



Code of Practice PART 2

for those

**Involved in the operation, hire,
sale and re-selling of play inflatables,
including bouncy castles.**

March 2003



Code of Practice for those involved in the operation, sale and re-sale of play inflatables including bouncy castles.

Introduction

The Made-Up Textiles Association recognises that inflatable play equipment operators, sellers and re-sellers have a duty to ensure that members of the public can have complete confidence in the safety of the products and services supplied by members. This Code of Practice initially will be self-regulated by the members. Members are obliged to observe the practices and procedures of this Code of Practice. However, if it becomes necessary, the Code of Practice will be regulated by means of an Inspection and Certification Scheme.

This document is based, to a large extent, on the work undertaken by the Health and Safety executive and others, in producing the revision of Entertainment Sheet 7 in January 2003. It is the intention of MUTA to continually revise this document in the light of changes and proposals for a set of national standards.

This document has been written to provide guidance for those involved with the safe operation and use of play inflatables. It identifies some possible hazards and outlines the procedures and precautions that should be taken to avoid them. It covers inflatables used for bouncing and other purposes, but not those used solely for protection. It does not cover waterborne inflatables used in swimming pools or other types not used by the public for entertainment purposes.

This document seeks to address the concerns and risks identified with the use of play inflatables. The following list taken from Entertainment Sheet 7 is not exhaustive.

Recognised hazards

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

Definitions

Inflatable device - Play equipment consisting of air-filled structures designed to allow users to bounce, slide or climb on them. They are made from flexible fabric, kept inflated by one or more blowers and rely on air pressure to maintain their shape.

Safety critical parts – Parts where there is a real risk of failure leading to injury.



Blower – Powered mechanical device that produces a constant flow of air at a pre determined pressure.

Controller - The person, organisation or hirer (those who hire to others) having the overall control, including responsibility for operation and maintenance, of the inflatable device.

Operator -The person appointed by the controller to be in charge of the operation of the inflatable at any time when it is intended to be available for public use.

Attendant - Any person appointed to work under the control and direction of an operator to assist in the operation of the inflatable device.

Occupational Competence – A person who carries out design reviews or testing of any inflatable product is required to have sufficient occupational competent to ensure they have an up to date working knowledge and experience of the principles and practices specified in the standards they are reviewing or testing. Sufficient occupational competence is defined as having held a post for a minimum of two years in the last three that involved performing the activities defined in the standards being tested as an experienced practitioner.

Duties of manufacturers

Manufacturers have a duty of care to ensure that they design and manufacture their products so that they are, so far as is reasonably practicable, safe in use. Inflatables should be manufactured in accordance with good manufacturing practice, using suitable quality materials and using a suitable design. Where there are relevant standards, these should always be followed. Where this is not possible, non-compliance should be fully documented. Products designed, manufactured or sold by MUTA members should carry an appropriate product information sign, giving as a minimum, a unique identifiable serial number and the contact details of the manufacturer. Where the unit is being “re-sold” by a company other than the original manufacturer then the product information sign should indicate, “supplied by” rather than the manufacturers details.

Buying and selling inflatable devices

Inflatable devices should not be bought or sold unless the following documentation is available:

- A declaration by the manufacturer that the inflatable has been manufactured to an appropriate design and in an appropriate manner (this may be achieved by the provision of a certificate of operational compliance or declaration of conformity to an appropriate European Standard);
- An operating manual, that includes:
 - The manufacturers contact details;
 - Any limits on numbers of users;
 - Details of weather conditions in which the inflatable should not be used;
 - Details of how to set up the inflatable;
 - Anchorage arrangements;
 - Details of any routine maintenance or inspection required;
 - Details of the arrangements for where maintenance and inspection may take place.
 - Specification of mats used to protect entrance and exit points;
 - Appropriate daily checks.



The operating manual can also be a good place to keep records of maintenance, modifications, daily checks and annual inspections.

