

Guernsey Technical Standard

Safe means of access and egress

The Building (Guernsey) Regulations, 2012

K

- K1 Stairs, ladders and ramps,
- K2 Protection from falling,
- K3 Vehicle barriers and loading bays
- K4 Protection from collision with open windows etc
- K5 Protection against impact from and trapping by doors
- K6 Reservoirs and water retaining structures

MAIN CHANGES MADE BY THE FEB 2013 AMENDMENTS

1. The general guidance on materials and workmanship and the Construction Products Directive has been edited to reflect the new EU Construction Products Regulation.

MAIN CHANGES IN THE 2012 EDITION

2. This Guernsey Technical Standard which takes effect on 1st July 2012 is issued under the Building (Guernsey) Regulations, 2012. From this date all previous editions of documents approved under the Building Regulations, 1992 i.e. (the UK Approved Document K and section K4 of the Guernsey Approved Documents 1993) will no longer be valid except in relation to building work carried out in accordance with full plans deposited with the Department before that date.

How this Guernsey Technical Standard K differs from the UK Approved Document K

3. In addition to the different legislative references reflecting Guernsey legislation, the main differences a non resident based applicant should note is the addition of a requirement K6 and associated guidance in relation to reservoirs and water retaining structures.
4. The UK Building (Approved Inspectors, etc.) Regulations 2010 are not in force in Guernsey. Therefore approved inspectors are not recognised on the Island and all references have been removed.

Contents

	PAGE		PAGE
Introduction	5	Handrails for stairs	17
What is a Guernsey Technical Standard?	5	Guarding of stairs	17
How to use a Guernsey Technical Standard	5	Access for maintenance purposes	17
Where you can get further help	6	Ramps	17
Responsibility for compliance	6		
General Guidance	7	Pedestrian and Vehicle barriers	
Types of work covered by this document	7	The Requirements K2/3	19
Material change of use	7	Guidance	20
Protected buildings and monuments	8	Performance	20
Notification of work	8	Pedestrian guarding	20
Competent person self-certification schemes under Schedule 3	8	Guarding of areas used for maintenance	20
Exemptions	9	Vehicle barriers	21
Materials and workmanship	9	Loading bays	21
Supplementary guidance	9		
Technical specification	9	Protection from collision with open windows, etc. - The Requirement K4	23
Independent schemes of certification and accreditation	9	Guidance	24
Interaction with other legislation	10	Performance	24
		Introduction to provisions	24
K1 Stairs, ladders and ramps		Projecting parts	24
The Requirement K1	11	Spaces used only for maintenance	24
Guidance	12	Protection against impact and trapping by doors - The Requirements K5	25
Performance	12	Guidance	26
Introduction to provisions	12	Performance	26
Steepness of stairs – rise and going	12	Introduction to provisions	26
Alternative approach	12	Safety features	26
Construction of steps	12	Reservoirs and water retaining structures	
Headroom	12	The Requirement K6	27
Width of flights	14	Performance	28
Length of flights	14	Fencing	28
Landings	15	Means of egress	28
Special stairs	15	Safety criteria	28
Tapered treads	15		
Spiral and helical stairs	16		
Alternating tread stairs	16		
Fixed ladders	16		

	PAGE
Annex A: Standards referred to	29
Annex B: Key Terms	30

DIAGRAMS

1. Measuring rise and going	14
2. Measuring headroom	14
3. Reduced headroom for loft conversions	14
4. Dividing flights	14
5. Change of direction	15
6. Landings next to doors	15
7. Cupboard onto landing	15
8. Measuring tapered treads	16
9. Alternating tread stair	16
10. Ramp design	18
11. Guarding design	21
12. Typical locations for containment	22
13. Barrier siting	22
14. Barrier design	22
15. Loading bay	22
16. Marking by a barrier	24
17. Marking by a surface	24
18. Doors with vision panels	26

TABLE

1. Rise and going	13
-------------------	----

Introduction

What is a Guernsey Technical Standard?

This document has been approved and issued by the Environment Department to provide practical guidance on ways of complying with requirements K1 to K6 and regulation 11 of the Building (Guernsey) Regulations, 2012 (GSI, 2012 No.11). The Building (Guernsey) Regulations, 2012 are referred to throughout the remainder of this document as ‘the Building Regulations’.

The intention of issuing Guernsey Technical Standards is to provide guidance about compliance with specific aspects of the Building Regulations in some of the more common building situations. They include examples of what, in ordinary circumstances, may be reasonable provision for compliance with the relevant requirement(s) of the Building Regulations to which they refer.

If guidance in a Guernsey Technical Standard is followed this may be relied upon as tending to show compliance with the requirement(s) covered by the guidance. Similarly a contravention of the standard may be relied upon as tending to establish a breach of the requirements. However, this is not conclusive, so simply following guidance does not guarantee compliance in an individual case or a failure to follow it meaning that there is necessarily a breach. It is also important to note that there may well be other ways of achieving compliance with the requirements. There is therefore no obligation to adopt any particular solution contained in this Guernsey Technical Standard if you would prefer to meet the relevant requirement in some other way. However, persons intending to carry out building work should always check with the Department, that their proposals comply with Building Regulations.

The guidance contained in this Guernsey Technical Standard relates only to the particular requirements of the Building Regulations that the document addresses, (see ‘Requirements’ below). However, building work may be subject to more than one requirement of the Building Regulations and there may be an obligation to carry out work on a material change of use. In such cases the works will also have to comply with any other applicable requirements of the Building Regulations and work may need to be carried out which applies where a

material change of use occurs.

This document is one of a series that has been approved and issued by the Environment Department for the purpose of providing practical guidance with respect to the requirements of the Building Regulations in particular of regulations 6, 8 and 11 and Schedule 1.

At the back of this document is a list of all the documents that have been approved and issued by the Environment Department for this purpose.

How to use this Guernsey Technical Standard

In this document the following conventions have been adopted to assist understanding and interpretation:

- a. Texts shown against a yellow background are extracts from the Building Regulations, and set out the legal requirements that relate to compliance with the **safe means of access and egress** requirements of the Building Regulations. It should be remembered however that, as noted above, building works must comply with all the other applicable provisions of the Building Regulations.
- b. Key terms are defined in annex B at the rear of this document.
- c. Details of technical publications referred to in the text of this document will be presented in *italics* and repeated in standards referred to as an annex at the rear of this document. A reference to a publication is likely to be made for one of two main reasons. The publication may contain additional or more comprehensive technical detail, which it would be impractical to include in full in this Document but which is needed to fully explain ways of meeting the requirements; or it is a source of more general information. The reason for the reference will be indicated in each case. The reference will be to a specified edition of the document. The Guernsey Technical Standard may be amended from time to time to include new references or to refer to revised editions where this aids compliance.

Where you can get further help

If you require clarification on any of the technical guidance or other information set out in this Guernsey Technical Standard and the additional detailed technical references to which it directs you, there are a number of routes through which you can seek further assistance:

- The States of Guernsey website:
www.gov.gg/planning
- If you are the person undertaking the building work you can seek advice from building control at the Environment Department to help ensure that, when carried out, your work will meet the requirements of the Building Regulations.
- Businesses registered with a competent person self-certification scheme may be able to get technical advice from their scheme operator. A full list of competent persons schemes are included as Schedule 3 of the Building Regulations.
- If your query is of a highly technical nature you may wish to seek the advice of a specialist, or industry technical body, in the area of concern.

Responsibility for compliance

It is important to remember that if you are the person (e.g. designer, builder, installer) carrying out building work to which any requirement of Building Regulations applies you have a responsibility to ensure that the work complies with any such requirement. The building owner or occupier will also have a responsibility for ensuring compliance with Building Regulation requirements and could be served with a compliance notice in cases of non-compliance or with a challenge notice in cases of suspected non-compliance.

General Guidance

Types of work covered by this Guernsey Technical Standard

Building work

Building work, as defined in regulation 5 of the Building (Guernsey) Regulations, 2012, includes the erection or extension of a building, the provision or extension of a controlled service or fitting, and the material alteration of a building or a controlled service or fitting. In addition, the Building Regulations may apply in cases where the purposes for which, or the manner or circumstances in which, a building or part of a building is used change in a way that constitutes a material change of use.

