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Fire safety in temporary accommodation units (TAUs)

Fire safety:
How to protect
your site offices
from a fire



Introduction

Temporary accommodation units (TAUs) are used on most construction sites to provide offices, canteens and welfare facilities, and they are occupied by people at work on construction sites. Specific recommendations are made in relation to the fire safety arrangements in these units. These arrangements are more demanding than those on the actual construction site in many ways. There are two reasons for this:

- 1) In many ways, a TAU is very similar to a completed building because it contains all the sources of ignition and fuel for fire that you would expect in a normal office environment and often has a high density of people working in it.
- 2) The basic construction of a TAU is often more readily combustible than a completed building (unless specific fire precautions are put in place).

Therefore, the same guidance that applies to a normal place of work applies to a TAU — even though the unit may only be in use for a relatively short period of time. Furthermore, the fundamentally combustible construction of most TAUs makes the risk of fire spread to adjacent buildings higher. This risk means that there are more stringent recommendations if the TAUs are located in close proximity to other buildings.

This white paper explores some of the recommendations applicable to TAUs as set out in the HSE document Fire Safety in Construction HSG 168 and the Joint Code of Practice Fire Prevention on Construction Sites.

“More readily combustible than a completed building.”

→ Fire risk assessment

TAUs should be subject to a specific fire risk assessment and should only be used for their intended purpose. For example, offices should not be used for storing materials, especially highly flammable liquids such as paint.

Preventing fire is the primary aim, but dealing with a fire if it occurs is also important. In simple cases, such as a single-site hut located on an open site, little beyond basic preventive measures are needed. For example:

- Keeping a tidy office;
- Minimising the furniture and fittings which are of a combustible nature;
- Enforcing smoking rules;
- Correct installation and careful use of thermostatically controlled heaters;
- Correct installation and careful use of cooking equipment;
- Properly installed, maintained and certificated electrical services;
- Providing appropriate fire extinguishers.

More extensive precautions are required as TAUs and the associated fire risks increase in size and complexity.

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→ **Location and fire integrity of TAUs**

If possible, TAUs should be located away from the building work at a suitable distance proportionate with the type of construction site and the propensity for ignition from adjacent external sources of fire in the open air. A fire break distance of 6-10 metres is usually considered adequate, and the area between the TAUs and the adjacent building should be kept clear of combustible materials.

If TAUs have to be located closer to the adjacent buildings than the recommended distance, the risk of a TAU fire spreading can be reduced if either the TAU or the part of the building adjacent to it is fire-resisting to a minimum of 30 minutes; this includes walls, roofs, doors and windows.

If TAUs are situated inside buildings or structures, their fire resistance needs to be considered more carefully. The Loss Prevention Council Standard LPS 1195 sets out fire resistance criteria that are appropriate in these circumstances. TAUs should never be sited within high fire risk structures such as timber-frame buildings.

Where TAUs are vertically stacked, the roof/floor assembly and the supporting members should be protected to achieve a minimum of 30 minutes of fire resistance (integrity, insulation and load-bearing capacity).

Where the floor of the TAU is raised above the ground level, the space beneath must be enclosed to prevent rubbish accumulation or material storage under the temporary building.

Due consideration should be given to means of access for the fire and rescue service to ensure that they can easily access the site and the temporary accommodation if required.

“Their fire resistance needs to be considered carefully.”

→ **Means of escape**

TAU complexes can be assembled in many different combinations. As complexes increase in size and complexity, careful consideration needs to be given to ensuring that:

- There are at least two means of escape in different directions;
- If escape is possible in only one direction, the travel distance to a place of safety should not exceed 18 m (in a ‘normal’ risk environment) unless the escape route is adequately protected to a minimum of 30 minutes of fire integrity;
- Sufficient escape stairs are provided and protected;
- High-risk items such as photocopiers are not located near the escape routes;
- Final exit doors are easily opened without the use of a key;
- Escape routes should be indicated with suitable signage.

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→ **Raising the alarm**

All TAU complexes should be provided with a means of raising the alarm. The nature of it will vary, but the main requirement is for it to be audible throughout the complex. For individual and pairs of non-compartmented TAUs, a shout of ‘fire’ is adequate provided it can be heard in practical circumstances.

A fire alarm system complying with BS 5839 Part 1, 2017 is likely to be needed where:

- TAUs are in locations where a fire might occur and develop unnoticed until it threatens people’s means of escape; (smoke detectors may also be required); or
- The risk assessment shows that it is the most effective way of alerting people in case of fire. This may be the case where there are multiple rooms or storeys or
- The complex contains hazardous areas such as canteens and/or cooking facilities and clothes drying areas.
- The TAU is sited within 10 m of the building under construction or other permanent building.

It is a recommendation of BS 5839-1 that the fire alarm system is designed, installed and commissioned by a competent person.

For fewer people and smaller complexes, manually operated devices that are clearly audible to all those in the complex may be adequate, but self-contained, electrically operated alarms comprising actuation switch and sounder are preferred.

Both manual and more sophisticated fire alarms should be tested weekly to check that they work and can be heard in real conditions. Simple records of tests should be kept.

“A means of raising the alarm.”

→ **Firefighting equipment**

Suitable manual fire extinguishers should be provided as set out in BS 5306-8. Typically, in a site compound, this will include:

- Water or foam extinguishers for the flammable solids risks (such as wood and paper)
- Carbon Dioxide (CO₂) extinguishers for electrical risks, including office equipment
- Powder extinguishers for gas risks (e.g. LPG storage)
- Foam and/or powder for flammable liquids (e.g. diesel storage)
- Wet chemical extinguisher and fire blanket in kitchens where cooking oils are used.

The extinguishers should be wall-mounted or mounted on plastic stands to ensure that they remain readily accessible. In outdoor locations, cabinets will help to protect the extinguishers from damage.

→ **Staff instruction and training**

A suitable emergency plan should be drawn up that details appropriate actions in the event of a fire. Staff and visitors should receive adequate instruction to understand the emergency plan.

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