Unofficial translation from Finnish. Legally binding only in Finnish and Swedish.

Decree of the Ministry of the Environment

on the operational safety of buildings

By decision of the Ministry of the Environment, the following is enacted under section 117d, subsection 2 and section 117k, subsection 3 of the Land Use and Building Act (132/1999), as it stands in section 117d, subsection 2 of Act 958/2012 and section 117k, subsection 3 of Act 812/2017:

Chapter 1

General

Section 1

Scope of application

This Decree shall apply to new buildings, additions to buildings and spaces increasing the floor area of buildings and to the immediate vicinity of building sites.

This Decree is to be applied to renovation and alteration work only if the original solution is evidently unsuitable for reasons related to safety or health. In other cases, renovation and alteration work can be carried out according to the original solution. Alteration work must not weaken the safety of the building.

This Decree shall apply to changes to the intended purpose of a building if the intended purpose of the building or part of the building is changed such that it is associated with a higher risk.

Section 2

Operational safety of buildings

According to their tasks, the principal designer, building designer and specialised designer must ensure that the building is designed in such a way that it fulfils the essential technical, functional and architectural safety requirements for its purpose.

Chapter 2

Prevention of falls and missteps

Section 3

Staircases

Staircases must be safe, sufficiently spacious and suitable for their purpose. The surface of stairs the must not be slippery.

The minimum width of indoor stairs in an evacuation area is 0.85 metres. Handrails and skirting may, however, extend into this width.

All evacuation areas must be designed in such a way that it is possible to transport an immobile individual on a stretcher via the exit route. If the indoor access route leading to an evacuation area in a non-residential building is via the indoor stairs in the area, these stairs must be wide enough that they can be used to transport an immobile individual on a stretcher.

The stairs between floor levels must be covered. If a residential block of flats does not have a lift, the stairs between floor levels must have natural light and at least one intermediate landing.

Section 4

Dimensions of indoor staircases

The ratio between the riser and the tread of stair steps must be such that the staircase is easy to use for its intended purpose.

In the entrance halls and other indoor areas of administrative, service and business premises and in assembly areas, the riser of the steps must be no more than 160 millimetres and the tread must be no less than 300 millimetres. The riser of the indoor steps of dwelling units and living quarters may be no more than 190 millimetres, and the tread must be no less than 250 millimetres. The rise of the indoor steps of other spaces intended for everyday use may be no more than 180 millimetres, and the tread must be no less than 270 millimetres. If stairs are used only as an emergency exit and if they lead to spaces in a dwelling or accommodation facility other than those that are necessary for living, the riser may be no more than 220 millimetres and the tread must be no less than 220 millimetres.

The riser of the steps in an exit may be no more than 180 millimetres. The tread must be no less than 270 millimetres. If the stairs are located in an exit that is not also used for ordinary movement within the building, the riser of the steps may be a maximum of 200 millimetres.

Section 5

Dimensions of outdoor staircases

The tread of steps in covered or heated outdoor staircases must be no less than 300 millimetres, and the riser may be no more than 160 millimetres. The tread of steps in uncovered or unheated outdoor staircases must be no less than 390 millimetres, and the riser may be no more than 130 millimetres.

Section 6

Landings

The landings in the indoor and outdoor areas of a building must be safe, sufficiently spacious and suitable for their purpose. The side edges of stairs and landings must be fitted with a raised camber to prevent slipping over the edge if a cube measuring more than 50 millimetres in width is able to pass through the opening between the plane level and the handrail or wall. The distance between a door that opens onto a landing and the upper edge of the ramp or flight of stairs must be no less than 400 millimetres on the side wall and no less than 1,500 millimetres on the end wall. A landing measuring at least 800 millimetres in length must be reserved in front of and behind a door located in an exit route.

Windows, hatches and other similar openings located on the landings of a building that are intended as places where people spend time or pass through must be designed to withstand the weight of a person, if there is any danger of falling.

Section 7

Barriers

A barrier must be constructed anywhere in the building or its vicinity where there is a drop exceeding half a metre and there is a danger of falling or misstepping, and the nature of the activity concerned does not require the absence of a barrier. The barrier must be safe and suitable for its purpose. The barrier may be a guardrail or an open railing.

A guardrail must be used at points with a level difference of over 0.7 metres, if these can be accessed by children. The protective part of the barrier must extend to a height of at least 0.7 metres from the surface of the landing or step. The barrier must not feature horizontal structures or patterns that make it possible to climb. An open railing can be used in places to which children do not have access or where there is no danger of falling.

Instead of a barrier, some other arrangement may be used to prevent falling or otherwise achieve the required level of safety, provided that the difference in height does not exceed one metre.

The total height of the barrier must be one metre if the drop is no more than six metres. At a height greater than this, the total height of the barrier must be 1.2 metres. On a balcony that serves only a single dwelling, a barrier of one metre in height is sufficient, irrespective of the drop.

The height of a barrier in a dwelling's indoor areas may, however, be at least 0.9 metres if the drop is less than three metres.

