

CITY OF TURKU

Accessibility guide

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Buildings providing public and private services and common areas in terraced houses and blocks of flats



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Jyri Kuparinen, Accessibility Coordinator, City of Turku

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Accessibility guide – Buildings providing public and private services and common areas in terraced houses and blocks of flats

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Dedicated to Olli Nordberg

1 General

These guidelines on accessibility apply to the built environment providing public services in the City of Turku. For renovation projects, the guidelines are followed where applicable.

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Taking accessibility into account begins already at the preliminary negotiation stage, whether it is a new construction or a change in the use of an existing building.

Accessibility is about taking into account the diversity of people in the design and implementation of the built environment.

Accessibility enables people to live in their homes and participate smoothly in activities such as work, hobbies, culture and studies.

Accessibility also means, among other things, the accessibility of services, the usability of tools, the comprehensibility of information and the opportunity for people to participate in decision-making that concerns them. Accessibility is equality and a part of sustainable development.

So accessibility is not just about accessibility. It also takes into account issues such as vision, hearing, communication and electronic communication.

Accessibility means safety and quality. It's about mindset, the right attitudes and taking diversity into account. An accessible environment does not distinguish people based on their functional capacity. Accessibility is simply about taking people's diversity into account in the design and implementation of the built environment.

Everyone benefits from an accessible environment.

An accessible environment is essential for many groups of people, but it also greatly helps other users of the facilities. For example, carrying goods and cleaning and maintaining the premises is made easier when there are no thresholds, stairs or steep ramps.

Accessibility does not usually cost more than "non-accessible" at the construction stage; it is about good design and implementation of the plans.

An environment or individual building is accessible when it is functional, safe and comfortable for users, and when all spaces and floors of the building are easily accessible. In an accessible environment, the facilities and their functions are as easy to use and logical as possible.

2 What is an accessible building?



City of Turku Accessibility Council 2019 and Jarno Venho and Janne Juvonen of Voi Veljet! restaurant chain.

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Simply put, a single building or environment is accessible when all spaces and floors of the building are easily accessible. Accessible spaces and environments are also generally logical, functional, safe and easy to use. Such buildings, facilities and environments always include buildings providing public services and shared spaces for terraced houses and blocks of flats.

For example, a commercial space refers to a space in a building where the main sales and service production will be located. Storage space means a space primarily intended for storage and related tasks. The storage space is not open to anyone other than personnel or persons who have been granted a special permit by the personnel/owners/authorities.

Customer toilets, of which at least one is an accessible toilet, and separate staff toilets and washrooms are also considered essential to the business operations of the building. For example, signs for washrooms, dressing rooms as well as sanitary and toilet facilities and lifts in buildings are marked with embossed signs. Braille is a recommended addition to all signs.

With regard to business premises suitable for persons with reduced mobility and functional impairment and their assistants, it is important to ensure that they are as equally accessible as possible. Accessible spaces must be suitable for wheelchair and wheeled walker users and their assistants. Suitability in this context means that there is sufficient space for a wheelchair and wheeled walker user and any assistant after the furniture has been installed. Accessible use of the space is also taken into account in the placement of furniture and equipment.

An outdoor passage means an earth-banked passage. In the case of a passage to a commercial building, potential playgrounds, recreational areas and parking and bicycle spaces, wherever located, are also considered to be spaces and areas serving the use. A ramp is a means of access between levels (replacing a staircase) for persons with reduced mobility and functional impairment. A ramp is a part of a passage.

The entrance to the building must be accessible and the entrance must have an accessible toilet. The entrances are illuminated. On roofs, general lighting comes from above. The light fixtures are embedded in the roof structure. Bumping into potential glass doors is prevented by contrasting colours, frame division and detection signs. The building signs are clear and contrasting with a large font and icons. A building/area sign should be designed so that the map is always directly in the viewing direction. A wheelchair, rollator or similar aid must always be able to pass through the entrances. There is clear space in front of the door. All main and public entrances are covered and open with door automation. The sign plan indicates accessible outdoor routes and parking places, accessible toilets and accessible routes and emergency exits.

When planning, implementing and maintaining accessibility, other areas of accessibility should also be taken into account than just mobility. Näitä ovat liikkumisen, näkemisen, kuulemisen, hahmottamisen ja ymmärtämisen esteettömyys sekä viihtyisyys ja turvallisuus. Accessibility solves many functional problems related to different aspects of life.

Consideration of guidance for the persons with impaired vision and hearing in buildings and their surroundings is considered very important. In addition to the use of a wheelchair or mobility equipment, the dimensioning must take into account the assistance of another person; physical assistance and guidance and advice.

1. The accessibility solutions for the construction project must be submitted in connection with the building permit application **in separate survey reports and accessibility plans**. The models of the accessibility report and the accessibility plan are available in connection with any preliminary negotiations from the accessibility coordinator or, at the latest, from the permit draftsman or accessibility coordinator in connection with the preliminary negotiations.
2. The accessibility survey and the accessibility plan are drawn up by the party undertaking the construction project. The accessibility report and plan are appendices to the building permit application.
3. **Accessibility guidelines supplement the above-mentioned documents.** The accessibility guidelines contain more comprehensive information on accessibility legislation, instructions and recommendations aimed at opening up the implementation of functional accessibility in planning.
4. **The planning of accessibility is part of each site providing services and activities**, and then they are related to the built fixed space and its environment, mobility and traffic arrangements, accessibility and general functionality.

Examples of buildings and spaces where an accessibility survey and accessibility plan are required:

- Shared spaces and passages for apartment blocks and terraced houses
- Parking places, parking areas and garages
- Restaurants, bars, coffee shops and cafés with terraces
- Shops, kiosks, stores, gas stations, banks, cash exchange points, insurance companies
- Sports facilities/fields, sports halls, swimming pools, public beaches, spas, public sauna facilities, gyms
- Hospitals, health stations, child welfare clinics
- Different receptions, information points, waiting areas
- Offices, conference facilities, meeting spaces
- Residential care homes, service and sheltered housing, nursing homes, day centres
- Day-care centres, schools, club facilities
- Playparks, playgrounds
- Museums, concert halls
- Stations, terminals
- Special transport solutions, e.g. ramps leading to a building, pedestrian bridges
- If necessary, outdoor and indoor events and the related facilities and environment, fairs and other public events



Members of the Accessibility Council Sanna Leppäjoki-Tiistola and Päivi Holm tested in September 2019 Panini's new terrace ramp.

©City of Turku, Joni Pietiläinen

3 Definitions



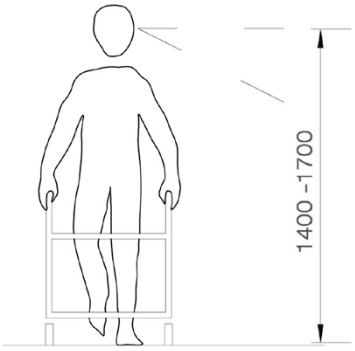
Term	Definition
Person with reduced mobility and functional impairment	For the purpose of this guide, persons with reduced mobility and functional impairment are persons whose ability to move or act independently is temporarily or permanently reduced due to old age, illness, disability or other cause. Persons with reduced mobility include users of wheelchairs and wheeled walkers or other mobility aids as well as persons with limitations in using their hands.
Mobility aid	A mobility aid may be manual or electric.
Person with reduced mobility and functional impairment	Spaces for person with reduced mobility and functional impairment are referred to as accessible. Persons with reduced mobility and functional impairment refer to persons whose ability to move or act independently has deteriorated temporarily or permanently due to their high age, illness, disability or other reason.
Person with reduced mobility	Persons with reduced mobility include users of wheelchairs and wheeled walkers or other mobility aids as well as persons with limitations in using their hands. The mobility aid may be manual or electric.
Person with functional impairment	People with functional impairments include those who have challenges in seeing, hearing, remembering, understanding or perceiving. People with functional impairments include those who have challenges in seeing, hearing, remembering, understanding or perceiving. What is said about a wheelchair also applies to a wheeled walker.
Wheelchair and walker	What is said in this guide about a wheelchair also applies to a wheeled walker, such as a rollator.

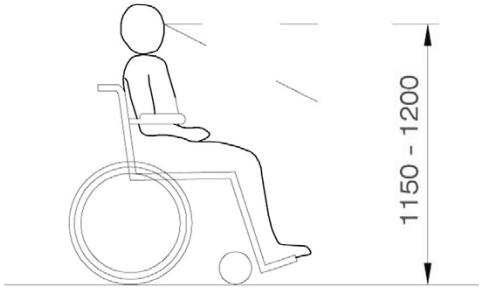
Term	Definition
Toilet and washroom, dry toilet, chemical toilet	What is said in this guide about toilets and washrooms also applies to dry toilets and chemical or similar toilets.
Outdoor passage	An outdoor passage means an earth-banked passage.
Ramp	A ramp is a means of access between levels (replacing a staircase) for persons with reduced mobility and functional impairment. A ramp is a part of a passage.
Passage to the building	In the case of a passage leading to a building, playgrounds, recreational areas and parking and bicycle spaces, regardless of where they are, are also considered such spaces and areas.
Residential care	Housing intended for service housing or sheltered housing for persons with reduced mobility or functional impairment refers to the forms of housing services referred to in the Social Welfare Act.
Residential services in service and sheltered housing	Housing services in service and sheltered housing in accordance with the Social Welfare Act (1301/2014) are provided to persons who, for a special reason, need help or support in housing or organising their housing. Supported and serviced housing for elderly people, people with disabilities, people with intellectual disabilities, people with mental health problems and people with substance abuse problems.
Housing and services in service housing	Service housing means accommodation and services provided in a sheltered accommodation. Sheltered housing means supported housing through social guidance and other social services. Under the Accessibility Decree, sheltered housing intended for all population groups (including sheltered housing with 24-hour assistance) falls within the scope of sections 6 and 9. In the case of sheltered housing, this refers to supported housing intended for persons with reduced mobility and functional impairment, which requires, for example, more relaxed dimensioning due to the use of assistive devices or the presence of an assistant. In addition to the entire residential building, sheltered housing can also be located, for example, in groups of apartments in close proximity to each other or in individual apartments for people with reduced mobility and functional impairment. So-called "retirement homes" and similar types of residential buildings for the elderly are also covered by this definition.
Accommodation	An accommodation is a furnished room (hotel room, apartment or other similar unit reserved for accommodation) intended primarily for the provision of professional temporary accommodation to guests in need of accommodation.

General dimensioning

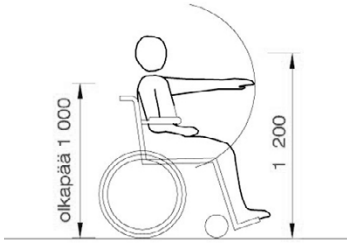
(RT 103141 Esteetön liikkumis- ja toimimisympäristö, in Finnish only)

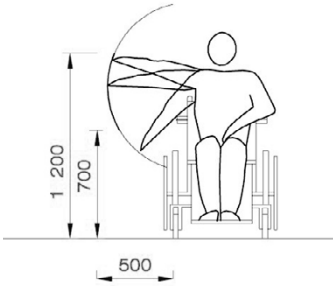
Eye level



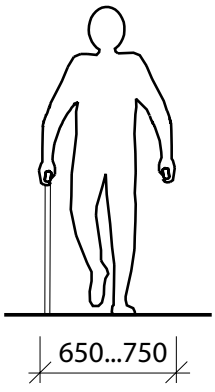


Reaching

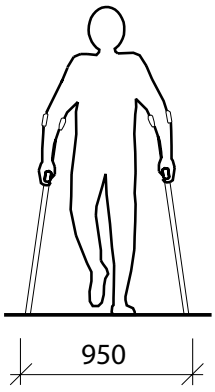




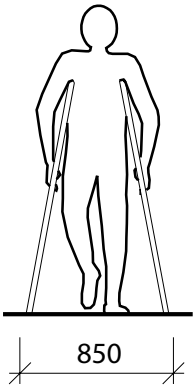
Space requirement



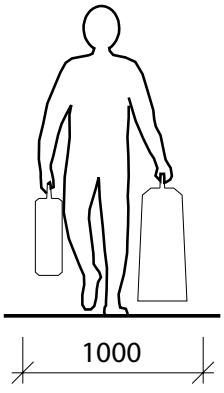
Cane



Elbow crutches

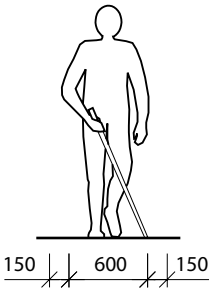


Crutches

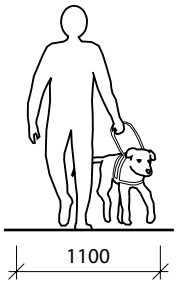


Loads

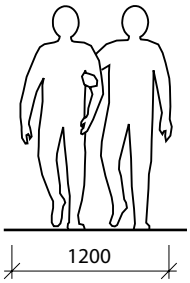
Space requirement



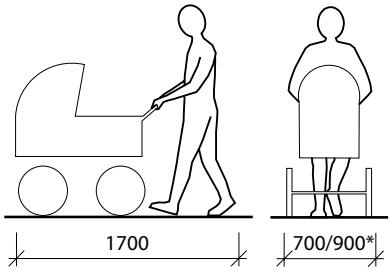
White cane



Guide or assistance dog

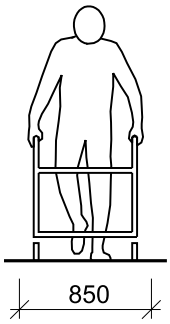


Assistant



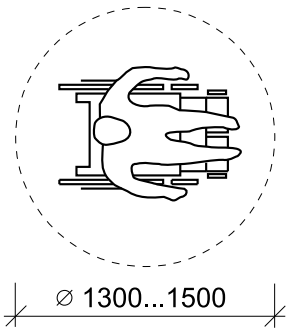
Prams/*twin prams

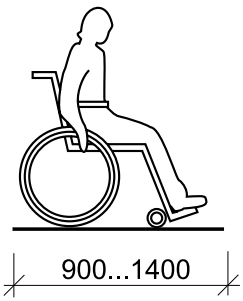


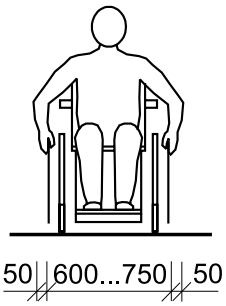


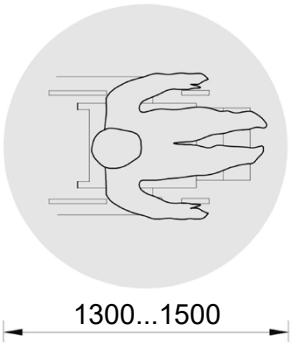
Rollator user

Space requirements for wheelchair users

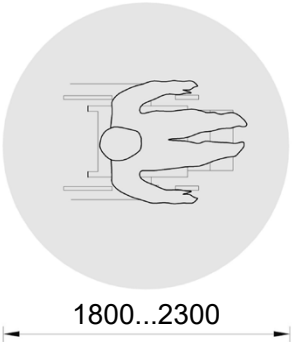




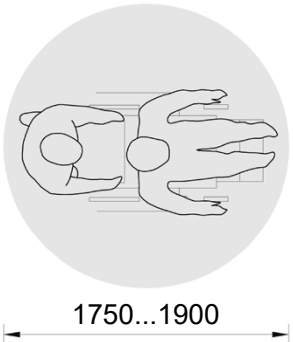




Indoor wheelchair turning circle



Outdoor wheelchair turning circle



Turning circle with assistant

4 Legislation, regulations and instructions



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Accessibility requirements are based on legislation and regulations, decrees and instructions issued under it, as well as possible planning provisions concerning the construction project in question.

The guidance is mainly based on legislation, i.e. the Government Decree on Accessibility in Buildings 241/2017 www.finlex.fi/fi/laki/alkup/2017/20170241 (in Finnish) and Decree of the Ministry of the Environment on the safety of use of buildings 1007/2017 www.finlex.fi/fi/laki/alkup/2017/20171007 (in Finnish).

In addition to the above-mentioned regulations, the accessibility guidelines of the City of Turku are based on relevant legislation and guidelines:

- Finnish Constitution
- Land Use and Building Act (132/1999)
- Land Use and Building Regulation
- Non-Discrimination Act
- UN Convention on the Rights of Persons with Disabilities
- Act on Disability Services and Assistance
- Act on Supporting the Functional Capacity of the Older Population and on Social and Health Care Services for Older Persons
- Act on Early Childhood Education and Care
- Act on Public Contracts

- Rescue Act
- Act on the Maintenance of Streets and Certain Public Areas
- The European Accessibility Act (EAA)
- Accessibility Directive
- PKS cards
- Act on Equality between Women and Men

The City of Turku cooperates with other cities to improve and develop accessibility. The main models of this accessibility guide are the accessibility guidelines for the cities of Espoo, Helsinki (SuRaKu) and Oulu. The SUJUVA Compendium of Accessibility Regulations, Guidelines and Recommendations, published in 2019, is also used as a model for the guide. **www.sujuva.info**

The Ministry of the Environment's guidelines on the accessibility of buildings open up legislation and clarify the interpretation of the Act: **Esteettömyys – Ympäristöministeriön ohje rakennuksen esteettömyydestä, 2018** (in Finnish)

The website of the Finnish Association of People with Physical Disabilities provides excellent suggestions and tips for different accessibility solutions: **www.invalidiliitto.fi/en**

Important accessibility-related laws, regulations and rules include:

- **Section 6 of the Constitution of Finland:** “People are equal before the law. No one may, without an acceptable reason, be treated differently on the basis of gender, age, origin, language, religion, belief, opinion, state of health, disability or other personal characteristics. Children must be treated equally as individuals, and they must be able to influence matters concerning themselves in accordance with their development. Gender equality is promoted in social activities and working life, especially when determining pay and other terms of employment, as laid down in more detail in the Act.”
- **Decree of the Ministry of the Environment on the safety of use of buildings** "The new decree replaces the provisions on the operational safety of buildings in the building collection (F2, 2001). The Decree entered into force on 1 January 2018. In accordance with the decision of the Ministry of the Environment, provisions are laid down under section 117d and section 117k of the Land Use and Building Act (132/1999) as contained in Act 958/2012 and section 117k of Act 812/2017: (hereinafter and in the future, section of the Decree of the Ministry of the Environment RKT 1007/2017).”
- **Ministry of the Environment Decree 1007/2017, section 1:** "This Regulation applies to a new building, an extension to a building, a space increasing the floor area of a building and the immediate surroundings of the building site. In the case of renovation and alteration of a building, this decree must be applied if the original solution is manifestly detrimental to safety or health. Repairs and alterations to the building can otherwise be carried out in accordance with the original solution. Changes must not compromise the safety of use. This decree must be applied to changes in the intended use of a building if the intended use of a building or part thereof becomes more risky.”
- **Ministry of the Environment Decree 1007/2017, section 2:** "Safety of use of the building. The principal designer, construction designer and special designer must ensure that the building is designed in such a way that the building meets the essential technical requirements set for operational safety in accordance with its intended use.”

- **A new decree on the accessibility of buildings has also been issued.** “This will apply to building permits that will be applied for after 1 January 2018. According to the Ministry of the Environment, the decree clarifies the requirements related to accessible construction and reduces differences in interpretation between municipalities. The new regulation specifies several dimensions related to accessible construction, which have so far been open to interpretation. The essential technical requirement concerning accessibility laid down in the Land Use and Building Act can be specified by decree, and pursuant to section 117 e, subsection 2 of the Land Use and Building Act, the Government has issued a decree on the accessibility of buildings on 4 May 2017 (241/2017, hereinafter referred to as SSK 241/2017, Section of the Accessibility Decree:). The Decree entered into force on 1 January 2018.”
- **Section 117d of the Land Use and Building Act:** "Safety of use. Those starting a construction project must ensure that the building is designed and built in a manner that is appropriate for its intended use and that its use and maintenance are safe. The building and its outdoor spaces and passages may not pose a risk of accident, mishap or damage that cannot be considered acceptable.
- By decree of the Ministry of the Environment, more detailed provisions on the operational safety required of a building may be issued for the construction of a new building, the repair and alteration of a building, and the change in the purpose of the building.
- **Section 117e of the Land Use and Building Act:** "Accessibility. The party starting a construction project must ensure that the building and its yard and recreational areas are designed and built in accordance with their intended use, number of users and number of floors so that accessibility and usability are taken into account, especially for children, the elderly and persons with disabilities.
- Further provisions required for the construction of a new building, the repair and alteration of a building and the change in the purpose of the building may be issued by Government Decree:
  1) the dimensioning of the building and its passages and sanitary spaces;
  2) differences in elevation;
  3) meeting spaces and accommodation facilities.”
- The essential technical requirement for accessibility applies to buildings and their yard and recreational areas as required by the purpose, number of users and number of floors.
- The Accessibility Decree contains minimum accessibility requirements for a building, according to which the designed and constructed building implements the essential technical requirement of accessibility laid down in the Land Use and Building Act. The provisions of the Accessibility Decree oblige those starting a construction project.
- The Accessibility Decree and its explanatory memorandums form part of the national implementation of the UN Convention on the Rights of Persons with Disabilities. The Convention on the Rights of Persons with Disabilities and its Optional Protocol entered into force in Finland in 2016. Accessibility is one of the cross-cutting principles of the UNCRPD.

- Accessibility is a human right and a prerequisite for enabling persons with disabilities to live independently and participate fully in all areas of life. The Convention emphasises *Design for All* (or *Universal Design)*, which means taking accessibility into account at the design stage of spaces and environments so that all people can use them as widely as possible without adaptations or special design.
- The parties to the construction contract must take appropriate measures to ensure that persons with disabilities have equal access to the physical environment. The Convention requires the Parties to take appropriate measures to develop, implement and enforce minimum standards and guidelines for the accessibility of premises and services.
- **SSK 241/2017 Accessibility Decree section 1:** "This decree applies to the construction of a new administrative, service, office, business, warehouse, production and residential building subject to a permit under section 125 of the Land Use and Building Act (132/1999). However, only sections 2 to 4 apply to the construction of a detached house, and only sections 2 to 5, 8, 10 and 11 apply to the construction of a warehouse and production building. Under section 125 of the Land Use and Building Act, this Decree also applies to the repair and alteration of administrative, service, office, warehouse and production buildings and residential apartment buildings subject to a permit, to the extent that improving accessibility is the properties of the building and to the extent that appropriate in terms of quality and scope. However, only sections 2 to 5, 8, 10 and 11 must apply to the above-mentioned measures taken in the warehouse and production building. The provisions of this decree concerning a building intended for a particular use must also apply to a space intended for similar use in another building.
- “Rakennustietosäätiö has published a guide ‘**Accessible Construction and Environment, Design Guide 2019**’, which presents proven solution models and instructions for accessible construction and its design.” **Esteetön rakennus ja ympäristö (pdf)** (in Finnish)

5 Planning and permit instructions

Taking accessibility into account begins already at the preliminary negotiation stage, whether it is a new construction or a change in the use of an existing building.

The main principle for the preparation of an accessibility survey and an accessibility plan is the objective that all construction projects should achieve an accessible built environment in a consistent and comprehensive manner. A functional environment benefits everyone and streamlines everyday work, for example.

Taking accessibility into account has become an increasingly important part of society. There are currently 80 million people with disabilities in the European Union (1/6 of the population), most of whom remain excluded from social and economic life due to environmental and attitudinal barriers. It should also be noted that by 2060, one third of EU citizens will be over 65 years old. Non-accessible persons are currently the fastest growing minority in the world.

Accessibility legislation is under development and the aim is for future accessibility legislation to better meet a wide range of accessibility needs. For example, the **EU Accessibility Act** sets common accessibility requirements for key services and products. For this reason, the City of Turku will also pay more attention to the realisation of accessibility.

Planning phase

Those starting a construction project must ensure accessibility in the design and construction of the building. For this reason, the City of Turku's accessibility guidelines have been created to assist those starting a construction project. The guidelines include laws, regulations, recommendations, instructions and observations on accessibility. The two-stage accessibility survey included in the accessibility guidelines allows potential accessibility problems to be identified early in the planning phase. This is to avoid the need for any repair/modification work, which is usually expensive in the form of 'retrofitting' and can also delay the completion of the construction project. The accessibility survey also aims to standardise and clarify the creation of these documents, the work of designers and the format of the accessibility plan, and to speed up the building permit process.

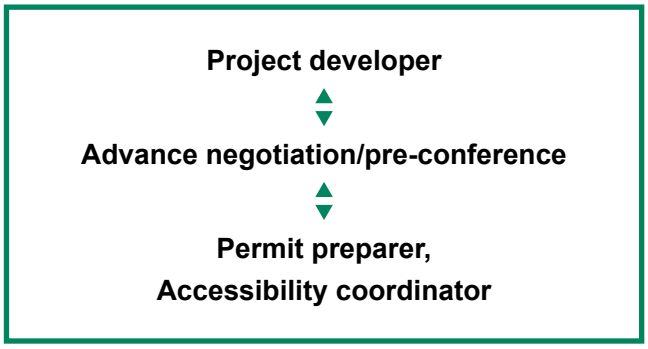
Taking accessibility into account in design and planning is part of Finnish and international legislation and therefore the City of Turku's Building Control also takes accessibility requirements into account during the building permit application process. The City of Turku Building Control requests a separate two-stage accessibility survey from the developer of a building project for all sites providing services where accessibility must be specifically taken into accountaccount in the advance negotiations of the building permit application process at the latest.

Accessibility guidelines are a good guideline in accessibility planning. The accessibility survey and the related instructions in the accessibility plan also help in taking accessibility into account better. However, it should be remembered that perfect models do not exist, as all construction sites are always different. For this reason, it is also not possible to create a perfect model of the accessibility survey and the accessibility plan guidelines, which would fully serve all sites. Before the advance negotiations, those starting the construction project should contact the accessibility coordinator and present the project to the accessibility coordinator. This approach also allows for possible prior consultation on accessibility.

In advance negotiations, the aim is to clarify to the designer and developers at which point accessibility issues must be taken into account at different stages of construction.

The permit instructions can be divided into three separate stages:
Advance negotiation, building permit phase and construction and implementation phases.

Advance negotiation



1. In advance negotiations, the project developer presents the site to the permit preparer and the accessibility coordinator.
2. In connection with the advance negotiations, the accessibility coordinator, along with the permit preparer, can comment on the draft plans of the site with regard to accessibility and inform the developer of the guidelines/criteria to be taken into account for the project in question.
3. In connection with the advance negotiations, the accessibility coordinator and the permit preparer provide templates for the accessibility survey and instructions for preparing the accessibility plan, which should be used to present the accessibility solutions at the permit stage.

Accessibility survey

The ready-made accessibility survey model makes it easier to observe different accessibility-related points. In the accessibility report, the sections of the Accessibility Decree 241/2017 are reviewed in order, while some sections of the Safety Regulation 1007/2017 are also reviewed. In addition, the accessibility survey takes into account important recommendations of the accessibility coordinator, which facilitate the accessibility of the site.

The accessibility survey is divided into two separate stages:

1. **PLAN REVISED section**, which must be completed by the party taking part in the construction project by the time the permit is granted. The completed accessibility survey is returned to the Building Control to the permit preparer. The PLAN REVISED section and its correct completion is one of the criteria for the accessibility coordinator to issue an accessibility statement.
2. The **REVISED AT SITE section** will be completed at the time of the accessibility inspection. This section is completed by the accessibility coordinator and can be used to determine the correct implementation of the plans at the site itself. If the revised section of the plan and the revised section of the site do not match, the necessary corrections/changes to the site must be made by the final inspection or by a separately agreed date. Building supervision supervises the implementation of possible repairs/changes.

