

# Code of practice for the planning, design, installation and use of permanently installed access equipment —

## Part 1: Suspended access equipment

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# Committees responsible for this British Standard

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- Construction Industry Training Board
- Health and Safety Executive
- National Access and Scaffolding Contractors
- National Federation of Master Steeplejacks and Lightning Conductor Engineers
- Safety Assessment Federation Limited
- Society of Operations Engineers
- Suspended Access Equipment Manufacturer’s Association

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## Foreword

This part of BS 6037 has been prepared by Technical Committee B/514/39. It supersedes BS 6037:1990, which is withdrawn. This revision takes into account the advances in technology and equipment available to the suspended access equipment industry as well as the application of new techniques and the applicability of new legislation.

The start and finish of text introduced or altered by Amendment No. 1 is indicated in the text by tags **A1** **A1**.

**A1** BS 6037-2 covers **A1** the planning, design, installation and use of travelling ladders and gantries.

As a code of practice, this British Standard takes the form of guidance and recommendations. It should not be quoted as if it were a specification and particular care should be taken to ensure that claims of compliance are not misleading.

It has been assumed in the preparation of this standard that the execution of its provisions will be entrusted to appropriately qualified and experienced people for whose use it has been produced.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

**Compliance with a British Standard does not of itself confer immunity from legal obligations.**

## Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 19 and a back cover.

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## Introduction

Permanently installed suspended access equipment is designed and installed to provide a suspended platform that gives safe access to areas of a building or other permanent structure and to serve only that structure. Such installations are customarily used for window cleaning and light building maintenance. The Construction (Design and Management) Regulations 1994 (CDM Regulations) [1] require that all façades including windows and skylights are designed and positioned so that they can be accessed safely. It is essential that the requirements for permanently installed suspended access equipment be considered at an early stage in the building design process. The dimensions and capability of suspended access equipment need to be appropriate for the nature of the task/s to be performed.

Permanently installed suspended access equipment generally comprises a platform suspended by steel wire ropes from a securely mounted overhead structure (suspension rig). It is normally capable of being raised and lowered and can also be capable of being moved laterally across the building façade.

The suspension rig can be fixed or mounted on a rail track or other suitable load-bearing surface (e.g. reinforced concrete) at high level or can be fixed to the façade or underside of a cantilevered portion of the building.

Parts of the installation can be demountable for storage purposes.

The installation can be manually or power operated or a combination of both. The hoist can be mounted either on the suspension rig or the suspended platform.

Working at height can expose workers and other persons in the vicinity to particularly severe risks to their health and safety, in particular the risk of falling from height, falling objects and other serious occupational accidents.

## 1 Scope

This part of BS 6037 gives recommendations for the planning, design, installation, use, examination, maintenance and testing of permanently installed suspended access equipment including equipment installed on a building to facilitate continuing routine maintenance of the building. It is intended for use by those involved in specifying, designing, managing the use of, maintaining and examining permanently installed suspended access equipment.

**NOTE** This standard does not cover temporary rope access and work positioning techniques, recommendations for which are given in BS 7985.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 449-2, Specification for the use of structural steel in building — Metric units.

BS 5268-2, Structural use of timber — Code of practice for permissible stress design, materials and workmanship.

BS 5950 (all parts), Structural use of steelwork in building.

BS 7671, Requirements for electrical installations — IEE Wiring Regulations.

BS 7883, Code of practice for application and use of anchor devices conforming to BS EN 795.

BS 8110 (all parts), Structural use of concrete.

BS 8118 (all parts), Structural use of aluminium.

BS EN 795, Protection against falls from a height — Anchor devices — Requirements and testing.

BS EN 1808:1999, Safety requirements on suspended access equipment — Design calculations, stability criteria, construction — Tests.

BS EN 60204-1, Safety of machinery — Electrical equipment of machines — Part 1: General requirements.

BS EN 60947-3, Specification for low-voltage switchgear and controlgear — Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units.

