



Inflatable Structures



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Overview

Inflatable structures, such as bouncy castles, slides, domes etc. can be sourced from various manufacturers and suppliers in the UK, both new and second hand. They come in a wide range of sizes and shapes and can be designed for use by adults, children, or both. They can also be hired by organisations or members of the public for special events. For the purposes of this article, we will be assuming that the organisation will be hiring the equipment and using a company that specialises in this area including the safe operation of the equipment on the day.

Legal

There are a number of circumstances in which an organiser of an event involving inflatable structures might be held legally liable for any injury or property damage suffered by a participant or a member of the public and so it is important that hirers and event organisers recognise and adhere to their legal duties.

The main law governing health and safety at work in the UK is the **Health and Safety at Work etc. Act 1974 (HSWA)**¹. This places general duties on employers, the self-employed and people in control of premises to ensure, so far as is reasonably practicable, the health and safety of their employees and anyone else that may be harmed by work activities or the workplace, including members of the public.

The Management of Health and Safety at Work Regulations 1999² complement and expand on the general HSWA duties mentioned above, requiring employers and the self-employed, among other things, to conduct risk assessments and have effective arrangements in place for managing health and safety and emergencies.

The Corporate Manslaughter and Corporate Homicide Act 2007³ makes it possible for an organisation to be found guilty of manslaughter or homicide without the need to identify an individual within the organisation to prosecute. The offence of corporate homicide or manslaughter is related to the way in which senior managers organise the activities of the organisation. The Act refers to senior management as the people who:

- Make decisions about how activities are to be managed or organised, and
- Manage or organise the whole or a substantial part of those activities

Whilst prosecutors will need to establish that the criterion for a gross breach of duty of care has taken place, clearly there is scope for any organisation holding an event to be subject to the Act.

Suppliers and Operators

Robust procedures for appointing suppliers and operators of inflatable structures are crucial. Organisations should have robust procurement processes in place and these should be used. Remember, organisations are likely to maintain duties to safeguard the wellbeing of persons who have been appointed as well as visitors and members of the public. Checks on validity of memberships of approved bodies, licences, insurance arrangements, and references from previous events where they have provided similar services should be undertaken. Risk assessments and method statements (safe systems of work) must be provided by the suppliers or operators of the inflatable structures, and these must be checked and adhered to throughout the provision of the service. This means periodically checking that controls indicated in supplied risk assessments are fully implemented and they are working within the scope of their method statements.

The following hazards have been known to occur with inflatable structures and should be considered within the context of the risk assessment process:

- Instability and blowing away in windy conditions
- Situations caused by loss of pressure as a result of:
 - Failure of the fabric
 - Failure or loss of power to the blower
 - Disconnection of the blower
 - Litter blocking the air intake and / or vents
- Falls from the structure
- Windows tearing or detaching
- Tripping (particularly over anchorages)
- Injury to users caused by boisterous behaviour, overcrowding or not separating larger users from smaller ones
- Access to dangerous (parts of) machinery (e.g. inadequately protected or unguarded blowers)
- Electrical hazards (e.g. shock or burns)
- Inadequate means of escape in case of fire
- Lifting injuries caused by manual handling
- Injury to users caused by wearing inappropriate clothes or footwear
- Suffocation
- Entrapment

Risk assessments and method statements provided by suppliers and operators of inflatable structures should complement those undertaken by the owner or controller / organiser of the event involving the inflatable structure and not be considered in isolation as risks may be presented from within the greater context of people, activities, equipment and the environment. Generic risk assessments are a good starting point but should be adapted for local circumstances.

First Aid and Contingencies

First aid: as part of safety arrangements, organisations must have appropriate response procedures in place should someone be injured during the use of the inflatable structure, so organisations should consider how many first-aiders will be required, how the emergency services will be contacted if required, and whether the emergency services have ease of access to the location. Consideration of these factors should be included within the risk assessment. Organisations should consult the **First Aid at Work Regulations 1981**⁴ to see if they are subject to any statutory obligations.