Where a device has been manufactured in Great Britain, the duty to provide the information referred to earlier falls to the manufacturer. For a second-hand or hired device, the duty falls on the supplier. However, in the case of an imported product, whether new or second-hand, the duties fall to the supplier.

The controller of a newly acquired second-hand device should ensure that the operations manual is present and complete. The records of maintenance, modifications and inspections should accompany any second hand device.

Duties of controllers or operators

Owners or operators of devices will need to carry out a risk assessment of their activities to determine the control measures to avoid risk or reduce risk to acceptable levels. This will be relatively easy to do using the manufacturer's information and instructions for safe operation. This is a requirement of the Management of Health and Safety at Work Regulations 1999. The operations manual should be made readily available. This should not mean that it is kept next to the equipment or that it is written on paper. Computer storage systems may be acceptable for some information, but only if it can be accessed easily and a hard copy produced if required.

Inspection, maintenance and modification

The Provision of Work Equipment Regulations 1998 (PUWER) require inflatable devices to be inspected at suitable intervals to ensure that safe conditions are maintained, and that any deterioration in the device is detected and remedial action taken in good time. (See following paragraphs on annual inspections and daily checks.)

Annual inspection

The controller needs to ensure that all inflatables are subjected to an annual inspection. This inspection is carried out by a suitably qualified and / or occupationally competent person and is designed to provide a check on the fitness of an inflatable for further use. It does not duplicate the initial test but rather seeks to determine whether or not the safety-critical aspects of the inflatable have deteriorated to an extent that is liable to cause danger. It also is a general check of the operations manual to confirm that:

- the original initial test, or risk assessments if the design is mature, have been carried out and documented;
- safety-critical modifications to the inflatable have been subjected to all the necessary tests.

This also gives the suitably qualified or occupationally competent person an opportunity to comment on wider issues that have a bearing on safety. He or she can check that the inflatable is altered or upgraded where necessary to avoid danger, as advised in technical bulletins that may be issued by MUTA or guidance from HSE.

Annual inspection needs to include any part of the inflatable and its ancillary equipment that may affect the safe operation of the device. This procedure needs to be carried out by a suitably qualified or occupationally competent person.



The Annual inspection needs to include checks of the following as a minimum:

- Previous inspection reports and certificates where appropriate;
- Provision of suitable guards at the air inlet and outlet of the blower;
- Condition of blower impeller and fan casing; Condition of blower electrical wiring;
- Condition of all electrical installations;
- Anchorage system for wear, rips or chafing;
- Type and number etc of ground anchors or ballast for conformity with design specification;
- Structure for wear or rips in the fabric;
- Walls and towers (when fitted) are firm and upright.
- Pressure is sufficient in the bouncing area and at the step/front apron to give a reliable and firm footing;
- Where practical and only in a non destructive manner, internal ties for wear and tear, particularly at loose or exposed ends;
- Bed seams, wall-to-bed seams and wall-to-tower connections;
- Identification of the device;
- If used on a fixed site, the location.

Inspection of some of these features may need to be done inside the device. The above list is not exhaustive and the manufacturer may specify additional items.

Daily checks

Checks should be carried out before the first use on any day using advice provided by the manufacturer in the operations manual. These should include checking that:

- The site remains suitable, with crowd control measures in place if appropriate;
- Anchorages are intact, and ropes not worn or chafed;
- Anchor system secures the inflatable device to the ground;
- There are no significant holes or rips in the fabric or seams;
- The correct blower specified for the device is being used and the air pressure is sufficient to give a reliable and firm footing;
- There are no exposed electrical contacts, there is no wear on electric cables, and plugs, sockets and switches are not damaged;
- If an internal combustion engine is used, that the fuel cap is placed firmly on the fuel tank and any reserve fuel tank remains in a safe position;
- Bolts and screws of the blower are properly secured and that robust guards are secured over the air inlet and outlet;
- The blower/inflation tube connection is in good condition and is firmly fixed to the blower; and the blower is positioned correctly, adequately protected or guarded and is not causing a tripping hazard.

The public should not use the inflatable until any defects identified in the daily check have been rectified.