Accessibility plan

The accessibility plan is based on detailed, ground and sectional drawings of the building, premises and surroundings, e.g. the yard.

It is also a good idea to include any accessibility issues that may be visible on the detailed drawings, such as access routes to the site and the nearest bus stops.

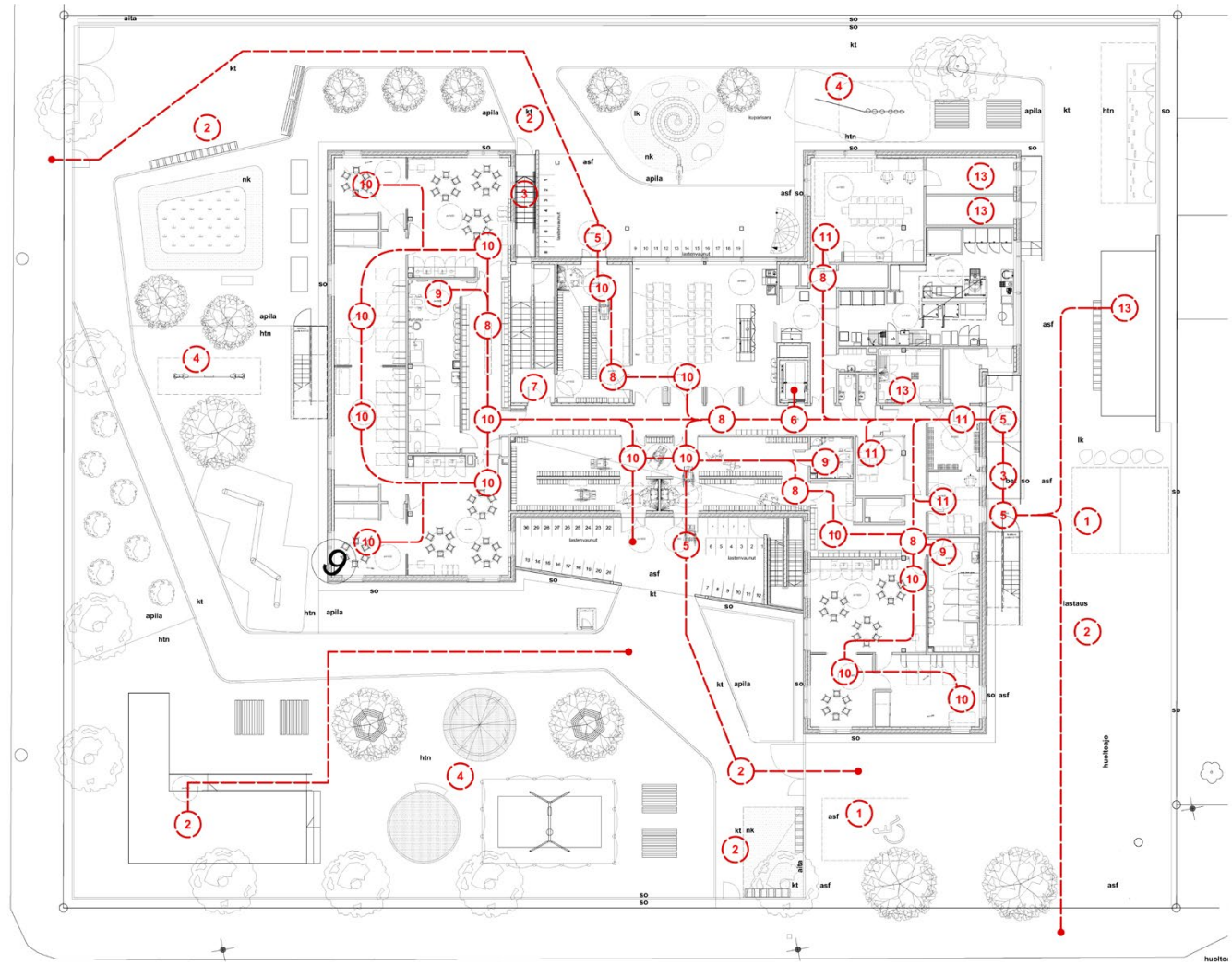
Clear accessible routes at the site and the accessibility solutions designed for the site must be described in the accessibility plan.

Accessible routes are marked with a dotted line and, at all important accessibility event, attention and meeting points, the route is also marked with a circled number. The route must follow a logical sequence. The access route starts from a so-called starting point, i.e. a natural point of access to the building, such as from a parking/pick-up and drop-off area. Particular attention should be paid to accessible entrances. All other possible entrances must also be marked. Repeated numbering may also occur, but it is not a problem. The only cause for this problem is that not all items are marked.

The contents of the numerical markings and their contents must be explained in a separate section of the accessibility plan, in which the accessibility issues included in each numbering are recorded in general. Possible sectional images of facilities specifically intended for non-accessible users (with reduced mobility) will also help interpret the accessibility plan better.

During the planning phase, it is recommended that you contact the accessibility coordinator. In this case, the accessibility coordinator can, for example, assist in the correct placement of the furniture in the premises, such as the height setting of the furniture. In addition, the accessibility coordinator can provide advice on issues such as handwashing, how to operate the hand shower, switching on the lighting, the location of the switches and the placement and implementation of the alarm system.

Example image 5a of the accessibility plan for a public building:



Pohjapiirustus 1. krs ja piha-alueet 1:100

Rakennus toteutetaan siten, että se täyttää kaikilta osin Valtioneuvoston asetuksen esteettömyydestä (241/2017).

Rakennuksen toiminta ja tiedot

Kyseessä on Turun keskustan tuntumassa Port Arthurin kaupunginosassa sijaitseva, kaksikerroksinen päiväkoti-uudisrakennus. Paikalle on mahdollista saapua jalan, polkupyörällä ja autolla. Päiväkoti toimii klo 6-18 välisenä aikana, lisäksi päiväkodissa on yksi 10-paikkainen vuorohoitoryhmä (24h). Rakennuksessa on yhteensä 7x24 = 168 päivähoitopaikkaa sis. vuorohoitoryhmä. Henkilökunnan määrä n. 40. Uudisrakennus toteutetaan nykyiselle päiväkodin tontille (9). Nykyinen päiväkotirakennus on purettu aiemmin. Rakennuksessa on salitiloja, joita on hiluttaessa mahdollista vuokrata iltakäytöön.

1 Autopaikoitus
Henkilökunnan autopaikat 2 kpl. Saattoliikenteelle varattu yksi LE-AP tontilla, leveys 3600 mm, pituus 5000 mm. Pinnan pituuskaltevuus enintään 5% ja sivuttaiskaltevuus enintään 2%, mt. reitti pääsisäänkäynnille. LE-AP sijoitettu mahdollisimman lähelle pääsisäänkäyntiä, etäisyys 23m. Pysäköintipaikka merkitään ISA-pystyopasteella näkyvälle paikalle h=min 900, lisäksi asfalttiin merkitään sinisellä pohjavärillä valkoinen pyörätuoli-ISA-tunnus; halkaisija >500mm. Saattopysäkkinä kadun varressa.

2 Kulkureitit pihalla, saapuminen tontille
Tontille johtaa kolme suojatietä. Pihalle kuljetaan ylhäältä päin valaistuilla kyteillä merkittyjen käyntiportttien kautta. Piha-alueella kulkuväylien pintamateriaali asfaltti tai vastaava kovapintainen, apuvälineikäyttöön soveltuva materiaali. Kulkureitellä riittävän kirkas valaistus ylhäältä alaspäin. Maanpinnan pituuskaltevuus pääkulkuväylillä enintään 5% ja sivuttaiskaltevuus enintään 2%. Kulkuväylien leveys > 1200mm. Polkupyöräteilineet ja muut varusteet sijoitetaan kulkureitin ulkopuolelle kontrastivärialueelle. LE-autopaikalta taktiiliopastus pääsisäänkäynnille.

3 Ulkona olevat porras- ja luiskajärjestelyt
Luiskien kaltevuus ulkona enintään 1:20. Luiskan ja portaan ylä- ja alapäässä vähintään 1500 mm pitkä vaakasuora taso. Luiskan leveys vähintään 900 mm, reunoissa korotukset 50mm. Huoltoportaat teräsritiläportaita, muut valettuja betoniportaita, joissa lämmitys. Betoniportaiden leveys 900...1100 mm, lämmittämättömissä portaissa nousu enintään 130 mm, etenemä 400 mm. Luiskan ja portaan sivuilla käsijohteet h=700 ja 900 molemmin puolin sekä suojakaide, mikäli korkeusero on yli 500mm. Käsijohteet jatkuvat 300mm yli tasanteen reunan. Luiskan ala- ja yläpäässä luiskan päädyistä ilmoittava kontrastivärimerkintä. Luiskien ja portaiden materiaalit karhennettuja.

4 Pihan oleskelu- ja leikkialueet
Pintamateriaalit erotettu toiminnan luonteen mukaan. Leikkivälineiden turva-alueilla hiekkatekonurmi. Muilla alueilla hiekkatekonurmi, apila tai tasainen noppakivi. Valaistu infotaulu ja leikkialueen infokyltti. Leikkivälineissä huomioitu esteettömyys mm. hiekkalaatikon mahalauta ja toimintojen sijoittaminen eri tasoihin.

5 Sisäänkäynnit
Sisäänkäynnit erotettu julkisivusta mm. katosten ja valaistuksen avulla. Ulko-ovien edessä vähintään 1500x1500mm vapaa tila ovilehden kaaren ulkopuolella. Tasanteen kaltevuus enintään 2%. Ulko-ovissa opastusmerkinnät ja kontrastiväri. Ulko-ovissa enintään 20 mm korkea kynnys ja yhteistilojen sisäänkäynneillä kynnetkevy. Vapaa leveys käytettävissä vähintään 850 mm. Ulko-ovilla ovipuhelinjärjestelmä ja oven aukaisupainikkeet siten, että ovien avaus ulkoa salliin saakka on sähköisesti avustettu (päiväkodin normaalikäytössä painikkeiden toiminta ovipuhelimen kautta, koska ovet on pidettävä lukossa). Ovipuhelinpäätteiden maksimikorkeus 1200mm, tai kaksi päätteilaitetta, joista toinen h=900 ja toinen h=1400.

6 Hissi
Korin leveys 1100 mm ja syvyys 2100 mm. Hississä ohjauspainikkeet 900...1300 mm lattiasta ja 400 mm nurkasta. Painikkeet kohokuvioinnilla. Äänipasaus. Hississä käsikaiteet kahdessa tasossa h=650 ja 900. Hissin oven vapaa aukko >900 mm. Hissin edessä kääntymistila Ø1500 mm. Hissi täyttää esteettömyysstandardin EN81-70.

7 Porrastasanteet ja sisäportaat
Käsijohteet molemmin puolin h=900 ja 700mm. Portaan leveys vähintään 1200 mm. Nousut lasten mitoituksen mukaan (136mm yleensä). Porrasaskelmien etureunassa kontrastimerkintä. Käsijohteet jatkuvia siten, että kiinnitys ei häiritse käden liukumista johteessa. Käsijonde jatkuu 300mm yli portaan päättymisen. Porrasaskelman ja seinien värit siten, että syntyy riittävä kontrastiero.

8 Sisätilojen kulkuväylät ja ovet
Kulkuväylän leveys vähintään 1500 mm, yleensä 1800mm. Ovet 10M, alaslaskeutuva automaattikynnys, märkätiloissa joustokynnys. Lasiovissa huomiomerkinnät. Ovissa tilamerkinnät tarrakirjaimin. Esteettömien wc-tilojen ovissa opaste (ISA) ja peräsävetokahva, ei kynnystä. Ovilehden avautumispuolella >400mm tilaa. Oven värit siten, että syntyy riittävä kontrasti viereiseen seinään.

9 WC-tilat
Esteettömissä wc-tiloissa hälytysnarut, korkeussäädettävät tukikahvat wc-istuimen molemmin puolin. Tiloissa kääntymistila pyörätuolille Ø1500 mm ja vapaata tilaa wc-istuimen molemmin puolin ≥800 mm. Inva-allas (ei kallistuva), jonka luo pääsee pyörätuolilla. Tukikahvat seinillä. Etäkäytettävä bide-suihku, joka kiinnitetään tukikaiteeseen. Allashana yhdellä kädellä käytettävä tavanomainen hana. Vaatekoukut eri korkeuksilla. Kävelykeppiteline. WC-istuin irti seinästä 200-300mm.

10 Ryhmä- ja toimintatilat sekä yhteistilat
Ovet min.10M, pääsääntöisesti ei kynnyksiä. Tiloissa kääntymistilaa pyörätuolille Ø1500 mm. Tilojen kalustus ja mitoitus siten, että pyörätuolilla/apuvälineellä pääsee kaikkien toimintojen/kalusteiden. Lepohuoneiden sängyistä osa 1-kerroksisekai muunnettavissa.

11 Henkilökunnan sosiaalitilat ja toimistotilat
Ovet 10M, pääsääntöisesti ei kynnyksiä. Tiloissa kääntymistilaa pyörätuolille Ø1500 mm.

12 Parvekkeet
Ovet 10M. Tasoero enintään 20 mm, tasoero poistetaan parvekelaatan päälle rakennettavalla erillisellä kansirakenteella. Parvekkeella kääntymistila pyörätuolille Ø1500 mm. Katteen kokonaiskorkeus 1400 mm, lasikaide.

13 Varasto-, huolto ja tekniset tilat
Kulkuväylän leveys vähintään 900 mm. Ovet vähintään 10M, kynnys enintään 20 mm.

A 19.3.2020 Tekstiä päivitetty esteettömyyskoordinaattorin lausunnon perusteella

Muutos | Pvm. | Sisältö | Tekijä

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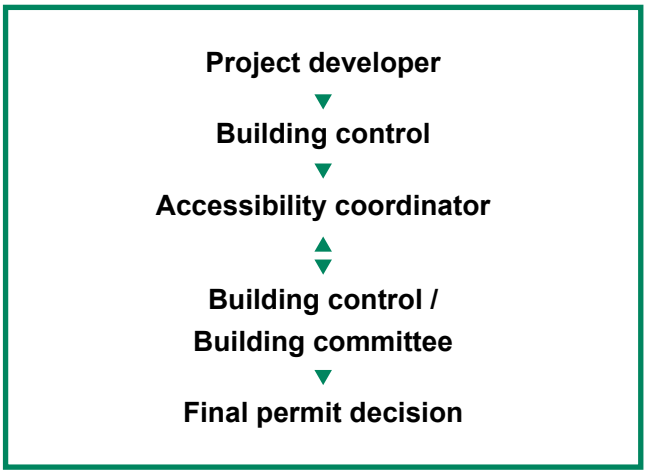
ARK 008-002 A

[Download the original pdf from the City of Turku material bank M-files (in Finnish, non-accessible) ▸]

Figure 5a Good solution: [1] Clearly marked routes and numbers in the accessibility plan that support the explanation section in the drawing. (Sofiankatu day-care centre, City of Turku) (Image: Juhana Marttinen Arkkitehdit Oy)

** Example page of the day-care centre's accessibility plan, the implementation of which is clear and the levels of accessibility understandable. The example must be applied according to the site being processed, as the sites are always different. If necessary, help and instructions for preparing an accessibility plan can be obtained from the accessibility coordinator. Additional examples can also be found as a printable PDF version in a separate appendix. Examples of accessibility plans for different sites will be added in the future.

Building permit phase



1. The person in charge of the construction project or other person responsible for the project always presents the project concerning buildings providing public services or joint facilities for terraced houses and apartment buildings to Building Control at the latest at the advance negotiations. The task of the party starting the construction project is to draw up an accessibility report and an accessibility plan for the site if the site concerns buildings providing public services or shared spaces for terraced houses and apartment buildings.
2. Building Control requests the opinion of the accessibility coordinator at the building permit stage. If necessary, advance consultation can be discussed with the accessibility coordinator.
3. If necessary, the accessibility coordinator issues an opinion on the site on the basis of an accessibility survey, an accessibility plan and other documents related to the building permit.
4. If the accessibility coordinator states in their statement that there are deficiencies in the accessibility survey and/or accessibility plan of the site, or the accessibility solutions are not at an acceptable level, the permit preparer requests/instructs the site designer to correct the plans. The newly revised plans will be submitted to the permit preparer and, if necessary, to the accessibility coordinator for review. Accessibility surveys and plans are only approved when they are at the level required by laws and regulations jand also comply with other possible instructions, agreements and conventions related to accessibility.

In some cases, terrain, structural issues or planning regulations may mean that accessibility guidelines such as those set out in the Accessibility and Safety Regulations cannot be fully complied with. At that time, possible compromise solutions to be approved in implementation will be agreed upon in co-operation with the party starting the construction project, the permit preparer and the accessibility coordinator. If necessary, experts by experience will also be consulted and used in compromise solutions. All compromise decisions and related documents must be recorded separately.

Planning, construction and implementation phase

Representative of the construction project:
Contacting building supervision and accessibility coordinator

▼

Representative of the construction project, accessibility coordinator and (audit engineer):
Accessibility inspection

▼

Final inspection by the Building Control

▼

Commissioning of the building

1. In the more detailed planning phase, the designers of the construction project should present the accessibility-related plans to the accessibility coordinator as a compiled proposal. Based on the proposal, it is possible to discuss, for example, material choices and furniture installation heights that affect the better implementation of accessibility.
2. The developer/main designer/contractor of the site invites the accessibility coordinator to carry out an accessibility check approximately 2 to 3 weeks before the final inspection of the site. Accessibility inspections can also be carried out in connection with the preliminary inspection by Building Control, in which case the audit engineer from Building Control also participates in the inspection.
3. The implementation of accessibility in accordance with the building permit is checked in a separate accessibility inspection. The implementation of accessibility at the sites is determined in connection with the accessibility inspection on the basis of the accessibility statements, accessibility survey and accessibility plan appended to the building permit decision and approved by the Building Control of the City of Turku. In addition to the accessibility survey and accessibility plan, the accessibility decree, user safety regulations and other possible legislation related to the site and/or accessibility and city-specific accessibility recommendations are always complied with in the accessibility audit.

   Legislation related to accessibility will also be taken into account in the audit. The accessibility inspection is always carried out physically at the site itself. The main designer/representative of the contractor, the accessibility coordinator and, if necessary, the audit engineer participate in the accessibility inspection.

Any accessibility repairs/modifications must be completed prior to the final inspection by Building Control or otherwise by a date agreed with the accessibility coordinator / audit engineer / Building Control.

Repairs/changes require a new and separate accessibility inspection by the accessibility coordinator, or the repairs/changes can also be checked in connection with the final inspection by Building Control. Other types of documentation can also be used for the implementation of corrections/changes, such as a visual document summary. However, this implementation requires the approval of the accessibility coordinator and the audit engineer. In addition to the accessibility coordinator, the aforementioned documentation will also be submitted to the Building Control electronically or in writing by separately agreed means.

An accessibility statement on the accessibility inspection is always issued by the accessibility coordinator, which is also submitted to the Building Control's audit engineer.

4. Final inspection by Building Control.
5. Commissioning of the building.

In the construction phase, intermediate inspections are carried out by a separate request.

6 Parking and pick-up and drop-off traffic



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Legislation

Government Decree on the Accessibility of Buildings (241/2017)

Section 2, subsection 3 Passage leading to the building
If there are parking places for a building, a sufficient number of them, but at least one, must be for the use of persons with reduced mobility and functional impairments. Such a parking place must be at least 3,600 mm wide and at least 5,000 mm long and must be marked with the symbol of a person with reduced mobility. The provisions of this subsection do not apply to single-family houses, semi-detached houses or urban single-family houses.

Decree of the Ministry of the Environment on the Safety of Use of Buildings (1007/2017)

Section 16 Driveway and parking area
The driveway and parking area of the plot and the construction site must be separated from the pedestrian, playground and residential area. The driveway must not cross the access route leading to the playground area. If crossing cannot be avoided, the crossing points must be marked with structural solutions.

The routes intended for vehicular traffic must be located in such a way that the space required for opening a door or a gate, or for a pedestrian route, is not restricted.

Section 26, subsection 1 Transport of goods and maintenance services on the construction site
The vehicle traffic area of the building and its yard must be safe.

Accessibility recommendations of the City of Turku

1. In accordance with the shared Topten practices for building controls and, unless otherwise specified in the local detailed plan, the calculation principle for accessible customer spaces is two parking place for persons with a disability per 50 parking places. Thereafer, one additional place for every starting 50 places. **toptenrava.fi/rakentamisen-yhteiset-kaytannot** (in Finnish)

2. In order to get out of the vehicle, a person travelling with a wheelchair or other aids needs more space. Efforts are always made to place a parking place (accessible parking place) suitable for persons with reduced mobility as close to the entrance as possible. The route to the entrance must be accessible. According to the Accessible Building and Environment Design Guide, parking places for persons with reduced mobility may only be 10 m from the entrance. Accessible parking places should also be level with the entrance. The accessibility coordinator should be contacted on a case-by-case basis for any deviations from this.

3. An accessible parking place must be wider than normal, as a wheelchair, for example, must fit next to the car. Its minimum dimensions are 3,600 mm wide and 5,000 mm long. The width of an accessible parking place is measured from the centre of the marking line delimiting the parking place to the centre of the second delimiting marking line.

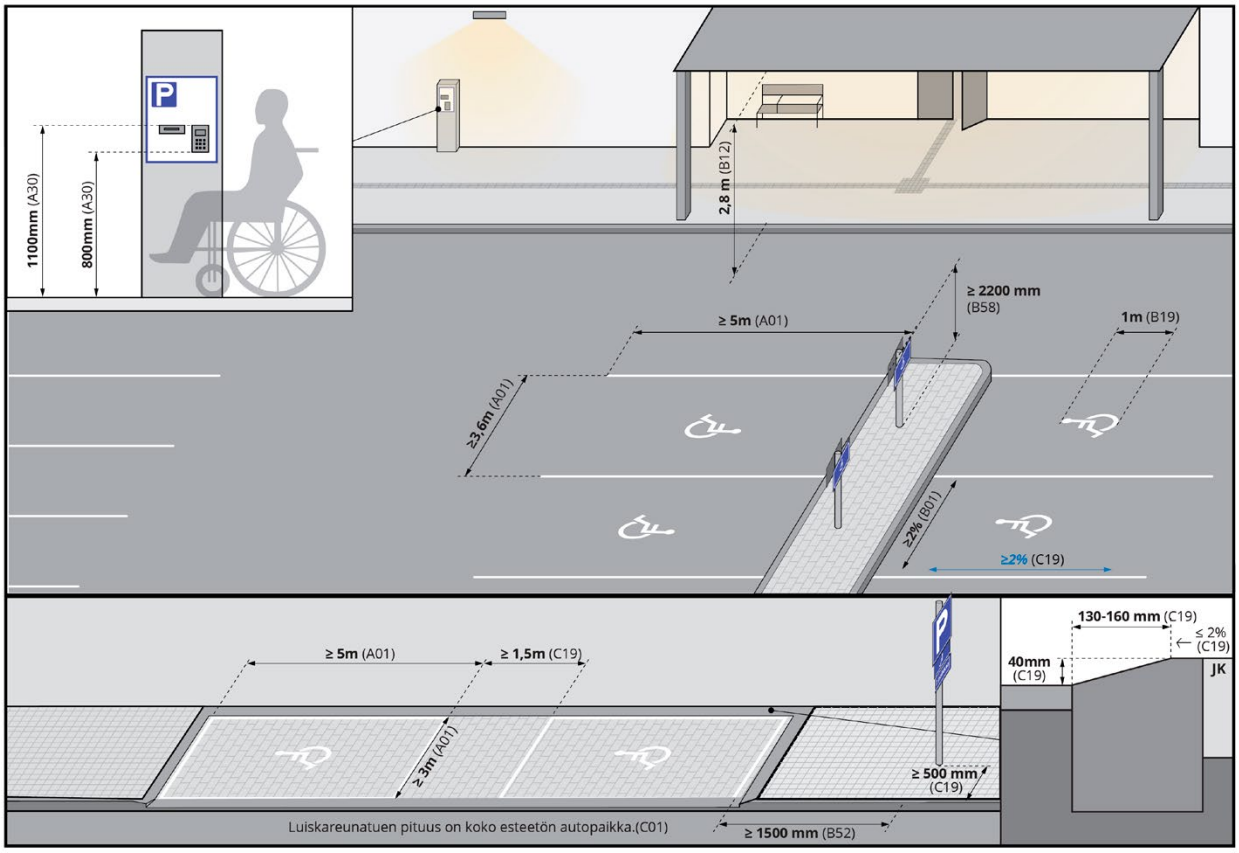
4. **The following points must be taken into account in the street area of an accessible parking place parallel to the driveway:**
   a. It is recommended that the length of the accessible parking place on the side of the road be at least ≥ 6,500 mm. The extra length at the parking place is needed to allow safe unloading from the rear of the vehicle, such as unloading a wheelchair, and/or for the safe use of a possible lifting device. (See figures 6a, f and i)
   b. It is recommended that the length of the accessible parking place on the side of the road be at least ≥ 3,600 mm. (See figures 6a, f and i)
   c. To reduce the height difference from the roadway to the pavement of an accessible parking place along the street parallel to the driveway, a ramp of (0) ≤ 40 mm is recommended for a difference in elevation from a 130 to 160 mm ramp to zero (0). (See figures 6a, i and j)
   d. The length of the wheelchair turning space between two accessible parking places parallel to the driveway is ≥ 1,500 mm. (See figures 6a and i)
   e. The length of the ramp-kerbstone of an accessible parking place parallel to the driveway must be at least ≥ 900 mm (1,500 mm in the intermediate area). In practice, a better-functioning solution is that the entire ramped section is the length of the entire accessible parking area. (See figures 6a, i and j)
   f. An accessible parking place on the driveway next to the pavement is marked with a road sign and additional signs in accordance with the Road Traffic Regulation. (See figures 6a and b)

5. Accessible parking places must always be marked using both the international ISA wheelchair symbol painted on the surface of the parking place and a fixed vertical sign. The sign to be painted on the surface of the parking place is an ISA symbol that must be at least 500 mm in size. A vertical sign must be placed at a height of at least 900 mm (the lower edge of the sign) in front of the parking place and on the centre line. It is recommended that the base of the accessible parking place is also marked in blue to increase visibility. (See figures 6a, b, c, d and f)
6. The signs should use the symbols of a person with reduced mobility at as high a contrast as possible. The most recommended symbol has a blue base. (See figures 6a, b, c, d, e and 6f for options).
7. The surface materials of accessible parking places should correspond to the surface materials of external passages. Asphalt or an equivalent solid material is recommended for the surface material of outdoor passages.
8. The maximum longitudinal inclination of an accessible parking place is five (5) per cent (1:20) and the lateral inclination two (2) per cent (1.50). This is considered safe for a person with reduced mobility to enter and leave the vehicle.
9. It is recommended that a sufficient number of parking places be provided for facilities providing services to senior citizens and for health care facilities, based on the number of visitors, with a minimum of two accessible parking places per building. One of the parking places is dimensioned for an ambulance and a wheelchair taxi and is placed next to the main entrance. These pick-up and drop-off areas are not included in the actual number of accessible parking places, but are built in addition to the actual accessible parking places.
10. The pick-up and drop-off points should have a width of 3,600 mm and a length of 8,500 mm at minimum. This leaves enough space behind the vehicle for safe use of the disabled lift, for example. (See figure 6f)
11. It is recommended that the pick-up and drop-off point be placed in the immediate vicinity of an accessible entrance. (See figures 6a, f and g) The pick-up and drop-off point is also recommended to be placed under the entrance shelter. There must be at least 3,000 mm of clear space under the entrance canopy, so that a taxi for the disabled and a minibus can fit under it.
12. For non-senior and health care locations, one accessible taxi pick-up and drop-off point is sufficient, as long as it is easily accessible from the main entrance.

