storage cabinets, secured cages, or compounds (as required) at least 10 metres from scaffolding structures, and other hazardous e.g. material stores, waste compounds, smoking shelters etc.

The Aviva Loss Prevention Standard Flammable Liquids – Fire Safety provides useful guidance in this regard.

7. Vehicles and Plant

- ✓ Ensure compressors and generators are located an adequate distance from scaffolding structures.
 - At least 10 metres is recommended, however this should be increased where possible, particularly if any lithium-ion battery energy storage systems are in use.
- ✓ Fuel tanks/bowsers should also be located in a secured and sterile area at least 10 metres from scaffolding structures.
 - Ensure fuelling is undertaken in accordance with sites rules and non-combustible absorbent materials are used for spillages.
- ✓ Vehicles should not be parked within 10 metres of scaffolding structures, other than for loading/unloading tasks.
 - Formal vehicle parking should be provided at a separate location wherever possible.
 - Electric vehicle charging should be expressly prohibited within 10 metres of any scaffolding structure.
 - Ensure appropriate impact protection is in place to prevent vehicular damage to scaffolding.

8. Temporary Buildings.

- ✓ Ensure temporary buildings are non-combustible.
- ✓ Locate site buildings and storage containers as far from scaffolding structures as possible.
 - A minimum of 10 metres clearance is recommended.
 - Ensure a fire break area between temporary buildings and scaffolding structures is maintained clear of combustible materials or equipment.
- ✓ Ensure any open void areas beneath temporary buildings are regularly checked and cleared of any combustible materials, waste etc.
- ✓ Ensure temporary buildings are non-combustible.

Refer to the Aviva Loss Prevention Standard Temporary Buildings and Structures for guidance.

9. Electrical Equipment.

- ✓ Any electrical cables located on scaffolded structures should be:
 - Protected against damage by work activities.
 - Be subject to regular inspection for signs of wear or damage and removed, replaced, or repaired as necessary.
- ✓ Use low voltage festoon lighting wherever possible and check cabling regularly for signs of wear or damage, repairing as necessary.
- ✓ Ensure mains switches are isolated outside of operational hours.
- ✓ Ensure any electrical fittings and cabling on the scaffolding structure is maintained clear of coverings and other combustible materials.
- ✓ Ensure the scaffolding is appropriately earthed following a risk assessment by a competent person:
 - Electrical hazards to be assessed include temporary supplies, lightning, overhead lines, internal circuits within the building.
 - Earthing of circuits over 50V e.g. lighting, lifts etc., is typically required, and should be carried out by a competent and qualified person.
 - Where scaffolding is erected next to a building or structure which is readily accessible to the general public and used as a working platform or erected over or as part of the common highway, the scaffolding structure should be appropriately bonded to earth.
 - Work under overhead electric power lines should not be carried out without consultation with the owners of the lines. Wherever possible the lines should be diverted or made dead before work begins.
 - If scaffolding is next to an existing structure which has an external lightning protection system installed and maintained in accordance with BS 62305 Protection Against Lightning, it should be bonded to the earth termination and the air termination network of the lightning protection system by a competent person.
 - Future servicing and maintenance should be extended to incorporate the scaffolding system and connections.
- ✓ Prohibit charging of lithium-ion powered tools or equipment on the scaffolding structure. Refer to the Aviva Loss Prevention Standard Construction All Risk (CAR) – Lithium-ion Batteries for guidance.
- ✓ Thermographic camera inspections of electrical equipment, batteries under charge should be regularly undertaken. Refer to the Aviva Loss Prevention Standard Thermographic Surveys for guidance.

10. Fire Detection, Alarm and Protections.

- ✓ Existing fire detection, fire alarm, and fire protection systems to the building structure, such as automatic sprinkler installations, should be maintained during construction works wherever possible.
- ✓ Arrangements should be in place to inspect work areas following completion of maintenance and repairs etc., to ensure detection devices are reinstated where temporarily isolated or covered.
- ✓ Dry risers should be accessible and not impeded by the scaffolding structure.
- ✓ If scaffolding structures compromise any fire detection or protection systems, this should be considered as an impairment and formal management controls should be followed, including advising your property insurer. Refer to the Aviva Loss Prevention Standard Impairment Management for guidance.

11. Self-inspection.

- ✓ Regular self-inspections of the scaffolding structure and site should be completed by responsible persons to ensure compliance with site rules and standards are maintained.
- ✓ The frequency of inspections will vary depending on the nature of the construction works, location and security arrangements, however pre-start and close down inspections should be undertaken as a minimum along with an inspection recorded on scaffolding tags at least every seven days by a competent person.
 - The use of photographic evidence with such inspections can prove invaluable.
- ✓ Ensure any areas where the scaffolding structure spans pedestrian walkways etc., are subject to more regular inspections to prevent combustible items, waste accumulating etc.
 - Hazardous activities such hot works should also be prohibited in such areas unless critical.

The Aviva Loss Prevention Standard Fire Safety Inspections provides useful guidance in this regard.

12. Emergency Response and Escalation Plans.

- ✓ Ensure appropriate emergency response arrangements are in place, and relevant persons are trained on the location and operation of:
 - Any electrical or gas power systems.
 - Fire detection, alarm, or fire protection systems.
- ✓ Consider periods of the year where exposures may be considered as being greater, such as key festivities/celebrations; fireworks; sustained long dry periods (when boards will be drier) etc.
 - In these periods temporary measures such as additional fire watches or additional security may be required to be present.

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Sources and Useful Links

- [The Joint Code of Practice on the Protection from Fire of Construction Sites and Buildings Undergoing Renovation](#)
- [The Fire Protection Association.](#)
- [LPS 1215: Requirements for the LPCB Approval and Listing for Fire Performance of Containment Net and Sheet Materials for External Use on Construction Sites](#)
- [Certifire Technical Schedules](#)
- [BS EN 13501-1 Fire classification of construction products and building elements - Classification using data from reaction to fire tests](#)
- [National Access and Scaffolding Confederation \(NASC\) Guidance Note SG3:14 Earthing of Scaffolding Structures](#)
- [BS EN 62305 - Protection Against Lightning](#)

Additional Information

Relevant Loss Prevention Standards include:

- Mass Timber – Planning and Design.
- Mass Timber – Construction.
- Mass Timber – Handover and Use.
- Housekeeping – Fire Prevention
- Control and Management of Combustible Waste Materials
- Hot Work Operations.
- Control and Management of Combustible Waste Materials.
- External and Internal Third-Party Exposures – Property Protection.
- Fire Safety Inspections.
- Flammable Liquids – Fire Safety
- Fire Safety Legislation.
- Arson Prevention
- Smoking and the Workplace.
- Lithium-ion Batteries – Portable Tools.
- Impairment Management
- Thermographic Surveys.

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07th November 2024

Version 1.1

ARMSGI2112024

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