



BSI Standards Publication

**Planning, design, installation and
use of permanently installed access
equipment — Part 2: Travelling ladders
and gantries — Code of practice**

Publishing and copyright information

The BSI copyright notice displayed in this document indicates when the document was last issued.

© The British Standards Institution 2020

Published by BSI Standards Limited 2020

ISBN 978 0 539 03377 9

ICS 53.020.99

The following BSI references relate to the work on this document:

Committee reference MHE/12

Drafts for comment 19/30388923 DC

Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

Contents

	Page
Foreword	iii
Introduction	1
1 Scope	1
2 Normative references	2
3 Terms and definitions	2
4 Identifying hazards and taking preventative action	3
4.1 At design stage	3
4.2 At installation, use, inspection and maintenance stages	3
<i>Table 1 — Hazards encountered when installing, maintaining, inspecting and using TLGs, and recommended actions</i>	4
5 Planning and exchange of information	5
5.1 Planning	5
5.2 Exchange of information	6
6 Health and safety	7
6.1 General	7
6.2 Safe access and egress	7
6.3 Safe use	8
<i>Table 2 — Safe use of TLGs</i>	8
6.4 Emergency planning	8
7 Attachment of the TLG to the building	8
7.1 Loads on the building	8
7.2 Anchor units	8
7.3 Examination	9
7.4 Installation of TLGs on existing buildings	9
8 Track system	9
8.1 Rail track	9
8.2 Mechanical stops	10
9 Design and construction of TLGs	10
9.1 Design of TLGs	10
9.2 Construction of TLGs	12
9.3 Construction of box ladders	14
9.4 Construction of variable geometry TLGs (curved or faceted)	14
9.5 Travelling mast climbing work platforms	14
10 Ancillary features of TLGs	15
10.1 General	15
10.2 Tower sections	15
10.3 Mobile elevating work platforms (MEWPs)	15
10.4 Extending TLG sections	16
10.5 Underslung rails and anchorage points	16
10.6 Movable platforms for ladders	16
11 Protection against lightning	16
12 Electrical systems	16
12.1 General	16
12.2 Mains power supply	17
12.3 Power supply cables	17
12.4 Electrical safeguards	17
13 Hydraulic and pneumatic systems	17
14 Control systems	17



14.1	Safety related controls	17
14.2	Layout and operation of controls	18
15	Safety devices	18
16	Marking	18
17	Commissioning, verification and handover	19
18	Responsibilities of the duty holder	19
19	Operating instructions	20
19.1	General	20
19.2	Content of operating instructions	20
20	Instructions for use	21
20.1	Documentation/paperwork	21
20.2	Site checks	21
20.3	Equipment and pre-use checks	22
20.4	Safe use of the TLG	23
20.5	Access, egress and operation of the TLG	23
21	Provision of notices	24
22	Training and instruction	24
23	Inspections, maintenance, thorough examinations and testing	25
23.1	General	25
23.2	Inspections and maintenance	25
23.3	Load testing	26
23.4	Thorough examinations	26
23.5	Supplementary tasks	27
23.6	Taking TLG out of service	27
24	Record keeping	28
25	Changes, renewal or upgrading of the TLG	28
Annex A	(normative) Emergency planning considerations	30
	Bibliography	32

Summary of pages

This document comprises a front cover, and inside front cover, pages i to iv, pages 1 to 32, an inside back cover and a back cover.

Foreword

Publishing information

This part of BS 6037 is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 May 2020. It was prepared by Technical Committee MHE/12, *Lifting platforms*. A list of organizations represented on this committee can be obtained on request to its secretary.

Supersession

This part of BS 6037 supersedes [BS 6037-2:2004](#), which is withdrawn.

Information about this document

This is a full revision of the standard, and introduces the following principal changes:

- duty holders roles and responsibilities described and included throughout the document;
- additional hazards included in [Table 1](#);
- list of responsible persons added to [Table 2](#);
- pre-use checks and document checks expanded in [Clause 19](#);
- new [Clause 22](#) on training and instruction;
- new recommendations dealing with taking travelling ladders and gantries (TLGs) out of service and bringing them back into service; and
- expanded recommendations and guidance on emergency planning, including a new [Annex A](#).

This publication can be withdrawn, revised, partially superseded or superseded. Information regarding the status of this publication can be found in the Standards Catalogue on the BSI website at bsigroup.com/standards, or by contacting the Customer Services team.

