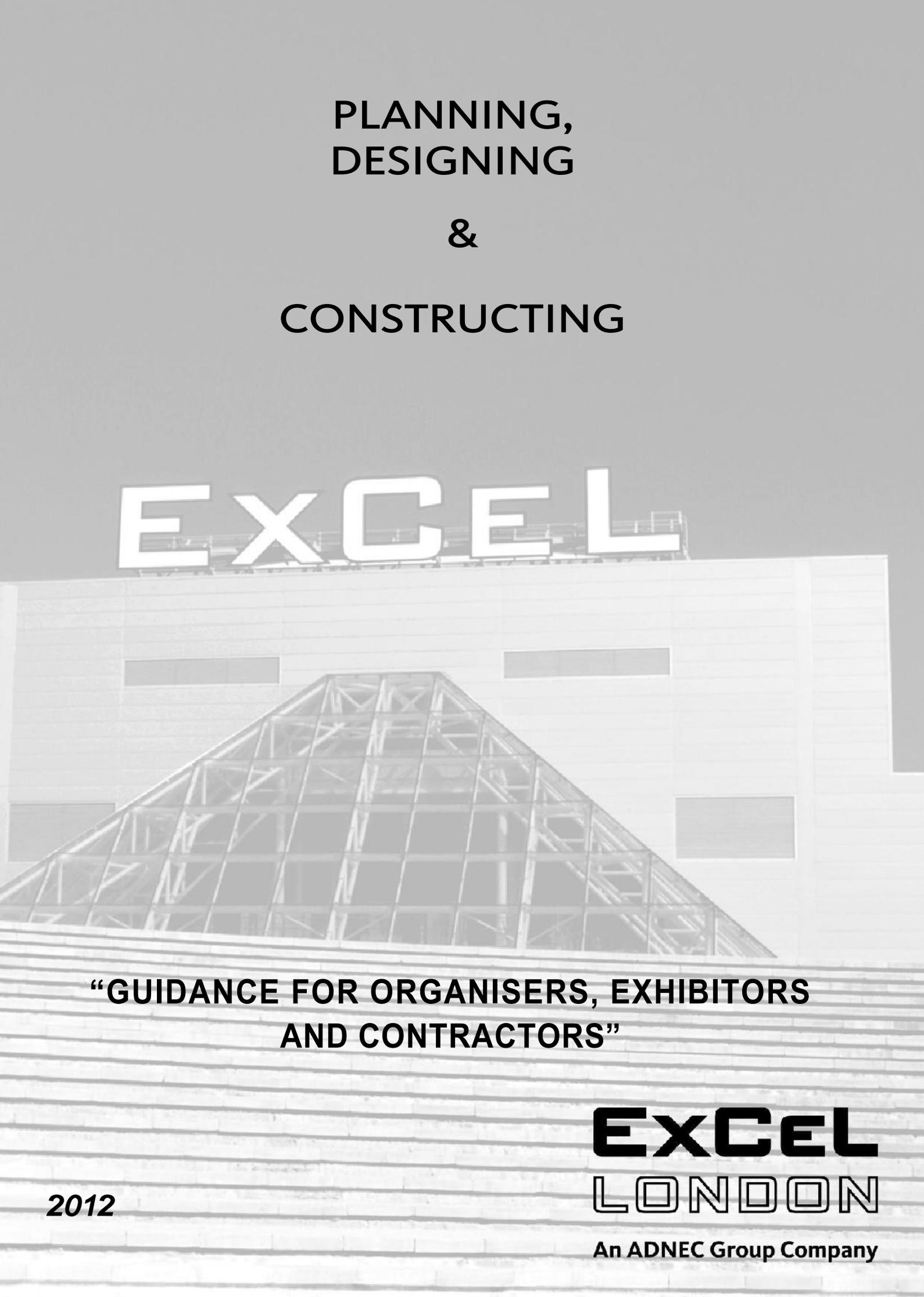


**PLANNING,
DESIGNING
&
CONSTRUCTING**

EXCEL



**“GUIDANCE FOR ORGANISERS, EXHIBITORS
AND CONTRACTORS”**

2012

**EXCEL
LONDON**

An ADNEC Group Company

Contents

1	Base Plates	2
2	Boulevard / Hall Entrances	2
3	Ceilings	2
4	Ceilings on Multi-Storey stands	2
5	Children	2
6	Complex Structures	2
7	Compressed Gases	3
8	Construction Materials	4
9	Disabled Access	6
10	Doors	6
11	Emergency Lighting	7
12	Enclosed Rooms	7
13	Escape Route	7
14	Escape Route Signs	7
15	Exits from Multi-Storey Stands	8
16	Fixing to the Floor	8
17	Floor Loadings	8
18	Fumes, Vapours, Gases, Liquids, Dusts and Fibres	8
19	Handrails	9
20	Hard Hat Areas	10
21	Hot Work and Naked Flames	10
22	Inner Rooms	10
23	Stand Construction: Ramped & Stepped Access	10
24	Registration Areas	12
25	Rigging	12
26	Risk Assessment	14
27	Rule Enforcement	20
28	Shell Scheme	20
29	Seminar Theatres	20
30	Seating	22
31	Simulators and Rides	24
32	Stages and Platforms	24
33	Stand Construction	25
34	Suspended Fittings	26
35	Vehicles	27
36	Waste: General	29
37	Work equip / Tools / Processes: Work Equipment	30
38	Working at Height: General	31

1. Base Plates

Any Structures in ExCeL that are lying over the duct covers must have base plates of a minimum area of 1m² (i.e. must have a length of 1m and a width of 1m).

2. Boulevard / Hall Entrances

- a. 12m across the width of the boulevard must be kept clear at all times. This can be split into 2m × 6m widths or 3m × 4m widths etc.
- b. No construction work can take place in the boulevard without prior consent.
- c. Organisers shall give the company at least 28 days' notice in writing of any proposal to construct any feature in the Boulevard.
- d. Details including weight loadings and dimensions of the features in the Boulevard are required. Please note that whereas the halls are sprinkler protected the Boulevard is not so the total fire loading must be considered.
- e. Only wheelchairs, pushchairs, rubber wheeled trolleys and units operated by ExCeL's contractors, are permitted in the Boulevard.
- f. Hall entrance shutters must remain closed at all times, except during the actual opening hours of an event.
- g. Hall entrances shutters may remain closed during the event open times with the prior consent of the company.
- h. The engineering cupboards on the inside faces of each hall entrance must remain accessible at all times. A minimum of 1m is required for access to these areas.

3. Ceilings

Self-contained smoke detectors must be provided in any room with a solid ceiling where travel distance is 10 metres or greater.

4. Ceilings on multi-storey stands

Ceilings, except those above the topmost storey of multi-storey stands, must be of solid construction

5. Children

Children under 16 are not allowed in the halls during build-up and breakdown

6. Complex Structures

Definition

A complex structure is any form of construction of any height, which may require input from a structural engineer.

If a stand is not constructed from 'shell scheme', it is the responsibility of the stand designer to determine whether the construction is complex or not.

Examples of complex structures:

- Any structure, regardless of its height, which requires structural calculations
- Multi-storey stands
- Any part of a stand or exhibit which exceeds 4m in height
- Suspended items (does not include banners), e.g. lighting rigs
- Sound/lighting towers
- Temporary tiered seating
- Platforms and stages over 0.6m in height and all platforms and stages for public use (not including stand floor flats and platforms) needs to be signed off by a structural engineer.

Submission procedures

Organisers are responsible for submitting full details of all complex structures no later than 28 days prior to tenancy. Permission to build any complex structure will not be given until the venue has received 2 copies of the following (written in English):

- 1 Detailed, scaled structural drawings showing:
 - Plan views of each storey of the stand
 - Sections through each storey of the stand
 - Elevations including full steelwork and staircase details
 - Width and position of gangways within the stand
 - Floor and/or roof loading
 - Specifications of materials used
2. Structural calculations
3. Risk assessment (to include fire hazards) and method statement
4. Written confirmation from an independent structural engineer, with adequate Professional indemnity cover, that the design is safe for its purpose.

Each item of information should state the event name and stand number. Complete sets of information only should be submitted, together with a plan showing the location of the stand within the exhibition.

If any complex structure is modified after the submission of the above information, plans must be re-submitted with details of all modifications and a structural engineer's confirmation that the final overall design is safe for its purpose.

Onsite Management

All stand construction must be monitored during build-up by the organiser's appointed structural engineer and floor management team. Stands which appear to be complex, which have not been submitted for approval, will be challenged and construction may be stopped until satisfactory information has been received.

The venue reserves the right to monitor all construction activity and to challenge risk assessments and the methods employed.

Certification of Stands & Structures Onsite

The following written certification must be submitted by the organiser to the venue before visitors can be admitted to the event:

Complex structures

Certification by a qualified structural engineer, certifying them as safe, fit for use and constructed in accordance with the designer's specification.

The event will not be deemed safe for visitors until all certificates have been received by the venue.

7. Compressed Gases:

7.1 General

- a. Details of any proposed use of compressed gas must be submitted to the venue no later than 28 days prior to tenancy and must include the gases or liquids proposed, and sizes of cylinders or vessels with their working pressures.
- b. No compressed gas or Liquefied Petroleum Gas (LPG) shall be used within the venue without the prior written consent of the venue.
- c. Flammable gases must comply with the **Dangerous Substances and Explosive Atmospheres**

Regulations and the Petroleum Regulations.

