

**Fire Safety Advice**

**for**

**Temporary Structures**

**and**

**small licensed events**



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**CAMBRIDGESHIRE**  
**FIRE & RESCUE SERVICE**

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## **FIRE SAFETY INTRODUCTION**

The **Regulatory Reform (Fire Safety) Order 2005** is a statutory instrument that places responsibility on the “responsible person” to identify, reduce and manage the risk of fire, in order to safeguard all “relevant persons” who are or may be lawfully on the premises; (including the responsible person) and any person in the immediate vicinity of the premises who may be at risk from a fire on the premises.

In a workplace, the responsible person is the employer and any other person who may have control of any part of the premises, e.g. the occupier or owner. In all other premises the person or people in control of the premises will be responsible.

A fire safety audit of the premises may be carried out as part of the Cambridgeshire Fire and Rescue Service’s risk based audit programme under the Regulatory Reform (Fire Safety) Order 2005.

The Fire Authority are responsible for enforcing all fire safety legislation and if they are dissatisfied with the outcome of your fire risk assessment or the action you have taken, then a prohibition notice may be issued that restricts the use of all or part of your premises until improvements are made. Failure to comply with any duty imposed by the Fire Safety Order 2005 or any notice issued by the Fire Service is an offence.

## 1. Fire Risk Assessment

Good management of fire safety is essential to ensure that fires are unlikely to occur, that if they do occur they are likely to be controlled or contained quickly, effectively and safely, or that, if a fire does occur and develop, everyone in the premises or on site is able to escape to a place of total safety easily and quickly.

The responsible person must appoint a “competent person” with relevant training, experience, capabilities and knowledge, in order to carry out a fire risk assessment for the premises to identify the preventative and protective measures needed to comply with the Regulatory Reform (Fire Safety) Order 2005. This person must have relevant knowledge and experience of fire safety matters, and could be the responsible person or an appropriately trained employee or where appropriate, a third party. Your fire risk assessment will help you identify the risks that can be removed or reduced and decide the nature and extent of the general fire precautions you need to take.

The aim of the fire risk assessment are:

- to identify the fire hazards.
- to reduce the risk of those hazards causing harm to as low as reasonably practicable.
- To decide what physical fire precautions and management arrangements are necessary to ensure the safety of people during the Event, if a fire does start.

(**Hazard**: anything that has the potential to cause harm).

(**Risk**: the chance of that harm occurring).

## 5 step fire risk assessment

### Fire Risk Assessment

#### Step 1: Identify fire hazards

- Sources of ignition.
- Sources of fuel.
- Sources of ignition.

#### Step 2: Identify people at risk

- People in and around the premises.
- People who are especially at risk (people with disabilities).

#### Step 3: Evaluate, remove or reduce, and protect from risk

- Evaluate the risk of a fire starting.
- Evaluate the risk to people from a fire.
- Remove or reduce fire hazards.
- Remove or reduce the risk to people from a fire.
- Protect people by providing fire precautions.

#### Step 4: Record, plan, inform, instruct and train

- Record any major findings and action you have taken.
- Discuss and work with other responsible people.
- Prepare an emergency plan.
- Inform and instruct relevant people.
- Provide training.

#### Step 5: Review

- Review your fire risk assessment regularly.
- Make changes where necessary.

The comprehensive reference document for the fire risk assessment and other fire safety measures and arrangements are the **“Fire Safety Risk Assessment – Small and medium places of assembly”** (ISBN 13- 978 1 85112 820 4) for premises accommodating up to 300 people, for larger premises or events then the **Fire Safety Risk Assessment – Open Air Events and Venues”** (ISBN-13: 978 1 85112 823 5) should be used. These documents can be downloaded for free from The Department for Communities and Local Government website

(<http://www.communities.gov.uk/fire/firesafety/firesafetylaw/>).

A record of the significant findings of the fire risk assessment and the actions taken must be made.

The responsible person should ensure that the risk assessment is made available for managers, employees and the enforcing authority to confirm that a suitable and sufficient assessment of the risks has been carried out, recorded and reviewed as applicable.

The Fire Risk Assessment should constantly monitored and reviewed in order to assess how effectively the risk is being controlled. If there is any reason to suspect that the fire risk assessment is no longer valid or there has been a significant change in the premises that has affected the fire precautions, a review, and if necessary revision, of the assessment must be made.