Maintenance

The inflatable needs to be properly maintained the instructions contained in the operations manual should be followed. Where instructions are not available, the controller should specify



the procedures required, in conjunction with advice received from a suitably qualified and competent person, the supplier or manufacturer. Details of all maintenance work on the device should be recorded in the operations manual.

Modification

Safety-critical modifications are those where failure of the modified component or system would lead to a significant risk of injury to public or employees. They could include changes in the operating parameters of a device, such as changing the height restriction of users. If in doubt, take advice from an occupationally competent person.

Where a safety-critical modification is made including the replacement of a component that departs from the original design specification, the modification needs to be carefully considered. The conclusions and justifications should be recorded in the operations manual before the change is made. If a device is CE marked, alteration may invalidate the declaration of conformity and the device may need to be reassessed against the relevant standard.

Safe operation

It is essential for the safe operation of a device that the manufacturer's instructions regarding the use of anchorage points should be followed. The device should be secured to the ground with anchor stakes, where the ground is suitable. Some equally effective method can be used on hard standing, e.g. attaching the anchor ropes to fittings already in the ground, or to sandbags or other weights, if these are capable of taking the load.

Inflatables can be tied to a vehicle or other movable machinery, providing the vehicle or machinery is immobilised and under the control of the operator.

Inflatables should not be used when the wind or gusts are in excess of the maximum safe wind speed specified by the manufacturer. The industry recommends a maximum wind speed of Force 5 on the Beaufort scale or 30-38 kph (19-24 mph). Force 5 is a fresh breeze when small trees in leaf begin to sway, whereas Force 6 is a strong breeze when large branches are in motion, whistling can be heard in telephone lines and umbrellas can only be handled with difficulty. Weather forecasts can be obtained from the Meteorological Office.

The controller should ensure that the inflatable device is sited well away from possible hazards such as overhead power lines or other obstacles with hazardous projections (e.g. fences). If the ground surface is abrasive, oily or dirty, a ground sheet should be used to prevent wear and tear of the material on the base of the inflatable.

The controller should determine the minimum number of attendants needed to operate the device safely, and ensure that at least these numbers of attendants are on duty when the device is in operation. In deciding how many attendants are required, the controller needs to consider matters such as the number of people using the device, the age of the users and the type of environment in which the inflatable is being used. Attendants should be aged 16 or over and the operator should be 18 or over.

If the risk assessment carried out by the controller shows that control measures are required to handle large crowds in the immediate vicinity of the inflatable, then crowd control barriers (see Figure 1) should be provided by the controller. Barriers should have the minimum dimensions shown at Figure 1. They should be at least 1m high and be capable of withstanding people leaning on them, or being pushed against them.

Where the public does not have access to the sides or back of the inflatable or crowd pressures are not anticipated, then a lower standard is acceptable.

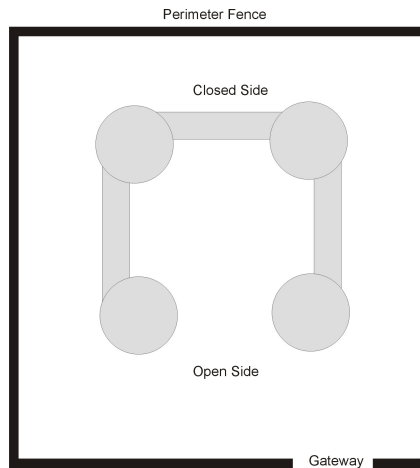


Figure1 The perimeter fence should be 1.8 - 2.5m from closed sides and 3.5 - 4.0m from the open side. The gateway should be 1.0m wide.

The method of operation drawn up by the controller should ensure that users are admitted to the inflatable in a controlled and safe manner. In particular, the operator and attendants should carry out the following instructions.