- d. Suitable warning notices shall be provided where appropriate, drawing attention to the flammable nature of the materials.
- e. Compressed gas cylinders or vessels containing liquids or gas under pressure shall be stored in a position agreed by the venue and only those cylinders required for immediate use shall remain on a stand.
- f. All such materials in excess of the requirements for one day's demonstration or exhibition shall be stored away from the stand in a properly constructed flammable materials store.
- g. Any person carrying out work involving the installation, maintenance or checking of gas appliance (or associated fittings) must be competent under the Gas Safety (Installation and Use) Regulations 1998 (S.I 1998, No. 2451), reg. 3.
- h. Cylinders and other vessels shall not be connected or disconnected during the time that an exhibition is open to visitors.
- i. Cylinders shall be constructed and stamped in accordance with EN 1089-3 and be painted with identifying colours in accordance with BS 349; 1973, 'Identification of Contents of Industrial Gas Cylinders'.
- j. Vessels containing liquids or gases under pressure (other than compressed gas cylinders complying with EN 1089-3) shall be fitted with safety valves of an approved type.
- k. Where such vessels are used, a certificate in respect of a recent pressure test of each vessel shall be available for inspection.

7.2 Liquefied Petroleum Gas (LPG)

- a. The venue must be notified in writing at least 28 days in advance of tenancy of any proposed use of Liquefied Petroleum Gas (LPG).
- b. LPG may only be used with the written consent of the venue.
- c. The use of LPG in the exhibition halls is normally prohibited unless it is being used to demonstrate a product being offered for sale on a stand and only if other sources of fuel are unsuitable.
- d. Only one bottle of LPG, sufficient for one day's use, can be on a stand at any one time; all other bottles are required to be kept in a secure environment outside the building.
- e. All LPG connections must be made by a Gas Safe Register installer with ACS certification.
- f. Connections to or disconnection of LPG is not permitted whilst the exhibition is open to visitors.
- g. All empty cylinders must be removed from the venue.

8. Construction Materials

All materials used in the construction of stands, features and displays, including signs and fascias, shall be:

- a. Of a suitable nature and quality for the purposes and conditions of their intended use
- b. Adequately prepared and fixed in order adequately to perform the functions for which they are designed
- c. Non-combustible, inherently non-flammable or durably flameproof in accordance with BS476-Part7
- d. Water-based, where applicable, e.g. adhesives and paint

British Standards are the minimum acceptable standards for construction materials. Suitable samples of materials may be submitted to the venue for approval. Materials may be tested on site to ensure that they

comply.

Decorative materials

Decorative materials used for stand dressing must be flame proofed or purchased already treated by use of the appropriate chemical.

Untreated wallpaper and similar thin surface finishes, not exceeding 1mm in thickness, may be accepted, provided they are firmly fixed.

Artificial plants and flowers are combustible and give off toxic fumes. Therefore they must not be used for stand dressing. Silk-type flowers are acceptable, providing they are fireproof or have been treated and marked as such.

Fabrics, drapes, curtains and hangings

Drapes, curtains, hangings, etc, must be inherently or durably flame-proofed. Otherwise they may be treated with a proprietary flame retardant. Test certificates must be available for inspection for any materials intended to be used.

Fabrics used for interior stand decoration must be fixed taut and/or in tight pleats (not loosely draped) to a solid backing, secured above floor level and not touching light fittings.

Curtains on exit routes should hang 75mm clear of the floor, be parted in the centre and shall not conceal any exit signs.

Floor covering

All floor coverings must be secured and maintained so that they do not cause a hazard. Fixing of floor coverings to the hall floor may only be carried out using approved tape. Other forms of fixing to the hall floor, such as cable clips, nails and bolts are strictly prohibited.

The organiser will incur a charge for any tape not removed by the end of the tenancy period, or any damage caused to the hall floor.

Glazing

All glazing used in the construction of stands must consist of safety glass (laminated or tempered) a minimum of 6mm thick. Areas of glazing within 800mm of floor level and over 0.5m², where the smaller dimension of the pane is greater than 250mm, must conform to the thicknesses shown below (in order to comply with the 'Code of practice for safety related to human impact'):

Nominal thickness	Maximum pane size dimensions
8mm	1100mm x 1100mm
10mm	2250mm x 2250mm
12mm	4500mm x 4500mm
15mm or thicker	no limits

Any uninterrupted, large areas of clear glazing shall be indicated with warning stripes, dots, logos, etc. Overhead glazing shall be of wired or laminated glass, or be otherwise adequately protected from shattering.

Night sheets

Night sheets must be made of inherently non-flammable material or of material satisfactorily treated to render it non-flammable. They shall be stored rolled-up and firmly secured and not cause any obstruction while not in use.

Paint

Only water-based paint may be used on site. If paint-spraying equipment is to be used, the method must be approved by the venue and not cause a nuisance to others. Protective measures shall be taken to ensure that no paint is spilt or sprayed on to the fabric of the building.

Plastic

All plastic, including plastic plants and materials used for vision panels, etc, must conform to BS476-Part 7,

Class 1. Polycarbonate materials are acceptable.

Timber

Timber under 25mm thick must be impregnated to Class 1 standard. Treated materials should have 'BS476-Part 7, Class 1' marked on them.

Boards, plywood, chipboard, etc, must be treated if under 18mm thick. The exception to this is MDF, which is acceptable for use due to its density. MDF may not be machined on site, as its dust is hazardous to health.

Upholstery

Upholstered seating must be non-combustible and marked with the appropriate standard.

9. Disabled Access

Stands should be designed to ensure that it is not unreasonably difficult for a disabled person to access their stand as required by the Disability Discrimination Act 1995.

- a. Platforms that exceeds 38mm in height or a part platform that exceeds 20m² AND 38mm in height, MUST ensure that it is accessible to the disabled visitor and should contain clear and specified access and constructed in such a way as to conform to the following:-
- b. Bevelled with a ramp of no more than 5° (1:12 gradient);
- c. A minimum of 1000mm wide; and
- d. Fitted with a handrail on each side or other such division to avoid any trip hazard resulting from the change of floor levels.

10. Doors

Doors and gates forming part of an escape route shall be hung to open in the direction of escape, clear of any steps or landings, and shall where necessary be recessed so that when open they do not obstruct the required width of any gangway, corridor, passageway, staircase, landing or other escape route. Such doors shall be free from fastenings other than panic bolts of type and pattern and installed in accordance with BS EN 1125. Doors serving staff areas may be provided with simple lever handles, complying to BS EN 179, or push pads complying with BS EN 179.

Where any door or gate is at the head or foot of stairs, a landing shall be provided between the door or gate and the top or bottom step. The depth of the landing shall not be less than width of flight.

Door accessibility to mobility impaired disabled people should be at least 800mm wide.

In exceptional circumstances and where permitted, any inwards-opening door or gate used by more than 50 persons, shall be so arranged, that it can be locked back in a way that requires a key to release it and, when locked back, it does not form an obstruction or reduce the required width of an exit. A notice stating "THIS DOOR TO BE KEPT LOCKED BACK IN THE PUBLIC POSITION WHILST THE PREMISES ARE OPEN TO THE PUBLIC", in 10mm letters must be displayed adjacent to the door.

Vision panels

All doors shall be provided with a vision panel of clear glazing at sight level. Wheelchairs users' zone of visibility is between 900mm and 1500mm above floor level.

11. Emergency Lighting

The illumination provided by normal lighting and emergency lighting should be sufficient to enable anyone to see their way out of stands, seminar rooms and theatres at all times. The horizontal luminance at floor level provided from either source along the centre line of defined escape routes should not be less than 0.2 lux and preferably 1 lux.

Any battery used for emergency lighting should be capable of maintaining the full load connected to it for a minimum of three hours after the failure of the normal supply.

When we have the Venues emergency lighting switched off, then an alternative means of emergency lighting must be provided. When lighting rigs are being used and house emergency lights are switched off, then alternative emergency lights (Non Maintained battery powered) must be provided on the rig and have a minimum battery life of 3 hours.

An emergency lighting test should also be witnessed by either the venues H&S Manager or the Venues Fire Officer.

12. Enclosed Rooms

Cupboards, enclosed offices, storerooms etc., formed beneath the upper floor of a two-storey Stand, must be lined throughout with non-combustible fire-resisting material.

13. Escape Routes

- a. All escape routes and exits including external exits shall be maintained unobstructed, in good order with non-slippery and even surfaces, free from trip hazards and clearly identified in accordance with the approved floor plan.

Note: In restaurant/ catering areas and other areas where chairs are provided care should be taken that clear gangways are maintained.

- b. All exits shall be available and easily open able without the use of a key, card, code or similar means.
- c. Any security fastening shall be removed from the doors prior to opening the event.
- d. The edges of the treads of steps and stairways shall be maintained so as to be conspicuous.
- e. Event layouts should incorporate a suitable system of aisles designed to promote the circulation of visitors around the event.
- f. Occupied inner rooms on stands require an alternative means of escape if they contain more than 60 people and/or the travel distance to a gangway exceeds 20 metres. This should be reduced to 15 metres where alcohol is being served in the room.
- g. The maximum travel distance from any part of a stand to a gangway shall not exceed 50 metres. Where there is only 1 means of escape from the stand, this must be reduced to 20 metres. In either case, the maximum travel distance should be reduced by 25% where alcohol is being served.

14. Escape Route Signs

Exit notices shall conform to BS 2560 or BS 5499: Part 1 and the Health & Safety (Safety Signs and Signals) Regulations 1996.