Where websites and webpages have been cited, they are provided for ease of reference and are correct at the time of publication. The location of a webpage or website, or its contents, cannot be guaranteed.

Use of this document

As a code of practice, this part of BS 6037 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.

Any user claiming compliance with this part of BS 6037 is expected to be able to justify any course of action that deviates from its recommendations.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is “should”.

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. “organization” rather than “organisation”).

Contractual and legal considerations

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 cannot confer immunity from legal obligations.

Introduction

It is increasingly common for modern commercial office buildings to incorporate an atrium and/or a glazed corridor, glazed entrance or roof that requires special provision for continuing maintenance access as high-level areas are often difficult to access using temporary access or mobile elevating working platforms (MEWPS).

The Construction (Design and Management) Regulations 2015 (CDM Regulations) [1] require that all designers take into account general principles of prevention and any pre-construction information to eliminate, so far as is reasonably practicable, foreseeable risks to the health or safety of any person.

Façades and other items that require periodic access need to be designed and positioned so that they can be accessed safely.

Therefore, it is essential that the requirements for permanently installed access equipment be considered at an early stage in the building design process. The dimensions and capability of any travelling ladder or gantry need to be appropriate for the nature of the task(s) to be performed.

To keep these often large and inaccessible areas of glass clean and also to provide safe access for the routine maintenance of items such as sprinklers, louvres, glazing, smoke vents/actuators, lights and detection systems, these buildings need to be provided with some form of permanently installed equipment, which could be in the form of a travelling ladder or gantry, sometimes used in conjunction with lifting equipment or a suspended platform.

Attention is drawn to the Lifting Operations and Lifting Equipment Regulations 1998 (LOLER) [2] and the Provision and Use of Work Equipment Regulations 1998 (PUWER) [3] in respect of legal requirements for travelling ladders and gantries (TLGs) that incorporate any form of lifting equipment or suspension points for lifting equipment.

The installation can be manually or power operated or a combination of both.

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 travelling ladders and gantries (TLGs) including equipment installed on a building to facilitate routine maintenance of the building fabric and its services. It is intended for use by those involved in specifying, designing, managing the use of, maintaining and examining such equipment.

NOTE 1 For further information on underbridge gantries, see The operation and maintenance of bridge access gantries and runways [4].

NOTE 2 Where TLGs are intended to be used in conjunction with suspended access equipment (SAE), this part of BS 6037 is supplemented by BS EN 1808 and [BS 6037-1](#).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes provisions of this document¹⁾. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

[BS 6037-1](#), *Planning, design, installation and use of permanently installed access equipment – Code of practice – Part 1: Suspended access equipment*²⁾

[BS 7671](#), *Requirements for Electrical Installations – IET Wiring Regulations*

[BS 7883](#), *Personal fall protection equipment – Anchor systems – System design, installation and inspection – Code of practice*

[BS 8610](#), *Personal fall protection equipment – Anchor systems – Specification*

BS EN 1992-1-1, *Eurocode 2: Design of concrete structures – Part 1-1: General rules and rules for buildings*

BS EN 1993-1-1, *Eurocode 3: Design of steel structures – Part 1-1: General rules and rules for buildings*

BS EN 1995-1-1, *Eurocode 5: Design of timber structures – Part 1-1: General – Common rules and rules for buildings*

BS EN 1999-1-1, *Eurocode 9: Design of aluminium structures – Part 1-1: General structural rules*

BS EN 1808, *Safety requirements for suspended access equipment – Design calculations, stability criteria, construction – Examination and tests*

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

BS EN 60947-3, *Low-voltage switchgear and control gear – 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 6037-1](#), BS EN 1808 and the following apply.

3.1 duty holder

designated person(s) with management responsibility for the safe use, maintenance, inspection and thorough examination of work equipment

NOTE 1 The duty holder might be the owner, manager or person otherwise responsible for a particular building. Other parties also have duties under the regulations.

NOTE 2 Attention is drawn to the legal requirement under the Provision and Use of Work Equipment Regulations 1998 (PUWER) [3] and the Lifting Operations and Lifting Equipment Regulations 1998 (LOLER) [2] in respect of the duty holder's responsibility for ensuring the safe use, maintenance and thorough examination of the TLG.