Accessibility

1. Accessible public transport connections (e.g. low-floor buses or service lines) improve the accessibility of a building/site.
2. Bus stop areas and access routes from the site boundary and from the nearest bus stops to the entrances should be easily perceptible or signposted, well-lit, flat, sufficiently wide (at least 1,500 mm) and maintained in winter. (See figure 6h)
3. Timetables and other information related to the operation of stops should be clearly visible and comprehensible.
4. Guidance must be clear and comprehensible, serving all persons equally and without interruption.

   For more detailed information on signs and related issues in the City of Turku, please contact the Accessibility Coordinator and the Project Manager responsible for the sign guidance in the City of Turku, Riikka Niemelä: **riikka.niemela@turku.fi**



6a **Figure 6a** Good examples of the dimensioning of accessible parking places. (Sujuva.info)



6b

Figure 6b The accessible parking places are marked with the symbol of a person with reduced mobility, the international wheelchair symbol (ISO 7001 Graphical symbols – Public information symbols).



6c

Figure 6c Good solution: [1] The accessible parking places are marked with an international wheelchair symbol on the surface of the parking place. The sign to be painted on the surface of the parking place is an ISA symbol that must be at least 500 mm in size. [2] In addition, each location is marked separately with a vertical sign. Minimum installation height of the vertical sign is 900 mm for good visibility. (Syvälahti multipurpose centre, Turku)



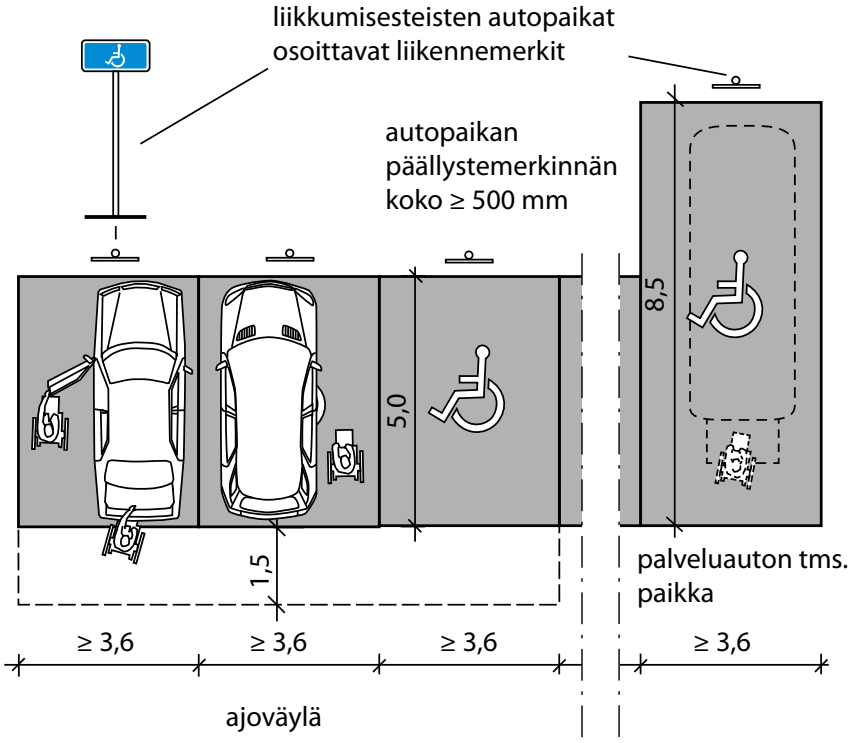
6d

Figure 6d A model example of a vertical sign for an accessible parking place.



Figure 6e Good solution: [1] The surface of the accessible parking place is painted blue. [1] On the left side of the parking place, a tactile guide will begin to guide the user to the entrance. There is also space left for a route in front of the parking place.

Bad solution: [2] The vertical sign is clearly visible when entering the yard area, but should be positioned in front of the parking place on the centre line. There could also be two vertical signs, i.e. one should be installed at a height of about 900 mm to make it easier to drive into the box. (Tallimäenkenttä day-care centre, Turku)



6f

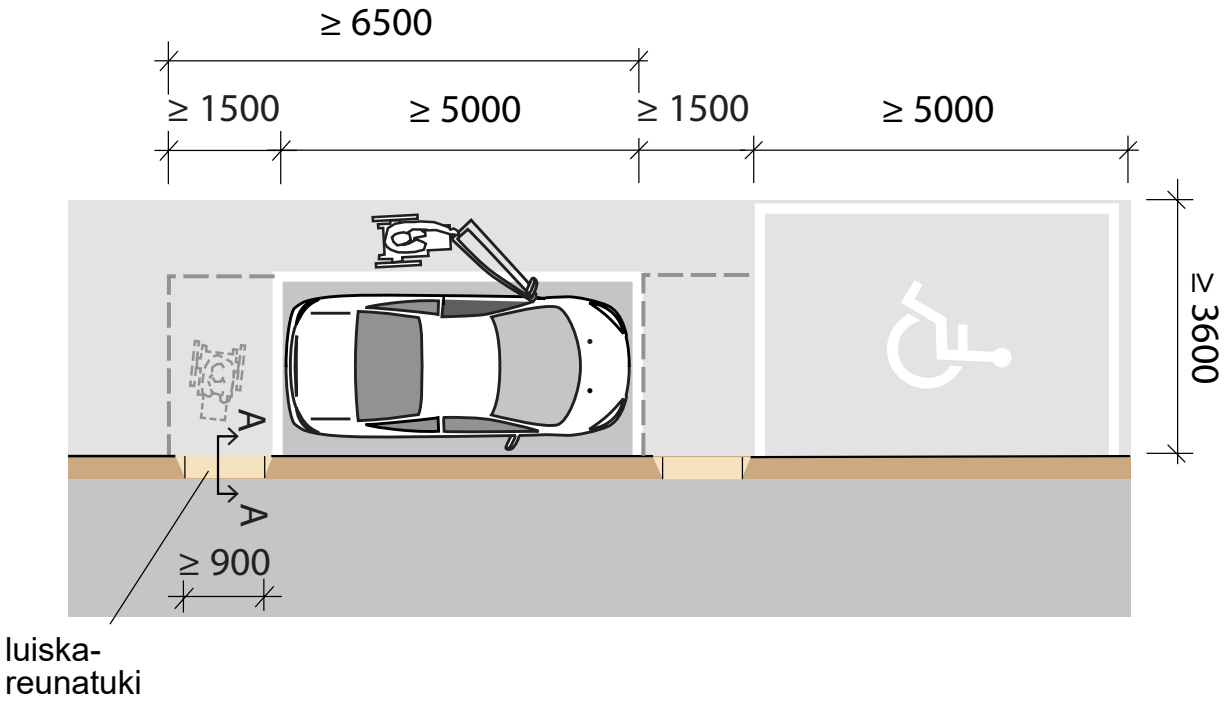
Figure 6f Good solution: Stopping point for pick-up and drop-off traffic 3,600 mm x 8,500 mm. (RT 98-11235 Pysäköintialueet, In Finnish)



Figure 6g Good solution: [1] The pick-up and drop-off point is [2] in the immediate vicinity of the entrance.
Bad solution: [3] It is more than 10 m from the accessible parking places to the entrance (Kaskenlinna Hospital, Turku)



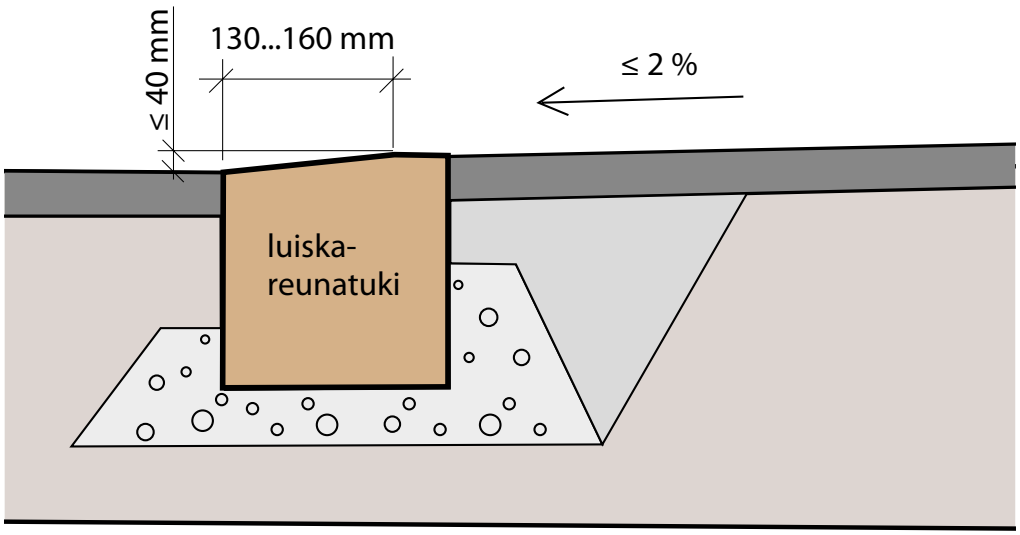
Figure 6h Good solution: The route [1] from the bus stop [2] to the entrance is short and accessible.
[3] In addition, there is a tactile strip from the bus stop to the entrance. (Mäntymäki health station, Turku)



6i

Figure 6i The accessible parking place next to the driveway, which is located next to the pavement, provides accessible access to the pavement with a ramp-kerbstone.

In addition to the 5,000 mm clear length of the parking place, 1,500 mm of driving and loading space is required. (RT 103141 Esteetön liikkumis- ja toimimisympäristö, in Finnish only)



6j

FIgure 6j Ramp-kerbstone at the junction between the pavement and the driveway. (RT 103141 Esteetön liikkumis- ja toimimisympäristö, in Finnish only)

7 External passages



©Turun kaupunki

Legislation

Government Decree on the Accessibility of Buildings (241/2017)

Section 2 Passage to the building

The building must have a passage that is at least 1,200 mm wide, easily perceptible, flat and has a hard and slip-resistant surface from the boundary of the plot or the construction site as well as from the space and area serving the use of the building.

The slope of a passage in an outdoor space must not exceed five (5) per cent. If there is a step on a passage, it must have a ramp or a permanently installed device suitable for lifting persons using wheelchairs and wheeled walkers. The provisions of this subsection do not apply to single-family houses, semi-detached houses or urban single-family houses, if it would be impossible to implement an accessible route, considering the construction site and height differences.

The ramp referred to in subsection 1 above must be easily perceptible, straight, flat, have a hard slip-resistant surface, with a width of at least 900 mm and a protective kerb at least 50 mm high if it is not adjacent to a fixed structure. The lower and upper ends of the ramp must have a horizontal landing that is at least 1,500 mm long. The slope of the ramp must not exceed five (5) per cent. However, if the difference in height does not exceed 1000 mm, the slope of the ramp must not exceed eight (8) per cent. In this case, the height difference of the continuous ramp must not exceed 500 millimetres, after which there must be a horizontal middle landing of at least 2,000 millimetres in length. However, an outdoor ramp may have a slope of more than five (5) per cent only if it can be maintained in a condition comparable to that of an indoor ramp. Railings, handrails and other measures to prevent stumbling and falling from heights are regulated in a decree issued pursuant to section 117d of the Land Use and Building Act.

CONTINUE ▼

If there are parking places for a building, a sufficient number of them, but at least one, must be for the use of persons with reduced mobility and functional impairments. Such a parking place must be at least 3,600 mm wide and at least 5,000 mm long and must be marked with the symbol of a person with reduced mobility. The provisions of this subsection do not apply to single-family houses, semi-detached houses or urban single-family houses.

Decree of the Ministry of the Environment on the Safety of Use of Buildings (1007/2017)

Section 7, subsection 1 Railing
The building or its surroundings must have a handrail when the falling height exceeds half a metre and there is a risk of falling or stumbling, and the nature of the activities does not require the absence of a handrail. The handrail must be safe and withstand the loads it will need to bear. The rail can be a guard rail or an open railing.

Section 9 Handrail
The stair and ramp must be equipped with a handrail along the entire length and on both sides of the flight. Where necessary, two handrails must be provided, one above the other, to accommodate children and wheelchair users. The handle must have a firm grip. The handrail and its end must be safe and must continue past the starting and ending point of the flight. The handrail must continue uninterrupted on the middle landing.

In public outdoor and indoor spaces, commercial spaces and service spaces, the handrail must continue at least 300 millimetres past the starting and ending point of the flight. For stairs or ramps of more than 2.4 metres in width in assembly areas, the handrail must also be positioned to divide the passage into sections of up to that width.

Section 10 Brightness and lighting
The building and its surroundings must be illuminated in such a way as to ensure safe operation and maintenance. Lighting must not cause glare that could compromise safety. The surfaces and lighting of the building must be such that the differences in brightness necessary for detection are achieved.

Ramps, steps, thresholds and level differences on the access route must be clearly indicated by lighting and contrasting surfaces or safety signs.

Section 17, subsection 2 Playground and recreation area
The gates and ramps in the yard must be safe and equipped with appropriate rails and handrails.

Section 18 Protection of access routes and recreational areas
The entrance and passage point and the playground and recreational area to be used in winter as well as the street area and other public area surrounding the building must be protected from snow and ice falling from the roof of the building, taking into account the roofing material and the inclination of the roof. The entrance must also be protected against snowdrifts by a canopy.

CONTINUE ▼

Section 19 Elevation of external building elements
The clear height of the lower edge of any building element, device or fixture projecting from the building, such as a balcony, bank, canopy, sign, lighting fixture and awning, must be at least 2.2 metres from the ground or from the surface of the driveway and passage, unless the point is protected to prevent collision risk.

Accessibility recommendations of the City of Turku

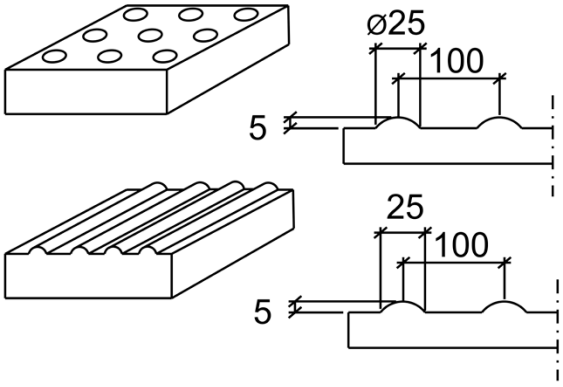
1. The passages are designed and implemented to be spacious and accessible both in width and height. The passages must be smooth and clearly distinguishable from the terrain. The aim is always to create the passage primarily by landscaping, without separate ramps and stairs, wherever conditions so allow.
2. The recommended clear width of the passage is 1,200 to 2,300 mm. With a width of 1,800 mm, wheelchair users and wheeled walkers can meet each other and pass safely. Mechanical maintenance usually requires a minimum clear width of 2,300 mm.
3. Recommended maximum longitudinal inclination of five (5) per cent (1:20) and lateral inclination of two (2) per cent (1:50) for all outdoor routes. A lateral inclination of more than two (2) per cent (1:50) makes steering a wheelchair more difficult.
4. The connection between the levels must be implemented with ramps and staircases. Large differences between levels must be protected with rails when the fall height exceeds half a metre. Calculation formulas to assist with ramp design can be found on **pages 88 and 89**.
5. Ramps and stairs are always equipped with handrails. It is recommended that handrails are always installed at two different heights, taking into account the user base and to improve usability (heights 700 mm and 900 mm). The handrail must extend at least 300 mm beyond the starting and ending point of the flight of stairs or ramp. The starting and ending points of handrails (minimum of 300 mm) are always recommended to be turned horizontally so that the person using the handrail can identify the starting and ending points of the stairs at the upper and lower landings.
6. Handrails for stairs/ramps leading to meeting spaces are always implemented for use on both sides. Handrails are also recommended to be installed at two different heights to suit different user groups (700 mm and 900 mm).
7. Buildings providing mainly public services, such as libraries, archives, churches, parish halls, concert halls, schools, universities, course centres, multipurpose buildings, museums, art galleries, youth centres, exhibition halls, day-care centres, theatres, movie theatres, research institutes, sports halls, swimming pools, sports stadiums and grandstands are classified as meeting places.
8. The hole/mesh size of any steel grating used in stairs or ramps must not exceed 11 x 33 mm. This prevents canes and other walking/support aids from getting stuck in the gratings. (See figures 8c and 8d).

9. There must be no unprotected protrusions or other construction elements that create a collision risk or a difference in elevation that in turn creates a falling hazard and that are below the minimum height of 2,100 mm.
10. There must be no crossing traffic on the passages. If crossing cannot be avoided, the crossing points are marked with structural solutions.
11. When assessing the surface of a passage, the risk is considered to be the likely variation in slipperiness due to the nature of the use or the weather. For example, changes in slipperiness can be caused by water, ice, snow, grease, detergent or tree leaves on the surface. In addition, the risks arising from the aging and wear of the surface are assessed. Asphalt (5 cm thick) or an equivalent solid material, for example stone ash, is recommended for the surface material of accessible outdoor passages.
12. A better solution than circular street inlets is to use gullies installed parallel to the passage. The gullies can also be used as a guiding element. The flow of traffic is controlled by the contrasting shade and material of the surface of the passage. (See figure 7b) The clear demarcation of the passage makes it easier to perceive it. The passage can be demarcated, for example, with bushes or fixtures. However, they must not narrow the passage or pose a risk of collision or stumbling.
13. The passage must not have any fixtures or structures presenting a risk of collision or stumbling. For example, bicycle racks are placed in the contrast material zone and outside the passages, so that the bicycles placed on them do not pose a collision risk. (See figure 7d)

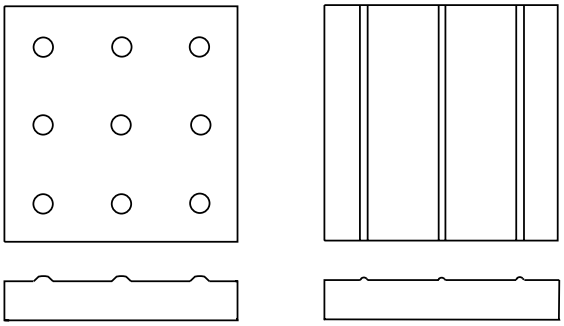
Accessibility

1. The signs are easy to perceive, clear and large enough and have a clear contrast for easy reading. Information is also logical and uninterrupted.
2. Accessible public transport connections (e.g. low-floor buses or service lines) improve the accessibility of a building/site.
3. Bus stop areas and access routes from the site boundary and from the nearest bus stops to the entrances should be easily perceptible or signposted, well-lit, flat, sufficiently wide (at least 1,500 mm) and maintained in winter.
4. The maximum longitudinal inclination of the route is five (5) per cent (1:20) and the maximum lateral inclination is two (2) per cent (1:50). A lateral inclination of more than two (2) per cent (1:50) makes steering a wheelchair more difficult. It is a good idea to use guiding material on the route, such as signs or tactile strips.
5. It is a good idea to have seats with armrests and backrests where you can rest along passages.
6. Street crossings from public transport stops to entrances should be secured with pedestrian crossings and traffic lights in busy areas.
7. The needs of different users must be taken into account in pedestrian crossing arrangements and structures. The recommended principles are the separation of cycling and walking and the uniformity of solutions. Careful planning of drainage and good lighting of the pedestrian crossing area is important. (See figures f, g and h)

8. At the special level of accessibility, the lighting intensity should be at least 10 lx on the pavement and 30 lx on the pedestrian crossing.
9. The pedestrian crossing markings must be in good condition and there must be no correspondingly patterned areas near it to avoid any misunderstanding. The colour contrast of the striping should be strong, at least equivalent to the difference between medium grey and black/white.
10. The part of the pedestrian crossing with a vertical kerb must be perpendicular to the direction of crossing in order for the person with impaired vision to have a direction of travel. The pedestrian crossing must always have a ramp-kerbstone that is at least 900 mm wide; mechanical maintenance requires at least 2,300 mm. The ramp, which rises 40 mm from the level of the driveway over a distance of 150 mm, must be constructed carefully. The same ramp-kerbstone should be used for the cycle path. (See figures f, g and h)
11. The elevation deviations of the pedestrian crossing kerb must not exceed ±10 mm. The inclination of the pavement next to the kerb must not exceed the standard value of five (5) per cent (1:20).
12. The width of the passages must be at least 2,300 mm to allow for mechanical cleaning. The clear width of the passage must be at least 1,500 mm, which is also sufficient for a person travelling with an assistant or a guide dog. Where two wheelchairs meet, the width must be at least 1,800 mm. The clear height of the passage must be at least 2,200 mm; however, the recommended height of the underpass of a building or part of a building must be at least 3,000 mm. (See figures f, g and h)
13. It is recommended that the pedestrian and cycle paths be surfaced with different materials.
14. The walking surface must be hard at a special level and hard or fairly hard and slip-resistant at the basic level.
15. Deviations in the uniformity must not exceed 5 mm and the seams of the tiles must not be more than 5 mm wide.
16. Pedestrian crossings should always be equipped with sound beacons and, before traffic lights are placed at the crossing, an organisation representing persons with impaired vision, such as the Disability Council of Turku, should be given the opportunity to give its opinion on the matter. (See figure h)
17. In special level areas, the main directions of pedestrians on light-controlled pedestrian crossings must always have sound signals, at the basic level as necessary.
18. If the sound signals cause unreasonable environmental disturbance, they can be switched off between 22:00 and 07:00 even if the light control is otherwise in operation.
19. Switching on the sound beacons automatically simultaneously with the traffic lights or with a separate push-button. (See figure h)
20. The placement height of the push-button's placement is 900 to 1,100 mm and the distance of the pushbutton from the pedestrian crossing is 300 mm.
21. Identifiably raised push-button with indicator light, push-button pole with crossing direction indicator (relief).
22. A beep on the push-button when the button is pressed and an indicator light on the push-button when the call is issued.
23. The traffic light push-button should be positioned so that it can be pressed even in winter while sitting in a wheelchair.



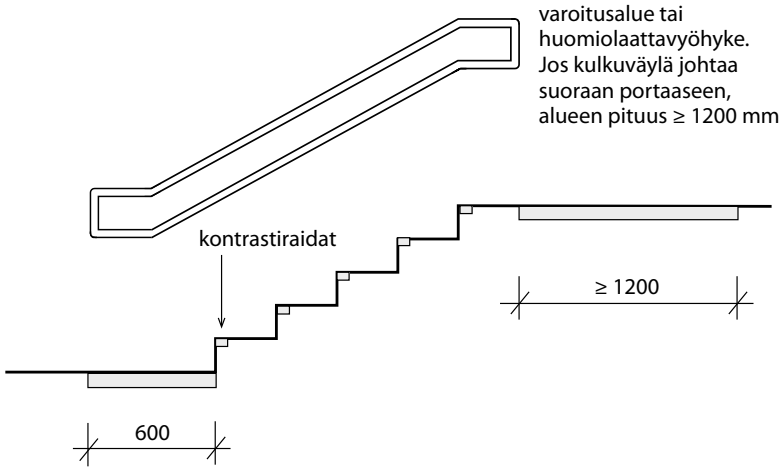
7a **Figure 7a** Dimensions of the navigating slab used in outdoor spaces.
(RT 103141 Esteetön liikkumis- ja toimimisympäristö, in Finnish only)



varoittava kohokuvio
- tummuusero ympäröivään pinnoitteeseen
- pallokalotin muotoiset nystyrät k/k 100 mm
  - korkeus 5 mm
  - halkaisija 25 mm

suuntaa osoittava kohokuvio
- tummuusero ympäröivään pinnoitteeseen
- pitkittäinen pyöristetty kohokuvio k/k 100 mm
  - korkeus pinnasta 5 mm
  - leveys 25 mm

7b **Figure 7b** Pavement patterns, i.e. tactiles for indoors and covered and heated outdoor spaces
(RT 103141 Esteetön liikkumis- ja toimimisympäristö [Accessible environment for mobility and operation], in Finnish only)



7c **Figure 7c** Warning area or blister tile zone. If the passage on the upper landing leads directly to a step, the length of the area must be ≥ 1,200 mm. On the lower landing, the warning area is not necessary.
(RT 103141 Esteetön liikkumis- ja toimimisympäristö, in Finnish only)

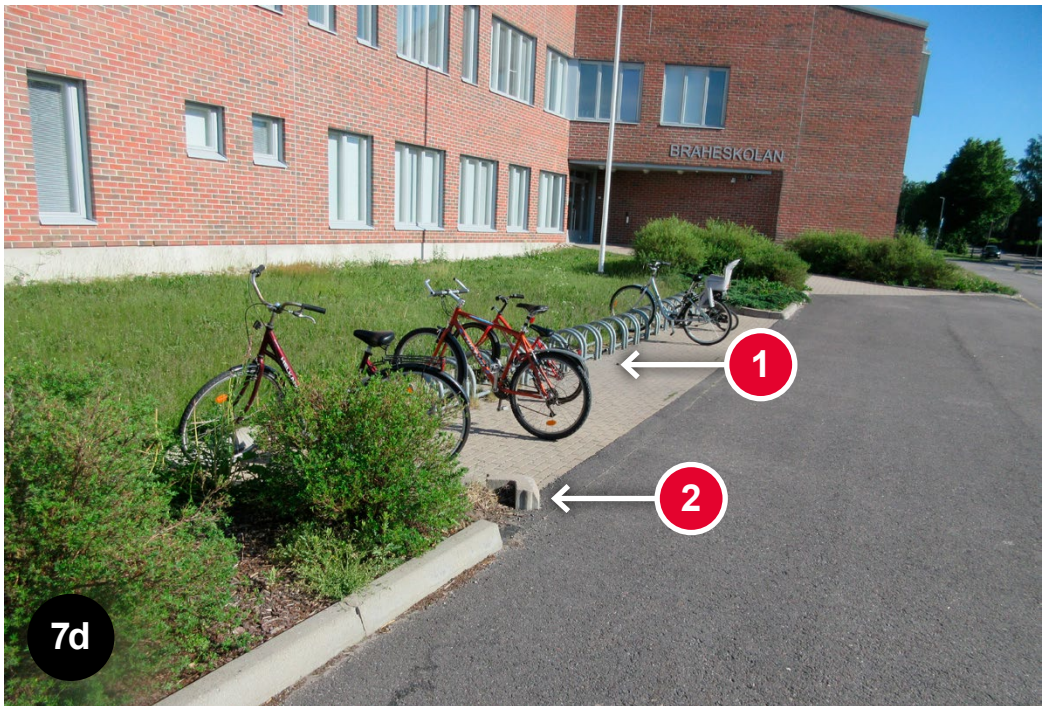
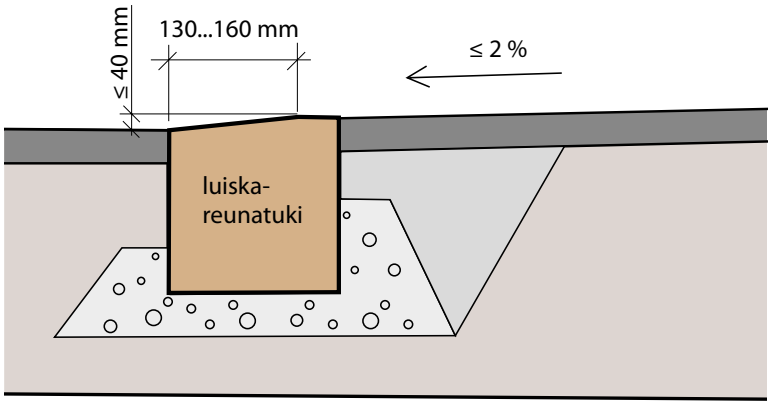