**The Regulatory Reform (Fire Safety) Order 2005**  
**Meaning of “responsible person”**

3. In this Order “responsible person” means—

(a) in relation to a workplace, the employer, if the workplace is to any extent under his control;

(b) in relation to any premises not falling within paragraph (a)—

(i) the person who has control of the premises (as occupier or otherwise) in connection with the carrying on by him of a trade, business or other undertaking (for profit or not); or

(ii) the owner, where the person in control of the premises does not have control in connection with the carrying on by that person of a trade, business or other undertaking.

## **2. Marquees, Gazebos, Tents and Temporary Structures**

All marquees that will be in place for more than 28 days may require both a planning application and a building control application.

All marquees, gazebos, tents and temporary structures should be of proven fire performance when being used on the premises for an event. Any flexible membrane covering a structure should comply with the recommendations given in Appendix A of BS 7157.

All marquee linings must be of inherently flame retarded fabric or durably flame retarded fabric when tested to British Standard 5438 Test 2A, 2B and a 10 second flame application in each case. Existing materials and structures manufactures to the previous British Standard 3120 continue to be acceptable. Other sheet materials should be Class 1 surface spread of flame in accordance with British Standard 476: Part 7. Materials should be free of flaming molten droplet characteristics and should not readily support combustion.

In order to demonstrate compliance with this standard, the marquee supplier must provide the relevant certification.

All supporting poles, frames, guys, stakes, anchors and fastenings should be regularly tested by the supplier and maintained in a safe condition. The structure should be erected by a competent person and should not readily collapse when exposed to fire. Ensure all long grass around the structure is cut before the marquee is erected, regularly afterwards and remove all the cuttings to prevent the risk of fire.



### 3. Positioning and Layout of Temporary Structures

Temporary marquee structures should, wherever possible be positioned well clear of buildings or any significant risks (e.g. sub stations or power-lines) and in particular provide easy access and ample open space for all occupants of the marquee(s) to evacuate safely in the event of fire.

Spacing between marquees and access roadways should be in accordance with the following minimum requirements:

- Distance between marquees = 6 meters
- Distance between large marquees (e.g. a big top) = 12 meters
- Distances should be measures from rope pegging position.
- Distance between catering facilities = 6 metres
- Main roadways = 4.55 meters
- Lanes between marquees = 4 meters

### 4. Combustible Contents

Most marquee structures during the Event will contain a range of combustible contents. All materials being used in finishing and furnishing should either be non-combustible or non-flammable in accordance with BS 5852, BS 7176, and BS 5867.

### 5. Decoration and Display Materials

You should evaluate what materials could ignite first and what would cause the fire to develop and spread, and assess how materials used in displays would interact with surface linings or the fabric of any enclosure and position them accordingly. In particular displays such as paper, textiles, scenery, foam props, artificial or dried foliage and other combustible materials should not be located in escape routes or adjacent to exits. However, such materials may be acceptable in other locations if adequately treated with an appropriate fire retardant product.

## **6. Emergency Evacuation Procedures**

Emergency evacuation procedures need to be established for dealing with any fire situation. The purpose of the emergency evacuation procedure is to ensure that stewards, staff and temporary staff members know what to do if there is a fire and that the site can be safely evacuated allowing people to move to a place of safety.

## **7. Stewards (Fire Marshalls)**

The role of stewards and staff in the event of fire is crucial to their safety and that of all the persons on the premises or site. For larger events all stewards should be readily identifiable to all persons attending by means of some conspicuous clothing which is visible under all lighting conditions, together with a suitable name badge, sash or arm band. Duties of stewards should include:

- a) carryout the emergency evacuation procedure in the event of fire and ensuring that persons do not re-enter the building, marquee or temporary structure.
- b) assisting people with disabilities who may have difficulty in evacuating in the event of fire, by conducting special evacuation arrangements that have been pre-planned.
- c) helping guests to leave the event or venue in an emergency.
- d) checking designated areas to ensure everyone has left.
- e) using fire-fighting equipment if trained and safe to do so.
- f) contacting and liaising with the Fire Service on arrival.
- g) shutting down dangerous equipment.
- h) attendance at all final exits.
- i) reporting any faults, incidents and near misses.

Individuals who do not form a recognised part of the safety management structure (such as some ground or hospitality staff) should not be counted among the safety staff. You should ensure that such staff are given a general safety briefing on the means of escape, evacuation procedures and safety equipment.