Under regulation 6 of the Building Regulations 2012, building work must be carried out in such a way that, on completion of work,

- i. the work complies with the applicable Parts of Schedule 1 of the Building Regulations,
- ii. in the case of an extension or material alteration of a building, or the provision, extension or material alteration of a controlled service or fitting, it complies with the applicable Parts of Schedule 1 to the Building Regulations and also does so as satisfactorily as it did before the work was carried out.

Work described in Part K concerns the safe means of access and egress. Work associated with safe means of access and egress covered in these sections may be subject to other relevant Parts of the Building Regulations.

With reference to the requirements of Part K6 of Schedule 1 of the Building Regulations, reservoirs and water retaining structures does not include swimming pools, jacuzzis, hot tubs, etc.

Material change of use

A material change of use occurs in specified circumstances in which a building, or part of a building that was previously used for one purpose will be used in future for another, or is converted to a building of another kind. Where there is a material change of use, the Building Regulations set requirements that must be met before the building can be used for its new purpose.

Regulation 7 of the Building (Guernsey) Regulations, 2012 specifies the following circumstances as material changes of use:

- a building is used as a dwelling where previously it was not,
- a building contains a flat where previously it did not,
- a building is used as an institution where previously it was not,
- a building is used as a public building where previously it was not,
- a building is not described in Classes I to V or VI of Schedule 2, where previously it was,
- a building contains a room for residential purposes where previously it did not,
- a building contains an office where previously it did not,
- a building is used as an hotel or guest house, where previously it was not,
- a building is an industrial building, where previously it was not,
- a building contains a shop, where previously it did not,
- a building is used for the sale of food or drink, to the public in the course of a business and for consumption in that building and where there is a maximum capacity of 15 or more persons seated or standing, where previously it was not so used,
- the building, which contains at least one room for residential purposes, contains a greater or lesser number of such rooms than it did previously,

- the building, which contains at least one dwelling, contains a greater or lesser number of dwellings than it did previously.

Part K will apply to all the material changes of use mentioned above. This means that whenever such changes occur the building must be brought up to the standards required by Part K.

Protected Buildings and Monuments

The types of building works covered by this Guernsey Technical Standard may include work on historic buildings. Historic buildings include:

- a. a building appearing on the Departments protected buildings listing
- b. a building or other structure appearing on the Department protected monument listing

When exercising its functions under The Land Planning and Development Law, the Department has duties under s30(1), 34, 35 and 38(1) of that Law, to secure so far as possible that monuments are protected and preserved, that the special characteristics of protected buildings are preserved and to pay special attention to the desirability of preserving and enhancing the character and appearance of a conservation area. Building Control will need to comply with these duties when considering any decisions in relation to such buildings or buildings in such areas.

Special considerations may apply if the building on which the work is to be carried out has special historic, architectural, traditional or other interest, and compliance with the **safe means of access and egress** requirements would unacceptably alter the fabric, character or appearance of the building or parts of it.

When undertaking work on or in connection with buildings with special historic, architectural, traditional or other interest, the aim should be to improve the **safe means of access and egress** where and to the extent that it is possible provided that the work does not prejudice the fabric, character or appearance of the host building or increase the long-term deterioration to the building's fabric or fittings.

In arriving at a balance between historic building conservation and the **safe means of access and egress** requirements advice should be sought from the Environment Department's historic building adviser.

Note: Any building which is a protected monument listed under Section 29 of The Land Planning and Development (Guernsey) Law 2005 is exempt from most Building Regulations requirements including those in Part K, (See regulation 13 and class V of Schedule 2 to the Building Regulations) unless the proposed works constitute a material change of use.

Notification of work

In almost all cases of new building work it will be necessary to notify Building Control in advance of any work starting. The exception to this: where work is carried out under a self-certification scheme listed in Schedule 3 or where works consist of emergency repairs.

Competent person self-certification schemes under Schedule 3

Under regulations 14(4), 17(4) and 19 of the Building Regulations it is not necessary to deposit plans or notify Building Control in advance of work which is covered by this Guernsey Technical Standard if that work is of a type set out in column 1 of Schedule 3 to the Regulations and is carried out by a person registered with a relevant self-certification (competent persons) scheme as set out in column 2 of that Schedule. In order to join such a scheme a person must demonstrate competence to carry out the type of work the scheme covers, and also the ability to comply with all relevant requirements in the Building Regulations. These schemes may change from time to time, or schemes may change name, or new schemes may be authorised under Schedule 3; the current list on the Department's website should always be consulted. Full details of the schemes can be found on the individual scheme websites.

Where work is carried out by a person registered with a competent person scheme, regulation 19 of the Building Regulations requires that the occupier of the building be given, within 30 days of the completion of the work, a certificate confirming that the work complies with all applicable Building Regulation requirements. There is also a requirement that the Department be given a notice that this has been done, or the certificate, again within 30 days of the completion of the work. These certificates and notices are usually made available through the scheme operator.

The Department is authorised to accept these certificates as evidence of compliance with the requirements of the Building Regulations. However, inspection and enforcement powers remain unaffected, although they are normally used only in response to a complaint that work may not comply.

Exemptions

Schedule 2 to the Building Regulations sets out a number of classes of buildings which are exempt from majority of Building Regulations requirements including Part K.

Materials and workmanship

Any building work within the meaning of the Building Regulations should, in accordance with regulation 11, be carried out with proper materials and in a workmanlike manner.

You may show that you have complied with regulation 11 in a number of ways. These include the appropriate use of a product bearing CE marking in accordance with the Construction Products Regulation (305/2011/EU-CPR) as or a product complying with an appropriate technical specification (as defined in those Regulations), a British Standard or an alternative national technical specification of any state which is a contracting party to the European Economic Area which in use is equivalent, or a product covered by a national or European certificate issued by a European Technical Approval issuing body, and the conditions of use are in accordance with the terms of the certificate.

You will find further guidance in the Guernsey Technical Standard on materials and workmanship that provides practical guidance on regulation 11 on materials and workmanship.

Supplementary guidance

The Environment Department occasionally issues additional material to aid interpretation of the guidance in Guernsey Technical Standards. This material may be conveyed in official letters to relevant agents and/or posted on the Department website accessed through: www.gov.gg/planning

Technical specifications

When a Guernsey Technical Standard makes reference to specific standards or documents, the relevant version of the standard is the one listed at the end of the publication. However, if this version of the standard has been revised or updated by the issuing standards body, the new version may be used as a source of guidance provided that it continues to address the relevant requirements of the Building Regulations.

Where it is proposed to work to an updated version of the standard instead of the version listed at the end of the publication, this should be discussed with the Department in advance of any work starting on site.

The appropriate use of any product, which complies with a European Technical Approval as defined in the Construction Products Regulation, (305/2011/EU-CPR) as amended, repealed or replaced will meet the relevant requirements.

Independent schemes of certification and accreditation

Much of the guidance throughout this document is given in terms of performance.

Since the performance of a system, product, component or structure is dependent upon satisfactory site installation, testing and maintenance, independent schemes of certification and accreditation of installers and maintenance firms will provide confidence in the appropriate standard of workmanship being provided.

Confidence that the required level of performance can be achieved will be demonstrated by the use of a system, material, product or structure which is provided under the arrangements of a product conformity certification scheme and an accreditation of installer scheme.

Third party accredited product conformity certification schemes not only provide a means of identifying materials and designs of systems, products and structures which have demonstrated that they reach the requisite performance, but additionally provide confidence that the systems, materials, products and structures are actually provided to the same specification or design as that tested or assessed.

Third party accreditation of installers of systems, materials, products and structures provides a means of ensuring that installations have been conducted by knowledgeable contractors to appropriate standards, thereby increasing the reliability of the anticipated performance.

Many certification bodies that approve such schemes are accredited by the **United Kingdom Accreditation Service**.

The Department may accept certification of products, components, materials or structures under such schemes as evidence of compliance with the relevant standard. Similarly the Department may accept the certification of installation or maintenance of products, components, materials and structures under such schemes as evidence of compliance with the relevant standard. Nonetheless the Department will wish to establish in advance of the work, that any such scheme is adequate for the purpose of the Building Regulations.

Interaction with other legislation

This Guernsey Technical Standard makes reference to other legislation, including that listed below, the requirements of which may be applicable when carrying out building work. All references are to legislation as amended or repealed and replaced.