Figure 7d Good solution: [1] Bicycle racks are positioned outside the passage so that bicycles placed on them do not pose a risk of collision or stumbling. (Braheskolan, Turku)

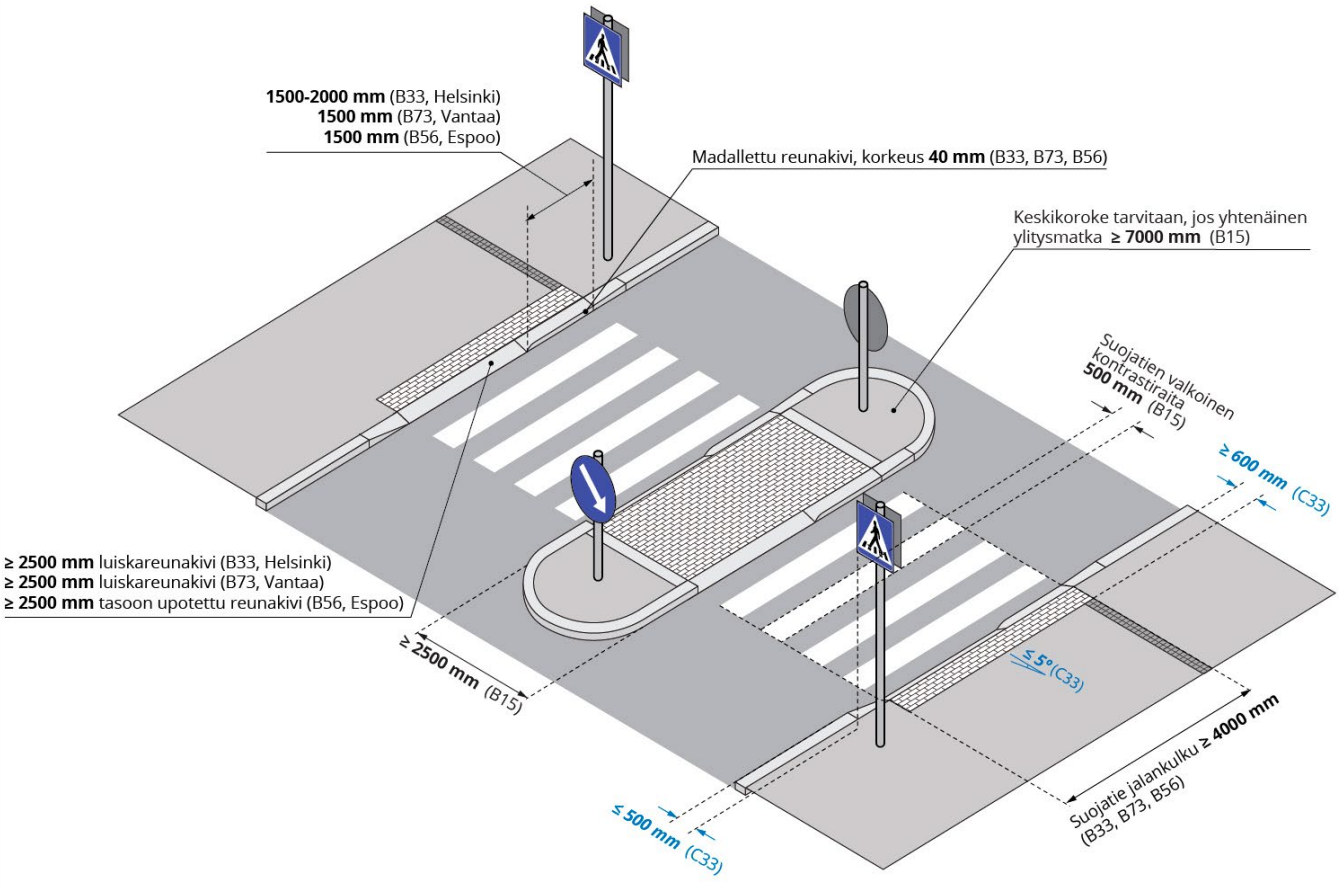
Bad solution: [2] For example, loose kerbstones may present a risk of collision or stumbling for persons with impaired vision. (Braheskolan, Turku)



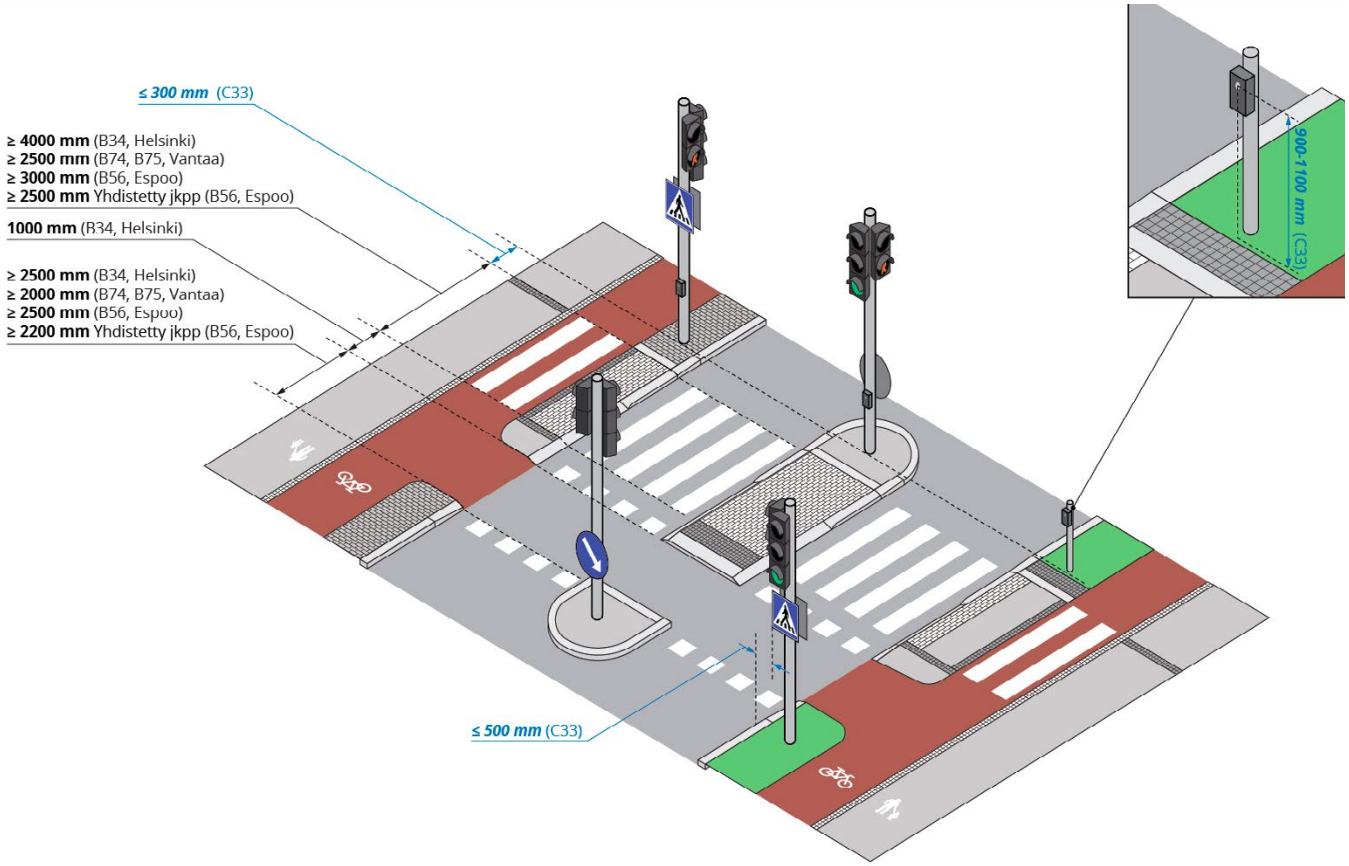
Figure 7e Good solution: [1] The tactile strip leads to the entrance. (Mäntymäki health station, Turku)



7f **Figure 7f** Ramp-kerbstone at the junction between the pavement and the driveway. (RT 103141 Esteetön liikkumis- ja toimimisympäristö, in Finnish only)



7g **Figure 7g** Another example of a ramp-kerbstone / ramp-kerb, its dimensioning and placement at the crosswalk. (sujuva.info)



7h **Figure 7h** Example of a combined pedestrian crossing for pedestrians and cycling. (Sujuva.info)

8 Building entrance



©City of Turku

Legislation

Government Decree on the Accessibility of Buildings (241/2017)

Section 3 Building entrance
The distance between the opening side of the external door of a building and the inside corner of a wall or other fixed obstacle outside the door must be at least 400 millimetres.

The landing in front of the outside door must be at least 1,500 millimetres wide and at least 1,500 millimetres long.

Decree of the Ministry of the Environment on the Safety of Use of Buildings (1007/2017)

Section 6 Landing

The level areas of the building and its outdoor areas must be safe, sufficiently spaced and fit for purpose. The sides of the staircase and landing must be provided with an elevation to prevent slipping over the edge if the gap between the landing and the handrail or wall can accommodate a cube with a width of more than 50 mm. The distance of the door opening onto the landing from the upper edge of the ramp or flight of stairs must be at least 400 millimetres on the side wall of the drop and at least 1,500 millimetres on the end wall. A landing of at least 800 mm in length must be provided in front of and behind the door on the exit route.

Glass windows, hatches and other similar structures covering openings on the landings of a building intended for recreation and access must be able to withstand the load of persons if there is a falling hazard.

Section 11 Glass structures

The breakage of the glass structure of the building and other light-transmitting structures must not cause a risk of falling and the falling of fragments must not cause a risk of injury.

Glass and other light-transmitting structures and their fixings must be capable of withstanding the loads to which they are normally subjected, unless the structure is protected by a fixed impact guard.

Windows, glass walls and glass doors where there is a collision risk must be marked so that they are easily perceptible. Their glazing must be made of safety glass.

Section 14 Access height

The minimum height of the passage to the room is 2,100 mm. At the doorway, the height can be reduced by the height of the necessary frames and thresholds.

The height of a stair other than that leading to and from the exit, as well as stairs within the apartment, may not exceed 1,950 mm.

Section 15 Safety equipment

The building must be equipped with appropriate and durable security solutions and equipment suitable for their intended use. However, the window restrictor of a window used as an emergency exit must be easily releasable by an adult. Ladders and other structural components of the emergency passages and service routes must also be usable in an emergency. The clear opening of a vertical hatch or window in an emergency passage must be at least 600 mm in height and 500 mm in width. The sum of these must not be less than 1,500 mm. The horizontal door opening must be at least 600 x 600 mm.

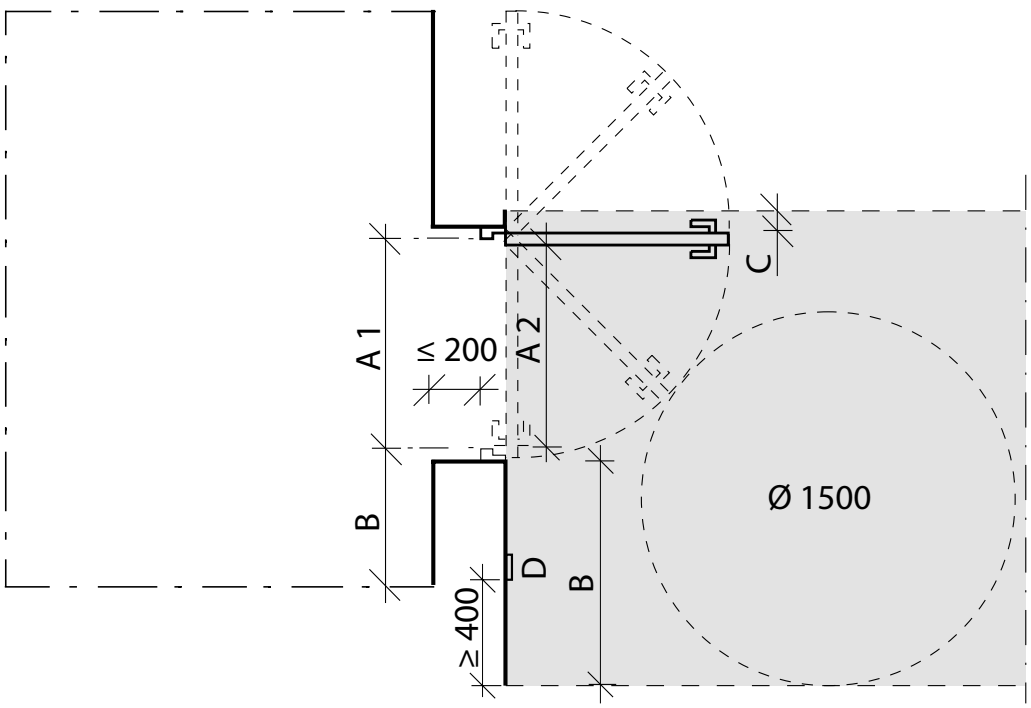
Section 18 Protection of access routes and recreational areas

The entrance and passage point and the playground and recreational area to be used in winter as well as the street area and other public area surrounding the building must be protected from snow and ice falling from the roof of the building, taking into account the roofing material and the inclination of the roof. The entrance must also be protected against snowdrifts by a canopy.

Accessibility recommendations of the City of Turku

Entrance

1. The entrances are always designed to be accessible.
2. The entrance to the building can be easily identified as an entrance.
3. If it is impossible to provide an accessible main entrance to an old building, the route to an alternative entrance will be signposted from the direction of entry and from the main entrance. The alternative entrance must be as independently accessible as the main entrance.
4. The entrance and its perceptability should be emphasised with the help of building massing, structures such as a shelter and lighting. The shelter should be at least the size of the entrance landing. The lighting is also used to compensate for changes in the lighting level between the outdoor and indoor areas.
5. Where possible, the entrances are implemented without differences in elevation. The landing in front of the outside door must be a clear space of at least 1,500 mm in width and 1,500 mm in length. The clear space must extend up to a minimum height of 2,000 mm.
6. In order to allow two wheelchair users to encounter at the landing, a space of at least 1,800 x 1,800 mm is required. The landing bounded by a passage must not exceed the surface of the passage by more than 20 mm. The maximum inclination of the landing is two (2) per cent (1:50). (See figure 8a)
7. When planning the need for landing space, it should be borne in mind that the space required to open a door, for example, should not be included in the clear space of the landing. This is because clear space is needed on the opening side of the external door to allow a wheelchair or wheeled walker or pushchair user to get close enough to reach the door handle and open and close the door without getting in the way. **In other words, the minimum 1,500 mm x 1,500 mm flat clear space required in front of the accessible toilet door must never be located within the opening angle/opening area of the door leaf.** (See figure 8a)
8. The landing bounded by a passage must not exceed the surface of the ground by more than 20 mm.
9. The sides of the landing must be provided with an elevation to prevent slipping over the edge if the gap between the landing and the handrail or wall can accommodate a cube with a width of more than 50 mm.
10. In front of the door (exterior door) there is a pedestrian grating flush with the entrance platform.



8a

Figure 8a Space requirement for opening a door from a wheelchair (RT 103141 Accessible environment for moving and working):

A1 clear width of door = clear width of door frame, door opens 180°
A2 clear width of door = clear width of door frame – thickness of door, door opens 90°
C = space required by door opener
D = door opener

The distance between the opening side of the external door of a building and the inside corner of a wall or other fixed obstacle (B) outside the door must be at least 400 mm.

Threshold and difference in elevation

1. There must be no difference in elevation or threshold at the door unless it is necessary due to sound, humidity or other similar conditions, in which case the difference in elevation or threshold must not be higher than 20 mm and must be so constructed that it can easily be crossed by a wheelchair.
2. The size of the holes in stair gratings in front of doors must not exceed 11 x 33 mm (mesh size) or alternatively size 17 x 75 mm. This prevents canes and other walking/support aids from getting stuck in the gratings. Gratings must always be toothed. If necessary, you can ask the accessibility coordinator for help in finding a suitable grating. (See figures 8d and 8e)
3. The positioning of the gratings is always transverse to the door/direction of travel. (See figure 8e)
4. When choosing the material for the gratings, it is recommended to use a material that is strong enough, as materials that are too weak will start to sag over large areas. This would avoid a situation where, for example, the middle section of the grating would sage, which could make wheelchair use more difficult. The sturdiness of the gratings can also be improved by adding and/or reinforcing support structures where necessary.
5. The gratings at the entrance must be installed so that they do not create a difference in elevation with the entrance landing. (See figure 8c)
6. The grating in front of the door must not be slippery even when wet. The grating must also remain in place.

Entrance tambour

1. The entrance tambour should also be dimensioned to be wide enough for the use of prams and assistive devices. If the doors open into an entrance tambour, the clear space (minimum diameter 1,500 mm) must also take into account the space required to open the door. **In other words, the minimum 1,500 mm x 1,500 mm clear space required in front of the accessible toilet door must never be located within the opening angle/opening area of entrance tambour.** (See figures 8a and 8f)
2. If there is a large carpet area in the entrance tambour, or if the route turns inside the entrance tambour, the route directing persons with impaired vision is marked on the surface with material and contrast markings, for example as mechanically attached tactile strip solutions. A fixed floor-mounted tactile strip must never be covered with furniture or loose mats.
3. When using automatic doors, the outer door and the entrance door must operate on the same principle and, in a tightly sized entrance door, must also open at the same time. A door opening unexpectedly on the access route can cause a collision risk.

Accessibility

1. The signs to the entrances are easy to perceive, clear and large enough and have a clear contrast for easy reading. Information is also logical and uninterrupted.
2. If it is impossible to provide an accessible main entrance to an old building, the route to an alternative entrance should be signposted from the direction of entry and from the main entrance. The alternative entrance must be as independently accessible as the main entrance.

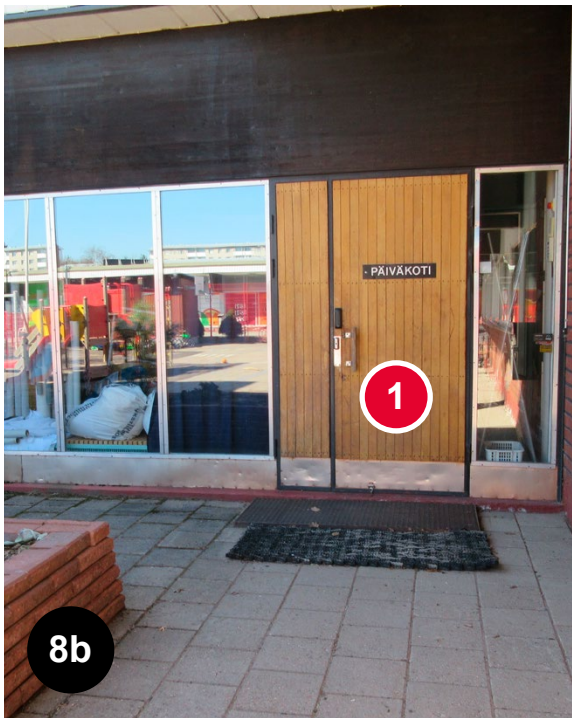


Figure 8b Good solution: [1] The entrance stands out clearly from the rest of the facade.
(Ilpoinen day care, Turku)

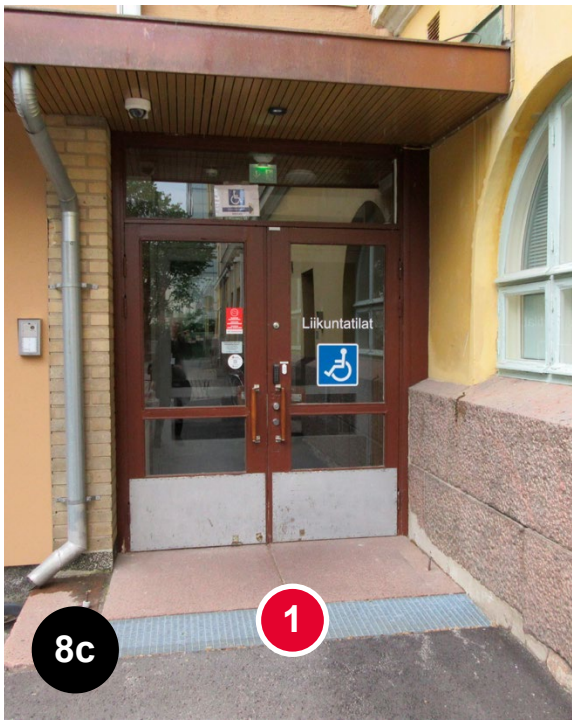


Figure 8c Good solution: [1] The grating is installed so that there is no difference in elevation between the grating and the entrance landing.
(Turun suomalainen yhteiskoulu, Turku)



Figure 8d Good solution: The length of the grating hole is 30 mm. (Turun suomalainen yhteiskoulu, Turku)
Acceptable and recommended grating size also 11 x 33 mm or 17 x 75 mm.

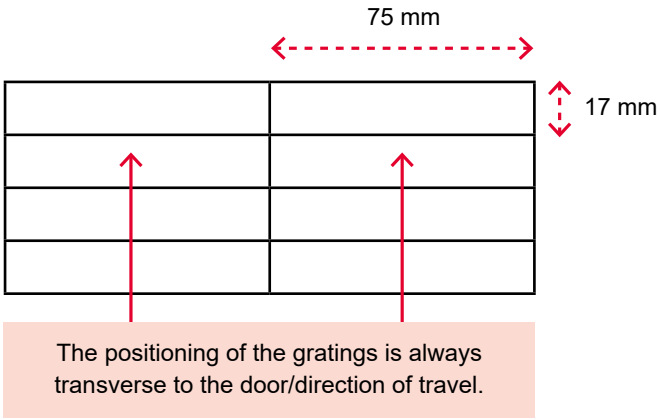


Figure 8e Good solution: The positioning of the gratings is always transverse to the door/direction of travel. The steel grate must always be a serrated model and the maximum hole sizes are 11 x 33 or 17 x 75 mm.

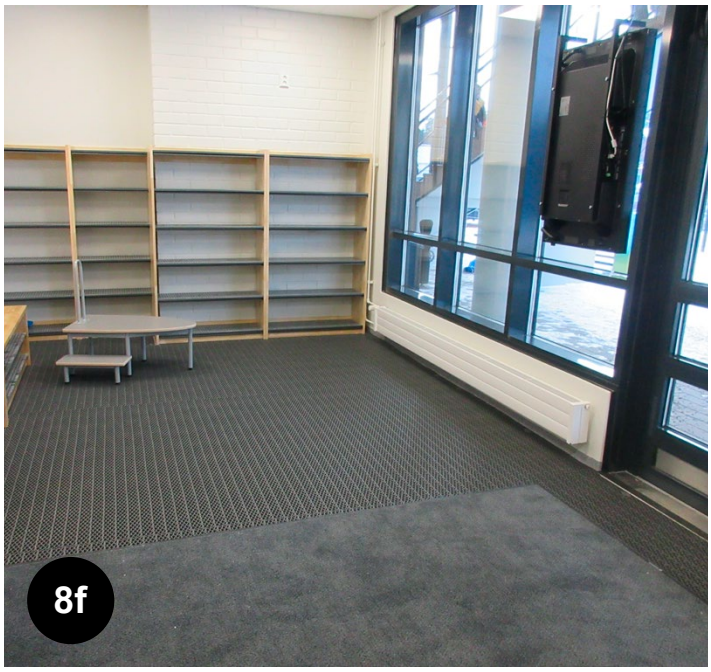


Figure 8f Good solution: The entrance tambour is spacious and well lit. (Ypsilon multipurpose centre, Turku)



Figure 8g Good solution: The door opening devices (both the door phone and the door opener) are placed in one group, so there is no need to move from one location to another when using them. (Income support counselling, Turku).

Door phones should be installed at two different heights, which makes it possible to use the door phone from a wheelchair.



Figure 8h Good solution: The door phone keys have lights. (Puolala School, Turku) However, guidance text is in too small a font.



Figure 8i Good solution: The door phone has a light signal. (Braheskolan, Turku). However, the text sections/signals are too small and unclear for accessible use.

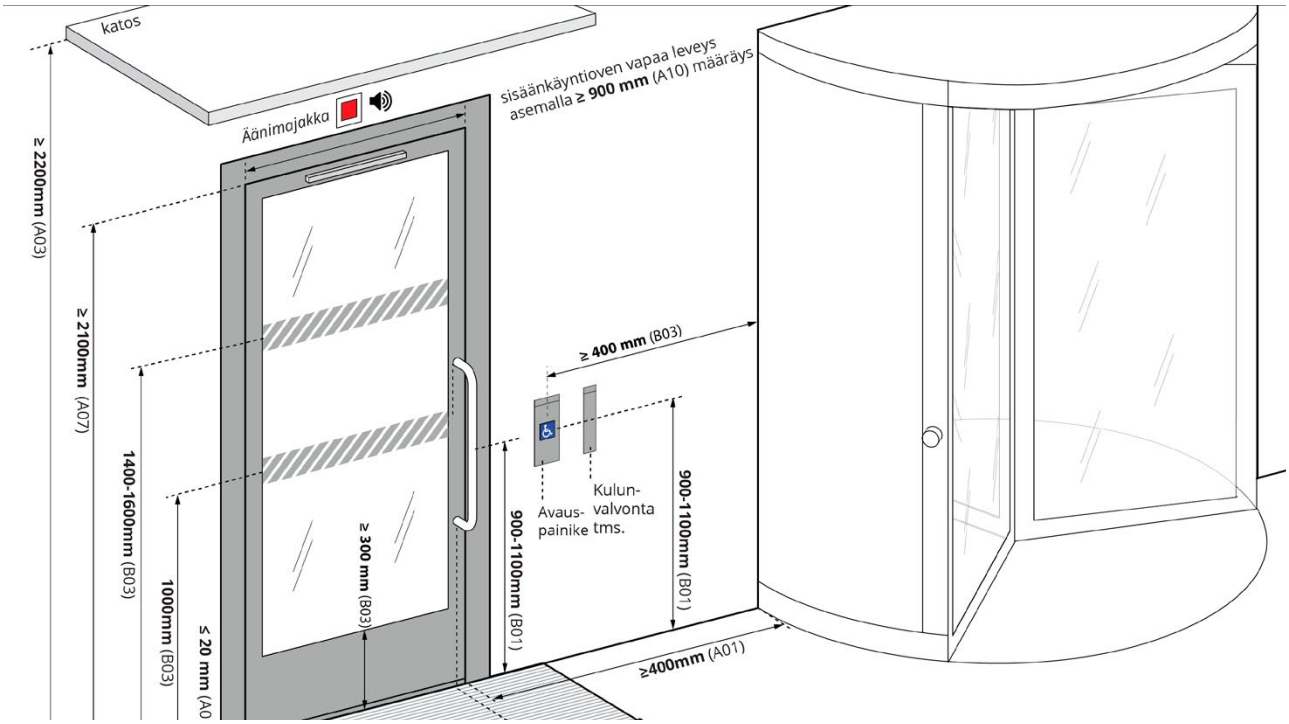


8j

Figure 8j Good solution: If the text sections/signals of the door phone are too small for persons with impaired vision to read, a separate sign can be made for the texts and placed next to the door phone.