- a. Signs must be a minimum height of 200mm and a minimum width of 400mm.
- b. Escape route signs should be suitable & sufficient for the environment, for example, if the venue emergency lighting is switched off, exit signs must be illuminated.
- c. Escape route signs must be positioned so they are conspicuous.

- d. Measures should be taken to ensure that the ExCeL exit signs are not obstructed. In the event of an exit sign being unavoidably obstructed organisers shall provide additional signs, in agreed locations.
- e. Alternative means of escape and adequately maintained general and safety lighting, with maintained illuminated exit notices shall be provided to any enclosed area on a stand.

15. Exits from Multi-Storey Stands

There should be a minimum of two separate staircases leading from any floor above ground level. However, in the following situation, a single staircase is acceptable:

- a. No more than 60 people will occupy the level served by the staircase at any one time (public, performers and staff inclusive)
- b. No part of that floor of the upper storey of a stand is more than 20 metres away from the gangway. This should be reduced to 15 metres where alcohol is being served on the upper deck.

16. Fixing to the Floor

Fixing of any sort to any part of the interior or exterior of the premises, including floors, is not permitted.

17. Floor Loadings

Organisers shall give the Company at least 28 days notice in writing, of their intention to bring any piece of equipment into the venue or to build anything that has a point loading that exceeds 12 tonne.

No fixings whatsoever may be made to Hall Floors, which is a concrete slab.

Upper Level Floor Loading Stand

The floor of the upper level of a multi-storey stand must be capable of withstanding a weight loading of 5Kn/sqm.

18. Fumes, Vapours, Gases, Liquids, Dusts and Fibres

Any exhibit, process or feature that is likely to generate and/or emit gases, vapours, liquids, fumes or dusts into the venue shall be so constructed so as not to be prejudicial to health or a nuisance and shall comply with the requirements of the Control of Substances Hazardous to Health Regulations.

Definitions:

Gases

Formless fluids usually produced by chemical processes involving combustion or by the interaction of chemical substance. A gas will normally seek to fill the space completely into which it is liberated e.g. nitrogen gas widely used in vessels due to its chemically inert properties.

Vapours

The gaseous form of a material normally encountered in a liquid or solid state at normal room temperature and pressure. Typical examples are solvents, e.g. thinners that releases vapours when the container is opened.

Liquids/Mists

A state of matter with definite volume but no definite shape, like water. The routes of entry for liquids could be ingestion and skin contact. If finely dispersed, they become a mist and therefore inhalable.

Fumes

Solid particles formed by condensation from the gaseous state e.g. lead fume.

Dusts

These are solid airborne particles, often created by operations such as grinding, crushing, milling and sanding e.g. mdf dust. The size of the dust particles is important as there is a difference between inhalable and respirable dusts and the nature of the hazards they present.

Fibres

Dust may be created that is made up of tiny fibres e.g. textile fibres. The fibres may become airborne during certain processes. The fibres may be so small that they fall into the respirable range and as such may be inhaled deep into the lungs.

Smoke

A substance made up of small particles of carbonaceous matter in the air, resulting mainly from the burning of organic material, such as wood or coal.

Full details of the hazards arising, how they are harmful to health and the range of control measures which will be implemented must be provided to the venue at least 28 days before the event by the submission of a suitable and sufficient COSHH assessment carried out by a competent person.

The show organiser must ensure the level of risk is reduced to as low as is reasonable practicable and to this end eliminate exposures to substances harmful to health.

A stand containing such an exhibit, process or feature giving rise to any of the above defined hazards must be so arranged where appropriate to have an effective local exhaust ventilation system to the outside atmosphere. It shall be sited adjacent to an external wall of the venue and the erection and support of such exhibit or process shall be independent of the permanent structure and fabric of the venue.

Full details of the exhibit or process and proposed local exhaust ventilation system must be submitted to the venue for approval.

The venue, at the expense of the person requiring these services, shall make any attachments or fixings to the building structure or openings through the fabric of the buildings for an exhaust flue.

Where appropriate the show organiser must provide the venue with written information regarding the monitoring procedures they plan to implement (e.g. fume monitoring arrangements).

Full responsibility of compliance to the COSHH Regulations rests with the show organiser

19. Handrails

- a. The vertical height to the top of the upper handrail from the pitch line of the surface of a ramp, flight of steps or landing must be between 900mm and 1000mm.
- b. Handrails shall be continuous across flights and landings of ramped and stepped access.
- c. Handrails shall extend at least 300mm beyond the top and bottom riser of any steps.
- d. Handrails shall contrast visually with the background against which they are seen, without being highly reflective.
- e. The surface of handrails shall be slip resistant.
- f. Handrails shall be terminated in a way that reduces the risk of clothing being caught.
- g. The profile of handrails shall be either circular, with a diameter of between 40 and 45mm, or oval, preferably with a width of 50mm.
- h. The clearance between the handrail and any wall shall be between 60 and 75mm.
- i. Double-width staircases shall have a central handrail.
- j. The clearance between a cranked support and the underside of the handrail shall be at least 50mm.
- k. Handrails shall be non-climbable, i.e. with solid infills or vertical guardrails, which should be no more than 100mm apart and without horizontal members between verticals.

Barriers (Balustrades)

Barriers shall be provided to protect exposed edges of staircases, landings, balconies, galleries and other changes of level. They shall:

- a. Provide guarding to all exposed edges of stairs and ramps at a height of 900mm above the pitch line and to landings and balconies at a height of 1.1m.
- b. Be capable of resisting the forces set out in BS 6399-1.
- c. Be non-climbable, i.e., with solid infills or vertical guard rails a maximum of 100mm apart.

20. Hard Hat Areas

It is the duty of every organiser, employer or those who have control to ensure head protection that prevents the head from vertical and side impact is worn where there is a foreseeable risk injury to the head. As minimum head protection must comply with EN 12492 if it is used solely for working at height. If the helmet is to be worn for groundwork it must comply with EN 397. However just EN 397 complaint helmets with a chinstrap are not suitable for working at height, as the strap will not fail which could result in strangulation. The ideal helmet is one that complies with both EN 12492 and EN 397.

In areas below people working at height and adjoining gangways there is a significant risk of injury from falling objects and these shall be designated “hard hat “ or “areas where hard hats must be worn.”

21. Hot Work and Naked Flames

Any work involving; Oxy-acetylene cutting / welding, arc welding, gas / oil blowlamps, grinders, tar boilers, LPG burners, soldering, requires a hot working permit, issued by the venues Fire Officer prior to the commencement of work.

22. Inner Rooms

In order to prevent dead ends, occupied inner rooms must have an alternative means of escape, indicated with the appropriate signage

23. Stand Construction: Ramped & Stepped

Access Ramped Access

- a. If constraints necessitate an approach of 1:20 or steeper, an approach incorporating a ramp should be provided.
- b. A ramp must be either readily apparent or the approach to it clearly sign-posted.
- c. The gradient of a ramp flight and its going between landings should be in accordance with the following table:

Going of a ramp*	Maximum Gradient	Maximum Rise
10m	1:20	500mm
5m	1:15	333mm
2m	1:12	166mm

*For goings between the above lengths, the gradient will be adjusted accordingly

- d. Ramps must not be greater than 10m, or have a rise of more than 500mm.
- e. Ramps shall have a minimum, unobstructed width of 1.5m.
- f. The ramp surface must be slip resistant, especially when wet and of a colour that contrasts with that of the landings.
- g. A landing at least 1.2m long and clear of any door swings or other obstructions must be provided at the foot and head of the ramp.

- h. Intermediate landings must be at least 1.5m long and clear of any door swings or other obstructions.
- i. Intermediate landings at least 1800mm wide and 1800mm long must be provided as passing places when it is not possible for a wheelchair user to see from one end of the ramp to the other, or if the ramp has three flights or more.
- j. Handrails must be provided on both sides of a ramp.
- k. Where the change in level is no greater than 300mm, a ramp should be provided instead of a single step.
- l. Where the change in level is 300mm or more, 2 or more clearly signposted steps should be provided in addition to the ramp.
- m. All landings should be level, subject to a maximum gradient of 1:60 along their length.
- n. A kerb at least 100mm high, which contrasts visually with the ramp or landing, must be provided on the open side of any ramp or landing, in addition to any guarding required.

Stepped Access

- a. A level landing must be provided at the top and bottom of each flight.
- b. Each landing must have an unobstructed length of not less than 1200mm.
- c. Flights shall have a minimum, unobstructed width of 1.1m.
- d. Doors shall not swing across landings.
- e. Flights between landings shall contain no more than 12 risers where the treads are less than 350mm and no more than 18 risers where the treads are 350mm or greater.
- f. The tread and riser of each step must be consistent throughout a flight.
- g. The rise of each step must be between 150mm and 170mm.
- h. The tread of each step must be between 280mm and 425mm.
- i. Risers must not be open.
- j. Single steps are not permitted.
- k. All nosings must be made apparent by means of a permanently contrasting material 55mm wide on both the tread and the riser.
- l. The projection of a step nosing over a tread below should be avoided, but if necessary it must not exceed 25mm.
- m. A continuous handrail must be provided on each side of flights and landings.
- n. A single staircase shall not exceed 1.8 metres in width.
- o. Where a staircase is divided into more than one channel, no single channel shall be less than 1 metre wide and an additional handrail must be provided between channels.
- p. Spiral staircases are only permitted for exhibiting staff use and not for members of the public.
- q. Helical stairs are permitted where they comply with this guidance and their use is approved by the venue.
- r. Purpose-built access to trailers, boats, caravans and other, similar exhibits must be risk assessed where they do not comply with the above regulations. As a minimum, they must comply with the following:

- The headroom must be a minimum of 2m
- The width may not be less than 450mm and must be at least equal to the width of the entrance to the exhibit
- The risers must not exceed 170mm in height (open risers not permitted)
- Each tread must be a minimum of 280mm in depth
 - The width of landings at top and bottom must be equal to the width of the steps
 - Handrails must be provided.