Note: All Laws, Ordinances and Statutory instruments can be accessed at;

www.guernseylegalresources.gg/

The Health and Safety at Work (General) (Guernsey) Ordinance, 1987 made under the Health and Safety at Work etc. (Guernsey) Law, 1979 and the Health, Safety and Welfare of Employees Law, 1950 applies to any workplace or part of a workplace. They apply to the common parts of flats and similar buildings if people such as cleaners, wardens and caretakers are employed to work in these common parts.

Mixed use development

In mixed use developments part of a building may be used as a dwelling while another part has a non-domestic use. In such cases, if the requirements of this Part of the Regulations for dwellings and non-domestic use differ, the requirements for non-domestic use should apply in any shared parts of the building.

The Requirement K1

This Guernsey Technical Standard deals with the following requirements from Part K of Schedule 1 of the Building Regulations.

<i>Requirement</i>	<i>Limits on application</i>
Stairs, ladders and ramps K1. Stairs, ladders and ramps shall be so designed, constructed and installed as to be safe for people moving between different levels in or about the building.	Requirement K1 applies only to stairs, ladders and ramps which form part of the building.

Note: Staircase design features in **Guernsey Technical Standard B Fire safety** and **Guernsey Technical Standard M Access and use of buildings**, and reference must be made to both.

Guidance - Section 1

Performance

In the Department's view the requirement K1 will be met by the use of stairs, ladders and ramps in appropriate circumstances to afford reasonable safety between levels in the following buildings:

- a. dwellings where the difference in level is more than 600mm;
- b. other buildings where the change of level is two or more risers (or 380mm if not part of a stair).

An acceptable level of safety can be achieved by different standards of provision, depending on the circumstances; for example, in a public building the standard of provision may be higher than in a dwelling, to reflect the lesser familiarity and greater number of users.

Where access is required only for the purpose of maintenance, greater care can be expected from those gaining access, and it would be reasonable that less demanding provisions could satisfy the requirement.

Introduction to provisions

K1.1 This document describes some ways of meeting the requirement.

It gives guidance on aspects of geometry of stairs, special stairs and guarding of stair, and gives guidance on ramps and guarding of ramps.

K1.2 The requirement does not apply to means of access outside a building unless the access is part of the building; for example, the requirement does not apply to steps on land leading to a building, but does apply to entrance steps which are part of the building.

K1.3 Where access routes:

- a. form part of a means of escape in case of fire, reference should be made to Guernsey Technical Standard B: Fire safety;
- b. are intended as a means of principal access to a building, reference should be made to Guernsey Technical Standard M: Access to and use of buildings.

K1.4 In places where a stair or ramp forms part of the means of access within assembly buildings, such as sports stadia, arenas, theatres, cinemas, etc., it should conform to the guidance in Part K: Safe means of access and egress. However, where steps are part of the gangways serving areas for spectators or there needs to be special consideration given to guarding in spectator areas, then reference should be made to relevant guidance such as:

- a. for new assembly buildings, BS 5588-6:1991 Fire precautions in the design, construction and use of buildings. Code of Practice for places of assembly;
- b. for work to existing assembly buildings, Guide to Fire Precautions in Existing Places of Entertainment and Like Premises, Home Office 1990;
- c. for stands at sports grounds, Guide to Safety at Sports Grounds, The Stationery Office 1997.

Steepness of stairs – rise and going

1.1 The requirement will be satisfied if, in a flight, the steps all have the same rise and the same going to the dimensions shown in 1.3 or comply with 1.4 and 1.5.

1.2 Three categories of stairs are considered in this Guernsey Technical Standard:

‘Private’ intended to be used for only one dwelling.

‘Institutional and assembly’ serving a place where a substantial number of people will gather.

‘Other’ in all other buildings.

1.3 Indication of the practical limits for rise and going, for each category of stair which satisfies the requirements, is given below.

a. **Private stair:** Any rise between 155mm and 220mm used with any going between 245mm and 260mm; or

Any rise between 165mm and 200mm used with any going between 223mm and 300mm.

b. **Institutional and assembly stair:** Any rise between 135mm** and 180mm** used with any going between 280mm and 340mm.

c. **Other stair:** Any rise between 150mm** and 190mm** used with any going between 250mm and 320mm.

1.4 Table 1 gives the maximum rise and minimum going for the three stair categories.

1.5 The normal relationship between the dimensions of the rise and going is that twice the rise plus the going ($2R + G$) should be between 550mm and 700mm.

Diagram 1 shows how to measure the rise and going (for steps with tapered treads, see also paragraphs 1.18–1.20).

1.6 In assembly buildings, the gangways may need to be at different pitches to maintain sightlines for spectators and this may affect the main stairs, etc.

The maximum pitch for gangways for seated spectators is 35° .

Table 1 Rise and going

		Maximum rise (mm)	Minimum going (mm)
1.	Private stair	220†	220†
2.	Institutional and assembly stair	180**	280*
3.	Other stair	190**	250

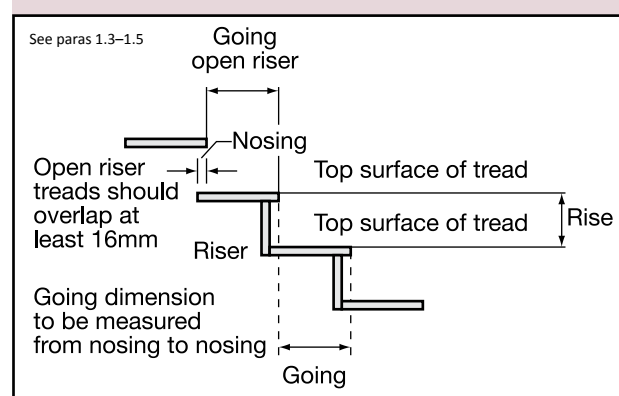
Note:

† The maximum pitch for private stair is 42° .

* If the area of a floor of the building is less than 100m^2 , the going may be reduced to 250mm.

** For maximum rise for stairs providing the means of access for disabled people, reference should be made to Guernsey Technical Standard M: Access to and use of buildings.

Diagram 1 Measuring rise and going



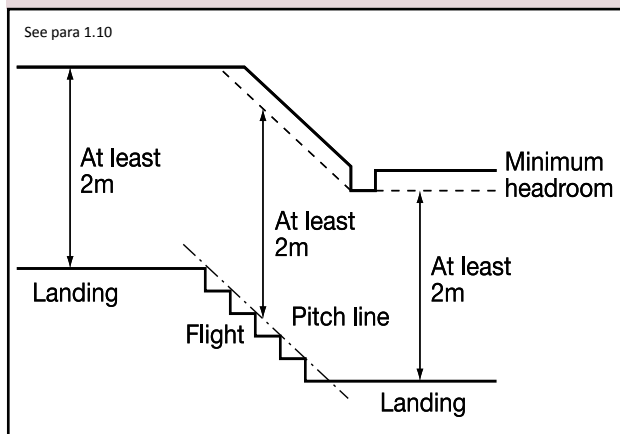
Alternative approach

1.7 The requirement for steepness of stairs can be met by following the relevant recommendations in BS 5395-1:1977 Stairs, ladders and walkways. Code of practice for the design of straight stairs.

Construction of steps

1.8 Steps should have level treads. Steps may have open risers, but treads should then overlap each other by at least 16mm. For steps in buildings providing the means of access for disabled people reference should be made to Guernsey Technical Standard M, Access to and use of buildings.

Diagram 2 Measuring headroom

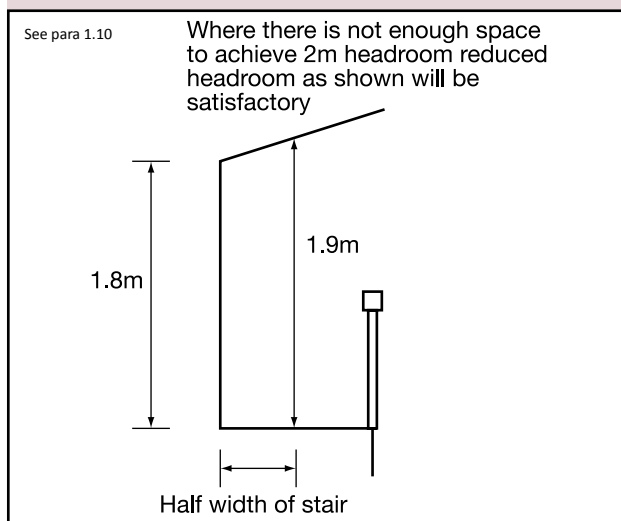


1.9 All stairs which have open risers and are likely to be used by children under 5 years should be constructed so that a 100mm diameter sphere cannot pass through the open risers.