### 3 Terms and definitions

For the purposes of this part of BS 6037 the terms and definitions given in **BS EN 1808:1999** and the following apply.

#### 3.1

##### **anchor unit**

connection supporting and/or holding the components of the suspended access equipment to the building

#### 3.2

##### **building manual**

file for the building containing design and other information related to the suspended access equipment

#### 3.3

##### **duty holder**

designated person with management responsibility for the safe use, maintenance and thorough examination of suspended access equipment

NOTE 1 The duty holder is the owner or person otherwise responsible for a particular building.

NOTE 2 The duty holder's responsibility for ensuring the safe use, maintenance and thorough examination of the suspended access equipment is a legal requirement under the Provision and Use of Work Equipment Regulations 1998 (PUWER) [2] and the Lifting Operations and Lifting Equipment Regulations 1998 (LOLER) [3] (see also Clause 15).

#### 3.4

##### **mechanical stop (fixed)**

device physically connected to the track system to prevent further travel of the suspension rig

#### 3.5

##### **mechanical stop (operational)**

device which can be operated to allow the suspension rig to negotiate movable track sections

#### 3.6

##### **rigging**

routine process of assembling the suspended access equipment for use

#### 3.7

##### **shunt track**

section of the rail track which is moved to enable a suspension rig to be transferred to another track system or parking position

#### 3.8

##### **spur track**

section of the rail track, incorporating points or similar device, that enables a suspension rig to be transferred to another section of the track system

#### 3.9

##### **turntable**

section of a rail track which can be rotated to change the direction of travel of a suspension rig

### 4 Identifying hazards and taking preventative action

#### 4.1 Design stage

Suspended access equipment is required to conform to the Machinery Directive (98/37/EC) [4], which sets machinery design requirements to protect the health and safety of users.

NOTE 1 **BS EN 1808:1999** specifies design and construction requirements relating to the safety of suspended access equipment and is a harmonized standard supporting the provisions of the Machinery Directive.

At an early stage in the design of the building, a risk assessment should be carried out in order to identify and minimize potential hazards for the user of the suspended access equipment.

NOTE 2 It is a legal requirement under the CDM Regulations 1994 [1] that a risk assessment is carried out at this stage.

NOTE 3 A list of potential hazards and hazardous situations identified (by risk assessments) as being significant for suspended access equipment is given in BS EN 1808:1999, Table 1.

## 4.2 Installation, use and maintenance

The Management of Health and Safety at Work Regulations 1999 [5] require that risk assessments are carried out before the suspended access equipment is put into use. Site-specific hazards and hazardous situations should be identified and the actions required to eliminate or reduce the associated risks should be incorporated in the risk assessment.

A permit-to-work system should be put in place to cover all planned operation, maintenance, testing and thorough examination of the suspended access system.

NOTE Guidance on producing permit-to-work systems is given in the HSE publication Permit-to-work systems 1998 [6].

A list of the more common hazards encountered when using permanently installed suspended access equipment, and the actions which should be taken to eliminate or reduce them, is given in Table 1. Under no circumstances should this list be considered to be exhaustive.

A method statement should be prepared covering the operation of the suspended access equipment. The method statement should include the findings of the risk assessment and the measures required to control or eliminate risk. All operators should be made aware of the findings of the risk assessment and given adequate training prior to operating or maintaining the suspended access equipment (see Clause 18).