24. Registration Areas

Where hall entrances are utilised for registration or ticket checking purposes, normally a minimum of 55% of the overall width must be available for emergency access.

Plans of these areas must be submitted to the venue for approval no later than 28 days before licence period.

The entrances, foyers, vestibules and other circulation spaces shall not be used for the accommodation of stands or other material or structure likely to impede the circulation of visitors

25. Rigging

Rigging: Legislation

All rigging work must be carried out in accordance with the National Arenas Association's Guidance for Rigging in UK Venues. The following is a brief summary of the key points. Personnel involved in rigging operations should familiarize themselves with the full document.

Health and safety legislation, Approved Codes of Practice, guidance and general 'good practice' apply to rigging operations.

Consultation with the venue is essential, in order to comply with regulations that are specific to that venue.

The venue reserves the right to inspect all rigging, working methods and equipment to ensure compliance and to prohibit the use of non-compliant equipment and working methods.

Rigging: Responsibilities

Employer's/organiser's responsibilities

Effective communication between employers is paramount. An employer has a duty to ensure the health, safety and welfare of his employees and that the activities being undertaken do not affect the safety of others. The organiser cannot absolve him/herself of the principle duties outlined above by contractually deferring them to his/her contractor or sub-contractors.

Employees'/self-employed persons' responsibilities

These individuals carry a responsibility for ensuring that all equipment being used has been properly maintained and inspected; whether this equipment is owned by the individual or by a third party

Rigging: Competency

Rigging operations shall be undertaken by competent persons. It is expected that all rigging company supervisors and riggers will be registered for the National Rigging Certificate (NRC by PLASA) by 1st April 2012. A rigging company should have an authorised person to advise on rigging issues. Ground riggers should have a level of knowledge to enable them to undertake the inspection of rigging equipment to prepare it for lifting.

Rigging: General Safety Precautions

Working underneath rigging operations

Where possible, all personnel should be excluded from areas where overhead rigging or lifting operations are taking place.

Working at height

Employers and employees must avoid work at height where they can and use work equipment or other measures to prevent falls and to minimise the distance and consequences of a fall.

Hours of work

Employers, promoters, production managers and venue managers have a duty to ensure that riggers and

rigging supervisors receive adequate rest periods.

Personal protective equipment

Personal protective equipment (PPE) for working at height must be provided by employers. PPE for rigging activities must be suitable for both work positioning and fall arrest. Rigging companies must have a rescue plan in place.

Lifting equipment

All lifting equipment/lifting tackle shall comply with all current, relevant legislation and shall be of sound material and construction, free from defects and fit for the purpose for which it is to be used. Rigging equipment should only be used by competent individuals, or under the supervision of such individuals.

Examination and inspection of equipment

Examination and inspection of lifting equipment must be carried out as per Lifting Operations and Lifting Equipment Regulations 1998 (LOLER) and Provision and Use of Work Equipment Regulations 1998 (PUWER).

Rigging: Working Practices

A competent rigger shall undertake all rigging work in a responsible manner.

Riggers must ensure that they comply with venue specific requirements. Care should be taken to protect building steelwork.

All equipment used shall have its working load limit (WLL) clearly marked and shall be suitable for the load to be applied. Applied loads should take account of the safe weight of the rigging and hoisting equipment.

In situations where bridling is unsuitable, the use of spreader beams should be considered. Where standard truss systems are employed for this purpose they shall be subject to a structural report. Where specifically designed or manufactured beams are employed a certificate of independent test and examination must be available for inspection.

All suspended truss systems should have independent structural certification and should only be used within certificated design parameters. Particular attention shall be paid to the assembly of truss sections to ensure that braces are aligned correctly as per manufacturers' recommendations and all connectors correctly fitted.

The slinging of suspended equipment shall be undertaken to manufacturers' recommendations and in accordance with best practice.

Areas for rigging operations are to be clearly defined and access to such areas shall be restricted to competent personnel involved in the operation. Clear communication between persons working at height and ground crew is to be maintained. This is particularly important when the actions of other personnel could endanger the safety of rigging personnel e.g. sound and lighting crews.

Signs and banners supplied for rigging shall be checked to ensure they are fit for suspension. Sign suppliers shall be responsible for the integrity of signs and their suspension fittings. Screw-in eyes are not acceptable and the venue reserves the right to refuse to allow the suspension of any signs where the suspension fitting supplied is inadequate.

Due to the flimsy nature of materials used, paper signs may only be suspended if constructed from 'Tyvek' or a similar, approved material. Drop weighting to the bottom of banners may only take place when the weighting is completely sealed within the banner by positive means, such as stitching or vinyl welding. Provision of bottom drop weight pockets by gluing is not acceptable.

Due to the potential structural damage that can be caused by catenary wire, the rules for their installation should always be checked with the venue. Catenaries should never be installed when public are in the halls.

Secondary or 'safety' suspensions may be required in certain locations. When required, they shall be installed to bypass the mechanical lifting unit, as a minimum, in case of mechanical failure.

Rigging: Insurance & Public Liability

The minimum level of liability cover required by rigging companies working within venues will be set by the

venue's insurers and may be increased depending on the nature of the services to be supplied.

Rigging: Access Equipment

All access equipment shall be used in accordance with manufacturer's instructions and recommendations. The SWL of access equipment shall be permanently displayed on the equipment. It is the responsibility of the operator of the equipment to ensure that the carried weight does not exceed the SWL.

Special attention should be paid to the correct assembly and stability of ladders and other static forms of access equipment, including the use of outriggers where fitted. Operators of mobile elevated work platforms (MEWPS) for use in rigging related operations are required to be in possession of a current valid certificate of Training Achievement and Competency of Operations.

Standing directly on forks, attachments or pallets not intended for such applications is strictly forbidden. Any accidents involving access equipment used for rigging purposes shall be reported to the venue immediately.

Truss/caving ladders to access flown truss structures must be used in conjunction with inertia- type fall arrestors. If it is necessary for an operative to leave a MEWP at high level, he/she must identify a secure point of anchorage for the safety harness lanyard. The lanyard shall be secured before leaving the platform. When returning to the platform, the operative must ensure the lanyard remains in position until the transfer to the carriage has been completed.

Rigging: Planning & Provision of information

The key to safe and successful rigging operations lies in effective forward planning and exchange of information. The organiser should ensure that accurate information regarding the loads to be rigged is provided to the venue as soon as possible. This is irrespective of whether the rigging will be carried out by venue riggers, touring riggers or outside contractors.

Information should also be provided on any moving loads, loads involving people or anything else out of the ordinary. In turn, the venue should highlight any problems, restrictions, regulations and other requirements.

The venue reserves the right to restrict or refuse proposals which exceed the loading limitations of the roof structure of the hall.

Lifting Equipment Documentation

Under LOLER, certain information must be kept and made available for inspection. All lifting equipment must have appropriate documentation confirming that it has been inspected/ examined in accordance with the provisions of LOLER.

Risk Assessment

LOLER refers specifically to the Management of Health and Safety at Work Regulations regarding the requirement to carry out a 'suitable and sufficient' risk assessment of lifting operations. The risk assessment must be documented and available for examination.

Rigging: Rigging Limitations

All fixings or attachments to the permanent fabric or structure of the building will be carried out by the venue at the expense of the organiser, exhibitor or contractor requiring the service. This shall include the provision of attachments to the structure, steel work and the anchorage of guy ropes, wires, cramps or tackle for any purpose to any part of the building fabric and structure, whether to the interior or exterior of the halls.

Under no circumstances may any other person enter the roof to attach any wires or tackle to it or any other part of the premises.

26. Risk Assessment

Risk Assessment: Event Risk Assessment

There is an absolute legal requirement under the Management of Health and Safety at Work Regulations (MHSWR) to carry out a 'suitable and sufficient' risk assessment. This means that it must identify all 'significant risk'. Significant risks are those which are reasonably foreseeable in terms of probability and severe enough in outcome to warrant consideration i.e. they are more than trivial. Risk assessment is a

MANAGEMENT responsibility and all but the simplest risk assessments should be carried out by competent staff who are knowledgeable about the event or the activity in question.

Generally the venue will produce a generic risk assessment for the halls which indicates common hazards and control measures for all events. The organiser should then produce their own specific risk assessment detailing the hazards and controls for that particular event.

Examples of common risks associated with any event or exhibition are as follows:

- Multiple contractors working in a single workplace
- Fall from working at heights and working on a live edge
- Slips, trips and falls on a level surface
- Manual handling – lifting or moving of heavy/awkward loads
- Falls on stairs or escalators
- Injury from electric shock
- Objects falling from height or loads falling from vehicles
- Impact injury from moving vehicles
- Injury from use of work equipment e.g. circular saws
- Hanging wires
- Structural collapse of seating or an exhibition stand
- Outbreak of Legionnaires disease from a water feature
- Food poisoning incident from temporary catering outlet
- Fire and fire related incidents
- Major incident and civil emergency
- Excessive working hours
- Stress
- Alcohol and drug misuse related incidents

Before going into the detail, however, it is necessary to think about the event in totality. Any event is a combination of three factors as follows:

- The type of event e.g. trade or consumer (for entertainment events the type of entertainer)
- The type of visitor expected and numbers expected
- The venue

This combination will create a risk dynamic which is unique to that event alone. The risk assessment in total should be set in that context.