Headroom

1.10 A headroom of 2m is adequate on the access between levels (see Diagram 2). For loft conversions where there is not enough space to achieve this height, the headroom will be satisfactory if the height measured at the centre of the stair width is 1.9m reducing to 1.8m at the side of the stair as shown in Diagram 3.

Diagram 3 Reduced headroom for loft conversions



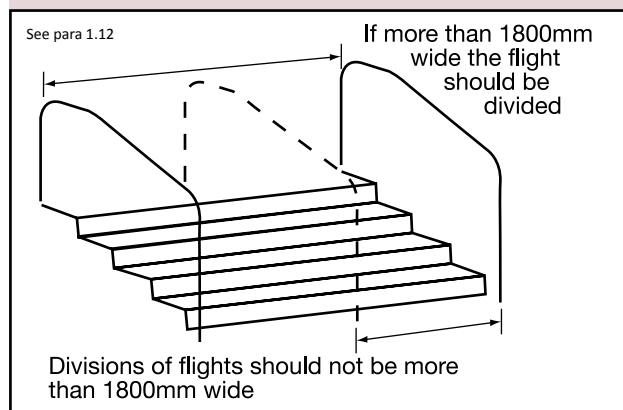
Width of flights

1.11 No recommendations for minimum stair widths are given. Designers should bear in mind the requirements for stairs which:

- form part of means of escape. Reference should be made to Guernsey Technical Standard B: Fire safety;
- provide access for disabled people. Reference should be made to Guernsey Technical Standard M: Access to and use of buildings.

1.12 A stair in a public building which is wider than 1800mm should be divided into flights which are not wider than 1800mm as shown in Diagram 4.

Diagram 4 Dividing flights



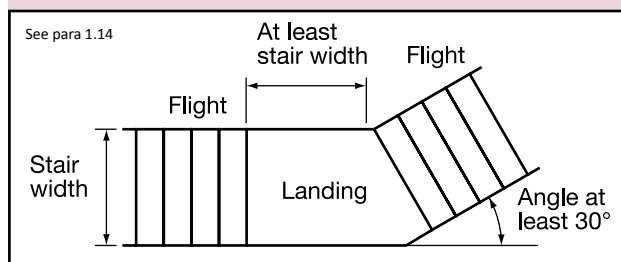
Length of flights

1.13 The number of risers in a flight should be limited to 16 if a stair serves an area used as a shop or for assembly purposes.

For gangways of shallow pitch that are used in assembly buildings reference should be made to BS 5588-6:1991 and to the Guide to Safety in Sports Grounds and Guide to Fire Precautions in Existing Places of Entertainment and Like Premises.

1.14 Stairs having more than 36 risers in consecutive flights should make at least one change of direction between flights of at least 30° (see Diagram 5).

Diagram 5 Change of direction



Landings

1.15 Landings should be provided at the top and bottom of every flight. The width and length of every landing should be at least as great as the smallest width of the flight. The landing may include part of the floor of the building.

1.16 To afford safe passage landings should be clear of permanent obstruction. A door may swing across a landing at the bottom of a flight but only if it will leave a clear space of at least 400mm across the full width of the flight (see Diagram 6). Doors to cupboards and ducts may open in a similar manner over a landing at the top of a flight (see Diagram 7). For means of escape requirements reference should be made to Guernsey Technical Standard B: Fire safety.

1.17 Landings should be level unless they are formed by the ground at the top or bottom of a flight. The maximum slope of this type of landing may be 1 in 20 provided that the ground is paved or otherwise made firm.

Diagram 6 Landings next to doors

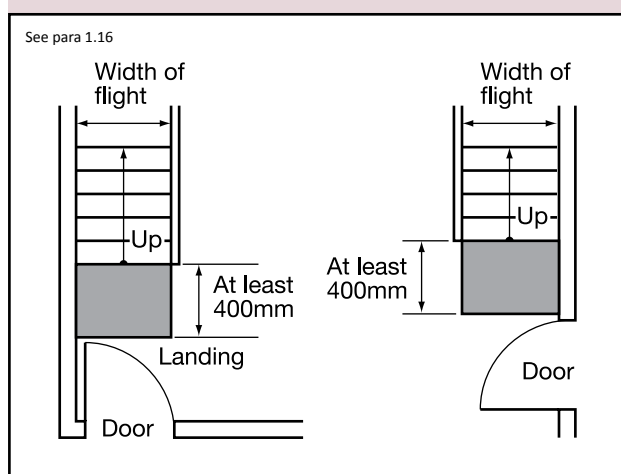
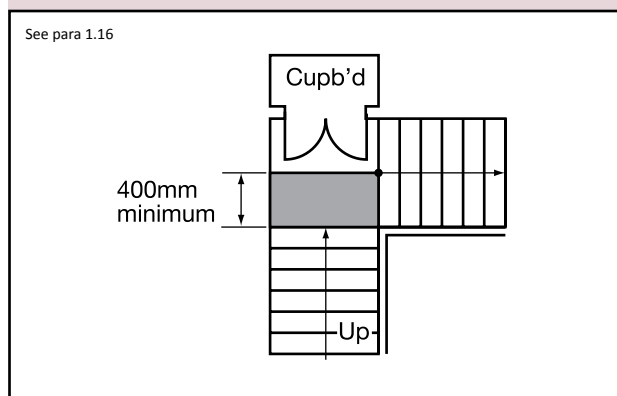


Diagram 7 Cupboard onto landing



Special stairs

Tapered treads

1.18 For steps with tapered treads the going should be measured as follows:

- if the width of flight is narrower than 1m measure in the middle; and
- if the width of flight is 1m or wider measure 270mm from each side.

The requirement will be satisfied if the rise and going complies with advice in paragraphs 1.1 to 1.5.

The going of tapered treads should measure at least 50mm at the narrow end (see Diagram 8).

1.19 Where consecutive tapered treads are used a uniform going should be maintained.

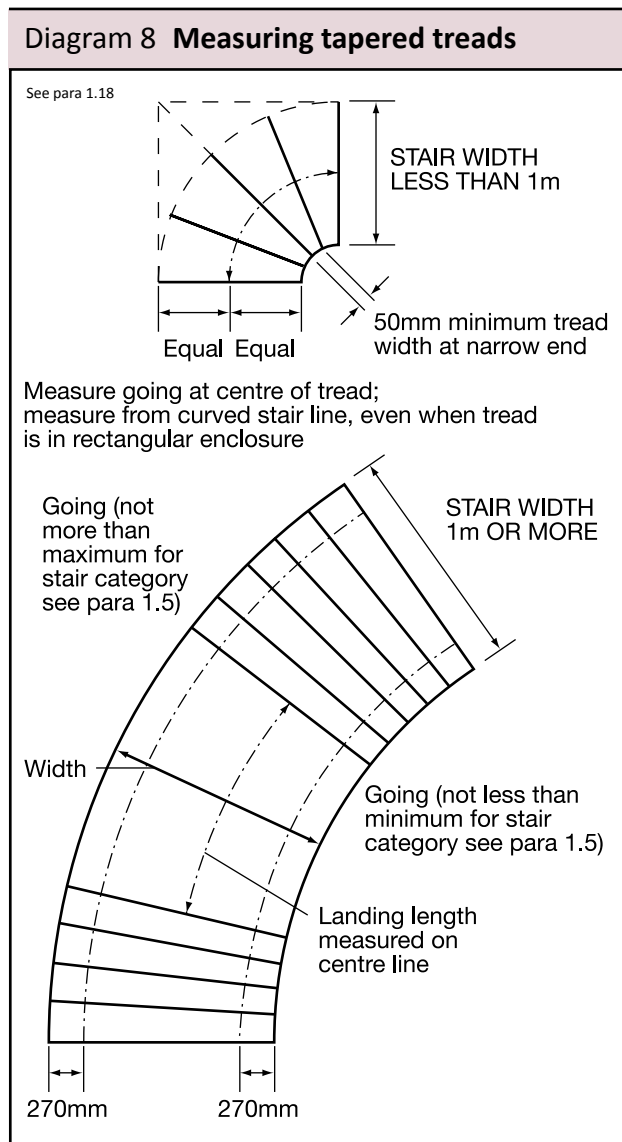
1.20 Where a stair consists of straight and tapered treads the going of the tapered treads should not be less than the going of the straight flight – these treads should satisfy paragraphs 1.1 to 1.5.