Contingencies: the safety of people using the inflatable structure is of paramount importance. Organisations need to have contingency plans in place, including the identification of circumstances in which they will evacuate the inflatable structure and remove it from use. Circumstances may include high winds or other extreme weather events, structural failure, equipment failure, inappropriate user behaviour, accidents etc.

Key Risk Management Principles

Although the risks presented by inflatable structures will vary according to factors such as size, construction, location, nature of use etc., it is worthwhile considering some of the generic risk management principles that should be applied in practice. These are summarised below:

Installation

A few basic measures can make all the difference to an event:

If buying an inflatable or renting one for an event, organisations should ensure it has been built to the current British Standard '**BS EN 14960-1:2019 Inflatable play equipment. Safety requirements and test methods**'⁵ and if it has, there will be a label on it saying so. If there is no label you may be taking a risk with the safety of those using it.

Buyers should ensure they get a written confirmation stating that the inflatable has been manufactured to this standard.

The label will specify when it was made, maximum numbers who can use it and its standard dimensions. In addition, the structure must bear a valid inspection tag or certificate from a recognised scheme such as the **Professional Inflatable Play Association**⁶ (PIPA) or the **Amusement Device Inspection Procedures Scheme**⁷ (ADIPS). This tag should be visibly affixed to the inflatable.

A new structure should have an 'initial test' conducted at the point of manufacture to confirm it complies with **BS EN 14960-1:2019**.

After its first year and annually thereafter, the inflatable must be tested by a competent person registered with an approved inspection body to make sure it is safe for use. Hirers should ask to see proof of this inspection and retain a record of certification.

The site should be assessed for suitability, ensuring that the ground is flat, free of obstructions and debris, and not prone to water pooling. Uneven or unstable surfaces increase the risk of tipping, instability, or user injury.

Every inflatable should have at least 6 anchor points, though larger structures will require more. The Operators Manual, which should be supplied with the inflatable structure, should specify the minimum number of anchor points.

All anchor points must be used, preferably with metal ground stakes at least 380mm length and 16mm diameter with a rounded top. Anchor points on the inflatable should have a welded metal 'O' or 'D' ring fitted to the end. If ground stakes cannot be used, then a system of ballast using water or sand barrels or tying down to vehicles that will give at least the same level of protection should be used. Each anchor point should have the equivalent of 163kgs to be effective. The adequacy of anchoring should be checked at each use, and any alternative anchoring systems must be inspected for trip hazards.

Inflatable structures must not be operated in wind speeds exceeding 24mph (38km/h) or Force 5 on the Beaufort scale. An anemometer must be used to measure wind speeds locally. Smartphone apps should not be used as they do not account for site-specific conditions.

The structure should be inspected before first use once it is inflated. The outer edges of the front step should at least line up with the centre of each of the front uprights. Under no circumstances should the width of the step be less than this. The whole unit should look symmetrical. If it looks misshapen or deformed there may be internal problems which may make bouncing unpredictable and the structure unsafe.

If there is an electrical blower provided with the inflatable, then this should be tested as a portable electrical appliance. The tube that connects the blower to the bag should be at least 1.4 metres in length.

In Use

Making sure that the inflatable is operated safely is essential. Misuse of the structure can result in injury. There should be constant supervision provided when the inflatable is in use.