## **8. Fire warning and detection systems**

The means of giving warning of fire should be provided that is suitable for the premises, taking into account its size, layout, number of people likely to be present, number of exits, and the travel distances to those exits.

Existing fire alarm warning and detection systems should also be maintained in accordance with BS 5839: Part 1: 2002 + A2: 2008.

It is important to consider the means of communication between staff implementing the emergency plan.

Any sound system should be muted (automatically or manually) when the fire alarm sounds.

## **9. Emergency Lighting System**

In all cases, where the event or venue is used in hours of darkness, it will be necessary to provide sufficient primary illumination for general safe movement to illuminate all escape routes and exits. Whatever the primary source of power, a back-up power supply will also be necessary in case of primary power failure. Any back-up power supply should be capable of automatic operation in the event of a failure to the primary supply.

Emergency lighting (or secondary lighting) should be provided and installed in accordance with BS 5266: Part 1: 2005, in order to adequately illuminate the venue. Power supply for the emergency lighting system must be from a source that is independent of the main power supply and arranged to come into operation automatically on failure of the main lighting.

The emergency lighting system can be both 'maintained' (on all the time) or 'non-maintained' which only operates when the normal lighting fails. Back-up power supplies can be rechargeable batteries integral to each lighting unit, a central battery bank or an automatic start generator.

The emergency lighting system is to be capable of maintaining the necessary level of illumination for a minimum period of three hours from the time of failure of the main lighting, and should be provided to cover the following areas:

- a) each fire exit (maintained illuminated fire exit sign)
- b) escape routes
- c) assembly areas
- d) changes in level
- e) stairways
- f) fire-fighting equipment
- g) fire alarm call points
- h) equipment that would be required to be shut down in an emergency.
- i) areas greater than 60m<sup>2</sup>

Every designated fire exit from all rooms with low lighting levels, marquees or other temporary structure being used for an event, is to be provided with a 'maintained illuminated fire exit sign'.

The emergency lighting system should also be tested monthly and maintained by a competent engineer in accordance with BS 5266: Part 8: 2004, and should provide certification of test.

## **10. Emergency Escape Routes and Exits**

Escape routes whether internal or external, need to be designed so that people can escape safely and quickly enough to ensure that they are not placed in danger from fire.

All emergency routes and exits must be kept clear and available throughout the event, and exit doors on any escape route should open in the direction of escape.

From any marquee or temporary structure, the minimum width of any fire exit should not be less than **1.05 metres**.

A single fire exit is suitable for a maximum of **60 people**, providing the room, marquee or temporary structure can accommodate the number of guests and the exit can be reached within the required travel distance.

Where more than **60 people** are accommodated, there should be not less than **2 exits**, separated by a suitable distance and angle, which limits the possibility that both exits will be affected by a fire at the same time, otherwise they will be considered as a single exit.

**Travel distances from marquee, gazebos, tents and temporary structures: -**

Where only a single fire exit is provided.	6.5 metres
Where more than one fire exit is provided.	18 metres

**Capacity for marquee, gazebos, tents and temporary structures:**

Where only a single 1.05 metre fire exit is provided.	60 persons maximum
Where two 1.05 metre fire exits are provided.	200 persons maximum
Where two 1.5 metre fire exits are provided.	300 persons maximum
Where two 1.95 metre fire exits are provided.	400 persons maximum

**Note:** An additional 10cm should be added to the exit width for every 20 persons and discount the largest fire exit, which may be effected by fire (worst case scenario).

**Capacity for rooms being occupied:**

Where only a single 0.75 metre exit is provided.	60 persons maximum
Where two 0.75 metre exits are provided.	100 persons maximum
Where two 1.05 metre exits are provided.	200 persons maximum

**Note:** If more than two exits are being used of different sizes, then discount the largest fire exit, which may be effected by fire (worst case scenario).

**Occupant density:**

Occupied Area Type	Occupant Density
Standing spectators/ audience area/ bar / assembly area / dance floor or hall (unseated).	0.5m <sup>2</sup> per person
Dining area / seated bar or restaurant.	1m <sup>2</sup> per person

**Note:** Space taken up by any existing or new furniture being placed in the room during the Event must be deducted from the overall floor space (e.g. tables, stage, bar area/counter, etc).