Only the numbers next to the push-buttons are marked on the door phone, the content/ meaning of which can be found on the sign.

(Draft version of the instruction, Design Studio Muotohiomo Oy, Syvälahti School, Turku).



8k

Figure 8k Placement of the devices and buttons at the main entrance. (Sujuva.info)

9 Door



©City of Turku

Legislation

Government Decree on the Accessibility of Buildings (241/2017)

Section 3 Building entrance
The distance between the opening side of the external door of a building and the inside corner of a wall or other fixed obstacle outside the door must be at least 400 millimetres.

The landing in front of the outside door must be at least 1,500 mm wide and at least 1,500 mm long.

Section 4 Doors
The clear width of a door and opening in a passage within a building, a door leading from a staircase to an apartment and a door to a space referred to in section 9, subsection 2 and section 10 must be at least 850 mm. The dimensioning of the external door and other exit doors of a building is regulated by in a decree issued pursuant to section 117 b, subsection 3 of the Land Use and Building Act.

CONTINUE ▼

The clear width of the door and passage to the rooms of a building other than a residential building and to the residential rooms, essential accommodation spaces and spaces serving the use of the building must be at least 800 millimetres.

There must be no difference in elevation or threshold at the door unless necessary for sound, humidity or other similar conditions. In this case, the threshold or difference in elevation must not be more than 20 mm high and must be shaped so that it can be easily crossed by wheelchairs and wheeled walkers. The difference in elevation at an apartment-specific exterior door may exceed 20 mm outside the door if the difference in elevation can be reasonably eliminated by outfitting the exterior space. The provisions laid down in subsections 2 and 3 above apply only to the entrance floor in a single-family house.

The exterior door of a building and the door to the space serving the use of a residential building must function in such a way that it can be easily opened by a person with reduced mobility or functional impairment.

Section 6, subsection 1 Other spaces in the building
The premises of a building other than a residential building and the common areas of a residential building, as well as their fixtures and fittings, must be suitable for persons with reduced mobility and functional impairment.

Decree of the Ministry of the Environment on the Safety of Use of Buildings (1007/2017)

Section 13 Doors and gates
The door and gate of a building must be easily accessible even when the conditions change.

The door, gate and boom must operate safely so as to avoid any risk of injury. They must be fitted with appropriate safety equipment.

Other features of doors are governed by the Government Decree on the Accessibility of Buildings (241/2017) and the Ministry of the Environment Decree on the Safety of Fire in Buildings (848/2017).

Section 14 Access height
The minimum height of the passage to the room is 2,100 mm. At the doorway, the height can be reduced by the height of the necessary frames and thresholds.

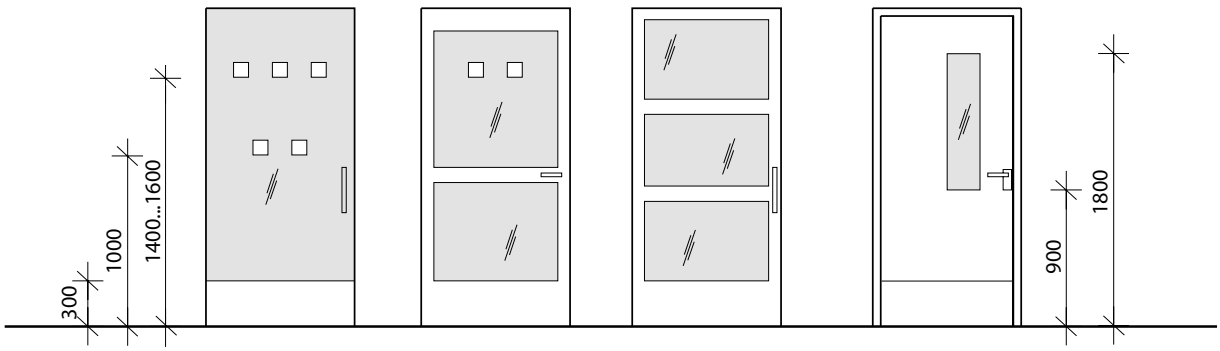
The height of a stair other than that leading to and from the exit, as well as stairs within the apartment, may not exceed 1,950 mm.

Accessibility recommendations of the City of Turku

Exterior door

1. The entrance to the building must be easily identifiable as an entrance. It must be clearly distinguishable from different approaches. (See figures 9a and 9j.)
2. In addition to the space required to open the door, a clear space at least 1,500 mm wide and 1,500 mm long is required outside the opening door leaf in front of the outside door to allow for swivelling with a wheelchair and for opening and closing the door in a wheelchair without having to move away from the landing or to an inclined surface. **In other words, the minimum 1,500 mm x 1,500 mm flat clear space required in front of the accessible toilet door must never be located within the opening angle/opening area of the door leaf.** The aforementioned clear space must also extend up to a minimum height of 2,000 mm. (See figure 8a)
3. The maximum permissible inclination of the landing is two (2) per cent (1:50) and it must not slope towards the door. If there is a ramp leading to the door, there must be a landing parallel to the ramp before the start of the ramp. It must be at least 1,500 mm long and the same width as the ramp to be provided. It is always recommended that the landing be longer than 1,500 mm. (See figure 9l.)
4. The distance between the opening side of the external door of a building and the inside corner of a wall or other fixed obstacle outside the door must be at least 400 millimetres (See figure 9l.)
5. In the plans, the turning circle should always be marked at the required stopping points.
6. The exterior door of a building must function in such a way that it can be easily opened by a person with reduced mobility or functional impairment. The force required to open the door must not exceed 10 N (equivalent to approximately 1 kg) even when the door automation is not in operation.
7. The main entrance should be equipped with a door opening system, which includes a separate opening button for the doors and a door hold sensor. The door hold sensor stops the movement of the opening door or reopens the closing door when an obstacle is detected. The finger protection of the hinge space must be taken into account. The use of door automation is recommended at least at the external door. An automated door that is not equipped with a door hold sensor must remain open for at least 25 seconds to allow good passage in and out.
8. Doors should be easy to open and any door phones etc. should be placed low enough for wheelchair users to reach. Special attention should be paid to the lighting, installation, placement and ease of use of door opening devices, etc.. They should also be suitable for all persons with functional impairment. Therefore, the door opening devices must be placed in one group in order to be used without moving from one location to another. (See figure 9l.) Door phones should be installed at two different heights, which makes it possible to use the door phone from a wheelchair.
9. Elbow switches, which are easy-to-use impulse devices, are recommended as door openers. Alternatively, the use of a microwave switch as a door opener is recommended. The microwave switch does not need to be touched as it detects hand movement from a distance of up to 50 cm. The switch is ideal for use in, for example, hospitals and clean rooms where hygiene requirements are high. It is also suitable for persons with reduced mobility, as no force is required to operate the switch. Both options are suitable for side hung doors and sliding doors.

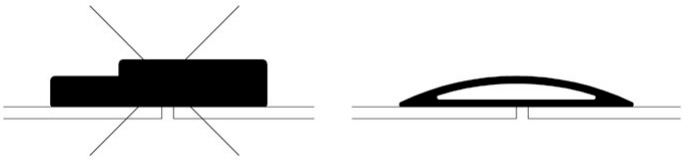
10. The entrances are always well-illuminated. The most effective general lighting, for example in roofs, comes from above and the light fixtures are embedded in the roof structure.
11. A transparent part is added to any pendulum door to avoid collisions. Any sliding door is equipped with a safety device to prevent the door from falling off the rail and falling over. Any lifting doors and gates must be equipped with a mechanism to prevent uncontrolled falling.
12. The opening of an automatic door onto the passage must be designed and implemented in such a way that there is no collision risk. If necessary, a safety marker is placed on the floor in front of the door to indicate the door's turning area. (See figure 9h) Emergency stop devices for any automatic door and gate must be placed in an easily perceptible location. In the event of a power cut, it must be possible to open doors and gates manually.
13. Bumping into glass doors and other large glass surfaces must be prevented by contrasting strips, colours or framing. Contrast markings are installed on two different levels (1,000 mm and 1,400–1,600 mm). (See figures 9a and 9k)
14. There must be no difference in elevation or threshold at the door unless it is necessary due to sound, humidity or other similar conditions, in which case the difference in elevation or threshold must not be higher than 20 mm and must be so constructed that it can easily be crossed by a wheelchair. (See figure 9b)
15. The maximum hole size (mesh size) for stair gratings in front of doors is 11 x 33 mm. This prevents canes and other walking aids and wheels of wheelchairs from getting stuck in the gratings. (See figure 9l.)
16. When choosing the material for the gratings, it is recommended to use a material that is strong enough, as materials that are too weak will start to sag over large areas. This would avoid a situation where, for example, the middle section of the grating would sage, which could make wheelchair use more difficult. The sturdiness of the gratings can also be improved by adding and reinforcing support structures where necessary.
17. Windows, glass walls and glass doors where there is a collision risk must be marked so that they are easily perceptible. Their glazing must be made of safety glass. (See figure 9a)



9a **Figure 9a** Protecting the lower edge of the door with a kickplate and dividing or marking the door glass. (RT 103141 Esteetön liikkumis- ja toimimisympäristö, in Finnish only)

Interior door

1. The doors must be easy to open. The force required to open the door must not exceed 10 N (equivalent to approximately 1 kg) even when the door automation is not in operation.
2. Clear width of a door and opening on internal passage ≥ 850 mm. (See figure 9d)
3. Clear width of a door and passage leading to the rooms ≥ 800 mm. (See figure 9d)
4. Clear width of an accessible toilet door ≥ 850 mm. (See figure 9d)
5. The opening side of the door has a 400 mm wide unfurnished clear space so that a wheelchair or rollator user can open the door. Clear space is needed both when entering and leaving the space. (See figure 9e)
6. There must be no difference in elevation or threshold at the door unless it is necessary due to sound, humidity or other similar conditions, in which case the difference in elevation or threshold must not be higher than 20 mm and must be so constructed that it can easily be crossed by a wheelchair. (See figure 9b)
7. The entrances inside the building must also be clearly distinguished from other surfaces, for example by contrasting colours. Colours should be used to create sufficient contrast between floors and walls, doors and walls, fixtures and their surroundings. (See figure 9g)
8. Windows, glass walls and glass doors where there is a collision risk must be marked so that they are easily perceptible. Their glazing must be made of safety glass.

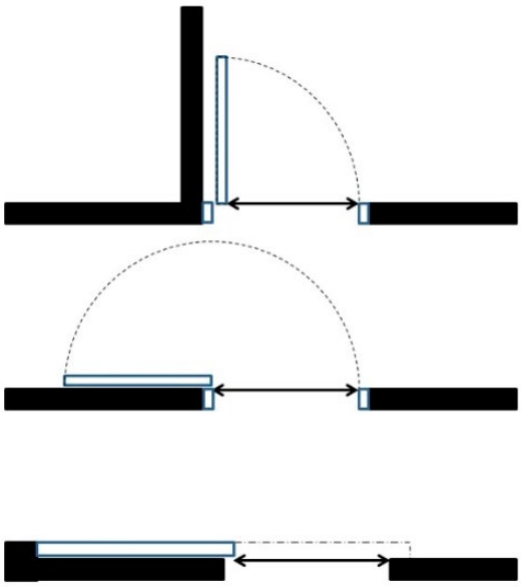


9b **Figure 9b** Example of an accessible flexible threshold.
(Finnish Association of People with Physical Disabilities)

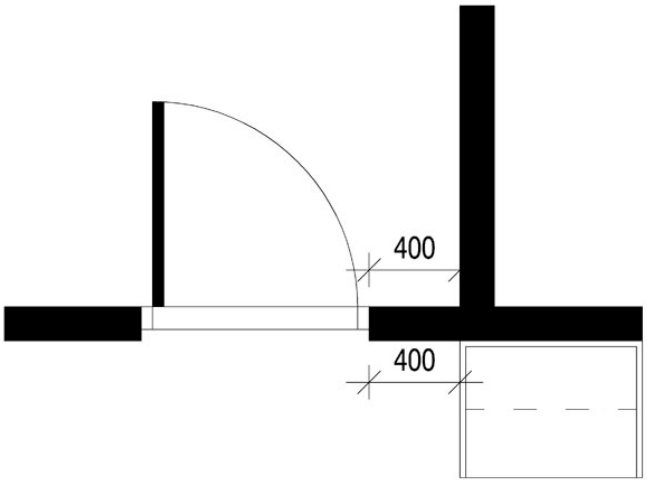


9c **Figure 9c** Examples of electronic door openers that can also be opened with an elbow.
(Finnish Association of People with Physical Disabilities)

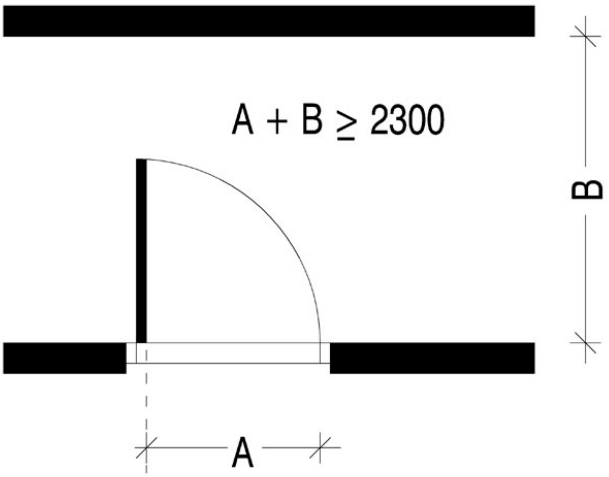
Opening switches should always be equipped with, for example, an ISA model additional signal (housing).



9d **Figure 9d** Actual width of the passage. (Ministry of the Environment's guidelines on the accessibility of buildings and the Finnish Association of People with Disabilities)



9e **Figure 9e** 400 mm wide clear space is required to open the door. (Ministry of the Environment guidelines on the accessibility of buildings and the Finnish Association of People with Disabilities)



9f **Figure 9f** Dimensioning instruction for wheelchair access from the door: The sum of the clear space between the corridor and the door must be at least 2,300 mm. (Ministry of the Environment guidelines on the accessibility of buildings and the Finnish Association of People with Disabilities)

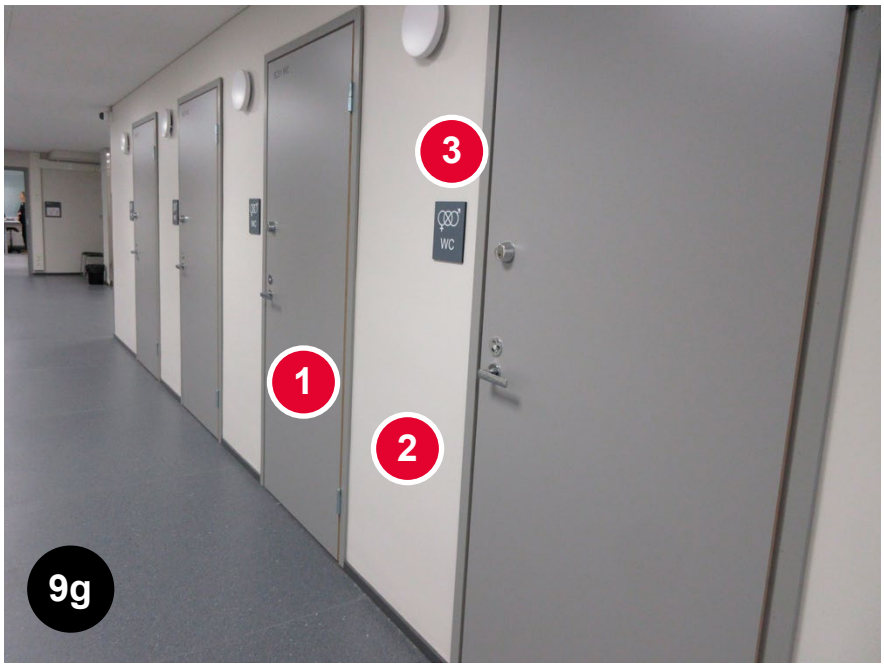


Figure 9g Good solution: [1] Doors stand out well from the wall [2] with a dark contrast. [3] There are also good signs on the opening side of the doors. (TYKS, Turku)

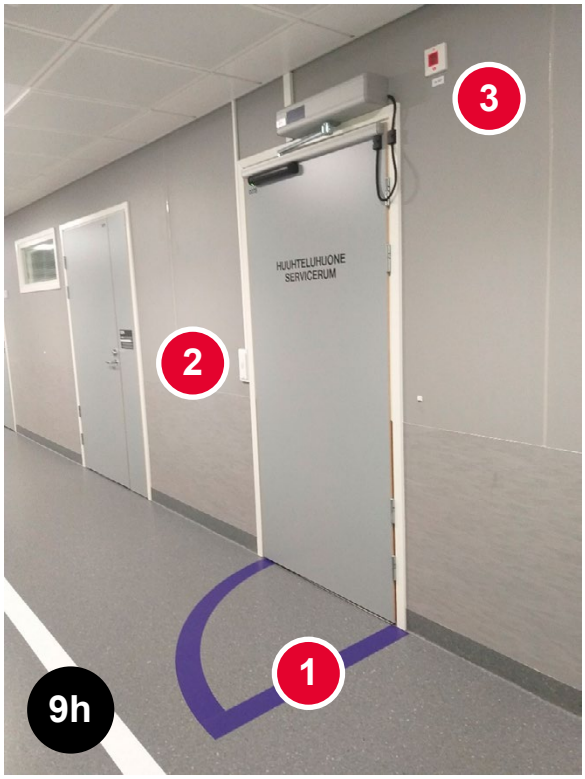


Figure 9h Good solution: [1] There is an automatic door opening space marked on the ground, and the door frames contrast with the wall. [2] The door opener is on the opening side of the door and [3] there is a charge light outside the door. (TYKS, Turku)

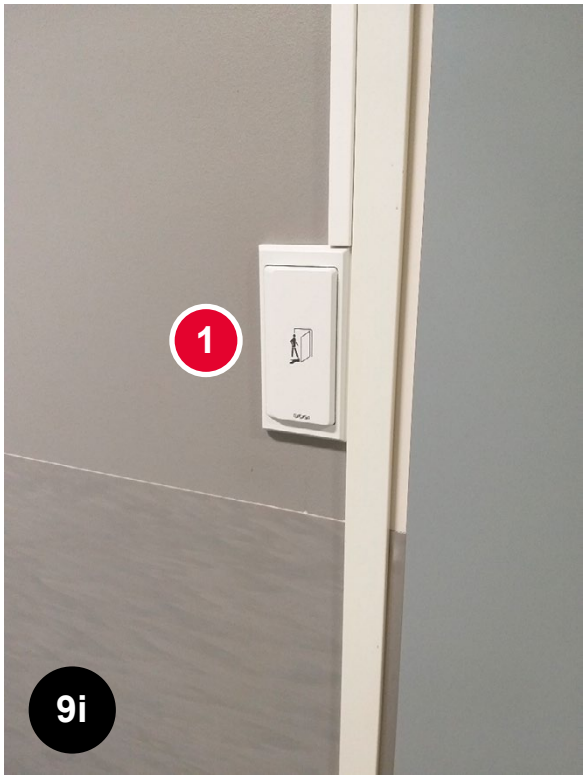


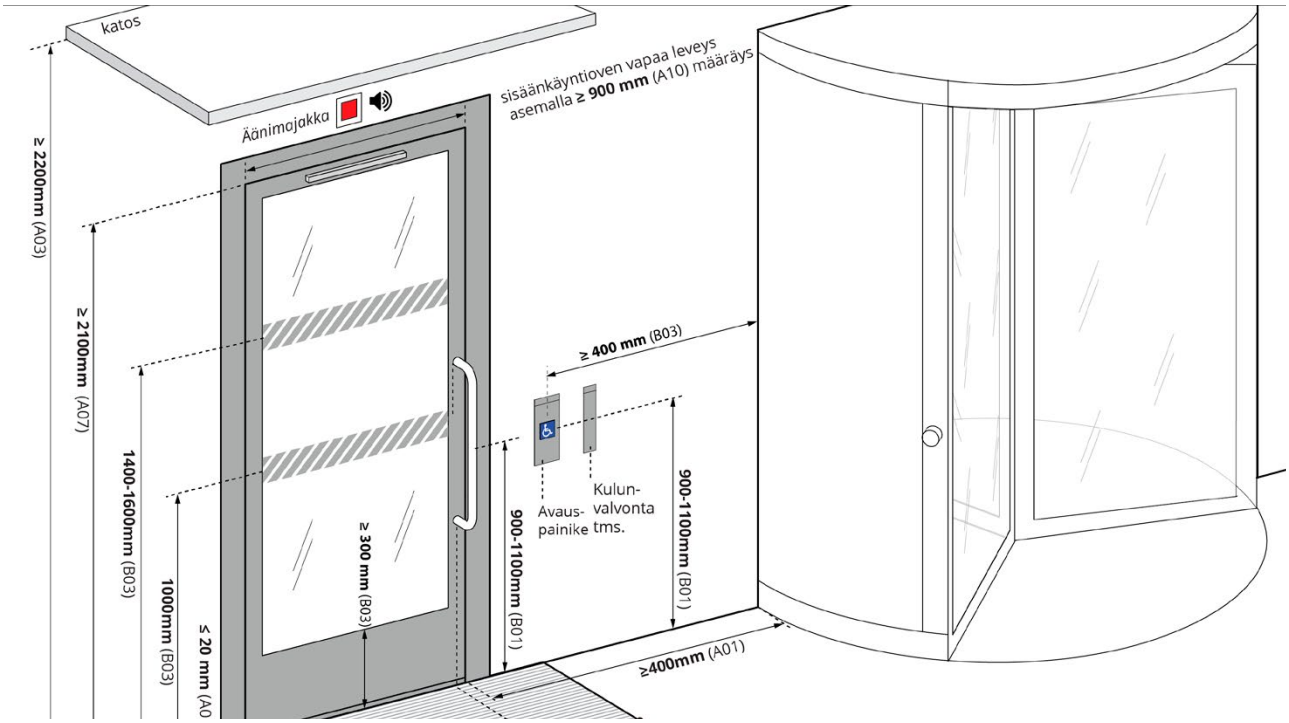
Figure 9i Good solution: [1] The door opener is on the opening side of the door. (TYKS, Turku)



Figure 9j Good solution: [1] The entrance stands out clearly from the rest of the facade. (Ilpoinen day care, Turku)

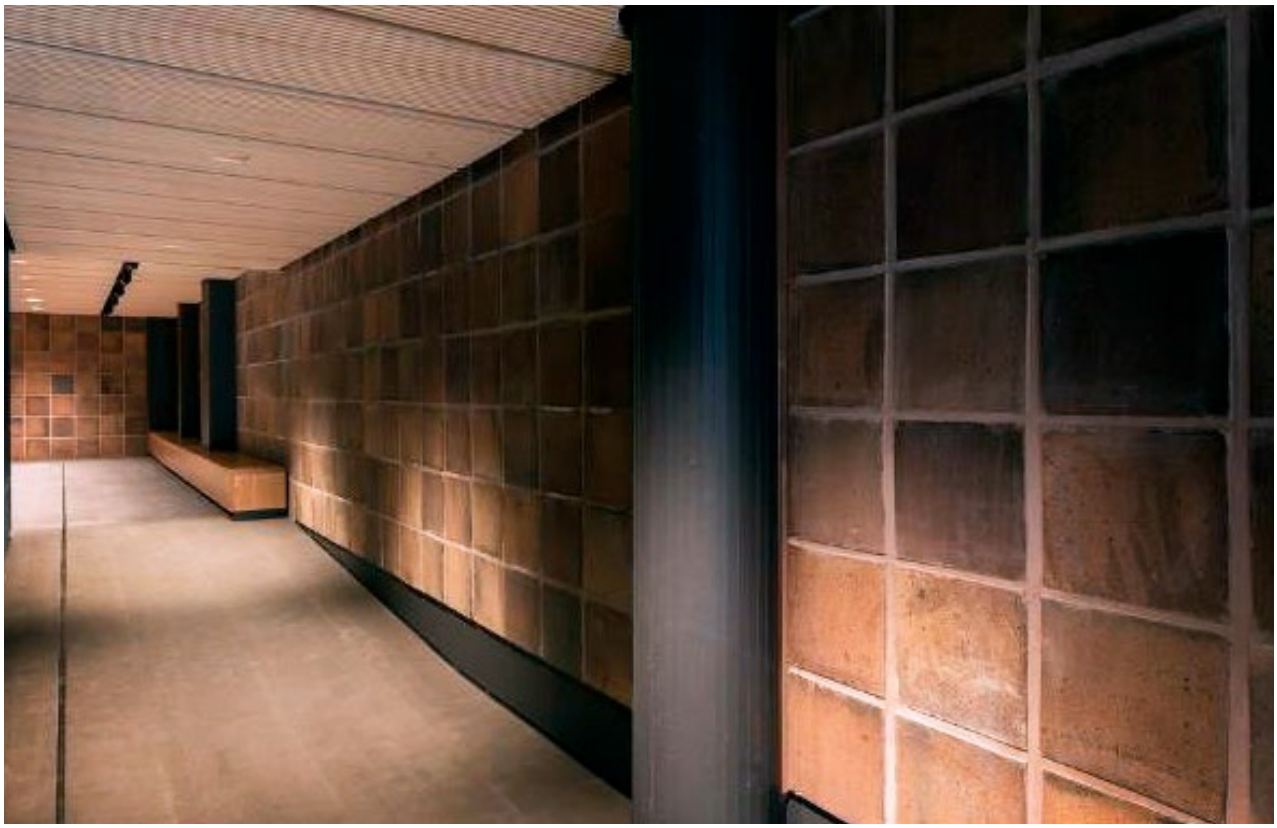


Figure 9k Good solution: [1] The door has a contrast marking. [2] There is a kickboard over 300 mm high at the bottom of the door. (Nummenpakka School, Nummi Unit, Turku)



9I **Figure 9I** Placement of the devices and buttons at the main entrance. (Sujuva.info)

10 Internal passage



© City of Turku

Legislation

Government Decree on the Accessibility of Buildings (241/2017)

Section 4 Doors

The clear width of a door and opening in a passage within a building, a door leading from a staircase to an apartment and a door to a space referred to in section 9, subsection 2 and section 10 must be at least 850 mm. The dimensioning of the external door and other exit doors of a building is regulated by in a decree issued pursuant to section 117 b, subsection 3 of the Land Use and Building Act.

The clear width of the door and passage to the rooms of a building other than a residential building and to the residential rooms, essential accommodation spaces and spaces serving the use of the building must be at least 800 mm.

CONTINUE ▼

There must be no difference in elevation or threshold at the door unless necessary for sound, humidity or other similar conditions. In this case, the threshold or difference in elevation must not be more than 20 millimetres high and must be shaped so that it can be easily crossed by wheelchairs and wheeled walkers. The difference in elevation at an apartment-specific exterior door may exceed 20 mm outside the door if the difference in elevation can be reasonably eliminated by outfitting the exterior space. The provisions laid down in subsections 2 and 3 above apply only to the entrance floor in a single-family house.