3.2 gantry

workplace with a continuous footway or treads and inclined to the horizontal at an angle of 50° or less

¹⁾ Documents that are referred to solely in an informative manner are listed in the Bibliography.

²⁾ This standard also gives informative references to BS 6037-1:2017.

3.3 ladder

workplace with rungs or treads and inclined to the horizontal at an angle of more than 50°

3.4 operator

any person authorized to use the equipment

NOTE 1 This could include window cleaners, maintenance engineers, inspectors and surveyors.

NOTE 2 The term “user” can also be applied.

3.5 suspension point

item specifically designed and incorporated into TLGs to allow attachment of auxiliary lifting equipment and/or suspended access equipment or industrial rope access points

3.6 travelling ladder and gantry (TLG)

purpose-designed mobile workplace supported by or running on rails, beams or prepared tracks, designed specifically to provide access for operators to carry out cleaning and maintenance tasks on a building or similar structure and for no other purpose

4 Identifying hazards and taking preventative action

4.1 At design stage

NOTE 1 Attention is drawn to the Machinery Directive (2006/42/EC) [5] in respect of machinery design requirements for TLGs to protect the health and safety of users.

At an early stage in the design of the building, a design risk assessment should be carried out in order to identify the access requirements and minimize the potential hazards for the users maintainers and inspectors of a TLG.

NOTE 2 Attention is drawn to the CDM Regulations 2015 [1] in respect of the legal requirement to carry out a risk assessment at this stage.

4.2 At installation, use, inspection and maintenance stages

NOTE 1 Attention is drawn to the Management of Health and Safety at Work Regulations 1999 [6] in respect of the legal requirement to carry out a risk assessment before a TLG is put into use.

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

NOTE 2 Guidance on producing permit-to-work systems is given in the HSE publication Permit-to-work systems [7].

A list of the more common hazards encountered when using permanently installed TLGs, and the actions which should be taken to eliminate or reduce them, is given in [Table 1](#). This list should not be taken as exhaustive and the hazards should be reviewed periodically.

A method statement should be prepared covering the operation of the TLG. The method statement should include the findings of the risk assessment and the measures required to control or eliminate risk. All operators/users should be made aware of the findings of the risk assessment and given adequate training and instruction prior to operating or maintaining the TLG (see [Clause 22](#)).

Table 1 — Hazards encountered when installing, maintaining, inspecting and using TLGs, and recommended actions

Hazard	Action
1. Exposure	Suitable protective clothing should be worn (see 6.1 , Note 3). During severe weather conditions, for example if the work area is icy, during very strong winds or lightning forecasted/noticed, work should not be undertaken and operators/users should report to the duty holder.
2. Heat exhaustion	Operators/users should be instructed to wear suitable clothing, have more frequent breaks and, if possible, execute the work during cooler periods.
3. Hazardous situation arising from unauthorized use of the equipment	Equipment should be locked-off/made inaccessible to unauthorized persons.
4. Hazardous situation arising from other work being carried out in the vicinity	Duty holders should coordinate activities and issue a permit to work to the operators/users.
5. Hazardous situation arising from operators/users using the equipment incorrectly or contrary to design intent	Operators/users should receive training/instruction in the safe use of the TLG and should follow the correct procedures as given in the operating instructions.
6. Falling or tripping	Operators should follow prescribed safe route(s) of access and egress (see 6.2). Where there is inadequate roof edge protection, safety anchors and/or safety lines and safety harnesses should be used. Suitable, marked anchorage points should be provided on the working platform to permit the attachment of harnesses.
7. Slipping	Algae and other hazardous materials should be removed from all access and egress routes and working areas.
8. Injury to passers-by from falling objects	Loose objects and tools should be secured with lanyards. Duty holders should control access below the workplace. Warning notices or barriers should be erected below the workplace (see Clause 20).
9. Persons stranded on the TLG	Operators should receive training in the safe use of the TLG and should follow the correct procedures as given in the operating instructions. Operators should be supplied with a means of communication between the TLG and the duty holder. Rescue/recovery procedures should be planned in advance for building evacuation, equipment malfunction and for an incapacitated person or persons. See Annex A .
10. Damage to power cables	Power cables should be of adequate length to allow for movement of the TLG and should be routed such that they cannot become severed or damaged by movement of the TLG.
11. Electric shock	Only competent persons should have access to the electrical circuitry of the TLG. The TLG should be switched off or isolated before any electrical maintenance work is carried out on it (see Clause 12 and Clause 23). The mains power supply should be provided with a suitable protective device.
12. Falls from height	The equipment manufacturer (and/or designer) should provide safe access to all parts of the system for maintenance.
13. Inadequate maintenance	The equipment manufacturer should supply any specialist equipment/tools required.

