

Scottish Building Standards: Domestic: Section 4: Safety *A Summary of Changes in 2007 Edition*

Effective from May 2007 in Scotland

1 Introduction

The changes to Section 4: Safety in 2007 represent a significant shift in philosophy. The thinking and techniques have moved on a long way since the last major technical review seven years ago, with many new tried and tested approaches to making dwellings accessible to all.

Scotland's and the UK's demographics are making the new philosophy necessary because, with improved healthcare, the number of people who are living to a much greater age is increasing dramatically. Government projections for the UK suggest that a 70% rise in those aged 65 and above is expected over the next 30 years. The percentage increase is even more dramatic for older age groups, with those aged 85 years and over expected to rise by 149%¹. These same people will typically have decreasing mobility as they age. It is better from the point of view of cost and well-being to design

homes which can easily cope with this reduced mobility, rather than always having to move the occupants to 'specialist accommodation'.

Three major philosophical principles underpinning this set of changes are:

- A move from designing dwellings for just 'visitability' to 'liveability'
- The new concept of a 'principal living level' – a level which someone can live in the short to medium term, perhaps whilst they are recovering from a major operation. The principal level must contain:
 - Enhanced apartment (living room with specified minimum dimensions)
 - Kitchen
 - Accessible sanitary accommodation



Domestic Stairlift. Photo courtesy of Stannah Stairlifts Ltd

- Design the dwelling to allow for easy future adaptation eg retrofit a stairlift in the existing stairs

In relation to accessibility for all, these changes should be read in conjunction with those made to Section 3: Environment, Standards 3.11 and 3.12, which address:

- accessible toilets (with sufficient room for privacy for all)
- accessible baths or showers (with sufficient room for privacy for all)
- kitchen with suitable layout for wheelchair users.

¹ *The future of the Code for Sustainable Homes – Making a rating mandatory*, July 2007. Department of Communities and Local Government.

2 Summary of the amendments made in 2007 edition

The 'Amendment Summary', given in column 2, is taken directly from clause 4.0.3 'Latest Changes' of the SBSA technical handbook. The third column, 'TRADA Commentary', provides a short summary of what is actually contained within the amended guidance. It is only a summary and it is necessary to read the actual guidance to see the full extent of the changes made.



Photo courtesy of Nicholls & Clarke

2.1 Standard 4.1 Access to buildings

Clause	Amendment Summary	TRADA Commentary
4.1	Standard includes houses without apartment at entrance level.	Standard 4.1 requires that 'every building must be designed and constructed in such a way that all occupants and visitors are provided with safe, convenient and unassisted means of access to the building. Houses with no apartment on the entrance storey used to be exempt, but this limitation no longer applies.
4.1.1	Revised guidance on accessible parking spaces.	The recommendation for accessible parking spaces to flats and maisonettes has significantly increased and now includes: <ul style="list-style-type: none"> • being located on a level road surface; • being provided with a dropped kerb access to an accessible route; • wider clear space between cars (1200mm rather than 1000mm); and on both sides of the car; and • 1200mm deep space at the rear of the parking.
4.1.2	Introduction of guidance on car parking to a single dwelling.	Where car parking is provided within the curtilage (land area) of a dwelling, a person should be able to alight from a vehicle directly onto the firm surface of an accessible route to the dwelling. Where the driveway forms part of an accessible route to a dwelling it will need to be at least 3.3m wide.

2.1 Standard 4.1 Access to buildings (continued)

Clause	Amendment Summary	TRADA Commentary
4.1.3	Introduction of guidance on complementary steps; further guidance on access to single houses.	For accessible routes serving more than one dwelling with ramped access, additional steps are recommended. These are suitable for ambulant people with mobility impairment who find ramps difficult to negotiate. The clause continues to allow stepped only access to a route serving a single house where it is not 'reasonably practicable' to construct an accessible route. Guidance is now given on when it may or may not be defined as 'reasonably practicable'.
4.1.4	Additional guidance on tactile paving on accessible routes.	New guidance for tactile paving has been included here and elsewhere within Section 4: Safety.
4.1.6	Revised guidance on widths on accessible routes.	In some scenarios the minimum widths recommended have increased. In particular for routes serving over 10 dwellings the minimum width is now 1.8m.
4.1.7	Revised guidance on provisions at accessible entrances.	Additional / increased recommendations are: <ul style="list-style-type: none"> • Larger level entrance platts (surfaces) outside entrance doors – minimum size for dwellings: 1.2m x 1.2m; • Automatic illumination for at least the accessible entrance door • Slightly wider minimum entrance door width (minimum 800mm for dwellings and non-dwellings); • Maximum design forces permitted for opening doors with door closing devices fitted (maximum 30N for first 30° of opening and maximum 22.5N for remainder of swing); • If not a powered door, have an unobstructed space to the opening face of the door, next to the leading edge of 300mm (for dwellings and non-dwellings), to make it possible for wheelchair users to reach the door handle easily.
4.1.8	Revised guidance on common entrances; addition of guidance on weather protection and door entry systems.	Additional / increased requirements are: <ul style="list-style-type: none"> • Larger entrance platts (surfaces): 1.5m x 1.5m; • Method of protecting people entering the building from exposure to the elements; • Taller vision panels in door leaves (minimum 1000mm high compared to minimum 600mm); • Door entry system.
4.1.10	Guidance on alterations now a separate clause.	This is a new guidance section but there is no change in the philosophy of what is required.