**Example:** Calculating capacity for a room, marquee or any other temporary structure.

Marquee being used for a disco (standing only) measuring at 10x20 metres with two 1.5 metre fire exits which can be reached within 18 metres travel distance, and a stage is being placed in the middle of the marquee for the DJ, measuring at 2x5 metres.

Marquee 10x20 metres = 200m<sup>2</sup>

Stage 2x5 metres = 10m<sup>2</sup>

200m<sup>2</sup> – 10m<sup>2</sup> = 190m<sup>2</sup> (usable floor space)

190m<sup>2</sup> / 0.5m<sup>2</sup> per person = 380 persons (occupant density)

Where two 1.5 metre exits are provided = 300 persons

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Maximum occupants for marquee = **300 persons**

**Note:** The number and size of final exits from the marquee in this example has restricted the total number of persons to 300, although the floor space can accommodate up to 380 persons.

## **11. Seating and Gangways**

Seating and gangways in a hall, assembly space, marquee or other temporary structure should be arranged to allow free and ready access direct to the exits.

There should be a clear space of at least 30cm between rows of seats (the back of one seat to the front of the seat behind it). Gangways should be adequate for the number seats served and at least 1.05m wide. There should be no projections which diminish these widths.

No seat should be more than 7 seats away from a gangway. If temporary seating is provided, it should be secured in lengths of not fewer than 4 and not more than 12 seats. Each length should be fixed together or to the floor.

No person other than the stewards should be permitted to stand or sit in gangways, or in front of any exit during performance or entertainment. Suitable provision should be made for wheelchair users and a policy decided on for children's' buggies so that they do not restrict or block escape routes and emergency exits.

## **12. Fire-Fighting Equipment**

Appropriate and adequate fire-fighting equipment must be provided throughout the site, which should comply with and be maintained in accordance with BS EN 3-7 and BS 5306-3.

It will be the responsibility of the responsible person to ensure that all fire-fighting equipment is in the correct position and has been checked and tested within the previous 12 months by a competent person before the venue is used.

People with no training should not be expected to attempt to extinguish a fire.

However, all stewards or staff should be familiar with the location and basic operating procedures for the equipment provided. If your fire strategy requires that certain people (e.g. fire marshals) will be expected to take a more active role, then they should be provided with more comprehensive training.

Water or foam type fire extinguishers are most suitable for general protection and one fire extinguisher should be provided for every 200m<sup>2</sup> of floor space (with a minimum of two extinguishers), in a large marquees.

Carbon-dioxide or dry powder type fire extinguishers will be required to be provided adjacent stages, mixer desks or other electrical equipment.

A dry powder fire extinguisher and fire blanket will be required in catering facilities being provided, and a Class F fire extinguisher will be required where large deep-fat fryers are in use.

## **13. Catering Facilities**

The main cause of fire are ignition sources of cooking oil, combustion of crumbs, sediment deposits, build-up of fat and grease. The siting of cooking processes close to combustible materials can lead to rapid fire growth and spread to other parts of the site. This practice should therefore be avoided where possible.

Wherever possible any extensive all catering facilities, particularly these with deep fat fryers should be located an areas dedicated to catering. If located within or adjacent to other activities or structures, they should be separated by a minimum distance of 6 metres.



## **14. LPG Safe Storage**

Where LPG in cylinders or cartridges are present, you need to take particular care to minimise the possibility of their involvement in a fire. The total stock of LPG should be kept to the minimum necessary to meet your needs. Locate the LPG cylinders or cartridges in a safe, secure and well ventilated place, where they cannot be interfered with, can be kept upright (with valve protection fitted), are away from sources of ignition and /or readily ignitable materials, and away from any corrosive toxic or oxidant materials.

Portable LPG heaters may be used to pre-heat the premises prior to use, but must be removed from the premises prior to admission of the public.

Further guidance on the safe storage of LPG is available from the supplier or the Liquefied Petroleum Gas Association's Code of Practice.

## **15. Electrical Safety**

Electrical equipment is a significant cause of accidental fires. All electrical equipment should be installed and maintained in a safe manner by a competent person. All portable electrical equipment being used should be visually inspected and undergoes Portable Appliance Testing (PAT).

In order to reduce the probability of a fire occurring in electrical equipment the following safe practices should be observed:

- a) The use of multi-plug adapters should be avoided and if used should be checked to ensure they safe working limit has not been exceeded,
- b) Trailing leads should be kept as short as possible. Where it is necessary for persons to walk over trailing leads they should be housed in a proprietary mat,
- c) Electrical sockets should be of the shuttered type.