- Ensure that users remove footwear (except socks) and any other hard, sharp or dangerous objects (such as buckles, pens, purses, badges etc). Glasses are best removed;
- Do not allow users to consume food or drink or chew gum on the device;
- Do not allow users to obstruct the entrance or exit of any inflatable device.
- Do not allow anyone to play on the step or front apron of a bouncy castle;
- Do not allow users to climb or hang on the walls;
- Do not allow users who do not conform to height restrictions to use the device;
- Keep the entrance/exit areas clear of onlookers so that the operator or attendant has a clear view and can ensure that users enter/exit safely.
- Keep users off the device when it is being inflated or deflated. Deflate the device when not in use.

The operator and attendants should watch the activity on the inflatable constantly. They should use a whistle or other signal and take action at the first sign of any misbehaviour. Somersaults and rough play should not be allowed.

It is the operator's responsibility to ensure that the equipment is not overloaded with users. Larger, more boisterous users should be separated from smaller ones. The number of users at anyone time should be limited to allow each user enough room to play safely.



Training

The controller should ensure that all operators receive effective training in the working of the device including:

- The method of operating the device
- Safe entry/exit for users;
- Safe methods of assembly/dismantling, where applicable;
- How to make a daily check;
- Safe anchoring of the inflatable;
- Crowd control measures, and barriers;
- Measures to be taken in the event of power failure;
- Procedures for reporting accidents, defects or breakdowns.

Accident reporting

Deal with any casualties first but report the event after the incident. Reportable accidents that cause injury, including acts of violence and certain dangerous occurrences, should be notified to the enforcing authority by the 'responsible person' (who is likely to be either the controller or operator).

Any reportable accidents that occur should also be notified to MUTA AIMODS section for inclusion in the current database of accidents.

Further information is given in the HSE publication, "A guide to the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995." (See 'Further reading')

What to do if defects are found

If at any time a defect is found which could possibly lead to danger, the public should not be allowed to use the device until the cause has been identified and remedied. This may include checking all similar components. If there is any doubt about continued safety, the device should not be used until a suitably qualified and competent person has confirmed that it is safe to do so. Keep records of all incidents and significant defects in the operations manual and the action taken, because they may be useful if you need to:

Give details to HSE, your trade association, insurers, the designer, manufacturer, / importer or supplier; Discuss the safety implications with a suitably qualified and / or occupationally competent person; or provide a detailed accident history to a buyer.

Complaints system

A complaints system is available for clients and others who wish to question any aspect of the performance and compliance to this Code of Practice by member companies.

Further reading

Fairgrounds and amusement parks: Guidance on safe practice HSG175 HSE Books 1997 ISBN a 717611744

A guide to the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 L73 (Second edition) HSE Books 1999 ISBN 07176 2431 5 RIDDOR Reporting line leaflet EN 60204 -1:1992



Safety of machinery. Electrical equipment of machines Part 1. Specification for general requirements BS EN 60529: 1992

Specification for degrees of protection provided by enclosures (IP Code) BS 7671: 1992

Requirements for electrical installation. IEE Wiring Regulations (Sixteenth edition)

For further information on fire-resistant materials refer to BS EN ISO 6940: 1995, BS EN ISO 6941: 1995, and a new British Standard on play inflatables (in preparation).

While every effort has been made to ensure the accuracy of the references listed in this "publication, their future availability cannot be guaranteed.

Further information

British Standards are available from BSI Customer Services, 389 Chiswick High Road, London W4 4AL Tel: 02089969001 Fax: 02089967001 Website: www.bsi-global.com

HSE priced and free publications are available by mail order from HSE Books, PO Box 1999, Sudbury, Suffolk CO10 2WATel: 01787881165 Fax: 01787313995 Website:

www.hsebooks.co.uk (HSE priced publications are also available from bookshops)

For information about health and safety ring HSE's Infoline Tel: 08701 545500 Fax: 02920 859260 e-mail: hseinformationservices@natbrit.com or write to HSE Information Services, Caerphilly Business Park, Caerphilly CF83 3GG. You can also visit HSE's website: www.hse.gov.uk

Made Up Textiles Association (MUTA) 42 Heath Street, Tamworth, Staffs, B79 7JH.