Risk Assessment: 5 Steps to Risk Assessment

There are two key definitions which are an important part of the risk assessment vocabulary.

A '**hazard**' is something with the potential to cause harm (injury loss or damage)

A '**risk**' is the potential for harm to be realised. This is usually seen as a combination of likelihood and severity and which is detailed in step two below.

The key to risk assessment is recognising that whereas there are a great many things which are hazardous, it is the context in which they arise which dictates whether or not they are actually a risk.

The most widely accepted approach in the events industry is the five steps approach as follows:

1. Step 1: Identify the Hazard and who could be harmed.
2. Step 2: Assess the risk
3. Step 3: Develop Controls
4. Step 4: Implement Controls
5. Step 5: Monitor and Review

Step1: Identify the hazard and who could be harmed

This is the hardest part as it involves predicting everything that could reasonably foreseeably go wrong. There are various approaches to this based on the type of hazard or the type of harm as follows:

Types of Harm

- Hazards that cause injury, such as a broken bone
- Hazards to health, such as noise

Type of Hazards

- Physical e.g. a vehicle
- Chemical e.g. carbon monoxide in exhaust fumes
- Biological e.g. food poisoning
- Ergonomic e.g. upper limb disorders from working at a keyboard
- Psychosocial e.g. violence

It is important to consider the potential consequences and who could be harmed. For example with an electrical fault the consequences are both potential injury from the shock or afire.

Step2: Assess the Risk

This depends on the complexity of the operation. For simple processes it is often sufficient to award a straightforward:

- Low
- Medium
- High

Most event risk assessments require more detail. It is necessary to assess both the potential **likelihood** of an incident or accident and the potential **severity** if it does happen. A widely used format is shown below.

Likelihood	Severity
1. Very Unlikely	1. Minor/First Aid
2. Unlikely	2. RIDDOR 3-Day
3. Likely	3. RIDDOR Major Injury
4. Very Likely	4. Death or very serious injury to one person
5. Almost Inevitable	5. Death or serious injury to many persons

The template shows that we assess risk both before and after controls are put into place. Before controls, we are assessing what would happen if there were no controls. It is important when considering severity to assess the most likely outcome. For example, consider a rigging operative falling from 3m onto concrete. The operative could be killed or they could get away with no injuries. The most likely outcome however, would be a major injury such as a broken bone.

Step3: Develop Controls

Having determined what the hazards are, and to what extent they pose a risk we now need to do something about it. We are required by MHSWR to take a methodical approach which attempts to reduce risk at source. This can be considered under the following headings:

- **Eliminate** the risk at source. There is a point at which any operation is simply too risky and you must consider this. An alternative is to find a different approach. A good example of eliminating risk at source is a mother grid. It eliminates the risk of riggers falling from height by lowering the rig to the floor and carrying out a fix and hoist.
- **Substitute** for a safer method or product. A good example is the use of emulsion paints as a substitute for the more hazardous solvent paints in stand build, or at seated event substituting a glass bottle with a plastic bottle for drinks.
- **Reduce** the risk in a quantifiable way. A good example is the prolific use of centre tapped earth transformers for temporary power (the yellow boxes). This reduces the voltage risk from 230V to a safer 100V or below on the event floor.
- **Isolate** from the hazard. This is a common form of control at event build ups. Workers are isolated from the risk of falling objects when raising a lighting rig by taping off the area under the rig to prevent

access.

- **Control** the risk. All too often this is the start point in many poor risk assessments. Notice how far down the order this is. The most common form of control on the event floor is the use of security and floor management. Another example is an agreed safe system for the lowering of stand panels (i.e. not just letting them fall!)
 - **Personal Protective Equipment (PPE)** are items such as hard hat and safety shoes. They are only effective if something goes wrong. A hard hat is only of use if something falls on your head. It also only protects you and not the person next to you unless they are wearing one too. Far better to prevent the object falling in the first place.
 - **Discipline** is also a method on which there is far too much reliance. It is fairly self evident that simply telling people not to do things that are unsafe and then punishing them when they do, is not an effective way of controlling risk.
- The example below shows the risk assessment of vehicle access. With no controls it is assessed to be 8, which is HIGH and unacceptable. After controls are put into place it is assessed to be 4, which is LOW and acceptable.

Hazard	Consequence	Who is at Risk	P	S	R	Controls	P	S	R
Access and egress of vehicles	Impact injuries Collision	Staff Exhibitors Contractors Members of the public	2	4	8	Isolate pedestrians with barriers Competent traffic marshals to ensure even flow of traffic and marshalling of routes and cargo doors Abide by house (venue) traffic rules	1	4	4
Key									
Action Level									
1- 4 LOW no further controls required									
5 -7 MED – justify /review for each event day									
8+ HIGH –immediate action/ further controls needed									

The MHSWR and associated guidance also requires that risks should be mitigated with a view to achieving maximum reduction in the level of risk within the bounds of what is reasonably practicable. This means that the employer should do what is reasonable within the constraints of the available resources in terms of time, money and personnel. This is not a license to do nothing on the basis that it is too expensive, but should be the result of careful consideration. The key word here is ‘reasonable’. The question to be asked is have you made reasonable provision to control the risks relative to the costs of controlling them? For example, consider the requirement for floor managers in a large exhibition. How many floor managers would provide just enough cover? Let us say you decide that two would suffice. Three would be better but how much would it achieve in risk reduction relative to the cost? This is the line of logic which you need to follow.

Step4: Implement Controls

This is the business of implementing controls on the event floor itself. It is worthwhile considering all the practical implications of control measures before they are put into place. For example you may decide on full bag searches as a security measure. This may be easier said than done when you are expecting thousands of visitors! If it must be done then you need to think of the practical application such as the space for bag searches and the number of security staff that you will need.

Step 5: Monitor and Review

It is important to monitor the event floor to ensure that prescribed controls are actually in place.

You also need a system of reviewing risk assessments. Event risk assessments have a natural review cycle in

that a new assessment is required for each event. For routine operations every risk assessment should have a review date. Other times when risk assessments need to be reviewed are:

- When there has been an accident or incident
- When there is a significant change in personnel or process
- When there is a change in the law
- When monitoring reveals problems.

Risk Assessment: Fire Risk Assessment

The principles of risk assessment generally still apply as they have been outlined above, however, a fire risk assessment is a very specific legal requirement under The Regulatory Reform (Fire Safety) Order and related guidance. Every venue must do a fire risk assessment. They must make the findings available to an event organiser. For practical purposes, especially in large venues this may be the section which applies particularly to the halls. The organiser must then do their fire risk assessment. The key question to be asked here is 'to what extent does my show alter the dynamics of the fire risk in the hall?'

Typical aspects which would increase the fire risk would be:

- Naked flame on stands (candles or gel burners)
- Use of compressed or flammable gases on stands
- Use of pyrotechnics, lasers and other stage effects
- Cookery demonstrations
- Exhibition of motor vehicles
- Likelihood of illegal smoking in outfield areas or in built storage areas on stands
- High levels of packaging waste
- High numbers of complex structures.
- Hot works during stand construction
- Dressing of stock or Octonorm panels with untreated (non flame retardant) materials.

Exhibitors will also need to complete a fire risk assessment. To keep it simple it is suggested that they fill in some form of return which either indicates that there is no risk, or acknowledges it, and includes it as part of the stand risk assessment (see below).

Any stand which is a complex structure or space only stand which large numbers of people could gather will need a fire risk assessment simply because of the escape issue.

The Government has issued a set of guidance books for various industries. The principal guidance which applies to the Events Industry is *Fire Safety Risk Assessment – Large Places of Assembly*. It is written especially for venues for gatherings of over 300 persons. Other guidance in the series includes *Small and Medium Places of Assembly* for small gatherings up to 60 or medium gatherings up to 300, and *Theatres Cinemas and Similar Premises*.

A suggested fire risk assessment template can be found under Risk Assessment: Templates

Risk Assessment: Exhibitor Risk Assessment

Every exhibition stand is a miniature workplace and therefore needs a risk assessment. Again the five steps approach will apply. There is a danger, however, of over complicating things. The erection of shell scheme will be covered by the shell scheme contractor's assessment. If the activity on the stand is clearly without significant risk, there is no need for a risk assessment. There is a need for the exhibitor to confirm that this is the case. Most organisers have a simple form for shell scheme exhibitors to either confirm that they have no significant risk or indicate which they have and how they intend to control it. This should be sufficient and can include the aspect of fire risk assessment. An example template is provided in this section.

For space only stands it is a little more complex. They will have to produce risk assessment and method statements for the safe erection and dismantling of their stands. They will also have to produce a fire risk assessment for the stand once it is in use. If they have any other activities on the stand, such as catering, this will also have to be covered by risk assessment.

The event risk assessment templates provided can be adapted for this purpose.

Risk Assessment: Contractors' Risk Assessment

Contractors are the subject matter experts in their own field and must produce a show specific risk assessment for their activities. Again the risk assessment should reflect the complexity of the operation. As a guide contractors generally fall into two categories. The first category is those larger contractors whose activities interact with other parties working in the hall such as the lifting contractor. Their risk assessments should be reasonably comprehensive with specific detail on how they will control the risk to others. The second categories are those contractors whose activities do not interact greatly such as floral delivery. These could be simpler risk assessments focusing on ensuring that they can operate safely in the hall.