All electrical installations should be regularly tested and maintained by a competent person in accordance with the Electricity at Work Regulations 1989 and the I.E.E. Regulations.

All lamps, lanterns, lighting appliances and any other apparatus liable to become heated whether under normal or abnormal conditions and liable to come into contact with combustible materials may need to be fitted with suitable guards.

## **16. Housekeeping**

Good housekeeping will lower the chances of a fire starting, so the accumulation of combustible materials should be monitored carefully and regularly during the Event.

Keep waste materials in suitable containers before it is removed from the site. If bins, particularly wheeled bins are used, then they should be secured in a compound to prevent them being moved to a position next to an enclosure and set on fire.

## **17. Fireworks & Explosives**

Pyrotechnics are now commonly being used at some events. Fireworks, pyrotechnics and explosives can cause fires and explosions. They have the potential for a violent release of pressure and that can cause severe harm to people and damage to structures. These materials can be ignited or detonated by contact with ignition sources or by contamination, where other chemicals or water cause the material to become unstable. The following preventative measures must be provided:

- a) exclude ignition sources,
- b) store fireworks and explosives in appropriate storage containers.
- c) fireworks and explosives must be handled by a competent person.
- d) establish separation distances between buildings containing explosives.

The HSE document HSG124 'Giving your own Firework Display' should be referred to for further safety information.

## **18. Smoking**

Carelessly discarded cigarette and other smoking materials are a major cause of fire. You should consider prohibiting smoking from the venue, but where this is considered impractical, designated smoking areas should be provided away from any buildings, marquees, temporary structures or from any other significant fire risk.

Smoking shelters may be provided, but providing they are of fire-resisting construction/material and 50% or less of the sides are enclosed. Deep and substantial ashtrays should also be provided in smoking areas (e.g. large trays of sand), which should be emptied regularly.

Also consider the ground upon which smokers are standing and ensure that discarded smoking materials will not start a grass or other similar fires in vegetation.

## 19. Shisha Safety

Shisha's are used to smoke flavoured or aromatic tobacco, but they can pose a significant risk of fire, if they are not handled and managed correctly. Shisha enclosures should be of fire-resisting construction/material with 50% or less of the sides enclosed. The following preventative measures must be provided: -

- a) shisha's should be placed on a level floor or a large stable table.
- b) the shisha should not be moved once lit coal has been placed on the shisha.
- c) furniture and furnishings in the shisha enclosure should be kept to an absolute minimum and any furniture and furnishings provided must be fire-resisting or appropriately fire proofed using approved products.
- d) the hot coal for the shisha's must be carefully managed by a designated competent person and when removing coal, place it in a metal tray to allow it to completely burn out.

## 20. Arson

Fires started deliberately can be particularly dangerous because they generally develop much faster and may be started in escape routes or other sensitive locations. The following fire safety measures should be taken to reduce the risk of arson:

- a) Increased security, including CCTV,
- b) The protection of stored materials,
- c) Efficient and prompt removal of rubbish,
- d) Ensuring combustible materials are not allowed to be stored adjacent to the building, and
- e) Removing entry rights from staff who have been dismissed.

## **21. Fire Safety Checklist**

This is a summary of items that should be carried out prior to the Event and detailed in your fire risk assessment:

Carryout fire risk assessment for the Event

Establish emergency evacuation procedures, assembly point(s) and provide a suitable method of raising the fire alarm.

Ensure all persons responsible for carrying out the emergency evacuation procedure are fully trained and briefed.

Ensure all marquees and temporary structures being used are of fire-resisting material and are certificated in accordance with the relative British Standard.

Position marquees and temporary structures accordingly from other structures.

Provide adequate emergency routes and exits from all rooms, marquees and other temporary structures for the number of persons permitted.

Provide emergency lighting or secondary lighting in the event of power failure.

Provide 'maintained' fire exit signs above all exits from rooms, marquees and other temporary structures,

Provide appropriate and adequate fire-fighting equipment throughout the venue.

Ensure all portable electrical appliances have been portable appliance tested (PAT) and provide certification

Flameproof any furnishings, decoration or display materials accordingly or remove item.

Provide suitable and sufficient access for fire vehicle access.

Ensure good housekeeping, in order to minimise the risk of fire and arson.

Prohibit or control smoking on the venue.