Stairs designed to *BS 585-1:1989 Wood stairs*. Specification for stairs with closed risers for domestic use, including straight and winder flights and quarter or half landings, will offer reasonable safety.

Spiral and helical stairs

1.21 Stairs designed in accordance with BS 5395-2:1984 *Stairs, ladders and walkways*. Code of practice for the design of helical and spiral stairs will be adequate.

Stairs with goings less than shown in this standard may be considered in conversion work when space is limited and the stair does not serve more than one habitable room.

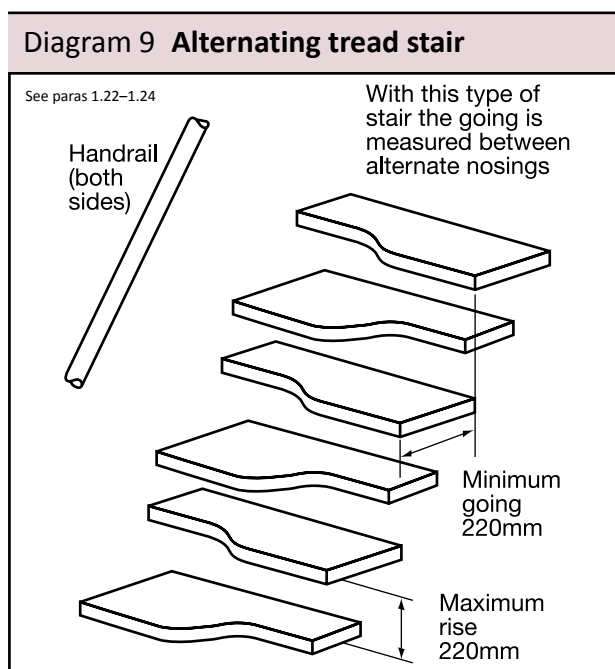


Alternating tread stairs

1.22 This type of stair is one of a number of stair types designed to save space. The general pattern of steps has alternate handed steps with part of the tread cut away; the user relies on familiarity and regular use for reasonable safety (see Diagram 9).

1.23 Alternating tread stairs should only be installed in one or more straight flights for a loft conversion and then only when there is not enough space to accommodate a stair satisfying paragraphs 1.1 to 1.17 above. It should only be used for access to one habitable room, together if desired with a bathroom and/or a WC. This WC must not be the only WC in the dwelling.

1.24 Steps should be uniform with parallel nosings. The stair should have handrails on both sides and the treads should have slip resistant surfaces. The tread sizes over the wider part of the step should be in line with dimensions shown in Table 1 with a maximum rise of 220mm and a minimum going of 220mm. The provisions stated in paragraph 1.9 will apply.



Fixed ladders

1.25 A fixed ladder should have fixed handrails on both sides and should only be installed for access in a loft conversion and then only when there is not enough space without alteration to the existing space to accommodate a stair which satisfies paragraphs 1.1 to 1.17. It should be used for access to only one habitable room. Retractable ladders are not acceptable for means of escape. For reference see Guernsey Technical Standard B: Fire safety.

1.26 Stairs, ladders and walkways in industrial buildings should, as appropriate, be designed and constructed in accordance with *BS 5395-3:1985 Stairs, ladders and walkways*. Code of practice for the design of industrial stairs, permanent ladders and walkways, or *BS 4211:1987 Specification for ladders for permanent access to chimneys, other high structures, silos and bins*.

Handrails for stairs

1.27 Stairs should have a handrail on at least one side if they are less than 1m wide. They should have a handrail on both sides if they are wider. Handrails should be provided beside the two bottom steps in public buildings and where stairs are intended to be used by people with disabilities. See Guernsey Technical Standard M: Access to and use of buildings. Elsewhere handrails need not be provided beside the two bottom steps.

In all buildings handrail height should be between 900mm and 1000mm measured to the top of the handrail from the pitch line or floor.

Handrails can form the top of a guarding if the heights can be matched.

Guarding of stairs

1.28 Flights and landings should be guarded at the sides (see Diagram 11):

- a. in dwellings – when there is a drop of more than 600mm;
- b. in other buildings – when there are two or more risers.

1.29 Except on stairs in a building which is not likely to be used by children under 5 years the guarding to a flight should prevent children being held fast by the guarding. The construction should be such that:

- a. a 100mm sphere cannot pass through any openings in the guarding; and
- b. children will not readily be able to climb the guarding.

1.30 The height of the guarding itself should be as shown in Diagram 11.

Access for maintenance purposes

1.31 Where frequent access for maintenance will be required (e.g. at least once per month), provisions such as those suggested for private stairs in dwellings in this Guernsey Technical Standard, or the guidance in *BS 5395-3* on industrial stairs and ladders, will satisfy the requirement.

1.32 Where access will be required less frequently it may be appropriate to use portable ladders, etc. Provisions for safe use of such temporary means of access are not covered by Building Regulations.

Ramps

1.33 Steepness To permit safe passage the steepest slope of ramp that should be used is 1:12.

1.34 Headroom All ramps and landings should have a clear headroom throughout of at least 2m (see Diagram 10).

1.35 Width There is no recommendation for minimum ramp widths, except for ramps which form means of escape; for reference, see Guernsey Technical Standard B: Fire safety. For ramps providing access into and around buildings see Guernsey Technical Standard M: Access to and use of buildings.

1.36 Obstruction of ramps Ramps should be clear of permanent obstructions.

1.37 Handrails Ramps that are less than 1m wide should have a handrail on at least one side. They should have a handrail on both sides if they are wider. There is no need to have handrails if the rise of the ramp is 600mm or less.

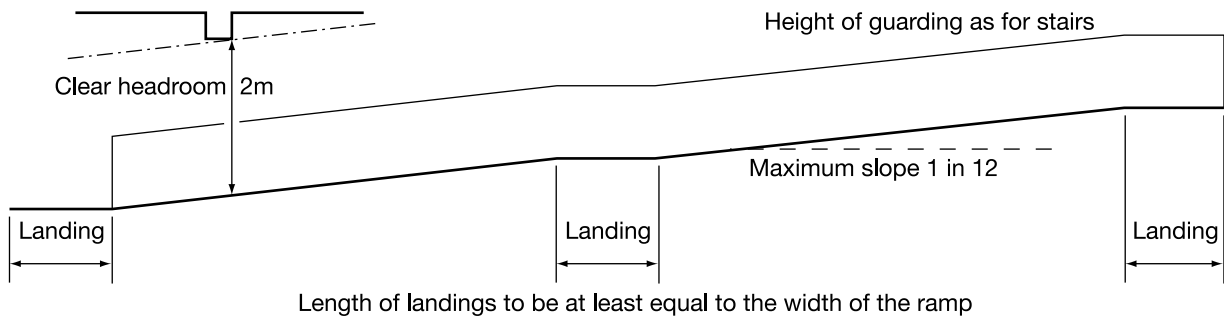
Handrails should be at a height of between 900mm and 1000mm. They should give firm support and allow a firm grip. Handrails can form the top of the guarding if the heights can be matched. For handrails on ramps providing access into and around buildings see Guernsey Technical Standard M: Access to and use of buildings.

1.38 Landings Ramps should be provided with landings (see paragraphs 1.15–1.17).

1.39 Guarding Ramps and their landings should be guarded at their sides in the same way as stairs (see paragraphs 1.28–1.30).

Diagram 10 Ramp design

See paras 1.33 - 1.39



The Requirements K2 and K3

This Guernsey Technical Standard deals with the following requirements from Part K of Schedule 1 of the Building Regulations.

<i>Requirement</i>	<i>Limits on application</i>
Protection from falling K2. (a) Any stairs, ramps, floors and balconies and any roof to which people have access, and (b) any light well, basement area or similar sunken area connected to a building, must be provided with barriers where it is necessary to protect people in or about the building from falling.	Requirement K2(a) applies only to stairs and ramps which form part of the building.
Vehicle barriers and loading bays K3. (1) Vehicle ramps and any levels in a building to which vehicles have access, must be provided with barriers where it is necessary to protect people in or about the building. (2) Vehicle loading bays must be constructed in such a way, or be provided with such features, as may be necessary to protect people in them from collision with vehicles.	