Risk Assessment: Vetting Risk Assessment

Organisers should vet risk assessments to make sure they have been done properly. The following are common indicators of a poor risk assessment:

- Too simplistic, does not cover the range of risks
- It is simply a big book of all the risk assessments that the company has ever done without any attempt to relate it to the show
- It contains obvious and erroneous references to the last show they did
- Generated by head office so the team on the ground have no idea what is in it
- Long overdue for review
- It has clearly been done by someone who has never worked in an event venue

Risk Assessment: Consultation

One of the major failings of risk assessments generally, is that they are done by people who only have a partial grasp of what is involved. It is very important to involve people who know the subject matter. For example at a ski show there was a demonstration of ski stunts on a specially constructed ski run. The organiser took the trouble to consult with a professional downhill skier on some of the technical aspects such as safety distances and ski bindings etc

Risk Assessment: Summary of Risk Assessment at Events

The following is a summary of the risk assessments that would usually be created for an event.

Type	Responsible Party	Copied to
Generic Venue RA	The Venue	The Organiser
Venue Fire RA	The Venue	The Organiser
Event RA	Organiser	The Organiser, Venue Key Contractors, Floor Managers
Event Fire RA	Organiser	The Organiser, Venue Floor Managers
Organiser's Key Contractors RA's	Contractors	Organiser (Available to Floor Managers if needed)
Complex Structures including a Fire Risk Assessment	Exhibitors	Organiser and Venue (via the organiser)
Shell scheme stands. Where there is identified significant risk or fire risk	Exhibitors	Organiser
Venue's Key Contractors	Contractors	Venue

27. Rule Enforcement

- ExCeL London is committed to ensuring these regulations are enforced consistently.
- Due notice/warning will be issued in writing ONCE ONLY and if an Exhibitor continues to be in breach of a regulation after issue of a warning, ExCeL will take all and any actions necessary

28. Shell scheme

- Certificate of completion and safe construction provided by a competent person, ie, official stand contractor, confirming that all stands have been built in a satisfactory manner and are fit for their intended purpose.

29. Seminar Theatres

Construction

Please refer to the following sections which apply to the construction of seminar theatres:

- 1 Stand plan approval and certification
- 2 Stand construction
- 3 Construction materials

Space only, non-complex

Certification by a competent person approved by the venue (normally a structural engineer), with appropriate professional indemnity cover (a copy of which shall be supplied to the venue), certifying them to be sound and safe for their intended purpose.

Submission of Plans

The organiser must supply detailed plans of any proposed seminar theatres to be built on the exhibition floor no later than 28 days prior to tenancy. In addition to the requirements set out under 'Stand plan approval and certification', the following must be included:

- Means of access and egress
- Gangways and gangway widths
- Layout and dimensions of seating
- Method of securing seating

Exits

Seminar theatres must have a minimum of two emergency exits, sited remotely from each other.

If a seminar theatre has a ceiling, exit signs must be illuminated.

Exit doors must have vision panels and open outwards, in the direction of escape and into a recess, so that gangways remain unobstructed.

Exit doors must be free from fastenings, except for panic bars or emergency release mechanisms.

The size of the theatre and number of people to be accommodated will determine whether double or single doors are required. Please discuss this with the venue.

Layout

Tiered seating

Tiered seating structures are treated as complex structures. A 1:200 DWG drawing of the seating layout must be submitted for approval to the venue **prior to any tickets being sold for the event**, to ensure that the layout has sufficient exits.

The seating must be checked by a seating engineer/competent person on a daily basis and the sign-off passed to the venue.

Inspections should include the following as a minimum:

- Components align vertically and horizontally from above and below system
- Handrail spigots and pins/bolts fully engaged and securely located
- Rails in place – ends of gangways and stair landings
- Stair frames braced and secure flight fixed
- Half steps secure, handrails and nosing properly fitted
- Seats and seat frames undamaged, in line and level
- Seat backs not dislodged, splitting or warping
- Floor panels secure not splitting or warping
- Exits signed, unobstructed
- All light fittings secure
- Mechanical damage

Flat floor seating

The width of gangway required between blocks of seats depends on the total number of seats and their layout. The minimum gangway required is 1.1 metres. A minimum gap (seat way) of 300mm must be provided between the back of one seat and the front of the seat immediately behind.

The maximum number of seats allowed in a row is:

- Seven seats where there is a gangway at one end only. Up to 12 seats are allowed if the seat way is increased by 25mm for each additional seat over seven.
- 14 seats where there is a gangway at each end. Up to 28 seats are allowed with a gangway at each end if the seat way is increased by 25mm for each additional seat over 14.

If there are over four seats in a row the seats must be clamped together using an approved method. Plastic

cable ties are not permitted.

If floor bars are used to secure seats at the end of rows and on corners, they shall be no more than 25mm in height and must be cambered. The requirement for floor barring is dependent on the profile and size of the audience using the theatre.

Equipment

Audio-visual and presentation equipment, cabling etc, must be securely sited so as not to cause any obstruction or trip hazard. Feet of speaker stands may need to be indicated with hazard tape.

30. Seating

- a. Seating should be so arranged as to allow free and ready access direct to the exits
- b. Seatways provide the initial parts of escape routes and hence need to be of sufficient width to enable all persons in the row easy movement towards the gangways.
- c. The number of seats in a row should be in accordance with Table 1.
- d. The seating assigned to each person should be not less than 760mm deep where backs are not provided, and not less than 600mm wide where arms are provided, and shall be not less than 500mm wide where arms are provided and not less than 450mm wide where arms are not provided.
- e. Wheelchair spaces should be provided in accordance with the recommendation of Approved Document M of the building Regulations. The greater of 6 wheelchair spaces or 1% of the available seats should be available as wheelchair spaces.
- f. Wheelchair spaces may be provided:
 - I. As permanent spaces; or
 - II. By seats which can be readily removed when necessary. It is usually necessary to remove more than one seat to provide the space for a wheelchair.
- g. In fixed seats there should be a clear seatway or space of at least 300mm measured between the perpendiculars from the back of one seat to the front of the seat immediately behind it.
- h. Where seats tip up automatically the clear seatway should be measured between the back of one seat and the maximum projection of the seat behind when the seat is in the Up position.
- i. The calculated occupant capacity of the premises (or part of the premises) should be determined;
In areas where fixed seating is provided:
 - I. If individual seats, by the number of such seats, and
 - II. If bench seats or similar continuous seating, by dividing the total width of such seating by 450mm
- j. Fixing seating to the floor is not permitted at ExCeL. The use of floor bars instead of floor screws is permitted. Such floor bars should be not more than 25mm in height, have a cambered top surface so as to avoid risk of tripping persons using the seatways, and should extend from the row to be fixed to at least two adjacent rows, but should not extend across any gangway.

m. Table 1 Maximum number of seats in a row

Table 1

Seatway width	Maximum number of seats in a row	
	Gangway on one side	Gangway on two sides
Mm		
300 to 324	7	14
325 to 349	8	16
350 to 374	9	18
375 to 399	10	20
400 to 424	11	22
425 to 449	12	24
450 to 474	12	26
475 to 499	12	28
500 or more	12	
Note: An example of the application of Table 6 is shown in Figure 5		

30.1 Conventional seating

a. The number of seats in rows should not exceed:

i. 7 seats where there is a gangway at one end only except that up to a maximum of 11 seats may be permitted if the 300mm seatway is increased by 25mm for each additional seat over 7; and

ii. 14 seats where there is a gangway at each end; provided that longer rows up to 22 seats with a gang way at each end may be permitted subject to the seatway being increased by 25mm for each pair of seats over 14 or part thereof.

b. Chairs or other single seats should be secured together in lengths of not fewer than 4 seats and not more than 12 so that the seats cannot be separated from each other merely by pushing one or more seats in a row (the only exception being chairs in boxes or other approved enclosures).

c. The width of gangway required between blocks of seats depends on the total number of seats and their layout, but the minimum gangway required will be 1.1 meters.

d. The Seating and gangways shall be so arranged as to allow free access direct to the exits.

30.2 Fire rating of seating

a. Seats provided for closely a seated audience should satisfy the pass criteria for smouldering ignition source 0, flaming ignition source 1 and crib ignition source 5 when tested in accordance with section 5 of BS 5852.

b. The underside surface of all plywood decks surfaces of side and back panels and fascias of temporary tiered seating should be class 0.

c. Upholstery of all fixed seating shall comply with the provision of BS 7176.

31. Simulators and Rides

Simulators and rides must comply with the Amusement Devices Inspection Procedures Scheme (ADIPS). They will only be permitted if a valid Declaration of Operational Compliance (DOC), copies of annual inspection certificates and a full risk assessment are submitted to the venue no later than 28 days prior to the start of the licence period.

Simulators and rides shall be under the control of a competent and experienced person, who is able to recognise any dangers associated with the apparatus and is authorised to take any immediate and necessary action to prevent danger. During build-up the organiser must confirm with the the venue that the documents submitted correspond to the actual rides to be used. The organiser must also confirm that each ride has been tested daily by a competent person and is safe for public use, prior to the event opening.

32. Stages and Platforms

Stages and platforms over 0.6m in height and all platforms and stages for public use are deemed to be complex structures and the procedures for complex structures detailed under 'Stand Construction' must be followed.

Structural Details

Temporary platforms and stages should be assembled in accordance with engineering documentation that comprises drawings, calculations and specifications, all prepared by a competent person. Engineering documentation should be independently checked by a structural engineer. The results of the check should be included with the technical documentation applicable to the stage and submitted to the venue for approval.