Table 1 (continued)

Hazard	Action
14. Injury resulting from malfunction of the TLG	TLG should be subject to a programme of preventative maintenance and inspection (see Clause 23). 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 23).
15. Radiation hazards	Be aware of the risks associated when passing or working close to any radio frequency (RF) emitting equipment.
16. Collision of TLGs 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 TLG colliding with scenic lifts or mobile devices.

5 Planning and exchange of information

5.1 Planning

NOTE 1 Attention is drawn to the CDM Regulations 2015 [1], which require building designers to provide a safe means of access for activities such as ongoing inspection, cleaning and maintenance of a building.

A permanent installation can affect the structure, layout and fenestration of a building and the access requirements should therefore be taken into account during the preliminary design stage.

NOTE 2 Significant financial savings and design advantages can result from an early consideration of access requirements. Once the design of a building has been finalized it can be very difficult to make changes to enable installation of TLGs to be carried out (see [7.4](#)) See [BS 8560](#) for guidance on design of buildings incorporating safe work at height.

The preliminary design for any travelling ladders and gantries 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 the TLG should be appropriate for the nature of the task(s) to be performed.

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 TLG and the results incorporated in the technical file for the building.

NOTE 3 This agreement is necessary to enable the TLG to be CE marked (see BS 6307-1:2017, Annex A).

NOTE 4 Attention is drawn to the CDM Regulations 2015 [1] where the health and safety file is a legal requirement.

NOTE 5 The prime responsibility for ensuring that access for building maintenance is safe lies with the client and principal designer.

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

- a) the client*;
- b) the principal designer*;
- c) the principal contractor*;
- d) the equipment manufacturer or supplier;
- e) the structural engineer; and
- f) the local authority*.

NOTE 6 The organizations marked with an asterisk() could at any time be regarded as the duty holder.*

NOTE 7 Persons involved in the planning and exchange of information can vary from one installation to another and can include persons not mentioned in the above list.

5.2 Exchange of information

5.2.1 Information for the manufacturer or supplier

The architect or designer of the building should provide information to the manufacturer or supplier of the TLG on such matters as:

- a) the purpose(s) for which the TLG is to be used and the specific tasks that are to be performed from it;
- b) the extent of the building which is to be accessed by the equipment;
- c) any special requirements as set out by the local authority in the planning permit for installing the equipment and the requirements of any local bylaws that apply;
- d) the wind loading for which the building is designed and any other relevant environmental factors;
- e) any items identified in the health and safety file;
NOTE Attention is drawn to the CDM Regulations [1] in respect of items that are a legal requirement.
- f) any special hazards (e.g. working over water, roads or public areas);
- g) any special building features [e.g. flagpoles, CCTV cameras, mobile phone and communication aerials and dishes, boiler flues, adjacent buildings, illuminated signs, chiller units, cooling towers, scenic lifts and lighting, fire detectors/fire protection systems such as sprinklers, smoke vents, automatic opening vents (AOV)];
- h) any special requirements (e.g. a facility and/or equipment for glazing replacement);
- i) the safe means of access/egress to the TLG;
- j) plans for emergency rescue from the TLG; and
- k) plans for emergency egress routes from the building, so as not to be obstructed by the operation or parking/storage of the equipment.

The architect or designer of the building should also provide building plans and other relevant information to enable the manufacturer or supplier to select the most appropriate equipment.

This information should form part of the pre-construction information, construction plan and the health and safety file.

5.2.2 Information for the architect or designer

The manufacturer or supplier of the TLG should provide the principal designer or principal contractor of the building with the following information which will form part of the health and safety file:

- a) the type and rated load of the TLG and the number of systems required;
- b) dimensions and clearances necessary for the operation of the equipment;
- c) the space requirements necessary for parking and storage of the equipment;
- d) the space requirements necessary to facilitate maintenance, examination and testing of the equipment;
- e) the maximum static and dynamic loads that the equipment will impose on the building (see 7.1);