Note: Attention is drawn to the Health & Safety (General)(Guernsey) Ordinance, 1987

Compliance with Building Regulation requirement K2 would, in accordance with Section 20(3) of the Health and Safety (General)(Guernsey) Ordinance, 1987, prevent the service of an improvement notice relating to guarding with regard to the requirements for protection from the risk of falling a distance likely to cause personal injury.

Compliance with Building Regulation requirement K3 (2) would, in accordance with Section 23(3) of the Health & Safety (General)(Guernsey) Ordinance, 1987, prevent the service of an improvement notice relating to the design of loading bays.

Guidance - Section 2

Performance

In the Department's view the requirements of K2 and K3 will be met if, in order to reduce the risk to the safety of people in and about buildings:

- a. pedestrian guarding is provided in dwellings which is capable of preventing people from being injured by falling from a height of more than 600mm; and
- b. pedestrian guarding is provided in other buildings which is capable of preventing people from falling more than the height of two risers (or 380mm, if not part of a stair);
- c. vehicle barriers are provided which are capable of resisting or deflecting the impact of vehicles;
- d. loading bays are provided with an adequate number of exits or refuges which enable people to avoid being struck or crushed by vehicles.

An acceptable level of safety can be achieved by different standards of provision for guarding, depending on the circumstances; for example, in a public building the standard of provision may be higher than in a dwelling, to reflect the lesser familiarity and greater number of users.

For areas where access is required only for the purpose of maintenance, greater care can be expected from those gaining access, and it would be reasonable that less demanding provisions could satisfy the requirement.

Pedestrian guarding

2.1 Siting Guarding should be provided where it is reasonably necessary for safety to guard the edges of any part of a floor (including the edge below an opening window), gallery, balcony, roof (including rooflights and other openings), any other place to which people have access and any light well, basement area or similar sunken area next to a building. Guarding should also be provided in vehicle parks, but not on any ramps used only for vehicle access. Guarding need not be provided to such places as loading bays where it would obstruct normal use.

2.2 Design Any wall, parapet, balustrade or similar obstruction may serve as guarding. Guarding should be at least the height shown in Diagram 11. Guarding should be capable of resisting at least the horizontal force given in *BS 6399-1:1996*. Where glazing is used in the guarding, reference should be made to Guernsey Technical Standard N: Glazing – safety in relation to impact, opening and cleaning.

For further guidance on design of barriers and infill panels, reference should be made to *BS 6180:1995* Code of practice for protective barriers in and about buildings.

2.3 Where buildings are likely to be used by children under 5 years the guarding should prevent children being held fast by the guarding. The construction should be such that a 100mm sphere cannot pass through any opening in the guarding and so that children will not readily be able to climb it. Horizontal rails for such guarding should be avoided.

Diagram 11 Guarding design

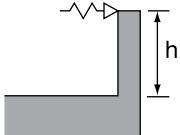
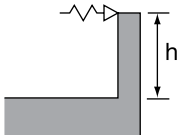
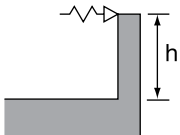
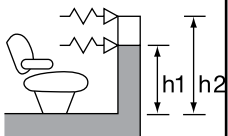
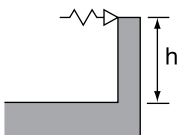
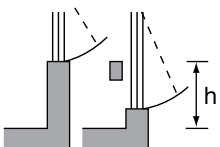
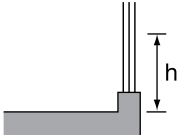
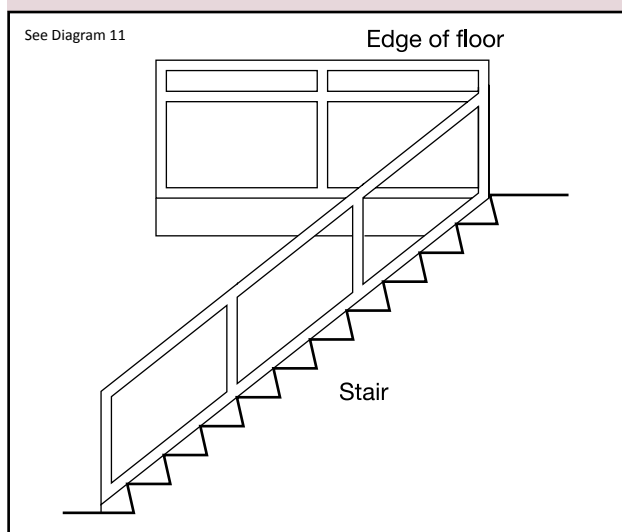
Building category and location		Height (h)	
Single family dwellings	Stairs, landings, ramps, edges of internal floors	900mm for all elements	
	External balconies and edges of roof	1100mm	
Factories and warehouses (light traffic)	Stairs, ramps	900mm	
	Landings and edges of floor	1100mm	
Residential, institutional, educational, office, and public buildings	All locations	900mm for flights otherwise 1100mm	
Assembly	530mm in front of fixed seating	800mm (h1)	
	All other locations	900mm for flights elsewhere 1100mm (h2)	
Retail	All locations	900mm for flights otherwise 1100mm	
Glazing in all buildings	At opening windows except roof windows in loft extensions, see Guernsey Technical Standard B1	800mm	
	At glazing to changes of level to provide containment (see Diagram 12)	Below 800mm	

Diagram 12 Typical locations for containment



Guarding of areas used for maintenance

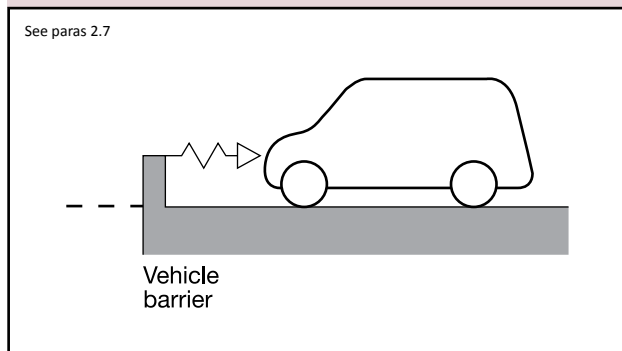
2.4 Where frequent access for maintenance will be required (e.g. at least once per month), provisions such as those suggested for dwellings in this Guernsey Technical Standard (see Diagram 11) will satisfy the requirement.

2.5 Where access for maintenance will be required less frequently, it may be appropriate to use temporary types of guarding or warning notices. Provisions for such measures are not covered by Building Regulations.

Vehicle barriers

2.7 Siting: If vehicles have access to a floor, roof or ramp which forms part of a building, barriers should be provided to any edges which are level with or above the floor or ground or any other route for vehicles (see Diagram 13).

Diagram 13 Barrier siting



2.8 Design: Any wall, parapet, balustrade or similar obstruction may serve as a barrier.

Barriers should be at least the height shown in Diagram 14 and should be capable of resisting forces set out in *BS 6399-1:1996* Loading for buildings. Code of practice for dead and imposed loads.

Loading bays

2.9 Design: Loading bays should be provided with at least one exit point from the lower level (preferably near the centre of the rear wall). Wide loading bays (e.g. those for three or more vehicles) should be provided with at least two exit points, one being at each side. Alternatively, a refuge should be provided which people can use to avoid being struck or crushed by a vehicle (see Diagram 15).