2.2 Standard 4. 2 Access within buildings

Clause	Amendment Summary	TRADA Commentary
4.2	Standard includes convenient access throughout a dwelling.	<p>The standard has been amended to require 'safe and convenient' rather than just 'safe' means of access throughout the dwelling.</p> <p>The philosophical change is one of moving from providing 'visitability' to 'liveability' for all. The key changes that this now requires are:</p> <ul style="list-style-type: none"> • avoiding external step-only access and minimising gradients; • enabling good internal circulation around and between levels; • providing a 'principal living level', which includes: an enhanced apartment (good sized living room); kitchen and accessible sanitary accommodation on one level; • accessible access to the 'principal living level'; • making future adaptations simpler. <p>As the introduction in 4.2.0 states, 'The design process should consider how the building can be used by as wide a range of people as possible, including use by a person in a wheelchair, though it is recognised that this may not be to the optimum standard that can be achieved within purpose-built dwellings.'</p>
4.2.1	Revised guidance on corridor widths in common areas.	The recommended minimum width of 1.2 m for corridors in common areas applies to all levels rather than just the entrance level.
4.2.2	Introduction of guidance on floor surfaces within common areas.	This is a new recommendation which aims to ensure that floor surfaces provide adequate traction and minimise the possibility of slipping.
4.2.3	Revised guidance on size of lobbies within common areas.	The method of presenting the recommendation has altered from giving a minimum width and length, to requiring an unobstructed rectangular box of 1.6m x 750mm. The net effect is generally to recommend an increased area with greater length but lesser width.
4.2.4	Revised guidance on doors within common areas.	<p>The recommendations have increased, including:</p> <ul style="list-style-type: none"> • wider door leaf sizes (min. 800mm and greater depending on width of corridor) • Taller vision panels (see 4.1.8) • Restrictions on opening forces (see 4.1.8)
4.2.5	Clarification of when a passenger lift should be provided; additional guidance on lift provisions.	Clarification only provided.
4.2.6	Revised guidance now applied to all storeys of a dwelling.	Previously one storey had to be accessible, now 'each storey within a dwelling should be designed to be accessible'.
4.2.7	Clarification of means of access between storeys.	Clarification only provided.

2.2 Standard 4. 2 Access within buildings (continued)

Clause	Amendment Summary	TRADA Commentary
4.2.8	Introduction of guidance on provision for future stair lifts.	This new section recommends that stairs are designed such that a future stair lift can be fitted. This has a number of increased space implications. In summary the overall design philosophy regarding access throughout the dwelling is that: <ul style="list-style-type: none"> • Each storey is accessible with sufficiently wide corridors and doorways; • Someone incapacitated for a period could live on the 'principal level'; • If necessary all storeys can be made accessible by providing a future stair lift.
4.2.9	Revised guidance on split-level storeys.	This more onerous recommendation stipulates that the key elements of the principal level (ie the accessible toilet, kitchen and enhanced apartment) should not be on a split level.
4.2.10	Introduction of guidance where accessible accommodation is not on the entrance level.	Where the accessible external entrance is not to the 'principal level' this clause recommends: <ul style="list-style-type: none"> • an area 800mm x 1.1m for storing a wheelchair or pram; • an accessible toilet on the entrance level, where there are two or more apartments (this is in addition to the accessible sanitary facilities on the principal living level).
4.2.11	Revised guidance on alteration and extension.	This clause includes more general recognition of meeting the recommendations as far as is 'reasonably practicable' when altering existing dwellings.