The exterior door of a building and the door to the space serving the use of a residential building must function in such a way that it can be easily opened by a person with reduced mobility or functional impairment.

Section 5 Internal passage
The internal passage of a building other than a residential building and the public spaces of a residential building must be easily perceptible, flat and slip-resistant surface.

If the passage referred to in subsection 1 is less than 1,500 mm wide, the passage must have a turning point of at least 1,500 mm in diameter at least every 15 metres.

Section 6, subsection 1 Other spaces in the building
The premises of a building other than a residential building and the common areas of a residential building, as well as their fixtures and fittings, must be suitable for persons with reduced mobility and functional impairment.

Decree of the Ministry of the Environment on the Safety of Use of Buildings (1007/2017)

Section 6, subsection 2 Landing
Glass windows, hatches and other similar structures covering openings on the landings of a building intended for recreation and access must be able to withstand the load of persons if there is a falling hazard.

Section 11 Glass structures
The breakage of the glass structure of the building and other light-transmitting structures must not cause a risk of falling and the falling of fragments must not cause a risk of injury. Glass and other light-transmitting structures and their fixings must be capable of withstanding the loads to which they are normally subjected, unless the structure is protected by a fixed impact guard. Windows, glass walls and glass doors where there is a collision risk must be marked so that they are easily perceptible. Their glazing must be made of safety glass.

Section 12 Floor surfaces
The floor surface must be flat and made of a material suitable for the intended use of the space, so as to minimise the risk of stumbling and slipping.

CONTINUE ▼

Section 13 Doors and gates
The door and gate of a building must be easily accessible even when the conditions change.

The door, gate and boom must operate safely so as to avoid any risk of injury. They must be fitted with appropriate safety equipment.

Other features of doors are governed by the Government Decree on the Accessibility of Buildings (241/2017) and the Ministry of the Environment Decree on the Safety of Fire in Buildings (848/2017).

Section 14 Access height
The minimum height of the passage to the room is 2,100 mm. At the doorway, the height can be reduced by the height of the necessary frames and thresholds.

The height of a stair other than that leading to and from the exit, as well as stairs within the apartment, may not exceed 1,950 millimetres.

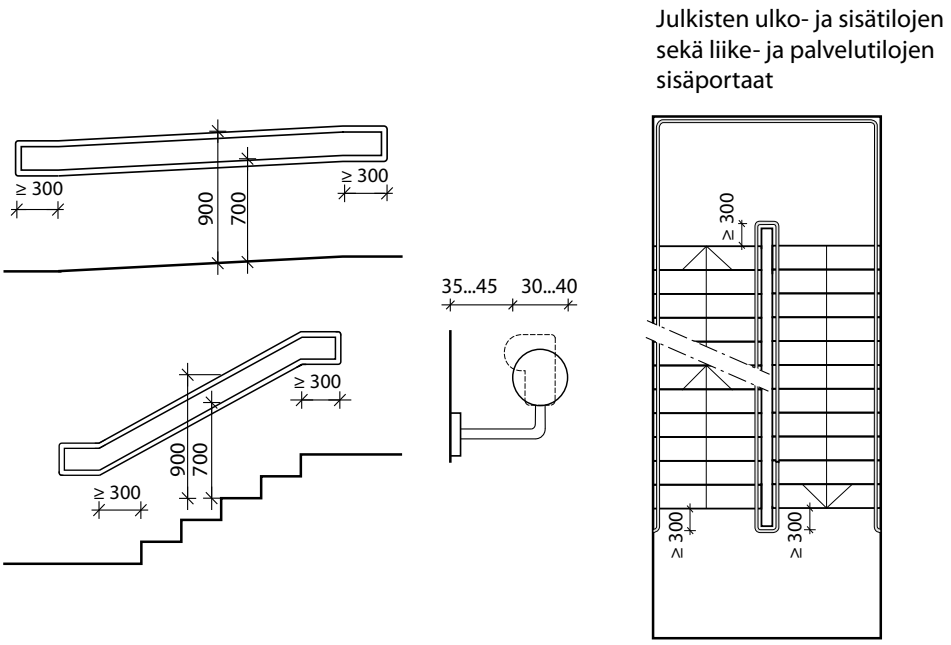
Accessibility recommendations of the City of Turku

Passage

1. It is a good idea to make the route easily visible for persons with reduced mobility and functional impairment, for example, by means of tactile contrast, i.e. tactile signs. (See figure 10g and 10j) However, carpets, for example, must never be placed in such a way that they cover the purpose of the tactile strips.
2. Large open spaces are the most difficult for persons with impaired vision to navigate. Especially in lobby areas, a tactile contrast strip is particularly important.
3. A row of light fixtures placed on one side or above the passage helps people with poor vision to navigate along the passage.
4. When assessing the slipperiness of the floor, the risk is considered to be the likely variation in slipperiness due to the nature of the use or the weather. Changes in slipperiness can be caused by water, ice, snow, grease, detergent or tree leaves on the surface. In addition, the risks arising from the aging and wear of the surface are assessed.
5. Windows, glass walls and glass doors where there is a collision risk should be marked so that they are easily perceptible. Contrast strips are recommended to be installed at two different levels (recommended heights 1,000 mm and 1,400 to 1,600 mm).
6. As reversing with a wheelchair is difficult and it is almost impossible to use a wheeled walker, turning space is also needed on a passage that is less than 15 m long if there is no direct visual connection to the end of the passage.
7. The furniture is placed in such a way that it does not pose a collision risk or narrow the passages.

Passage / Staircase, stairs and handrails

1. The handrail must be placed along the entire length of the stair and the ramp and must continue in a uniform manner also on the intermediate landing. (See figure 10a)
2. Turning the handrail horizontally at the end of the stair and extending it at least 300 mm past the end of the flight of stairs will make it easier to detect the ending point and reduce the risk of stumbling. In addition, the person in need of support can get a grip of the handrail before taking the first step.
3. The handrail must be dimensioned to provide a firm grip. A good grip is possible on a round or rounded handrail with a diameter of 25–40 mm (the circumference of 95–120 mm) and a clear finger spacing of approximately 50 mm. The lower handrail's thickness of 25 mm is also suitable for children.
4. The lower handrail is recommended to be placed slightly further out from the wall than the upper one, so that it can be leaned on with a straight wrist. The handrail is rounded to ensure good grip.



10a

Figure 10a Good solution: In indoor and outdoor public areas, the handrail always extends at least 300 mm beyond the starting and ending point of the flight of stairs or ramp. Handrails must continue to be uniform at stairway rails. Handrails must stand out clearly from their background and be uninterrupted.It is recommended that the starting and ending points of stairs are marked with a separate warning/attention area if the passage leads directly to the stairs, in which case the length of the warning area is ≥ 1,200 mm.

However, contrasting strips and lighting must always be taken into account and installed to facilitate perception of the staircase.

In connection with the staircases and ramps at the entrances, the accessibility and user safety regulations and the accessibility guidelines of the Ministry of the Environment must be followed.

(RT-kortisto: RT 103027 Portaat ja luiskat [RT Card: RT 103027 Stairs and ramps])

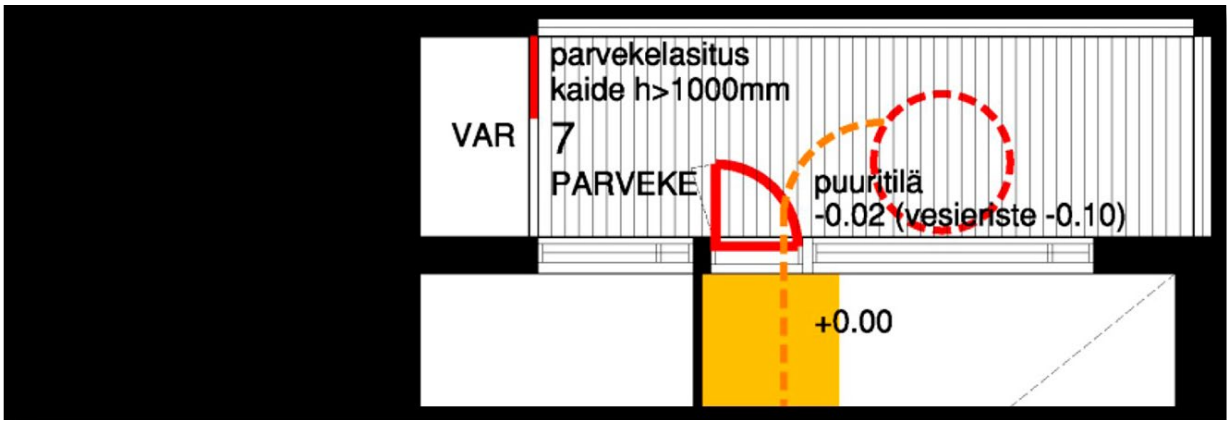
Doors and thresholds

1. Doors must be easy to open. The force required to open the door must not exceed 10 N (equivalent to approximately 1 kg) even when the door automation is not in operation.
2. Clear width of a door and opening on internal passage ≥ 850 mm. (See figure 10f)
3. Clear width of a door and passage leading to the rooms ≥ 800 mm. (See figure 10f)
4. Clear width of an accessible toilet door ≥ 850 mm.
5. The opening side of the door has a 400 mm wide unfurnished clear space so that a wheelchair or rollator user can open the door. Clear space is needed both when entering and leaving the space. (See figure 10g)
6. There must be no difference in elevation or threshold at the door unless it is necessary due to sound, humidity or other similar conditions, in which case the difference in elevation or threshold must not be higher than 20 mm and must be so constructed that it can easily be crossed by a wheelchair. This applies to all spaces in buildings, including communal spaces such as storage rooms in individual dwellings, communal saunas and washrooms, communal courtyards and buildings/structures on them, such as barbecue shelters and waste disposal points.
7. The entrances inside the building must also be clearly distinguished from other surfaces, for example by contrasting colours. Colours should be used to create sufficient contrast between floors and walls, doors and walls, fixtures and their surroundings. (See figures 10h and 10i)
8. It is a good idea to connect the door pumps to the alarm system so that under normal circumstances the doors stay open and make it easier to pass through, but an alarm triggers the door pumps and the doors close so that you have to open the door yourself to pass through. (This is the case, for example, in Turku's Yli-Maaria Multipurpose Centre in Ypsilon.)

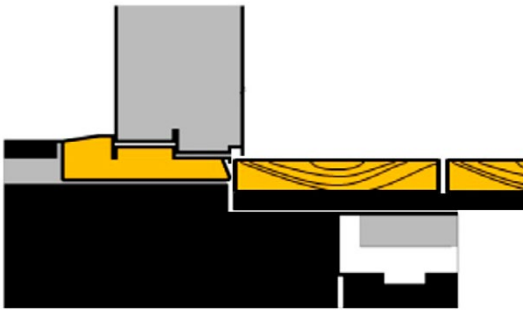
Balcony, terrace and roof terrace / Doors and thresholds

1. The maximum difference in height between balcony and terrace is the normal threshold height of 20 mm under the Decree. This can be achieved, for example, by installing a terrace rail or balcony boarding on the side of the balcony or terrace. (See figures 10b, 10c and 10d)
2. The clear width of the door and passage leading to the spaces serving the use of the building must be at least 800 millimetres. This also applies, for example, to the dimensions of access openings on balconies, terraces and roof terraces. (See figure 10b)
3. The terrace grating must already be equipped for the balcony or terrace when the site is completed. If this is not possible for some reason, at least other structures, such as the door hinge/opening and balcony railings, must be dimensioned at the design and construction stage to be sufficiently high in terms of the height of the grating to comply with the safety regulation.
4. The threshold of a covered balcony ≤ 20 is allowed to be sloped ≤ 50 mm temporarily, if it can later be made inaccessible by a terrace railing, balcony decking or similar solution. (See figures 10a, 10b and 10c)

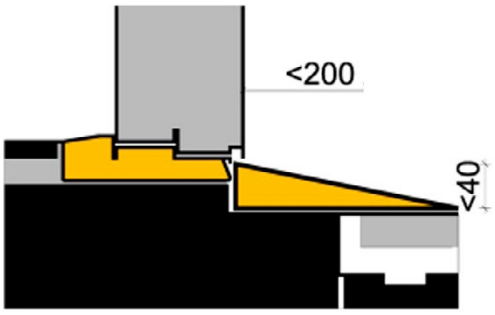
5. The cost-sharing of a terrace grating, balcony decking or similar solution, such as fabrication and installation, is decided by the developer.
6. Whether a terrace is a green room or not is irrelevant. The same maximum height difference of 20 mm is maintained.
7. Roof terraces are usually always inaccessible, as they are structurally the roofs of lower floors. The roof structures raise the terrace floor up to one metre above the floor level of the next floor. According to building regulations, roof terraces can therefore only be made accessible by means of a hoist (< 1,000 mm) or light lift (>1,000 mm). It is usually not possible to arrange access on a ramp, as a fixed ramp of several metres will not fit in an apartment.
8. However, the building regulations are completely unambiguous about the accessibility of outdoor spaces. If the roof terrace is an outdoor space used by the entire building or other building, or the only outdoor space for some apartments, the building inspectorate cannot approve the plan without a derogation from the regulation.
9. If the roof terrace is the only outdoor space in the apartment or building, access must be unobstructed, i.e. with a threshold height of no more than 20 mm and a landing on either side of the terrace door(s). (See figures 10a, 10b, 10c and 10e)



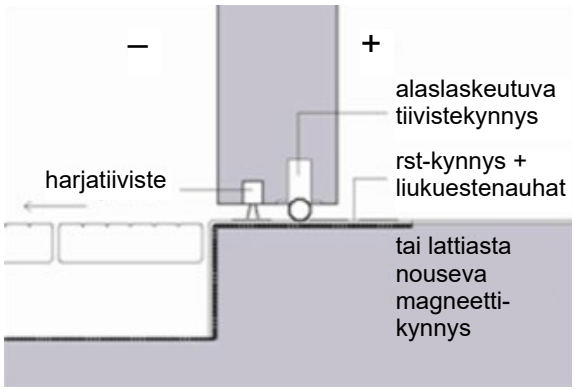
10b **Figure 10b** Good solution: The accessibility of the balcony will be improved with balcony decking. (Building Control of the City of Oulu, 2012)



10c **Figure 10c** Good solution: The accessibility of the balcony will be improved with balcony decking.



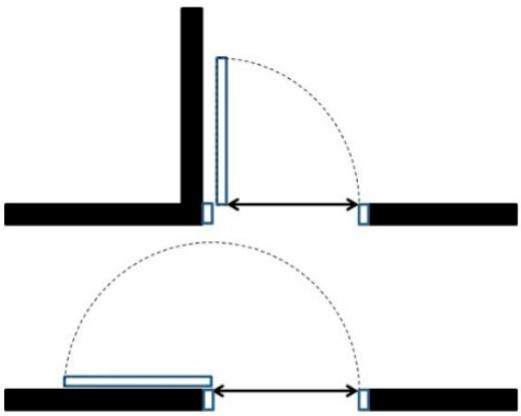
10d **Figure 10d** Temporary solution: Balcony/terrace ramp threshold. The threshold of the covered balcony <= 20 is allowed <= 50 mm temporarily chamfered.



10e **Figure 10e** models of threshold solutions for terrace and balcony doors. (Espoo's accessible construction guidelines)

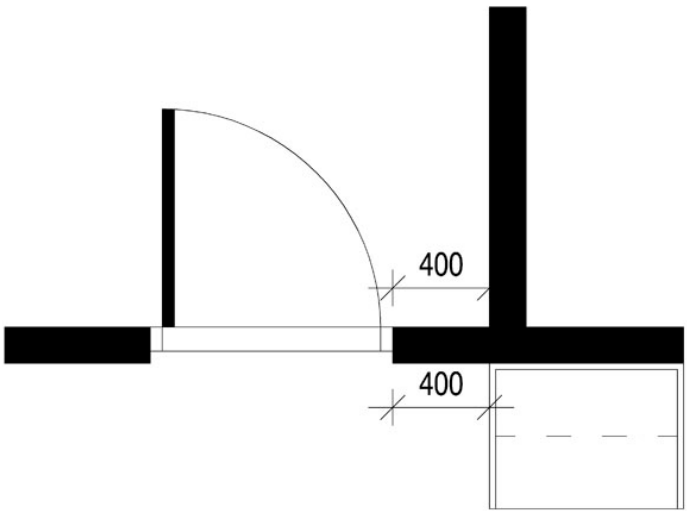
Accessibility

1. The passages should have seating at different heights and with backrests and armrests for resting. (See figure 10n)
2. The wider the door openings, the easier it is to navigate the spaces.



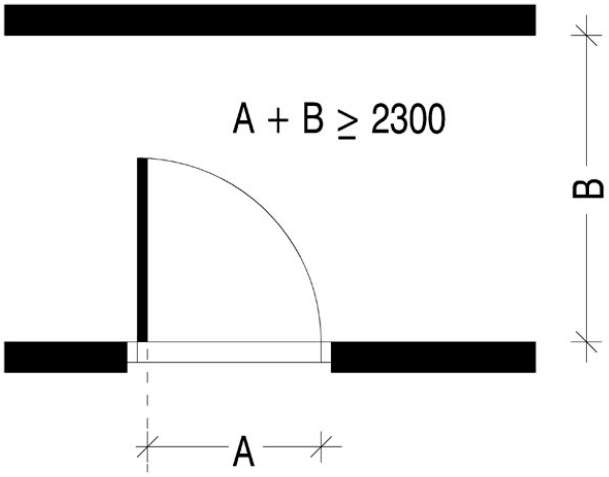
10f **Figure 10f** Actual width of the opening, i.e. clear space.

(Ministry of the Environment guidelines on the accessibility of buildings and the Finnish Association of People with Disabilities)



10g **Figure 10g** A clearance 400 mm in width at the minimum is required on the opening side of the door to allow unobstructed opening of the door.

(Ministry of the Environment guidelines on the accessibility of buildings and the Finnish Association of People with Disabilities)



10h

Figure 10h Dimensioning instruction for wheelchair access from the door: The sum of the clear space between the corridor and the door must be at least 2,300 mm.

(Ministry of the Environment guidelines on the accessibility of buildings and the Finnish Association of People with Disabilities)



Figure 10i Good solution: [1] Doors stand out well from the wall [2] with a dark contrast. [3] There are also good signs on the opening side of the doors. (TYKS, Turku)

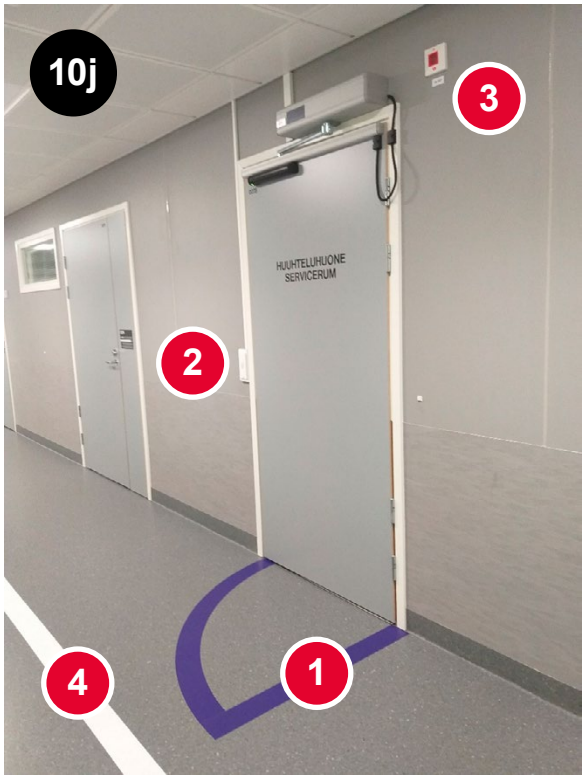


Figure 10j Good solution: [1] There is an automatic door opening space marked on the ground, and the door frames contrast with the wall. [2] The door opener is on the opening side of the door and [3] there is a charge light outside the door. Note [4] A contrasting stripe on the floor helps persons with impaired vision to navigate the space. (TYKS, Turku)

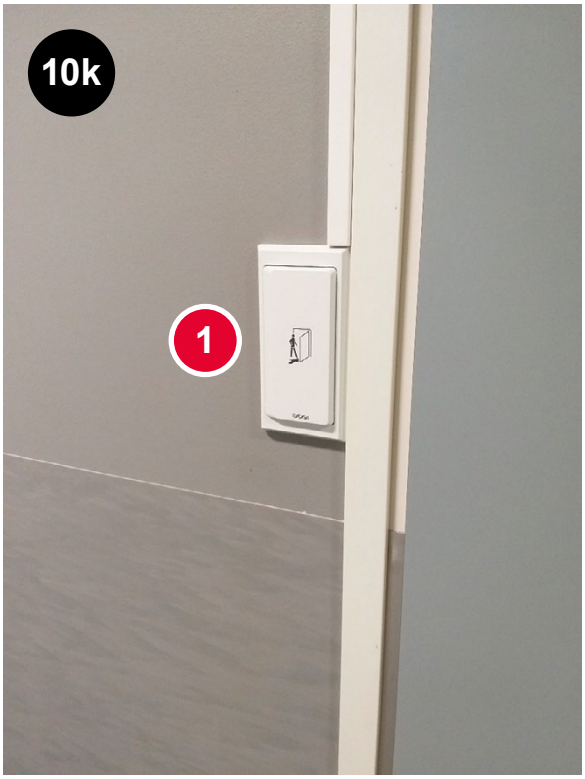


Figure 10k Good solution: [1] The door opener is on the opening side of the door. (TYKS, Turku)



Figure 10l Good solution: [1] Door openers are easy to spot and are grouped so that you do not have to move between uses. (Income support counselling, Turku)

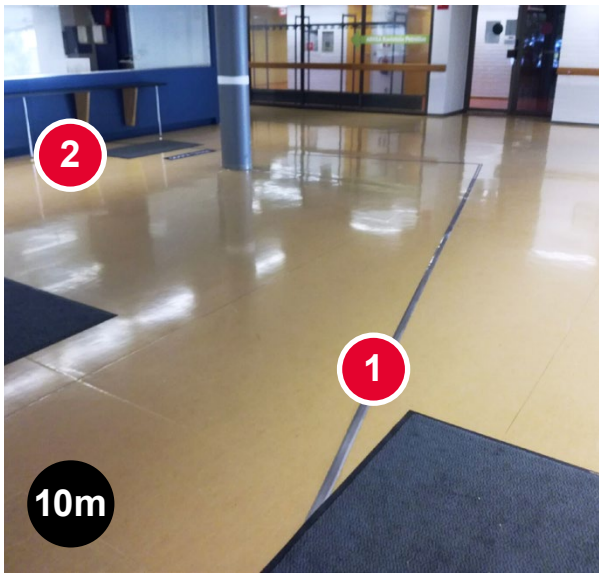


Figure 10m Good solution: [1] The tactile strip is guides you from the entrance [2] to the service point. (Disability Services, Turku). However, carpets, for example, must never be placed so as to obscure the purpose of the tactile strips.



Figure 10n Good solution: [1] The passage has several seats with backrests, [2] some of which also have armrests to make it easier to stand up.
(Mäntymäki health station, Turku)



Figure 10o Bad solution: Reflections on the floor of the passage make it difficult to identify the route. In addition, the corridor has poor lighting. (Disability services, Turku)

11 Other spaces in the building



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Legislation

Government Decree on the Accessibility of Buildings (241/2017)

Section 6 Other spaces in the building, subsections 1 and 3
The premises of a building other than a residential building and the common areas of a residential building, as well as their fixtures and fittings, must be suitable for persons with reduced mobility and functional impairment.

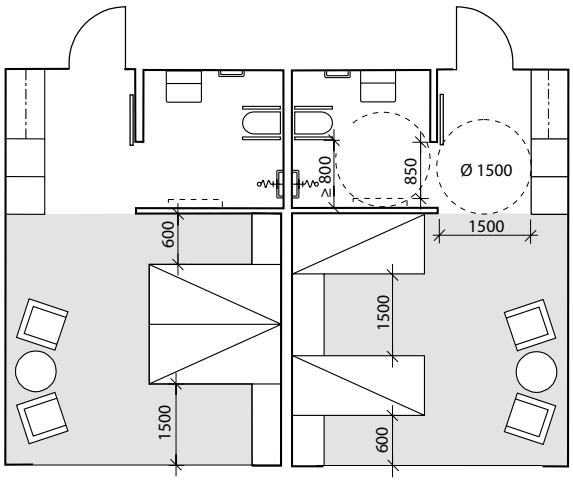
There must be a turning space in the hallway and kitchen with a diameter of at least 1,500 millimetres in an apartment intended for service housing or sheltered housing for persons with reduced mobility or functional impairment, regardless of the number of floors in the building. Such accommodation must also be designed to allow for the use and assistance of assistive devices.

Accessibility recommendations of the City of Turku

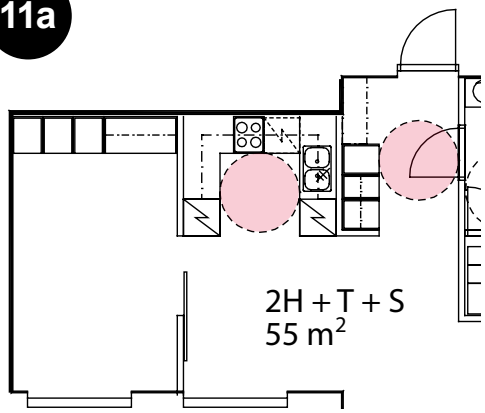
Passage

1. The 1500 mm diameter (ø) turning space in the hallway and kitchen is always completely clear up to a height of 2,000 mm.

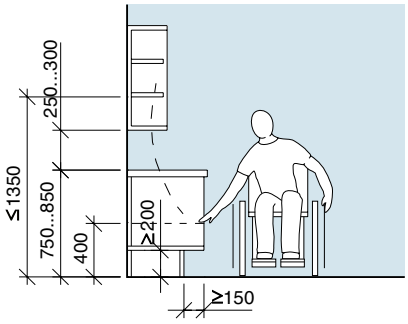
2. An apartment intended for sheltered service or sheltered housing for a person with reduced mobility or functional impairment must include at least one toilet and washroom with a minimum 1,500 mm diameter clear space up to a height of 2,000 mm. Fixed furniture must be positioned in relation to the clear space so that it can be used by a person with reduced mobility. In addition, there must be at least 800 mm of clear space on one side of the toilet seat. Such toilet and washroom facilities must be equipped to accommodate persons with reduced mobility. (See figure 11a). Also in these apartments, the hallway and the kitchen must take into account the 1,500 mm diameter clear space (turning circle) up to a height of 2,000 mm.

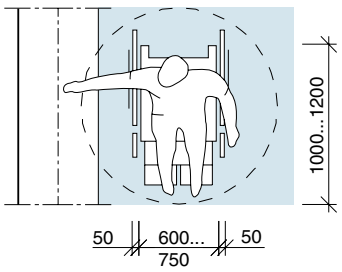


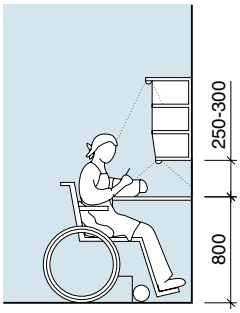
11a



11c







11b

Figure 11a Good solution: Example of the dimensioning of accessible accommodation and residential care housing. (RT 103141 Esteetön liikkumis- ja toimimisympäristö, in Finnish only)

Figure 11b and 11c Good solution: Dimensioning examples of kitchen furniture for wheelchair users. A 1,500 mm turning circle must also always be ensured in the kitchen. (RT 93-10929 Asuntosuunnittelu. Ruoanvalmistus ja ruokailu, RT 93-11232 Muuntojousto asuntosuunnittelussa. Tila- ja pääsuunnittelu) (RT 93-10929 Housing design. Food preparation and dining; RT 93-11232 Flexibility in housing design. Spatial and main planning.)