Diagram 14 Barrier design

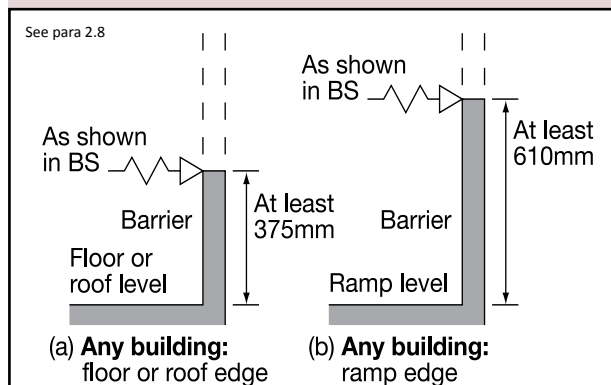
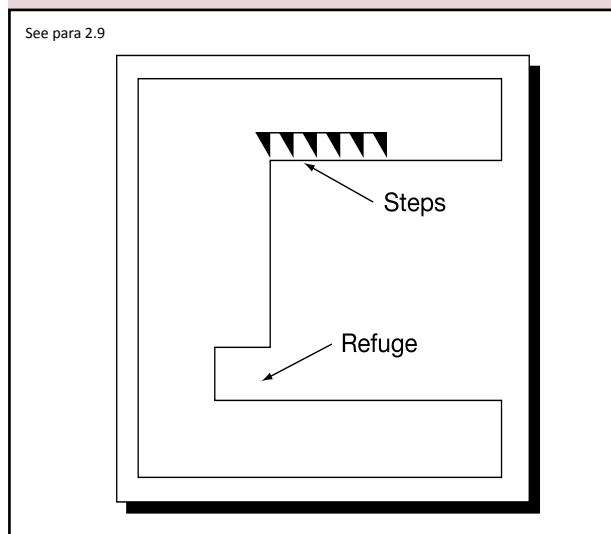


Diagram 15 Loading bay



The Requirement K4

This Guernsey Technical Standard deals with the following requirements from Part K of Schedule 1 of the Building Regulations.

<i>Requirement</i>	<i>Limits on application</i>
Protection from collision with open windows, etc. K4. Provision must be made to prevent people moving in or about the building from colliding with open windows, skylights or ventilators.	Requirement K4 does not apply to dwellings, except the elevations of those dwellings directly abutting the public highway.

Where necessary, reference should be made to **Guernsey Technical Standard B: Fire safety**, for guidance on clear dimensions of escape routes; and **Guernsey Technical Standard M: Access to and use of buildings**, for guidance on hazards on access routes.

Note: Attention is drawn to the Health & Safety (General)(Guernsey) Ordinance, 1987

Compliance with Building Regulation requirement K4 would, in accordance with Section 20(2) of the Health & Safety (General)(Guernsey) Ordinance, 1987, prevent the service of an improvement notice with regard to the requirements for projecting windows, skylights and ventilators.

Guidance - Section 3

Performance

In the Department's view, requirement K4 will be met if windows, skylights and ventilators can be left open without danger of people colliding with them. This could be achieved by:

- installing windows, etc. so that projecting parts are kept away from people moving in and around the building; or
- installing features which guide people moving in or about the building away from any open window, skylight or ventilator.

In special cases, such as spaces used only for maintenance purposes, greater care can be expected by those gaining access and it would be reasonable that less demanding provisions could satisfy the requirement.

Introduction to provisions

K4.1 This Guernsey Technical Standard sets out some ways of complying with the requirement for windows, skylights and ventilators.

Projecting parts

3.1 Parts of windows, skylights and ventilators that project either internally or externally more than about 100mm horizontally into spaces which are used by people moving in or about the building should be:

- not less than 2m above the ground or floor when in any fixed position; or
- marked by a feature such as a barrier or rail about 1100mm high to prevent people walking into the projecting part (see Diagram 16); or
- marked by provision of surfaces with strong tactile differences or by suitable landscaping features, so that people are guided away from them (see Guernsey Technical Standard M and Diagram 17).

Spaces used only for maintenance

3.2 In spaces which are used infrequently, and only for the purpose of maintenance, provisions such as clear marking of the projecting part to make it easy to see will satisfy the requirement.

Diagram 17 Marking by a surface

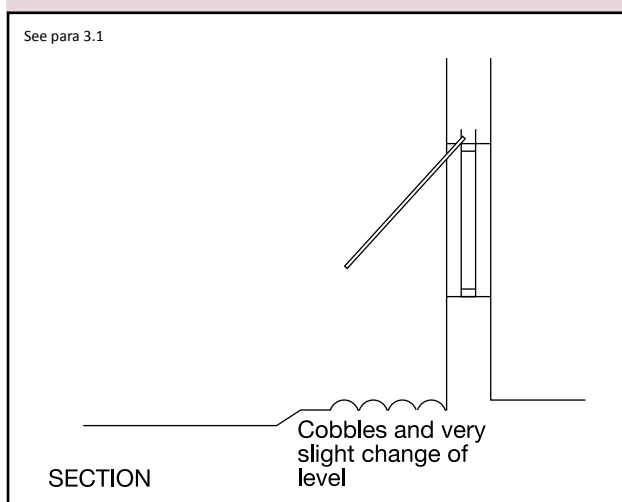
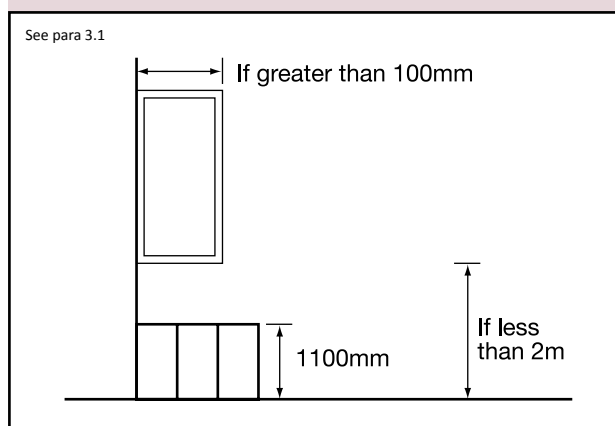


Diagram 16 Marking by a barrier



The Requirement K5

This Guernsey Technical Standard deals with the following requirements from Part K of Schedule 1 of the Building Regulations.

<i>Requirement</i>	<i>Limits on application</i>
Protection against impact from and trapping by doors K5. (1) Provision must be made to prevent any door or gate- <ul style="list-style-type: none"> (a) which slides or opens upwards, from falling onto any person; and (b) which is powered, from trapping any person. (2) Provision must be made for powered doors and gates to be opened in the event of a power failure. (3) Provision must be made to ensure a clear view of the space on either side of a swing door or gate.	Requirement K5 does not apply to- <ul style="list-style-type: none"> (a) dwellings, or (b) any door or gate which is part of a lift.

Where necessary, reference should be made to **Guernsey Technical Standard B: Fire safety**, for guidance on clear dimensions of escape routes; and **Guernsey Technical Standard M: Access to and use of buildings**, for guidance on hazards on access routes.

Note: Attention is drawn to the Health & Safety (General)(Guernsey) Ordinance, 1987

Compliance with Building Regulation requirement K4 would, in accordance with Section 20(2) of the Health & Safety (General)(Guernsey) Ordinance, 1987, prevent the service of an improvement notice with regard to the requirements for doors and gates.

Guidance - Section 4

Performance

In the Department's view, requirement K5 will be satisfied if measures are taken to prevent the opening and closing of doors and gates presenting a safety hazard.

Introduction to provisions

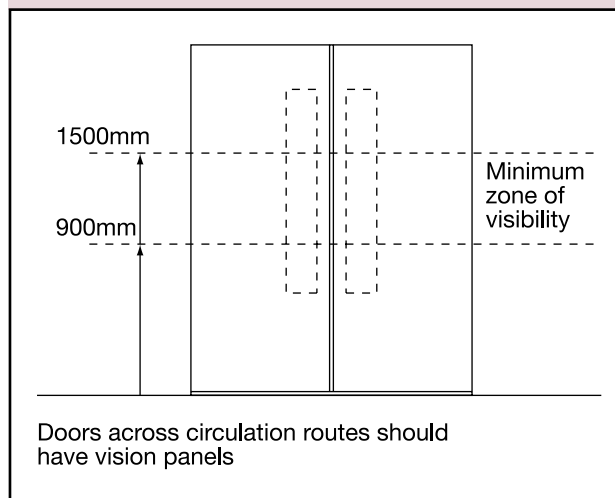
K5.1 This Guernsey Technical Standard sets out some ways of complying with the requirement for suitable construction of doors and gates.