Section 8

Structure of barriers and staircases

Barriers and staircases must be designed to withstand loads in accordance with the intended use of the premises for the entire serviceable life of the structure.

If the protective part of the barrier contains only vertical structures, a cube with edges of no more than 100 millimetres may pass through its openings. In the case of other types of protective parts, a cube with edges of no more than 30 millimetres may pass through the openings. However, a horizontal gap in a protective part must be no higher than ten millimetres.

A cube with edges of no more than 200 millimetres may pass between the upper edge of the barrier and the protective part. A cube with edges of no more than 50 millimetres may pass between the lower edge of a barrier's protective part and the landing or the upper surface or edge of a step.

A cube of no more than 100 millimetres may pass between the stair steps.

Section 9

Handrails

On stairs and ramps, a handrail must be installed for the entire length and on both sides of the structure. Where necessary, two handrails, one above the other, must be installed in order to take into account children and users of wheelchairs. A handrail must be designed and shaped so that it allows a firm grip. A handrail and its ending must be shaped safely and must continue past the start and end points of the structure. The handrail must continue onto the intermediate landing without interruption.

In public outdoor and indoor spaces, and in business and service premises, a handrail must continue at least 300 millimetres past the start and end points of the structure, and in the case of stairs or ramps that have a width exceeding 2.4 metres and are located in assembly areas, it must

also be placed so as to divide the passageway into parts no wider than the above-mentioned width.

Chapter 3

Safety of structural elements and fixtures

Section 10

Brightness and lighting

A building and its environment must be lit in a way that enables safe use and servicing. The lighting must not cause glare that endangers safety.

The building's surfaces and lighting must be such that they achieve the contrasts in brightness needed for observation.

Ramps, steps, thresholds and differences in levels in passageways must be clearly indicated using lighting and surface brightness contrasts or warning signs.

Section 11

Glass structures

The breaking of a glass structure or other light-permeable structure of a building must not cause a danger of falling or a danger of injury from fragments falling onto persons below.

A glass structure or other light-permeable structure, along with its mountings, must withstand the load to which it is normally subject, unless the structure is protected by a fixed collision barrier.

Windows, glass walls and glass doors into which there is a danger of collision must be marked in such a way that they can be easily noticed. Their glazing must be made of safety glass.

Section 12

Floor surfaces

Floor surfaces must be sufficiently level and manufactured from a suitable material, taking into account the intended use of the premises, so that there is minimal risk of stumbling or slipping.

Section 13

Doors and gates

A building's doors and gates must be easy to open, even if conditions change.

Doors, gates and boom barriers must operate safely and in such a way that they do not cause a danger of an accident. They must be equipped with appropriate safety fittings.

The Government Decree on the Accessibility of Buildings (241/2017) and the Ministry of the Environment Decree on the Fire Safety of Buildings (848/2017) shall apply to other characteristics of doors.

Section 14

Headroom

The minimum height of a passageway in a living space is 2,100 millimetres. At a door opening, the height may be reduced by the height of any necessary frames and thresholds.

The headroom of a gate other than one at or leading to an exit, and of a gate inside a dwelling, may be 1,950 millimetres.

Section 15

Safety fittings

A building must be equipped with durable safety solutions and safety fittings that are suitable for its use.

In dwellings and other premises that are used by children, restrictors must be installed on windows and other openings where there may be a danger of falling, and these must be such that they limit the easy opening of the window to 100 millimetres. Any restrictors placed on windows used as emergency exits must, however, be easily releasable by an adult.

Ladders and other structural elements at emergency exits and service routes must be designed and constructed so that they can also be used in an emergency situation.

The free opening of the vertical hatch or window of an emergency exit must be at least 600 millimetres in height and 500 millimetres in width; however, the sum of these must be at least 1,500 millimetres. The opening of a horizontal hatch must be at least 600 x 600 millimetres.

Chapter 4

Safety of outdoor areas

Section 16

Driveways and parking areas

The driveway and parking area at a plot or building site must be separated from pedestrian, play and recreation areas. A driveway must not intersect a walkway leading to a play area. If it is impossible to avoid such an intersection, a structural solution must be used to mark the crossing places.

Routes intended for vehicle traffic must be located in a way that does not restrict pedestrian routes or the space required for opening doors and gates.

Section 17

Play and recreation areas

Any abrupt level differences of over 0.7 metres and any precipices located in the vicinity of common play and recreation areas associated with buildings with more than two dwellings must be indicated by appropriate barriers or suitable planted areas, or outfitted with a base that cushions any fall.

Passageways in yards, along with their gates and ramps, must be safe and furnished with appropriate barriers and handrails.

Play area equipment must be safe, and the structure of the bases of the equipment must be suitable for their purpose as well as shock-absorbing.

Section 18

Protection of passageways and recreation areas

Entrances and passageways to playgrounds and recreation areas used in the wintertime, as well as street areas surrounding the building and other public areas, must be protected from snow and ice falling from the roof of the building using snow barriers, taking into account the pitch of the roof. In addition, the entrance must be protected against snow loads with a covering.