12 Access between levels

Legislation

Government Decree on the Accessibility of Buildings (241/2017)

Section 6, subsection 1 Other spaces in the building
The premises of a building other than a residential building and the common areas of a residential building, as well as their fixtures and fittings, must be suitable for persons with reduced mobility and functional impairment.

Section 8 Connection between levels in a non-residential building
If the difference in elevation in a building other than a residential building is smaller than the floor height of the building, in addition to the stairs, the connection between the floors must be provided, in addition to the stairs, either by a ramp as provided for in section 2, subsection 2 or by a lift as provided for in section 7, subsection 3 or by any other permanently installed device suitable for lifting persons using a wheelchair and a wheeled walker. If the difference in elevation is equal to or greater than the floor height, access between the levels must be provided by means of a lift in accordance with section 7 subsection 3.

PLEASE NOTE The decree applies to paragraphs 12.1–12.6

12.1 Lift



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Accessibility recommendations of the City of Turku

1. In addition to the space required to open the lift door, a clear space at least 1,500 mm wide and 1,500 mm long is required outside the opening door leaf in front of the lift door to allow for swivelling with a wheelchair and for opening and closing the door in a wheelchair without having to move away from the landing or to an inclined surface. In other words, the minimum 1,500 mm x 1,500 mm flat clear space required in front of the accessible toilet door must never be located within the opening angle/opening area of a possible door leaf. The aforementioned clear space must also extend up to a height of at least 2,000 mm and must not be located inside the doorway (frame). (See figure 8a)
2. It is recommended that keyboard numbers be implemented in tactile letters at the very least. The keyboard should also have a contrasting background. In addition, braille and illuminated signs are recommended on or near the keyboard. (See figure 12.1c)
3. The lift must always be equipped with a sound reproduction device, i.e. a speech synthesiser and an induction loop. The arrival of the lift at the landing will also be signalled by a light and sound signal. The best solution is an audible floor notification system, i.e. a voice guidance system that tells you the direction of the lift, the selected floor and announces the arrival of the lift to the floors.
4. Lifts, stair lifts, escalators, moving pavements and similar personal transfer devices must operate safely. They must be equipped with appropriate safety devices and easily recognisable and accessible emergency stops. The emergency stop must be easily accessible. (See figure 12.1c)
5. If the lift breaks, the repair response time must not exceed two hours (2 hours) after the device breaks. (recommendation) If the lift manufacturer/dealer is not represented in the Turku economic area, a local partner who is able to take responsibility for the response time repairs must be found in the area.
6. The lift must be serviced one to two times a year. Maintenance is always recorded in the service booklet. (recommendation)

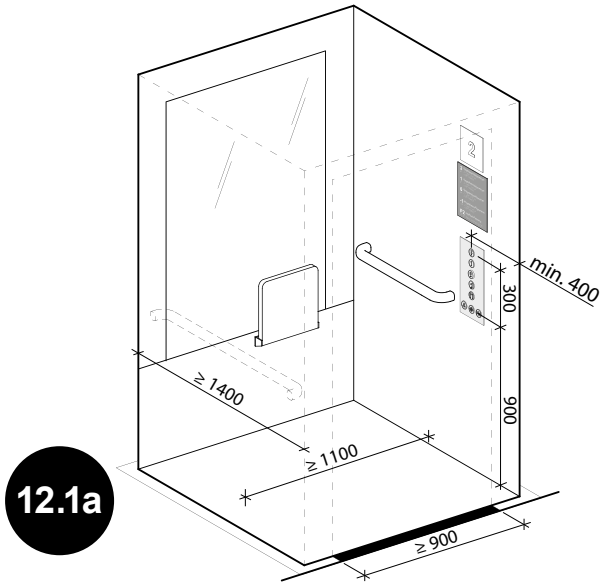




Figure 12.1a Lift dimensions. The lift cage must be at least 1,100 mm wide at the door side and at least 1,400 mm deep. To enable a wheelchair or wheeled walker to turn in the lift, the lift cage should be 1,340 mm wide and 1,400 mm deep. If the openings are on adjacent sides, the recommended minimum lift cage size is 1,400 mm x 1,400 mm. The lift door must be at least 900 mm wide. The lift call and operating buttons must be placed between 900 mm and 1,300 mm above the floor and at least 400 mm from the corner. (Accessible construction and environment)

Figure 12.1b Good solution: The lift and its call button stand out well from their surroundings. In addition, the lift doors open automatically. (Turku City Main Library, Turku)



Figure 12.1c Good solution: The keys stand out well from the wall, with relief patterns, [1] Braille, and [2] a light sirngal. Recognisable relief patterns are mandatory in lifts. Braille is also highly recommended in addition to these. [3] The key on the entrance floor stands out with its height and colour. [4] The lift has an alarm switch that stands out clearly. (Rieskalähde School, Turku)

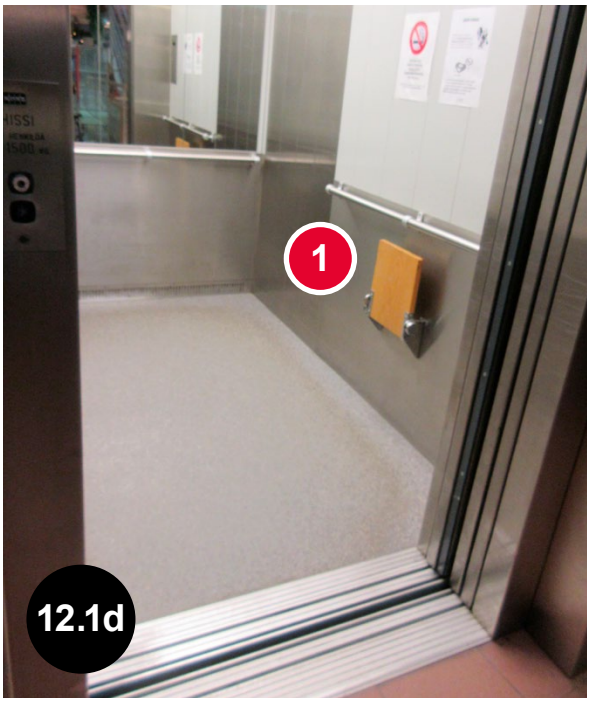


Figure 12.1d Good solution: [1] The lift has a tip-up seat. (Ruusukortteli welfare centre, Turku)

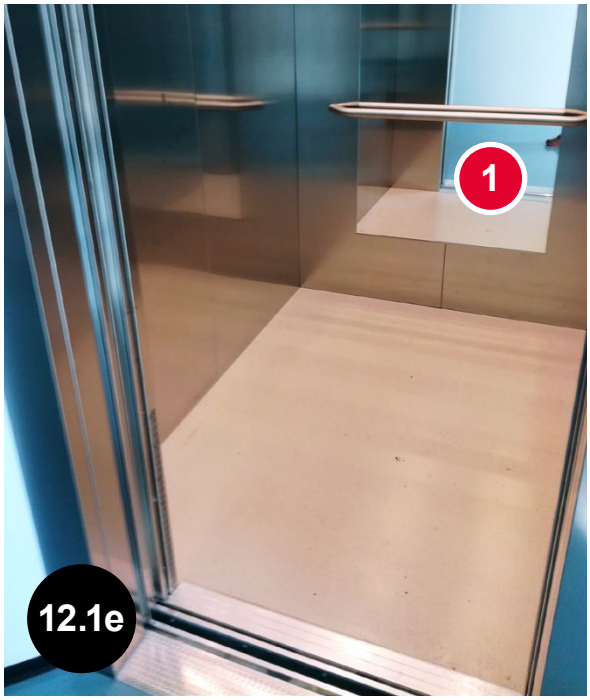


Figure 12.1e Good solution: [1] A mirror on the rear wall of the lift cage makes it easier for a wheelchair user to exit the lift in a situation where the lift is not passable. (Income support counselling, City of Turku, Turku)

12.2 Light lift



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Accessibility recommendations of the City of Turku

1. In addition to the space required to open the door, a clear space at least 1,500 mm wide and 1,500 mm long is required outside the opening door leaf in front of the light lift door to allow for swivelling with a wheelchair and for opening and closing the door in a wheelchair without having to move away from the landing or to an inclined surface. In other words, the minimum 1,500 mm x 1,500 mm flat clear space required in front of the accessible toilet door must never be located within the opening angle/opening area of the door leaf. The aforementioned clear space must also extend up to a minimum height of 2,000 mm. (See figure 8a)
2. It is recommended that keyboard numbers be implemented in tactile letters at the very least. The keyboard should also have a contrasting background. In addition, braille and illuminated signs are recommended on or near the keyboard. (See figure 12.2c)
3. A light lift must always be equipped with a sound reproduction device, i.e. a speech synthesiser and an induction loop. The arrival of the lift at the landing will also be signalled by a light and sound signal. The best solution is an audible floor notification system, i.e. a voice guidance system that tells you the direction of the lift, the selected floor and announces the arrival of the lift to the floors.
4. Lifts, stair lifts, escalators, moving pavements and similar personal transfer devices must operate safely. They must be equipped with appropriate safety devices and easily recognisable and accessible emergency stops. The emergency stop must be easily accessible. (See figure 12.2c)
5. If the light lift breaks, the repair response time must not exceed two hours (2 hours) after the device breaks. If the lift manufacturer/dealer is not represented in the Turku economic area, a local partner who is able to take responsibility for the response time repairs must be found in the area. (recommendation)
6. The light lift must be serviced one to two times a year. Maintenance is always recorded in the service booklet. (recommendation)
7. The nominal load of light lifts and stair lifts is at least 300 kg.

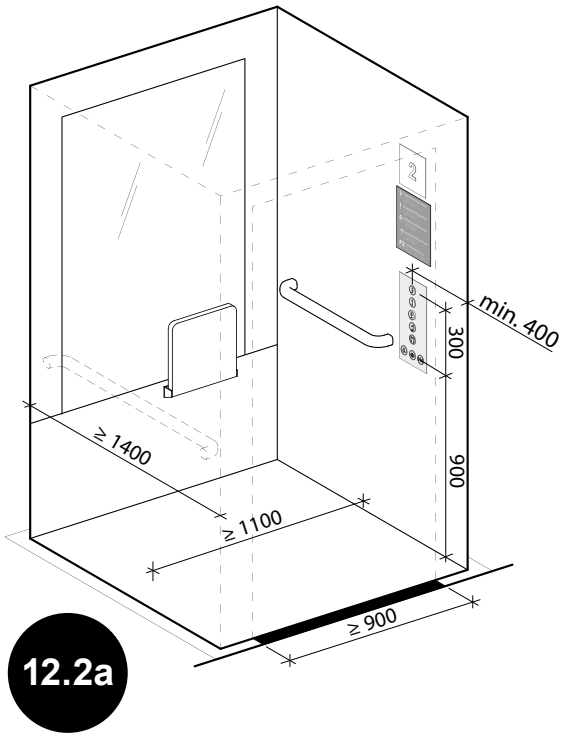


Figure 12.2a Lift dimensions. The lift cage must be at least 1,100 mm wide at the door side and at least 1,400 mm deep. To enable a wheelchair or wheeled walker to turn in the lift, the lift cage should be 1,340 mm wide and 1,400 mm deep. If the openings are on adjacent sides, the recommended minimum lift cage size is 1,400 mm x 1,400 mm. The lift door must be at least 900 mm wide. The lift call and operating buttons must be placed between 900 mm and 1,300 mm above the floor and at least 400 mm from the corner. (Accessible construction and environment)



Figure 12.2b Light lift
(Puropelto School, Sepänkatu 11, Turku)



Figure 12.2c Good solution: [1] The keys have relief patterns. [2] The lift has a very distinctive alarm switch and [3] an emergency stop button.
(Topelius School, Hansakatu Unit, Turku)



Figure 12.2d Good solution: [1] The entrance floor button is clearly distinguishable from the other buttons. [2] Buttons have tactile reliefs and Braille on them. [3] The emergency stop button and the [4] alarm switch stand out. (Puolala School, Puutarhakatu Unit, Turku)

12.3 Level lift

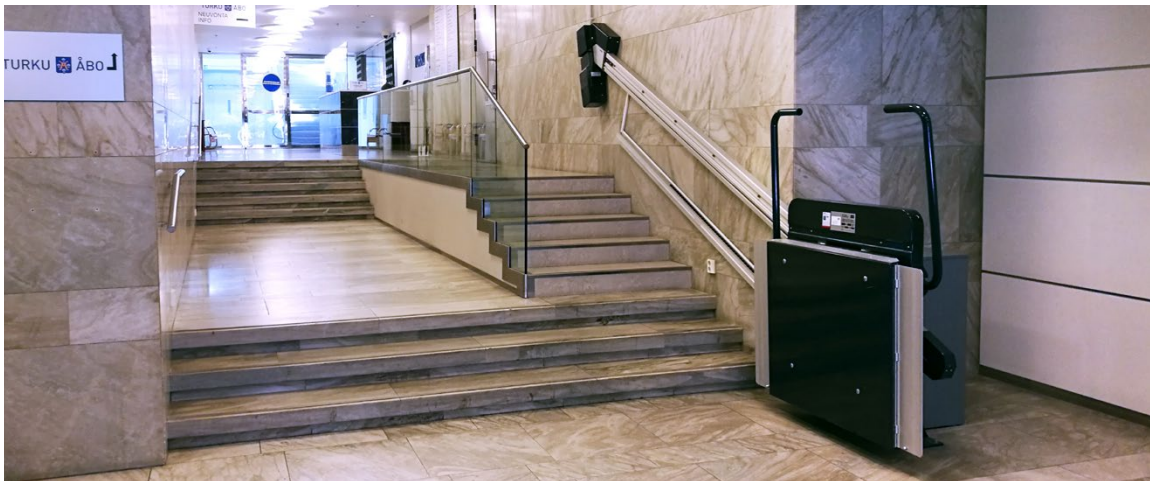


Figure 12.3a Level lift (Topelius School, Pakkarinkatu Unit, Turku)

Accessibility recommendations of the City of Turku

1. **A level lift is always a better option than a stair lift. The safety and durability of the stair lift are severely lacking.** (See figure 12.3a)
2. In addition to the space required to open the door, a clear space at least 1,500 mm wide and 1,500 mm long is required outside the opening door leaf in front of the level lift to allow for swivelling with a wheelchair and for opening and closing the door in a wheelchair without having to move away from the landing or to an inclined surface. In other words, the minimum 1,500 mm x 1,500 mm flat clear space required in front of the accessible toilet door must never be located within the opening angle/opening area of the gate leaf. The aforementioned clear space must also extend up to a minimum height of 2,000 mm. (See figure 8a)
3. It is recommended that keyboard numbers be implemented in tactile letters at the very least. The keyboard should also have a contrasting background. In addition, Braille, illuminated characters and, if necessary, a speech synthesizer are recommended for the keyboard.
4. Lifts, stair lifts, escalators, moving pavements and similar personal transfer devices must operate safely. They must be equipped with appropriate safety devices and easily recognisable and accessible emergency stops. The emergency stop must be easily accessible.
5. If the stair lift breaks, the repair response time must not exceed two hours (2 hours) after the device breaks. If the lift manufacturer/dealer is not represented in the economic area, then a local partner who is able to take responsibility for the response time repairs must be found in the area. (recommendation)
6. The stair lift must be serviced 1–2 times every year. The maintenance must always be recorded in the service booklet. (recommendation)
7. The nominal load of lifts and stair lifts is at least 300 kg.

12.4 Stair lift



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Accessibility recommendations of the City of Turku

1. **The safety and durability of the stair lift are severely lacking. Instead of a stair lift, a level lift, light lift or lift is always selected.**
2. A clear space with minimum width of 1,500 mm and a minimum clearance of 1,500 mm is required for the front of the stair lift at the upper and lower landings to allow wheelchair users to turn around. The clear space must also extend up to a minimum height of 2,000 mm. (See figure 8a)
3. The lifting capacity of a stair lift must be at least 300 kg, which means that it can also lift a person using an electric wheelchair. The stair lift must always be attached to the wall at each attachment point, at least at the top and bottom, so that it can lift to its full lifting capacity. (See figures 12.4a, 12.4b and 12.4c)
4. It is recommended that the normal position of the stair lift is always at the bottom. The call device must be on both floors. The battery must be able to run both down and up. The possibility of an emergency landing downwards should always be possible. The spare battery must be easily accessible and easily replaced. The lift must not prevent access to, for example, an emergency exit in any way.
5. It is recommended that keyboard numbers be implemented in tactile letters at the very least. The keyboard should also have a contrasting background. In addition, Braille, illuminated characters and, if necessary, a speech synthesizer are recommended for the keyboard.
6. Lifts, stair lifts, escalators, moving pavements and similar personal transfer devices must operate safely. They must be equipped with appropriate safety devices and easily recognisable and accessible emergency stops. The emergency stop must be easily accessible.
7. If the stair lift breaks, the repair response time must not exceed two hours (2 hours) after the device breaks. If the lift manufacturer/dealer is not represented in the economic area, then a local partner who is able to take responsibility for the response time repairs must be found in the area. (recommendation)
8. The stair lift must be serviced 1–2 times every year. The maintenance must always be recorded in the service booklet. (recommendation)
9. The nominal load of lifts and stair lifts is at least 300 kg.

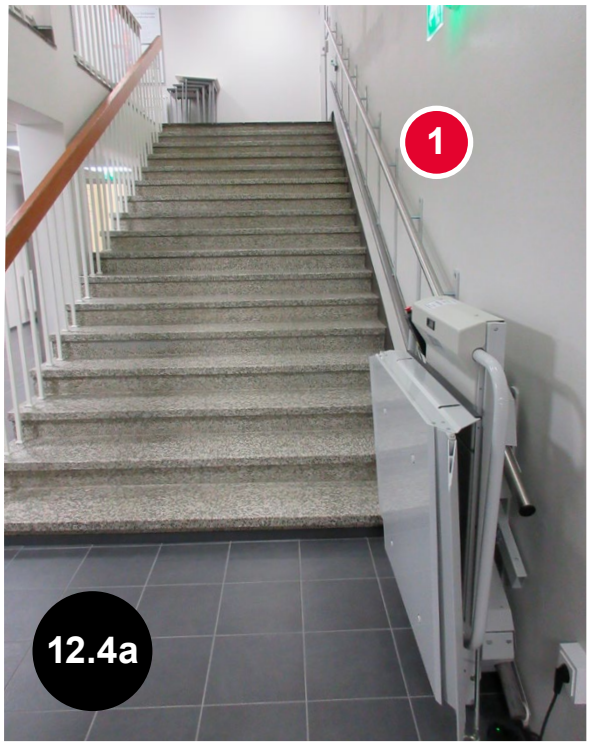


Figure 12.4a Good solution: [1] Stair lift mounted directly on the wall. The normal position of the lift is down. (TSYK, Turku)

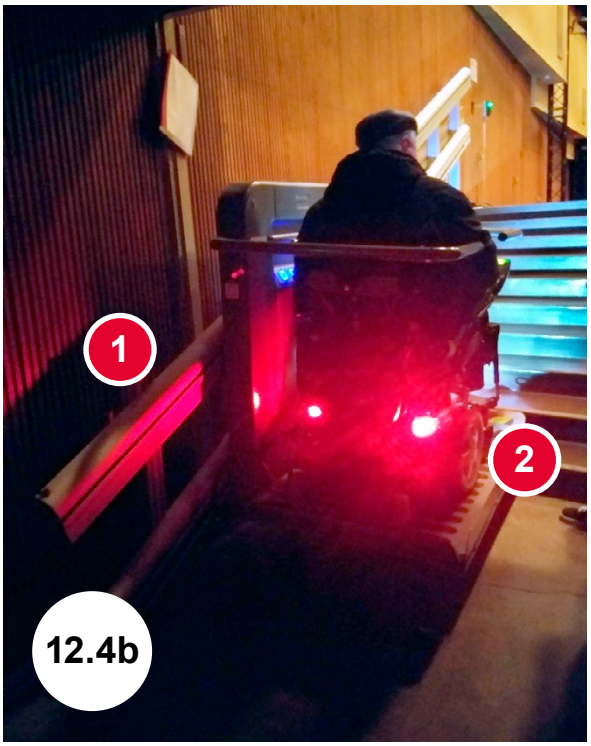


Figure 12.4b Bad solution: [1] The stair lift is not mounted directly on the wall but on its own posts. This prevents the lift from operating at its full capacity: the poles bend and [2] the stair lift gets stuck in the stairs, and the lift cannot even be lifted back downwards. (Domino, Turku)



Figure 12.4c Stair lifts are often difficult to use and inoperative. Their use is not recommended. (Topelius School, Pakkarinkatu Unit, Turku)

12.5 Chair lift

Accessibility recommendations of the City of Turku

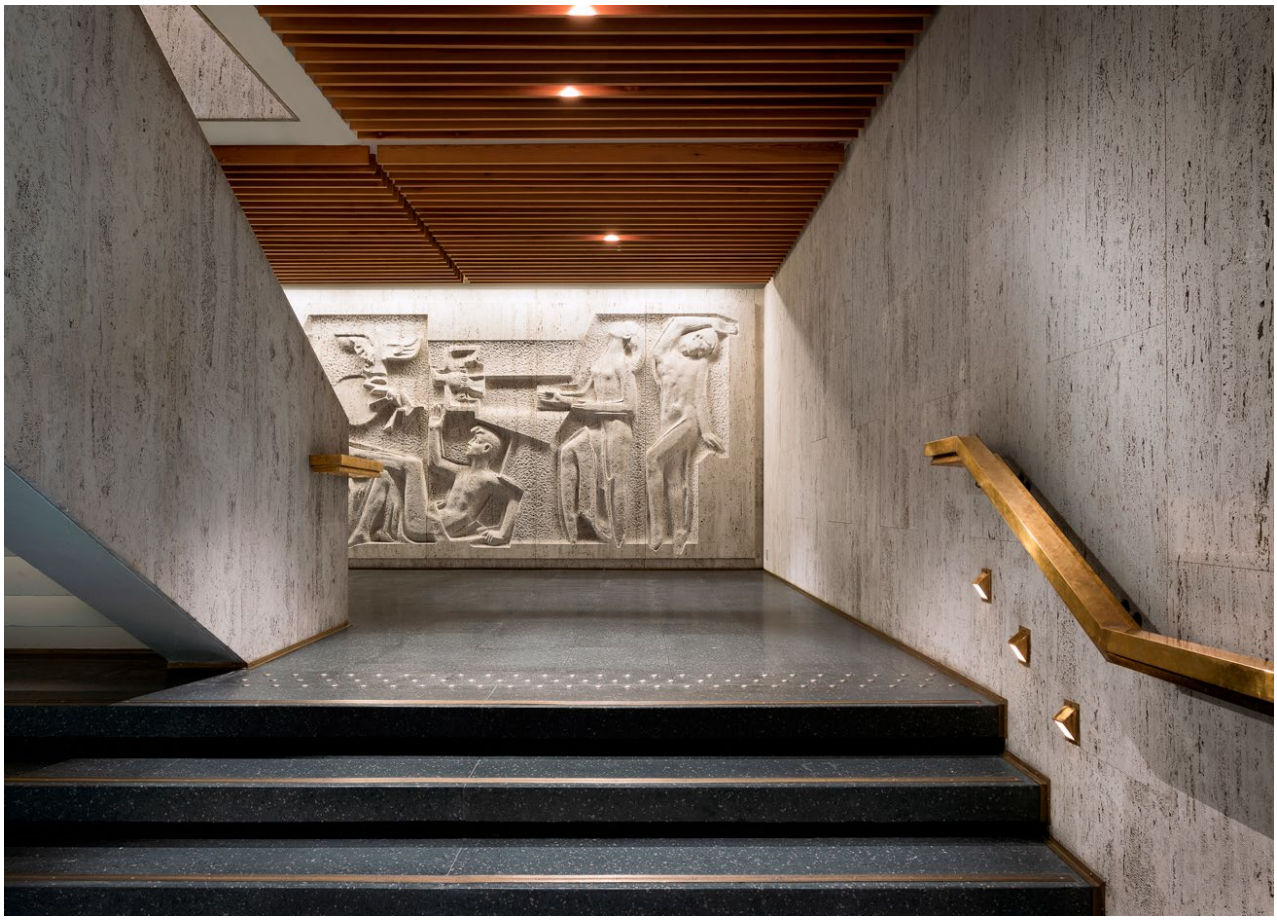
1. The safety and durability of the chair lift are severely lacking. Instead of a chair lift, a level lift, lift or light lift is always recommended.
2. A clear space with minimum width of 1,500 mm and a minimum clearance of 1,500 mm is required for the front of the chair lift at the upper and lower landings to allow wheelchair users to turn around. The clear space must also extend up to a minimum height of 2,000 mm. (See figure 8a)
3. It is recommended that keyboard numbers be implemented in tactile letters at the very least. The keyboard should also have a contrasting background. In addition, Braille, illuminated characters and, if necessary, a speech synthesizer are recommended for the keyboard.
4. Lifts, stair lifts, escalators, moving pavements and similar personal transfer devices must operate safely. They must be equipped with appropriate safety devices and easily recognisable and accessible emergency stops. The emergency stop must be easily accessible.
5. If the stair lift breaks, the repair response time must not exceed two hours (2 hours) after the device breaks. If the lift manufacturer/dealer is not represented in the economic area, then a local partner who is able to take responsibility for the response time repairs must be found in the area. (recommendation)
6. The stair lift must be serviced 1–2 times every year. The maintenance must always be recorded in the service booklet. (recommendation)
7. There must always be a wheelchair at least 65 cm wide (medium size) on the upper floor, because a wheelchair or other wheeled mobility aid for a person with reduced mobility will not travel with the chair lift. (recommendation)

12.6 Stair climber

Accessibility recommendations of the City of Turku

1. The safety and durability of the stair climber are severely lacking. It cannot be used independently either. Always use a level lift, light lift or lift instead of a stair climber.
2. Lifts, stair lifts, escalators, moving pavements and similar personal transfer devices must operate safely. They must be equipped with appropriate safety devices and easily recognisable and accessible emergency stops. The emergency stop must be easily accessible.
3. If the stair lift breaks, the repair response time must not exceed two hours (2 hours) after the device breaks. If the lift manufacturer/dealer is not represented in the economic area, then a local partner who is able to take responsibility for the response time repairs must be found in the area.
4. The stair lift must be serviced 1–2 times every year. The maintenance must always be recorded in the service booklet.
5. There must always be a wheelchair at least 65 cm wide (medium size) on the upper floor, because a wheelchair or other wheeled mobility aid for a person with reduced mobility will not travel with the stair climber.

12.7 Stairs



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Legislation

Government Decree on the Accessibility of Buildings (241/2017)

Section 6, subsection 1 Other spaces in the building
The premises of a building other than a residential building and the common areas of a residential building, as well as their fixtures and fittings, must be suitable for persons with reduced mobility and functional impairment.