Safety features

4.1 Provision of features such as the following will satisfy the requirement:

- a. doors and gates on main traffic routes and those which can be pushed open from either side should have vision panels unless they are low enough to see over (typically 900mm for a person in a wheelchair). Guidance on the size of vision panels suitable for use by disabled people is given in Guernsey Technical Standard M (see Diagram 18);
- b. sliding doors and gates should have a stop or other effective means to prevent them coming off the end of the track. They should also have a retaining rail to prevent them falling should the suspension system fail or the rollers leave the track;
- c. upward opening doors and gates should be fitted with a device to stop them falling in a way that could cause injury;
- d. power operated doors and gates should have:
 - safety features to prevent injury to people who are struck or trapped (such as a pressure sensitive door edge which operates the power switch);
 - a readily identifiable and accessible stop switch;
 - provision for manual or automatic opening in the event of a power failure where and when necessary for health or safety.

Diagram 18 Doors with vision panels



The Requirement K6

This Guernsey Technical Standard deals with the following Requirements from Part K of Schedule 1 of the Building Regulations.

<i>Requirement</i>	<i>Limits on application</i>
Reservoirs and water retaining structures	
K6. Reservoirs and water retaining structures which are not covered must-	
(a) be enclosed by a fence, and	
(b) have adequate means of egress in case of accidental entry.	

Guidance - Section 5

Performance

In the Department's view the requirements of K6 will be met if, in order to reduce the risk to the safety of people in and about reservoirs or water retaining structures:

- a. fencing is provided which will be capable of preventing unauthorised access into the reservoir or water retaining structure; and
- b. adequate means are provided to assist people to climb out of the reservoir or water retaining structure.

With reference to the requirements of Part K6 of Schedule 1 of the Building Regulations, reservoirs and water retaining structures does not include swimming pools, jacuzzis, hot tubs, etc.

Fencing

5.1 The requirement will be met if a fence is provided that a 50mm sphere cannot pass through, and be constructed so that it is not readily climbable.

5.2 Any gates in the fence should be lockable and designed to prevent people climbing over them.

5.3 The fence should be of such a height, that depending upon its siting, it is not possible to gain access over the top of the fence.

Means of egress

5.4 Provisions to assist a person to climb out of the reservoir or water retaining structure must be permanently installed at reasonable intervals around the perimeter of the structure.

Safety Criteria

5.5 The Health and Safety at Work (General) (Guernsey) Ordinance, 1987 applies general responsibility on those who have control of the reservoirs.

5.6 Before an application for an earth lined reservoir is made to the Department, it is recommended that the views of the Health and Safety Inspectorate are sought and their recommendations included in the application.

5.7 Each application for a reservoir will be individually assessed, bearing in mind its location, design etc, and consideration given to whether adequate access/egress from the water should be provided, together with life belts, throwing lines etc.

Annex A - Standards referred to

BS 585-1:1989

Wood stairs. Specification for stairs with closed risers for domestic use, including straight and winder flights and quarter and half landings. AMD 6510 1990. Obsolescent.

BS 4211:1987

Specification for ladders for permanent access to chimneys, other high structures, silos and bins. AMD 7064 1992. (Withdrawn and superseded by BS4211:1994. Withdrawn and superseded by BS 4211:2005 Specification for permanently fixed ladders.)

BS 5395-1:1977

Stairs, ladders and walkways. Code of practice for the design of straight stairs. AMD 3355 1980, AMD 4450 1984. (Withdrawn and superseded by BS 5395-1:2000 Stairs, ladders and walkways. Code of practice for the design, construction and maintenance of straight stairs and windows.)

BS 5395-2:1984

Stairs, ladders and walkways. Code of practice for the design of helical and spiral stairs. AMD 6076 1989.

BS 5395-3:1985

Stairs, ladders and walkways. Code of practice for the design of industrial type stairs, permanent ladders and walkways. AMD 14247 2003. (Partially replaced by BS EN ISO 14122-1:2001 Safety of machinery. Permanent means of access to machinery. Choice of fixed means of access between two levels. BS EN ISO 14122-2:2001 Safety of machinery. Working platforms and walkways. BS EN ISO 14122-3:2001 Safety of machinery. Permanent means of access to machinery stairways, stepladders and guard-rails.)

BS 5588-6:1991

Fire precautions in the design, construction and use of buildings. Code of practice for places of assembly. AMD 10212 1998, AMD 10443 1999, AMD 14990 2004.

BS 6180: 1995

Code of practice for barriers in and about buildings. (Withdrawn and superseded by BS 6180:1999 Barriers in and about buildings. Code of practice. AMD 13292 2001.)

BS 6399-1:1996

Loading for buildings. Code of practice for dead and imposed loads. AMD 13669 2002.

The following meanings apply to terms throughout this Guernsey Technical Standard.

Alternating tread stair A stair with paddle shaped treads with the wide portion alternating from one side to the other on consecutive treads (see paragraphs 1.22–1.24).

Containment A barrier that prevents people falling from one floor to the storey below (see Diagrams 11 and 12).

Flight The part of a stair or ramp between landings that has a continuous series of steps or a continuous slope (for the widths and lengths of flights see paragraphs 1.11–1.14).

Going The horizontal dimensions from front to back of a tread less any overlap with the next tread above (for measurement of the going on tapered treads see paragraphs 1.18–1.20).

Helical stair A stair that describes a helix round a central void (see paragraph 1.21).

Ladder A means of access to another level formed by a series of rungs or narrow treads on which a person normally ascends or descends facing the ladder (see paragraphs 1.25 and 1.26).

Ramp A slope steeper than 1 in 20 designed to conduct a pedestrian or wheelchair user from one level to another (see Section 2).

Rise The height between consecutive treads (see paragraphs 1.1–1.6).

Spiral stair A stair that describes a helix round a central column (see paragraph 1.21).

Stair A succession of steps and landings that makes it possible to pass on foot to other levels.

Tapered tread A step in which the nosing is not parallel to the nosing of the step or landing above it (see paragraphs 1.18–1.20).

GUERNSEY TECHNICAL STANDARDS

The following documents have been approved and issued by the Environment Department for the purpose of providing practical guidance with respect to the requirements of the Building Regulations

Guernsey Technical Standard A: Structure, 2012 edition with Feb 2013 amendments.

Guernsey Technical Standard B: Fire Safety - Volume 1 - Dwellinghouses, 2012 edition with Feb 2013 amendments.

Guernsey Technical Standard B: Fire Safety - Volume 2 - Buildings other than dwellinghouses, 2012 edition with Feb 2013 amendments.

Guernsey Technical Standard C: Site preparation and resistance to contaminants and moisture 2012 edition with Feb 2013 amendments.

Guernsey Technical Standard D: Toxic substances 2012 edition with Feb 2013 amendments.

Guernsey Technical Standard E: Resistance to the passage of sound, 2012 edition with Feb 2013 amendments.

Guernsey Technical Standard F: Ventilation, 2012 edition with Feb 2013 amendments.

Guernsey Technical Standard G: Health, hygiene and water efficiency, 2012 edition with Feb 2013 amendments.

Guernsey Technical Standard H: Drainage and waste disposal, 2012 edition with Feb 2013 amendments.

Guernsey Technical Standard J: Heat producing appliances and fuel storage systems, 2012 edition with Feb 2013 amendments.

Guernsey Technical Standard K: Safe means of access and egress, 2012 edition with Feb 2013 amendments.

Guernsey Technical Standard L1: Conservation of fuel and power – Dwellings, 2012 edition with Feb 2013 amendments.

Guernsey Technical Standard L2: Conservation of fuel and power – Buildings other than dwellings, 2012 edition with Feb 2013 amendments.

Guernsey Technical Standard M: Access to and use of buildings, 2012 edition with Feb 2013 amendments.

Guernsey Technical Standard N: Glazing - Materials and protection, 2012 edition with Feb 2013 amendments.

Guernsey Technical Standard P: Roads - Layout design and construction, 2012 edition with Feb 2013 amendments.

Guernsey Technical Standard Regulation 11: Materials and Workmanship, 2012 edition with Feb 2013 amendments.



**Crown copyright material is reproduced with the permission of the
Controller of HMSO and the Queen's Printer for Scotland**

This Document is available in PDF format for downloading
on the States of Guernsey website www.gov.gg

Environment Department

Sir Charles Frossard House

La Charroterie

St Peter Port

Guernsey

GY1 1FH

Telephone +44 (0) 1481 717200

Facsimile +44 (0) 1481 717099

Email planning@gov.gg

Political Responsibilities

Environment policy; Management of States and Crown land; Land use policy and plans; Control of development including conservation and heritage protection; Public transport, traffic management, road safety, road networks and co-ordination of road works; Driving licences, vehicle registration