Section 19

Height of protruding structural elements

The free height from the ground or from the surface of a driveway or walkway of the lower edge of a structural element, device or equipment protruding from the building, such as a balcony, bay window, sign, lighting device or awning, must be at least 2.2 metres, unless the area is protected so as to prevent the danger of collision.

Chapter 5

Safety of assembly areas

Section 20

Assembly areas

Assembly areas must be designed and built in a way that is suitable for their use.

Section 21

Number of persons in assembly areas

The maximum intended number of persons that may be simultaneously present in an assembly area is the combined number of persons permitted in the assembly rooms. The requirements set in the building permit for the characteristics of the space are determined according to the intended number of persons.

The maximum number of persons in an assembly area is to be calculated based on the characteristics of the different room areas in the space so that the maximum number of persons in a room with fixed seats is determined based on the number of seats. In rooms that do not have fixed seats but for which furnishings are presented in the approved designs, the maximum number of persons is also determined based on the number of seats. In rooms with no fixed seats or furnishings, the number of persons shall be calculated to be two persons per square metre.

When calculating the number of persons per square metre of room area, the following spaces are not included: stages, speaking rostrums or other such areas, cloakrooms, kitchen facilities, washing facilities, toilets and storage rooms.

Section 22

Seats in assembly areas

Seats must be fixed to a base if the floor of the seating area is sloped or if there are level differences between the floors of the respective rows of seats.

On a level floor, seats may be detached. If there are more than 60 chairs in a space, they must be linked to one another in at least four groups, unless the chairs are placed around tables.

Fixed or linked seats must be arranged as rows of seating with an access route on the side of the rows.

Section 23

Auditoriums

Level differences of over 500 millimetres must be equipped with an appropriate safety barrier, railing or handrail. The barrier in front of the lowest row of seats in a tiered auditorium balcony may be in the form of a guardrail 0.7 metres in height with panelling to protect against falls if only the said row of seating can be accessed via the passageway between the row and the barrier.

Standing areas must be terraced so that it is safe to move in the rows. The depth of standing rows must be at least half a metre.

Unauthorised persons must be prevented from accessing the controls for mechanically movable parts of the auditorium.

Section 24

Access routes

The access route in the seating area or standing auditorium must be directly accessible from the end of each row.

The width of access routes in assembly areas with a maximum capacity of 60 persons must be at least 900 millimetres. In spaces intended for more than 60 persons, the width of the access route must be at least 1,200 millimetres.

The free width of the passageway between rows of seats must be in accordance with Table 1 in relation to the number of persons using the passageway and the type of seats and depending on whether there are access routes at both ends or only one end of the passageway.

Table 1

Free width of the passageway in relation to the number of seats					
	Free minimum width of passageway	400 mm	500 mm	600 mm	900 mm
		number of seats in the row			
Fixed seats, Access routes at both ends Access route at only one end		< 40 < 10	< 50 < 10	< 60 < 15	> 60 < 30
Linked seats, Access routes at both ends Access route at only one end		< 16 < 8	< 28 < 8	< 40 < 12	> 40 < 24

The slope of the floor surface in the seating area and access route may not exceed 8 per cent (1:12.5). Section 5 of the Government Decree on the Accessibility of Buildings (241/2017) shall apply to the access routes leading to accessible viewing areas.

Chapter 6

Safety of servicing

Section 25

Servicing possibilities

It must be possible to access and service all parts of a building that require regular cleaning, sweeping, maintenance or inspection without endangering the safety of employers and bystanders.

There must be safe and easily accessible, uninterrupted access routes to any chimneys, ventilation equipment and other building equipment and structural elements that are located on the roof of the building and that must be accessed regularly. A roof with a pitch greater than 1:8 must be constructed making appropriate use of walkways, roof ladders, safety ladders, roof stairs, roof treads and foot rails.

In buildings more than 9 metres and at most 28 metres in height, the attic and roof must be accessible via the interior and exterior of the building; in buildings more than 28 metres in height, these must be accessible via the interior.

A building with a height exceeding 9 metres must be equipped with anchoring structures for safety lines. A building must also have anchoring structures and equipment for suspended scaffolds if no other functional solution has been designed for façade maintenance.

Chapter 7

Safety of vehicles and goods transport

Section 26

Goods transport and maintenance traffic at the building site

The vehicle traffic area of a building and its courtyard must be safe and appropriate.

A safe and marked access route must be reserved for pedestrians in connection with vehicle traffic and goods transport routes, doors and gates in the yards of buildings other than single-family houses, if pedestrian traffic through them is necessary.

The structures and arrangements for the supply of goods in a building must be safe and appropriate. The loading dock and ramp must be proportionate to the size of loads and the amount of goods transport. The loading area must be safe and appropriate. Barriers on loading docks must not impede loading and unloading.

Chapter 8

Transitional provisions and entry into force

Section 27

Entry into force

This Decree enters into force on 1 January 2018.

The provisions in force upon the entry into force of this Decree will apply to projects that are pending upon the entry into force of this Decree.

Helsinki, 20 December 2017

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