In addition, the following points should be considered:

- The structure must be anchored according to the manufacturer's specification and not used in adverse weather conditions outside of its recommended safe use limits. Wind speed must be regularly monitored with an anemometer when operating outdoors.
- Supervisors must be aged 18 or over, competent, and appropriately trained in the structure's operation and emergency protocols. It is advisable that at least one supervisor holds a current first aid qualification. Staff must be briefed prior to the event on emergency shutdown procedures and evacuation plans.
- Restrict the number of users on the inflatable structure in line with information within the Operators Manual or on the structure's label. Do not exceed the user height limit given in the manual or on the structure's label and keep bigger users separated from smaller ones.
- Numbers and age groups using the structure at any one time should be limited for safety reasons, varying according to the size of the structure.
- User behaviour must be carefully managed. Rough play, climbing, somersaulting, or hanging on the structure's walls should be prohibited. Supervisors must maintain a calm environment and respond immediately to unsafe conduct.
- Access to the structure must be strictly controlled and spectators must be kept at a safe distance from the structure using a suitable barrier if numbers warrant this. Where appropriate, perimeter fencing should be used for crowd control.
- Ensure users can get on and off safely and that there is safety matting at the entrance in case of falls or ejections. These mats should not be more than 5cm in depth.
- Users should not wear shoes, should remove their glasses, and pockets should be emptied of all sharp or dangerous items.
- Users should not eat or drink whilst playing or bouncing and anyone obviously intoxicated should not be allowed on as they are a danger to themselves as much as to others.
- Operators should maintain a logbook throughout the event, recording weather checks, inspection results, incident reports, and any corrective measures taken. This documentation supports operational safety and legal accountability.
- A designated emergency stop (e.g. blower shutdown) must be identified and accessible to staff, with evacuation procedures rehearsed where possible.

Insurance

The Public Liability cover provided by RMP caters for the 'usual activities' of the organisation. Hiring inflatables is common as a community activity and so could be deemed to form part of the organisation's usual activities. Clarification of cover should be established via the organisation's insurance broker or RMP representative prior to any activity proceeding involving the use of inflatable structures.

When hiring an inflatable, the requirements for insurance should be made clear at the outset. In some instances, particularly where the hiring company is providing supervision, the hiring company will provide insurance cover. In other situations, the hirer will be responsible.

Care must be taken regarding any clauses in the hiring agreement to ensure that the organisation is not being asked to accept any unnecessary or unreasonable liabilities or waiving any rights, e.g. of subrogation. No cover will be provided under the organisation's Public Liability policy for other companies or groups supplying or operating the inflatable.

The organisation should obtain evidence of the hiring company's Public Liability cover, and they need to ensure that the limit of indemnity provided therein is acceptable to the organisation given the specific circumstances of the event and the structure being provided. This insurance should also contain an 'indemnity to principals' clause to further protect the organisation.

References

1. The Health and Safety at Work etc. Act 1974, available here: <https://www.legislation.gov.uk/ukpga/1974/37/contents>
2. The Management of Health and Safety at Work Regulations 1999, available here: <https://www.legislation.gov.uk/uksi/1999/3242/contents/made>
3. The Corporate Manslaughter and Corporate Homicide Act 2007, available here: <https://www.legislation.gov.uk/ukpga/2007/19/contents>

4. The First Aid at Work Regulations 1981, available here:
<https://www.legislation.gov.uk/ukSI/1981/917/made>
5. BS EN 14960-1:2019 Inflatable play equipment. Safety requirements and test methods, available here:
<https://standardsdevelopment.bsigroup.com/projects/2017-02063#/section>
6. PIPA: The UK's inspection scheme for inflatable play equipment, available at: <https://www.pipa.org.uk/>
7. ADIPS: Amusement Device Inspection Procedures Scheme, available at: <https://adips.co.uk/>

Additional Resources

1. HSE: Bouncy castles: safety advice, available at:
<https://www.hse.gov.uk/entertainment/bouncy-castles-safety-advice.htm>
2. HSE: Other play inflatables safety, available at:
<https://www.hse.gov.uk/entertainment/fairgrounds/inflatables.htm>

Further information

For access to further RMP Resources you may find helpful in reducing your organisation's cost of risk, please access the RMP Resources or RMP Articles pages on our website. To join the debate follow us on our LinkedIn page.

Get in touch

For more information, please contact your RMP consultant or account director.

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