Of the calculations that are applicable to complex structures, the following are particularly relevant to stage structures:

- Ability of the stage surface to support the design loads and other given criteria, including dynamic loadings, e.g. dancing, acrobatics
- Ability of the structure to support the weight of any suspended equipment.
- Rigging and support methods proposed to suspend the equipment.

- Ability of the whole structure to resist all imposed forces on it, including those created by weather conditions (if applicable).
- Ability of the structure to resist the additional wind loading on the suspended equipment (if applicable)
- Interaction between elements of the structure e.g. junctions between staging and ground supports.

Access and egress for non-public use

Stages and platforms should be provided with adequate access by means of ramps and/or stairways. It is good practice to have at least two means of access/egress. Stairs and ramps used for access/egress must comply with the guidance detailed in the stand construction section.

The surface of ramps and treads, particularly those which could become wet, should be covered with slip-resistant material.

Adequate handrails should be provided to all ramps and stairways. Ramps should have suitable rails to restrain equipment on wheels.

Protection against falling

Lack of handrails and poor stairs are the most common causes of stage-related accidents indoors. Wherever possible, there should be a handrail on all except the performance edge(s) of stages, regardless of height and on every staircase. Criteria for handrails used on platforms and stages not for public access require:

- A limiting deflection of 35mm under a 0.3kN point load applied horizontally; and
- No breaking or deflection more than 300mm at any point under a 1.25kN point load applied vertically.

Handrails on stages and platforms used by the public generally require the handrail to bear 3kN.

Organisers should agree measures with the stage supplier to assist in preventing falls to technicians installing equipment (typically sound, lighting and video) on the unfinished stage or platform. Temporary barriers may be required at the front edge of the stage during non-show times. All contractors are to take suitable measures to prevent the risk of falling during the assembly and removal process. These measures should be documented in the form of a method statement and risk assessment.

Serious accidents have occurred on stages with a narrow gap to an adjacent wall where people have stepped into the gap and become trapped. Where narrow gaps cannot be avoided they should be protected by handrails and toe boards.

Performers may face into very powerful lights, which may dim or go to 'blackout' very suddenly, leaving them temporarily unable to see edge markers. Way-finder or rope lighting may be required.

The front edge of stages, physical obstructions and stair edges should be marked with white, luminous tape. For best visibility, the tape should be at least 50mm wide.

33. Stand Construction

Common Regulative Guidance

All construction work is subject to the requirements imposed by this guidance and must be carried out using proper materials and in a workmanlike manner. Please also refer to 'Fixing to the Premises'.

Stand Construction: Exit Signs

Exit signs must be:

- A minimum height of 200mm and a minimum width of 400mm
- on a 24 hour electrical supply and illuminated at all times
- positioned so they are conspicuous

Alternative means of escape and adequately maintained general and safety lighting, with maintained illuminated exit notices shall be provided to any enclosed area on a stand.

Stand Construction: Escape Routes

- a. Alternative escape must be available from any point within a stand or structure leading to a place of safety.
- b. Escape routes should have a minimum, unobstructed height of 2.1m, other than within doorways, which should have a clear height of not less than 2.06m.
- c. The minimum permitted gangway width is 2 metres, except within stands of less than 100m², where gangways must be no less than 1m wide.
- d. There should be no obstruction that could impede the free flow of people using the escape route.
- e. All floors should be even and have a firm, smooth and slip-resistant finish. Trip hazards should be avoided.
- f. The maximum travel distance from any part of a stand to an open side, exit or gangway shall not exceed 15metres

Stand Construction: Upper Level Floor Loading

The floor of the upper level of a multi-storey stand must be capable of withstanding a weight loading of 5kn/sqm.

Stand Construction: Doors/Vision Panels

Doors must have a vision panel with a zone of visibility of between 500 mm and 1500 mm above the floor. The exception to this is doors to small storerooms, where a small panel may suffice.

34. Suspended Fittings

Primary fixings for the suspension of stand fitting, banners, lighting fittings or other decorative materials from the structure of the hall roof, walls, columns or any other part of the building, must be carried out only by the venue's appointed rigging company. Secondary fixings will be permitted provided that:

- a. The arrangement is agreed in writing by the event organiser.
- b. The event organiser ensures that the company carrying out the work supplies a suitable work at height risk assessment identifying specific hazards and risks when installation and removal takes place.
- c. Initial enquiries are submitted to the event organiser who will liaise with the venue for approval in principle. Exhibitors or contractors approaching the venue directly will be referred back to the organiser.
- d. Application is made to the venue at least 28 days prior to the first day of tenancy.
- e. All orders are accompanied by fully dimensioned plans giving precise weight loadings for each individual suspension point. Requests for rigging will be dealt with by the venue on a first come first served basis.
- f. Time is available within the beginning and end of the show tenancy for the venue to fix and remove the suspension wires, with free unobstructed safe access at floor level for hoist vehicles, cranes, etc, as may be required.
- g. Suitable safety arrangements are made for overhead working which do not conflict or present a hazard to ground level work.
- h. Suspended systems are installed prior to the commencement of stand building.
- i. Installation and dismantling takes place within the official tenancy period.

A certificate of integrity and/or structural report from a competent person and/or structural engineer is supplied.

Direct fixing between the hall roof structure and the hall floor is not permitted.

Suspension will be prohibited if valid certification is not available or if a load or system is considered unsafe or unstable.

The venue reserves the right to check all rigging services and arrangements and to reposition or remove any items which may cause a hazard, obscure venue signage, appear to contravene regulations, or otherwise interfere with the safe and proper operation of the hall.

The organiser will be responsible for the cost of repositioning banners, etc, or providing equivalent supplementary signage due to overshadowing or obstruction of permanent exit signs.

High Intensity Lighting Systems

Specialist lighting designed to be portable and fully compatible as a system should be used.

Textile fabric infills must comply with BS 476 Part 7 (Class 1) and be thoroughly porous so as not to inhibit the effectiveness of any fire protection system within the hall. Also fabric is required to be arranged in such a way so as not to inhibit the effectiveness of the permanent emergency lighting or heating/ventilating plant in the hall.

34.1 Inspections

a. The company supplying and erecting the seating must nominate a competent person to carry out structural inspections each day before use. The inspector must confirm in writing on behalf of his company that the inspection has taken place. The report shall ensure:

- I. The person carrying out the inspection is clearly identified and signs and dates the report.
- II. It clearly states the results of the inspection and its purpose
- III. Defects found and action taken is clearly listed.

c. The design shall be subject to appropriate independent checking and certification

34.2 Gangways

a. Gangways should be carefully detailed to provide an unhindered flow towards the exits

b. There should be no projection into the gangway, which would diminish its clear width, and the ends of all rows of seats should be aligned as to maintain a uniform width of gangway throughout its length.

c. Gangways used by not more than 60 persons, shall be not less than 900 mm.

d. Gangways used by more than 60 persons shall be less than 1100 mm wide,

e. Gangways accessible to mobility impaired disabled people should be at least 1000mm wide.

f. There should be no projection, which would diminish the clear width of the gangway, other than any handrails, each intruding not more than 100 mm.

g. All gangways should be inspected frequently and on each occasion prior to admittance of the public.

h. The gangways should be maintained even and non-slip. Resilient floor surfaces should be maintained in accordance with BS 6263-2.

i. The space in front row of seats should be treated as a gangway.

j. Stepped gangways should not be regarded as stairs; however excessively long flights of steps should be avoided.

35. Vehicles

35.1 Moving or static motor vehicles within the venue

Organisers shall give the venue at least 28 days' notice in writing of their intention to exhibit or demonstrate vehicles within the venue.

Vehicles shall not enter any building in which an exhibition is taking place during the time that it is open to visitors.

Motor vehicles used for delivery of materials or exhibits are not permitted to remain in the halls overnight. Please contact the venue should a vehicle need to remain on site overnight.

35.2 Vehicles: Petrol-Fuelled Motor Vehicle Exhibits

All petrol-fuelled motor vehicles or other petrol engine equipment fitted with a fuel tank, including boats, plant or machinery, must comply with the following:

- The event organiser must advise the venue
- The fuel tanks of motor vehicles manufactured prior to 1984 must contain only sufficient fuel to move the vehicle in and out of the hall, due to the absence of safety features which prevent leakage.
- Fuel tanks of motor vehicles manufactured from 1984 onwards may contain fuel.
- The fuel tanks on all other petrol engine equipment must be empty
- The fuel tank must be sealed, wherever possible with a lockable cap
- All vehicles must be provided with a drip tray and shall be positioned within the boundaries of the stand so that any protrusions, doors, tail lifts etc, do not infringe the stand perimeter
- The running of engines during the open period of an exhibition is strictly prohibited
- For vehicles required to operate as part of a moving demonstration, "pit" positions must be clearly defined and agreed with the venue. Suitable fire extinguisher(s) must be provided

Filling or emptying of fuel tanks inside the hall is strictly prohibited at all times

35.3 Vehicles: Vehicles in Public Circulation Areas

No vehicles, hand propelled or motorised, are permitted to travel within the public circulation areas during the open period of the exhibition.

The static display of vehicles in the public circulation areas is subject to approval of written details by the venue. Vehicles must be clean including tyres, supplied with a drip tray and pushed into position.

The venue will agree the maximum number of vehicles permitted in these areas.

35.4 Vehicles: Vehicles used for speed competitions, racing & stunt events

Organisers shall give the venue at least 28 days' notice in writing of their intention to use vehicles for any speed competitions, racing, stunt events, etc, including full risk assessments and method statements of all vehicle activities, pit areas and fuel storage for the event.