**Table 1 — Hazards encountered when installing, maintaining and using suspended access equipment, and recommended actions**

| Hazard                                                                        | Action                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Exposure                                                                      | Suitable protective clothing should be worn (see 6.4).<br>During severe weather conditions, for example if the work area is icy, or during very strong winds, work should not be undertaken and operators should report to the duty holder.                                                                                                               |
| Hazardous situation arising from unauthorized use of equipment                | Operators should obtain a permit to work (see 4.2).                                                                                                                                                                                                                                                                                                       |
| Hazardous situation arising from other work being carried out in the vicinity | Operators should obtain a permit to work and authorization from the duty holder prior to commencing work (see 4.2).                                                                                                                                                                                                                                       |
| Falling or tripping                                                           | Operators should follow prescribed safe route(s) of access and egress (see 6.2).<br>Where there is inadequate roof edge protection, safety anchors and/or a safety line and safety harness should be used.<br>Suitable, marked anchorage points should be provided on the working platform to permit attachment of harnesses.                             |
| Slipping                                                                      | Algae and other hazardous materials should be removed from all access and egress routes and working areas.                                                                                                                                                                                                                                                |
| Injury to passers by from falling objects                                     | Loose objects and tools should be secured with lanyards.<br>Warning notices or barriers should be erected below the workplace (see Clause 17).                                                                                                                                                                                                            |
| Persons stranded on the suspended platform                                    | Operators should receive training in the safe use of the suspended access equipment and should follow the correct procedures as given in the operating instructions.<br>Operators should be supplied with a means of communication between the suspended platform and a competent person.<br>A Rescue/recovery procedures should be planned in advance. A |
| Damage to power cables                                                        | Power cables should be of adequate length to allow for movement of suspension rigs or suspended platforms and should be routed such that they cannot become severed or damaged by movement of the suspension rig or suspended platform.                                                                                                                   |

**Table 1 — Hazards encountered when installing, maintaining and using suspended access equipment, and recommended actions** (*continued*)

| Hazard                                                                                                                               | Action                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Electric shock                                                                                                                       | <p>Only competent persons should have access to the electrical circuitry of the suspended access equipment.</p> <p>The suspended access equipment should be switched off or isolated before any maintenance work is carried out on it (see Clause 12 and Clause 19).</p> <p>The mains power supply should be provided with a residual current device (RCD).</p> |
| Injury resulting from maloperation or malfunction of the suspended access equipment                                                  | <p>Operators should receive training in the safe use of the suspended access equipment and should follow the correct procedures as given in the operating instructions.</p> <p>All limit switches and safety devices should be operational at all times and checked at appropriate intervals to ensure they are fit for use (see Clause 12 and Clause 19).</p>  |
| Collision of suspended access equipment with scenic lifts or mobile devices installed on the same building or neighbouring buildings | Suitable interlocks or controls should be provided and the work planned to remove any danger of the suspended access equipment colliding with the scenic lifts or mobile devices.                                                                                                                                                                               |

## 5 Planning and exchange of information

### 5.1 Planning

The CDM Regulations 1994 [1] require building designers to provide a safe means of access to a building façade for activities such as **A1** ongoing **A1** inspection, cleaning and maintenance. A permanent installation can affect the structure, roof layout and fenestration of a building and the access requirements should therefore be considered during the preliminary design stage.

NOTE 1 Significant financial savings and design advantages can result from an early consideration of façade access requirements. Once the design of a building has been finalized, it can be very difficult to make changes to it in order to enable installation of suspended access equipment to be carried out (see 7.3).

The preliminary design for the suspended access equipment should be based on advice and guidance concerning the various types of system available and should, therefore, be prepared by a competent person. The dimensions and characteristics of suspended access equipment should be appropriate for the nature of the task(s) to be performed.

**A1** The general planning details should be settled at the earliest possible stage by detailed investigation by, and agreement between, the building designer and the manufacturer or supplier of the suspended access equipment, and the results incorporated in the technical file for the building. **A1**

NOTE 2 This agreement will be necessary to enable the suspended access equipment to be CE marked (see Annex A).

NOTE 3 The health and safety file is a legal requirement under the CDM Regulations 1994 [1].

**A1** The prime responsibility to ensure that access for building maintenance is safe lies with the duty holder. **A1**

Persons normally involved in the planning and exchange of information should include:

- duty holder;
- equipment manufacturer or suppliers;
- architect or designer [or their representative(s)];
- structural engineer;
- planning supervisor;
- principal contractor;
- local authority;
- client.