Photo courtesy of Stannah Stairlifts Ltd

2.3 Standard 4.3 Stairs and ramps

Clause	Amendment Summary	TRADA Commentary
4.3.3	Revised guidance and clarification on width of stairs.	<p>Minimum widths of flights and landings are given in a table.</p> <p>In the case of 'private stairs' a 900mm width is recommended except where it only serves sanitary accommodation and / or one room other than accessible sanitary accommodation, a kitchen or an enhanced apartment.</p> <p>In the case of 'any other stair' there is a new reduced width of 900mm (generally 1.0m is the requirement) for external flights serving a single dwelling to which the public have access.</p>
4.3.6	Guidance on stair landings consolidated.	Clause 4.3.6 consolidates the contents in clauses 4.3.6 and 4.3.7 of the 2005 version.
4.3.7	Introduction of guidance on tactile paving at external steps.	A new recommendation is that for 'external routes serving more than one dwelling, tactile paving should be used to alert people to the presence of a flight of steps'.
4.3.10	Correction removing reference to centreline going on spiral stairs.	Simple error removed.
4.3.11	Revised guidance on ramps; guidance on sloping surfaces.	The table giving gradient, length and rise of a flight in a pedestrian ramp has been modified. The net effect is a slight relaxation but there is a new recommendation on the maximum permissible rise.
4.3.12	Revised guidance on width of ramps.	Little change in the guidance.
4.3.13	Revised guidance on length of ramp landings.	The recommendation has been increased. The unobstructed length of a landing should not be less than 1.5m, where previously it was 1.0 or 1.2m in non-heavy traffic areas.
4.3.14	Revised guidance on handrails to private stairs.	<p>A new addition recommends that handrails contrast visually with adjacent wall surfaces.</p> <p>Handrails on a private stair are also recommended to have a profile and projection that will allow a firm grip.</p>

2.4 Standard 4.4 Pedestrian protective barriers

Clause	Amendment Summary	TRADA Commentary
4.4.1	Addition of guidance on changes of direction on a raised access route and clarification on form of guarding.	The clause now recommends making protective barriers visually contrasting where a significant drop occurs and in locations where a smaller change of level may increase the risk of injury.
4.4.2	Clarification of barrier height in specific locations.	Protective barriers are recommended for windows which are two or more storeys above ground level, if they are to be cleaned from inside the building. This has been cross-referenced from standard 4.8.
4.4.3	Guidance on guarding to ramp flights moved from standard 4.3.	No change made to the guidance itself.

2.5 Standard 4.6 Electrical fixtures

Clause	Amendment Summary	TRADA Commentary
4.6	Standard now includes health, safety and convenience.	Standard 4.6 now requires that 'Every building must be designed and constructed in such a way that electric lighting points and socket outlets are provided to <i>ensure the health, safety and convenience of occupants and visitors</i> ' (words added in 2007 version are in italics). Health and safety were very much in the previous philosophy – the change is in adding 'convenience'.
4.6.2	Introduction of guidance on lighting in common areas.	This new clause recommends minimum lighting levels of 100 lux (a measure of the amount of light produced) on stair flights and landings and 50 lux elsewhere.
4.6.3	Introduction of guidance seeking door entry system to any common entrance.	For common entrance doors fitted with a locking device, intended as a principal means of access to a building, door entry systems are strongly recommended.
4.6.4	Revised guidance on provision of socket outlets.	A minor additional recommendation is that at least three of the necessary six electrical sockets within a kitchen should be situated above a worktop level.

2.6 Standard 4.8 Danger from accidents

Clause	Amendment Summary	TRADA Commentary
4.8	Standard now includes manual controls for windows and electrical fixtures.	The amendment now recommends that the manual controls for windows (ventilation) and electrical fixtures can be operated safely.
4.8.1	Improved guidance on guarding of obstructions.	Guidance and commentary was not previously given on guarding.
4.8.2	Additional guidance on collision with glazing.	More guidance is now given on accidental human impact. Manifestation (visible markings on clear glass) which was previously recommended at just one height level (between 600 and 1500mm) is now recommended at two height levels (between 850mm and 1.0m and between 1.4m and 1.6m)
4.8.3	Clarification of guidance on safe cleaning of windows.	A new paragraph clarifies a relaxation in stating that: 'within a dwelling, any roof-light, all of which is more than 1.8m above both adjacent ground and internal floor level, need not be constructed so that it may be safely cleaned'. New ergonomic data is provided which states that 'it would be considered reasonable to apply a safe limit to downward reach of 610mm and a safe limit to lateral and vertical reach as an arc with a radius of 850mm measured from a point not more than 1.3m above floor level.'
4.8.5	Introduction of guidance on height of controls to windows and rooflights and height of controls to electrical fixtures.	This is a new and significant recommendation, which puts height and distance limitations on the location of window handles and electrical fixtures to make them accessible to all.



Further help

TRADA members may contact the Members' Helpline for free on t: 01494 569601.

Useful resources

Building regulations in Scotland:
www.sbsa.gov.uk

Centre for Accessible Environments (CAE):
www.cae.org.uk/index.html

Glass & Glazing Federation (GGF):
www.ggf.co.uk

TRADA Construction Briefings

This document is part of a series of briefings for TRADA members on the key elements of building regulations and codes and how they relate to timber construction. Copies of all briefings are available at www.trada.co.uk.

Feedback

We welcome feedback from readers and if you have any comments on the content of this briefing please contact Rupert Scott on rscott@trada.co.uk.

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