35.5 Vehicles: Refuelling and re-charging

Vehicles and plant must be refuelled or re-charged in the open air, away from the building in a position agreed by the venue.

36. Waste: General

The venue is responsible for cleaning common areas of the site ie: communal/public areas, foyers, entrances, concourses, gangways, toilets and will remove 'normal waste' produced during the build-up and breakdown periods. Normal waste includes packaging and other small items.

- The organiser, exhibitors and contractors are responsible for the removal of any other waste, including: carpet - except scraps
- Crates/pallets
- Building waste, such as bricks, sand and stand fitting materials
- Metal work
- Large items that will not fit into rubbish receptacles or that need to be removed by mechanical means
- Hazardous waste - e.g., paints, solvents, chemicals, clinical waste, aerosols, oils or lubricants, including rags used in the application of these substances
cooking oils
- Strip lights (fluorescent tubes) and light bulbs
- Material produced by working demonstrations of exhibits.

In accordance with Section 34 of the Environment Protection Act, items requiring disposal shall be removed by an approved waste carrier and taken to a licensed waste management company. The venue can provide quotes, on request, for making the necessary arrangements.

All such items must be removed from the exhibition halls in sufficient time for the venue's cleaning contractor to clean the floors within tenancy hours on the last day of the licence period. If such items are not removed, the venue may arrange for their removal and any associated costs will be passed on to the organiser. The venue accepts no responsibility for any items left on the premises after tenancy hours on the final day of the licence period.

As a general rule, by 1900 hours on the day before the first day of the open period of an event (pre-open day) all stand construction work must be completed. All vehicles, plant, ladders, trestles, scaffolds, trolleys, contractors' huts, spare materials and other items used in connection with the construction and erection of stands must be removed from the venue. At the same time all exhibits, exhibitors' and contractors' materials required for that event must be removed from the gangways and placed on stand areas to allow the venue's cleaning staff to sweep the gangways and clear away refuse.

The organisers, exhibitors and contractors must provide adequate access and freedom of movement to allow the cleaning operation to take place in reasonable time prior to the commencement of the open period.

After an exhibition has closed each day, stand holders must place any dry refuse from their stand into plastic sacks, provided by the venue. The plastic sacks must then be placed in the gangways immediately after the closure of the exhibition for removal by the night cleaning staff. Under no circumstances must refuse be placed in the gangways other than in plastic sacks, or at other times than those stipulated above.

36.1 Waste: Stand cleaning

The venue will normally provide stand cleaning services as follows:

- pre-clean of all stands on the day or night before the event opens;
- daily clean of all stands prior to the event opening.

These services do NOT normally include the following:

- The cleaning of exhibits;
- The cleaning of the upper level of multi-storey stands; or
- Specialised cleaning ie: Cleaning of cars, boats, glass, special flooring, etc

At the end of the event, the organiser, exhibitor and contractors must ensure all equipment has been moved prior to the end of the Licence Period. Abandoned equipment will be removed by the venue will be charged for and skip hire will be calculated according to the amount of waste remaining.

If skips are required to dispose of stand materials, these can be hired from the venue's cleaning contractor.

Washbasins and toilets within the WCs throughout the venue are not to be used for disposing of tealeaves, waste food, etc. The cost of clearing blockages in the drainage system as a result will be charged to the organiser or anyone found carrying out this act.

The venue will charge for any unreasonable soiling or permanent damage caused to walls or carpeted areas.

37. Work Equip/Tools/Processes: Work Equipment

All equipment provided for work within the venue must be suitable and appropriate for the tasks required. The venue is a commercial environment and the use of 'domestic' quality equipment is not acceptable.

37.1 Work Equip/Tools/Processes: Access Equipment

Access equipment includes scaffold towers and mobile elevating work platforms (MEWP's). This equipment may be operated on the premises as long as it can be proven to have been inspected and tested for safety in the previous 6 months.

The venue requires all operators working on access equipment to wear head protection and full body harnesses and be attached to the equipment by means of a lanyard. Powered access equipment must only be used by competent persons trained in the use of the equipment who can provide a valid licence or certificate to operate the equipment.

37.2 Work Equip/Tools/Processes: Working platforms

All working platforms shall be protected by guardrails when at a height assessed to present a hazard. Mobile tower scaffold shall be constructed and used as identified by the manufacturer. Steps and ladders used as working platforms shall have flat treads and not round rungs to prevent damage to feet. Working platforms shall be identified in the assessment of equipment required under Work at Height Regulations.

37.3 Work Equip/Tools/Processes: Lifting Equipment

Lifting equipment includes fork lift trucks, Genie hoists and winches, chain blocks and chain hoists and all associated tackle, including shackles, wire rope, slings, rings and harnesses and all safety attachments.

All persons using such equipment shall be competent to do so and shall have undertaken an assessment to select the appropriate equipment to be used. All equipment will be visibly marked as having been inspected and tested within the previous 6 months. Only official contractors appointed to an event may operate lifting equipment within the venue.

37.4 Work Equip/Tools/Processes: Work Tools

All tools being used in the construction of stands shall be fit for purpose. Where electrically operated they shall be visibly marked as inspected and tested within the previous 12 months. Woodworking machinery shall be used with due consideration for the affect on others nearby (noise and dust). Gangways are not to be turned into makeshift 'work-shops'. The use of routers is not appropriate due to the release of harmful dust in the process.

37.5 Work Equip/Tools/Processes: Fixing to the premises

Fixing of any sort to any part of the interior or exterior of the premises, including floors, is not normally permitted.

Where applicable, only approved carpet tape may be used for fixing floor coverings to the hall floors. Any damage to the fabric of the building will be repaired by the venue at the organiser's expense.

37.6 Work Equip/Tools/Processes: Floor Loading

The transportation and location of heavy exhibits/structures must conform to the venue's weight limits, which must not be exceeded.

The organiser must inform the venue in advance, of any load which may exceed that normally permitted, so that an engineered solution may be found, if possible.

Floor loading limits and the required dimensions of base plates vary considerably; please check the specific information provided by the venue.

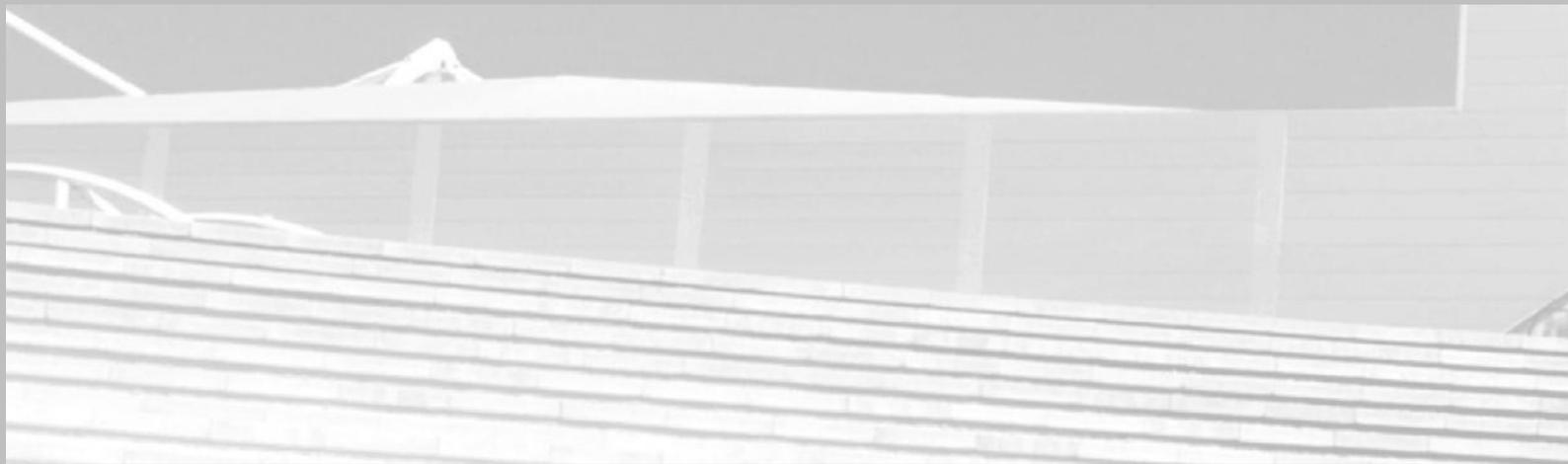
38. Working at Height: General

A person is working 'at height' if there is a possibility of their being injured from falling, even if they are working at or below ground level.

The Working at Height Regulations refers to 'duty holders': employers, self-employed and employees. This includes all contractors and exhibitors (for example, when accessing areas above floor level to dress stands).

Duty holders' responsibilities are to ensure that:

- No work is done at height if it is safe and reasonably practicable to do it other than at height
- Ensure that the work is properly planned and organised, appropriately supervised and carried out in as safe a way as is reasonably practicable
- Plans are in place for emergencies and rescue
- Account is taken of the risk assessment carried out under regulation 3 of the Management of Health and Safety at Work Regulations
- They do all that is reasonably practicable to prevent anyone falling
- All work at height takes account of conditions that could endanger health and safety
- Those involved in work at height are trained and competent
- The place where work at height is done is safe
- Equipment for work at height is appropriately inspected
- The risks from fragile surfaces are properly controlled
- The risks from falling objects are properly controlled
- Equipment used for work at height must be suitable for the task. Where ladders are used, these must be industrial, not domestic quality.



EXCEL LONDON

An ADNEC Group Company

LONDON DOCKLANDS E16 1XL
TEL: +44 (0)20 7069 4000