Section 8 Connection between levels in a non-residential building
If the difference in elevation in a building other than a residential building is smaller than the floor height of the building, in addition to the stairs, the connection between the floors must be provided, in addition to the stairs, either by a ramp as provided for in section 2, subsection 2 or by a lift as provided for in section 7, subsection 3 or by any other permanently installed device suitable for lifting persons using a wheelchair and a wheeled walker. If the difference in elevation is equal to or greater than the floor height, access between the levels must be provided by means of a lift in accordance with section 7, subsection 3.

Decree of the Ministry of the Environment on the Safety of Use of Buildings (1007/2017)

Section 3 Stairs

The stair must be safe and suitable for its purpose. The surface of the stair must not be slippery. The minimum width of the indoor staircase in the exit area is 0.85 metres. However, handrails and skirting boards may extend within this dimension.

From each exit area, it must be possible to transport a person with reduced mobility on a stretcher via an exit passage. If the internal access route to an exit from an exit area in non-residential buildings is via a stairway within the area, the staircase must be wide enough to allow the transport of a person with reduced mobility on a stretcher.

The staircase between floors must be covered. In addition, in an apartment building where there is no lift, the stair between the floors must have natural light and have at least one intermediate landing.

Section 4 Dimensioning of indoor stairs

The riser and the tread of a step in a staircase must be easy to negotiate in relation to the intended use of the staircase.

In the lobbies and other indoor spaces of buildings containing administrative, service and commercial spaces, as well as in meeting spaces, the riser in the staircase must not exceed 160 millimetres and the tread must not be less than 300 millimetres. The internal stair riser in the accommodation and living quarters must not exceed 190 millimetres and the tread must be at least 250 millimetres. In other main service spaces, the internal stair riser must not exceed 180 millimetres and the tread must be at least 270 millimetres. A staircase used exclusively as an emergency exit and leading to essential non-residential facilities in the apartment or accommodation must have a riser of not more than 220 millimetres and a tread of no less than 220 millimetres.

In the exit passage, the step riser may not exceed 180 millimetres. The tread must be at least 270 millimetres. In an exit corridor which is not also used for normal internal movement within the building, the maximum riser of a step must not exceed 200 millimetres.

Section 5 Dimensioning of outdoor stairs

Covered or heated external stairs must have a minimum tread of 300 millimetres and a maximum riser of 160 millimetres. Uncovered and unheated external staircases must have a tread of 390 millimetres at minimum and a riser of 130 millimetres at most.

CONTINUE ▼

Section 6 Landing
The level areas of the building and its outdoor areas must be safe, sufficiently spaced and fit for purpose. The sides of the staircase and landing must be provided with an elevation to prevent slipping over the edge if the gap between the landing and the handrail or wall can accommodate a cube with a width of more than 50 mm. The distance of the door opening onto the landing from the upper edge of the ramp or flight of stairs must be at least 400 millimetres on the side wall of the flight and at least 1,500 millimetres on the end wall. A landing of at least 800 mm in length must be provided in front of and behind the door on the exit route.

Glass windows, hatches and other similar structures covering openings on the landings of a building intended for recreation and access must be able to withstand the load of persons if there is a falling hazard.

However, in indoor areas, the railing height may be at least 0.9 metres when the falling height is less than 3 metres.

Section 8, subsection 1 Railing and staircase structure
The railing and stair must be able to withstand the loads required for the purpose of the space throughout the lifetime of the structure.

Section 8, subsection 4 Railing and staircase structure
A cube of no more than 100 mm may fit between the steps.

Section 9, subsection 1 Handrail
The stair and ramp must be equipped with a handrail along the entire length and on both sides of the flight. Where necessary, two handrails must be provided, one above the other, to accommodate children and wheelchair users. The handle must have a firm grip. The handrail and its end must be safe and must continue past the starting and ending point of the flight. The handrail must continue uninterrupted.

Accessibility recommendations of the City of Turku

1. Unnecessary differences in elevation should be avoided.
2. **Ramps and stairs must be visible to persons with reduced mobility and functional impairment. For a person with low vision, it is difficult to detect differences in elevation. This is why marking stairs with a contrasting strip, warning of the start and end of the staircase and the positioning of handrails are particularly important. In order to facilitate perceiving the stairs, a contrasting strip at least 30 mm wide is placed at the leading edge of the steps. The staircases must have good but non-glare lighting.**
   (See figures 12.7b as well as 12.7c and 12.7d)
3. Start and end points of stairs are marked with a separate tactile warning/attention area on a case-by-case basis.
4. When a passage leads directly to a step, the length of the warning area is ≥ 1,200 mm.
   (See figure 12.7a)

5. Pin-like floor identifiers, "floor ladders/pins" or blister tiles are recommended in the attention area (See figures 12.7b, 12.7f, 12.7g and 12.7h)
6. The placement and specification of the tactile strip and attention areas is important, and experts by experience should be used in the planning of all facilities.
7. You should contact the accessibility coordinator when planning the tactile strip/attention area. The tactile strip model is also available from the accessibility coordinator.
8. Access under stairs (e.g. spiral staircases), which could pose a collision risk to a person with impaired vision, must be prevented.

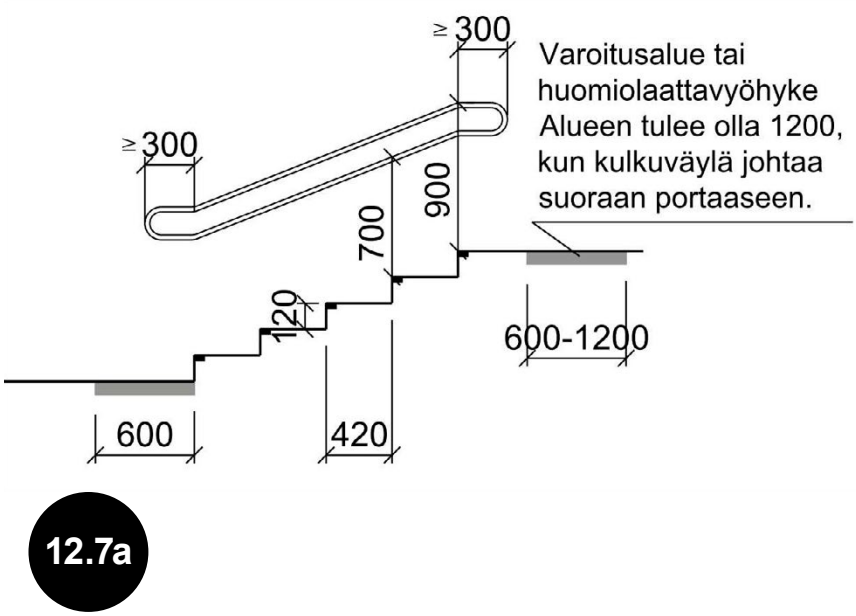


Figure 12.7a Lift dimensions. The handrail must extend at least 300 mm beyond the starting and ending point of the stairs. The handrail must be designed so that it is horizontal over the starting and ending points. The handrail should be at two heights (700 mm and 900 mm).

The warning area or blister tile area can be implemented, for example, with "floor pins". (SuRaKu)

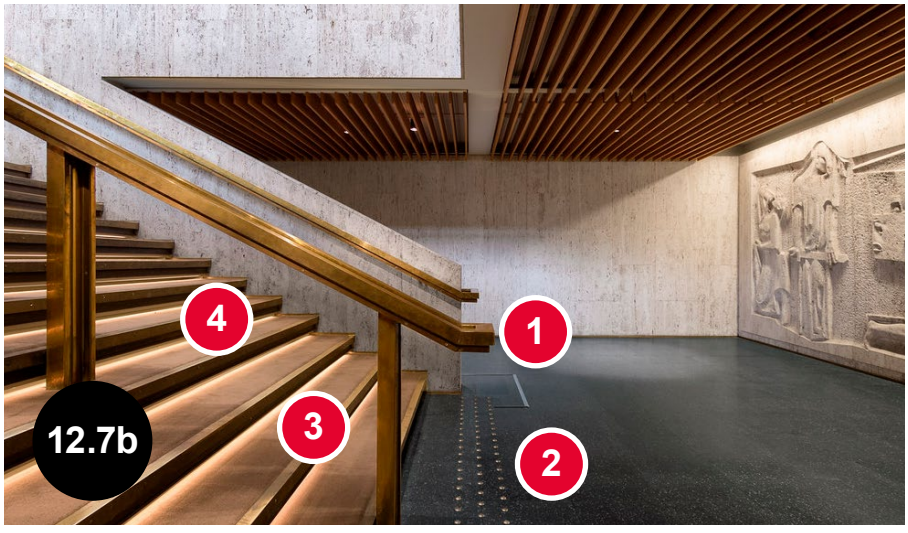


Figure 12.7b Good solution: The handrail continues more than 300 mm over the starting and ending point of the stairs [1]. Before the stairs, there are floor pins warning of stairs [2]. Also note the contrasting strips [3] and lighting [4] that make it easier to perceive the stairs.

Bad solution: Handrails at only one height [1]. (Turku City Theatre, Turku)

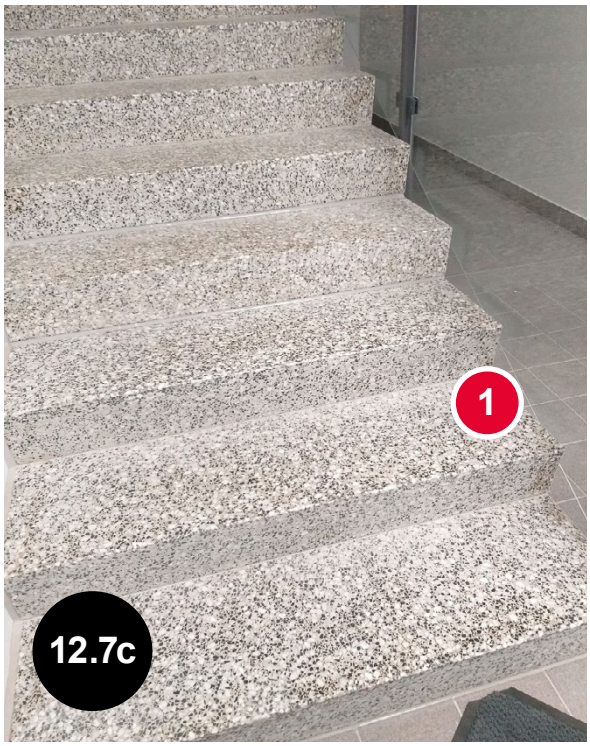


Figure 12.7c Bad solution: The stairs are missing a contrasting strip. The texture also makes the stairs particularly difficult to perceive. [1]
(Kulkurin Valssi KOY, Turku)

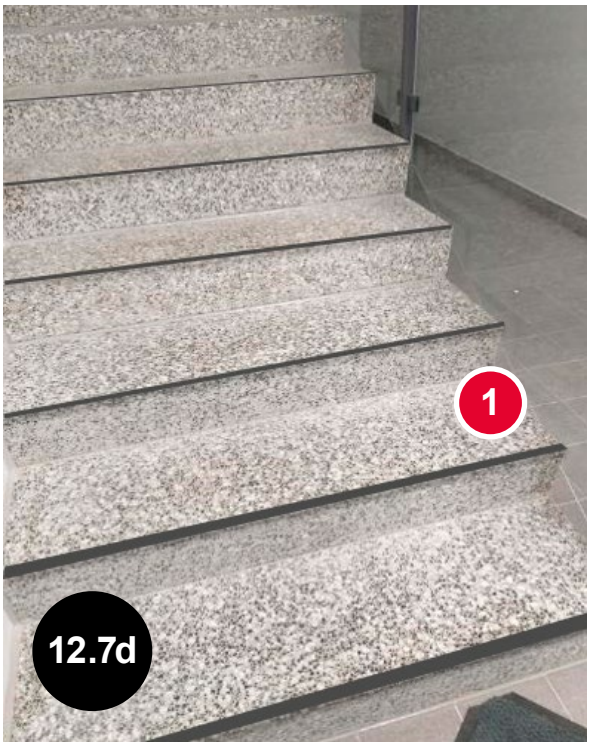
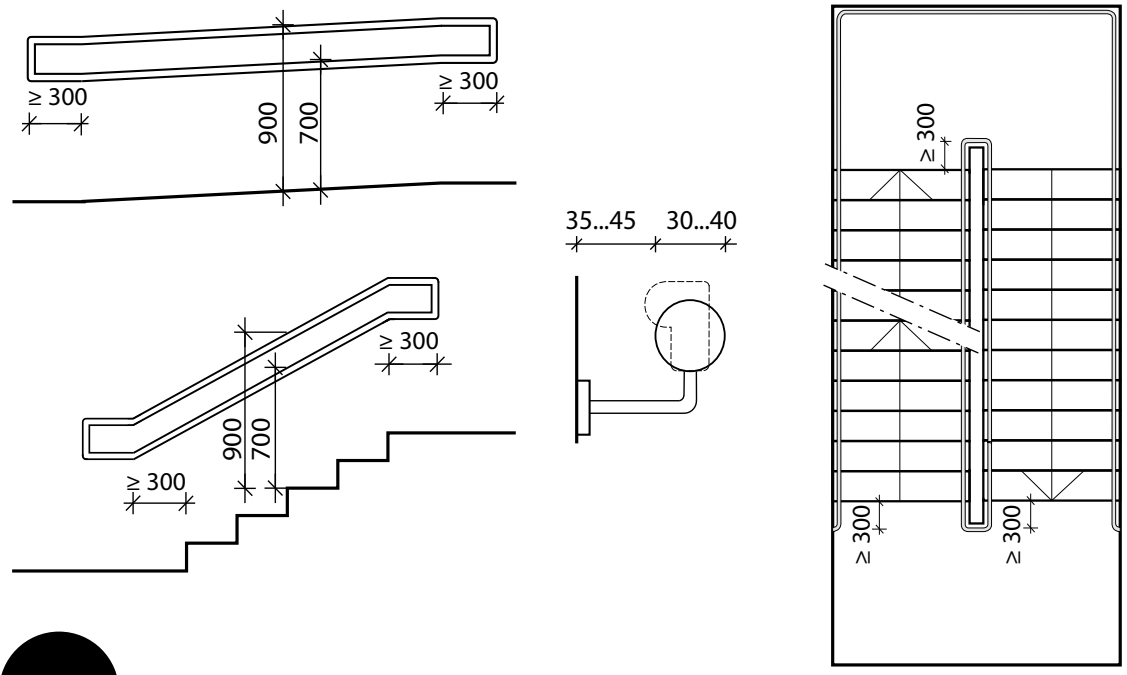


Figure 12.7d The staircases have been image-processed with a black contrasting strip [1] to make it easier to perceive the stairs.
(Kulkurin Valssi KOY, Turku)

9. The handrail must be placed along the entire length of the stair and the ramp and must continue in a uniform manner also on the intermediate landing. (See figure 12.7a and 12.7e)
10. Turning the handrail horizontally at the end of the stair and extending it 300 mm past the end of the flight of stairs will make it easier to detect the ending point and reduce the risk of stumbling. In addition, the person in need of support can get a grip of the handrail before taking the first step.
11. The handrail must be dimensioned to provide a firm grip. A good grip is possible on a round or rounded handrail with a diameter of 25–40 mm (the circumference of 95–120 mm) and a clear finger spacing of approximately 50 mm. The lower handrail's thickness of 25 mm is also suitable for children.
12. The lower handrail is recommended to be placed slightly further out from the wall than the upper one, so that it can be leaned on with a straight wrist. The handrail is rounded to ensure good grip.

Julkisten ulko- ja sisätilojen sekä liike- ja palvelutilojen sisäportaat



12.7e

Figure 12.7e Good solution: In indoor and outdoor public areas, the handrail always extends at least 300 mm beyond the starting and ending point of the flight of stairs or ramp.

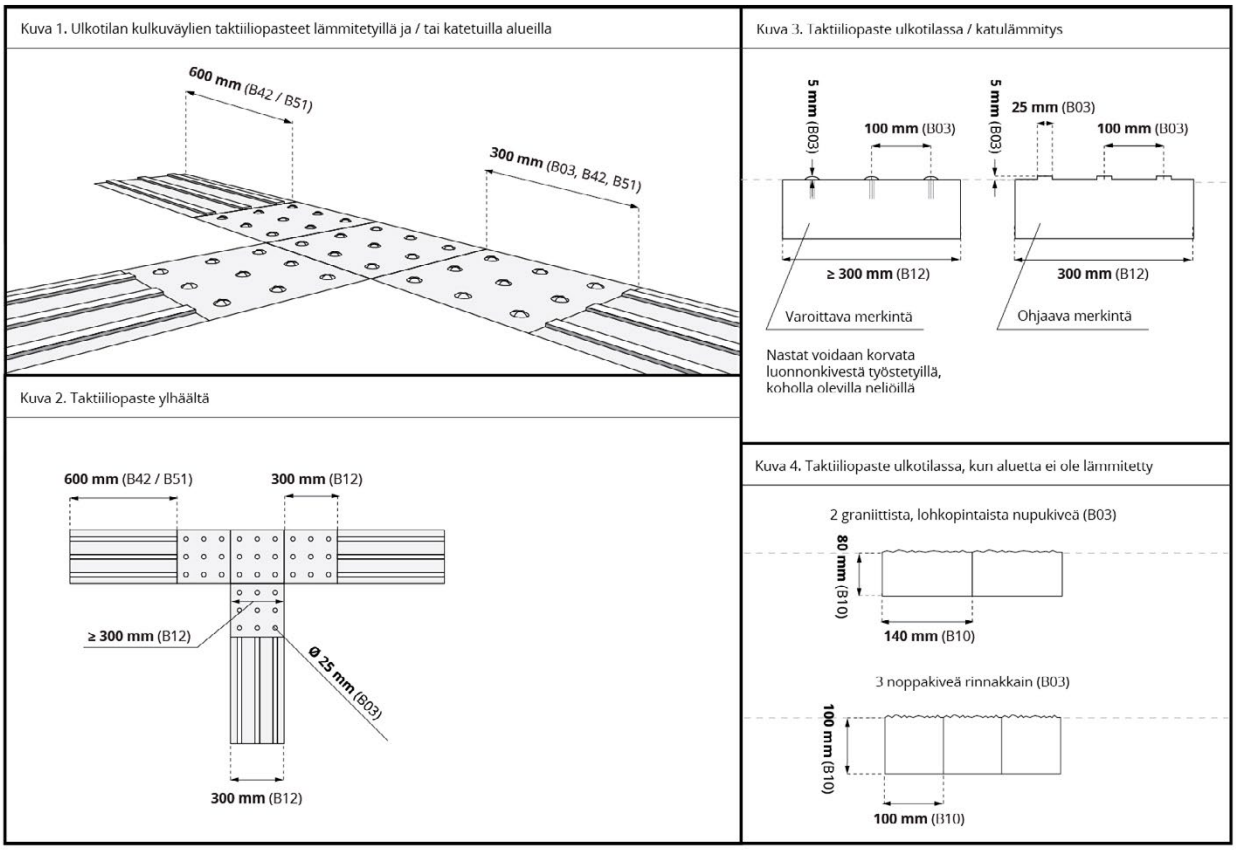
Handrails must be continuous at stair railings and landings. Handrails must stand out clearly from their background and be uninterrupted.

It is recommended that the starting and ending points of stairs are marked with a separate warning/attention area if the passage leads directly to the stairs, in which case the length of the warning area is ≥ 1,200 mm.

However, contrasting strips and lighting must always be taken into account and installed to facilitate perception of the staircase.

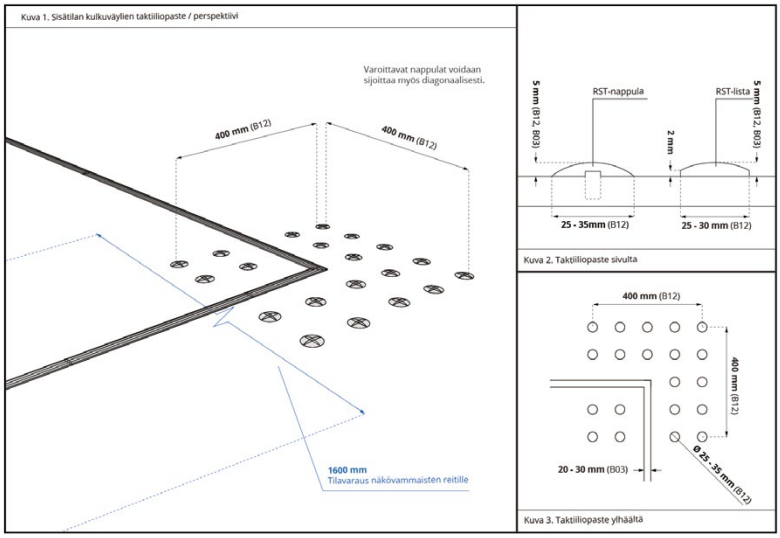
In connection with the staircases and ramps at the entrances, the accessibility and user safety regulations and the accessibility guidelines of the Ministry of the Environment must be followed.

(RT-kortisto: RT 103027 Portaat ja luiskat [RT Card: RT 103027 Stairs and ramps])



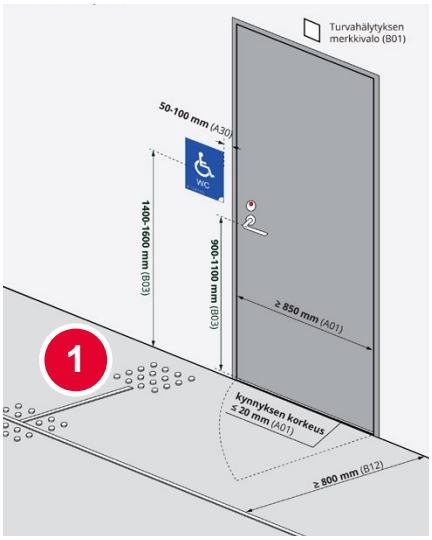
12.7f

Figure 12.7f Outdoor tactile sign (Sujuva.info)



12.7g

Figure 12.7g Tactile sign for indoor passages (Sujuva.info)



12.7h

Figure 12.7h [1] Example of a tactical sign in an accessible toilet. (Sujuva.info)

12.8 Ramps



©Turun kaupunki

Legislation

Government Decree on the Accessibility of Buildings (241/2017)

Section 2 Passage to the building, subsection 1 and 2
The building must have a passage that is at least 1,200 mm wide, easily perceptible, flat and has a hard and slip-resistant surface from the boundary of the plot or the construction site as well as from the space and area serving the use of the building. The slope of a passage in an outdoor space must not exceed five (5) per cent. If there is a step on a passage, it must have a ramp or a permanently installed device suitable for lifting persons using wheelchairs and wheeled walkers. The provisions of this subsection do not apply to single-family houses, semi-detached houses or urban single-family houses, if it would be impossible to implement an accessible route, considering the construction site and height differences.

The ramp referred to in subsection 1 above must be easily perceptible, straight, flat, have a hard slip-resistant surface, with a width of at least 900 millimetres and a protective kerb at least 50 millimetres high if it is not adjacent to a fixed structure. The lower and upper ends of the ramp must have a horizontal landing that is at least 1,500 mm long. The slope of the ramp must not exceed five (5) per cent. However, if the difference in height does not exceed 1000 mm, the slope of the ramp must not exceed eight (8) per cent. In this case, the height difference of the continuous ramp must not exceed 500 millimetres, after which there must be a horizontal middle landing of at least 2,000 millimetres in length. However, an outdoor ramp may have a slope of more than five (5) per cent only if it can be maintained in a condition comparable to that of an indoor ramp. Railings, handrails and other measures to prevent stumbling and falling from heights are regulated in a decree issued pursuant to section 117d of the Land Use and Building Act.

CONTINUE ▼

Section 6, subsection 1 Other spaces in the building
The premises of a building other than a residential building and the common areas of a residential building, as well as their fixtures and fittings, must be suitable for persons with reduced mobility and functional impairment.

Section 8 Connection between levels in a non-residential building
If the difference in elevation in a building other than a residential building is smaller than the floor height of the building, in addition to the stairs, the connection between the floors must be provided, in addition to the stairs, either by a ramp as provided for in section 2, subsection 2 or by a lift as provided for in section 7, subsection 3 or by any other permanently installed device suitable for lifting persons using a wheelchair and a wheeled walker. If the difference in elevation is equal to or greater than the floor height, access between the levels must be provided by means of a lift in accordance with section 7, subsection 3.

Decree of the Ministry of the Environment on the Safety of Use of Buildings (1007/2017)

Section 6 Landing
The level areas of the building and its outdoor areas must be safe, sufficiently spaced and fit for purpose. The sides of the staircase and landing must be provided with an elevation to prevent slipping over the edge if the gap between the landing and the handrail or wall can accommodate a cube with a width of more than 50 mm. The distance of the door opening onto the landing from the upper edge of the ramp or stairwell must be at least 400 millimetres on the side wall of the flight and at least 1,500 millimetres on the end wall. A landing of at least 800 mm in length must be provided in front of and behind the door on the exit route.

Glass windows, hatches and other similar structures covering openings on the landings of a building intended for recreation and access must be able to withstand the load of persons if there is a falling hazard.

Section 9, subsection 1 Handrail
The stair and ramp must be equipped with a handrail along the entire length and on both sides of the flight. Where necessary, two handrails must be provided, one above the other, to accommodate children and wheelchair users. The handle must have a firm grip. The handrail and its end must be safe and must continue at least 300 mm past the starting and ending point of the flight. The handrail must continue uninterrupted on the middle landing.

Section 10, subsection 3 Brightness and lighting
Ramps, steps, thresholds and level differences on the access route must be clearly indicated by lighting and contrasting surfaces or safety signs.

Section 17, subsection 2 Playground and recreation area
The gates and ramps in the yard must be safe and equipped with appropriate rails and handrails.

Accessibility recommendations of the City of Turku

1. In addition to the ramp, it is always recommended to provide accessible stairs, even at a low level, as the ramp is not suitable for everyone.
2. The ramp is not well suited for wet spaces.
3. It is recommended that the ramp width be at least 1,200 mm so that handrails can also be used from a wheelchair, for example.
4. The clear passage of the ramp, not including handrails or other fixed structures, must always be at least 900 mm.
5. The ramp must always be equipped with a handrail along the entire length and on both sides of the flight. In the Turku area, two separate handrails are generally always installed on the ramp, one above the other, to accommodate different user groups, such as children and wheelchair users. Handrail heights are 900 mm and 700 mm. A handrail at a height of 700 mm best serves the wheelchair users. The handle must have a firm grip.
6. The ramp must always be equipped with a protective edging. The purpose of the protective edging required by the subsection 2 of the decree is to prevent the wheels of a wheelchair or other wheeled aid from derailing over the edge of the ramp. To the extent that the ramp is limited to a fixed structure, such as a wall or masonry, no protective edging is required. The protective edgin is always at least 50 mm high.
7. The handrail and its end must be safe and must continue at least 300 mm past the starting and ending point of the flight. In the ramp, it is recommended that the handrail continues unified also on the intermediate landing. The starting and ending points of handrails (minimum of 300 mm) are always recommended to be turned horizontally so that the person using the handrail can identify the starting and ending points of the stairs at the upper and lower landings.
8. An outdoor ramp may have a slope of more than five (5) per cent only if it can be maintained in a condition comparable to that of an indoor ramp. In other words, an inclination of > five (5) per cent (1:20) in outdoor spaces only if the ramp is covered or maintained. (See figures 12.8a, 12.8b, 12.8c and 12.8d)
9. It is recommended that a heating system be installed on the ramp, such as a defrost cable(s) or other snow melting systemto keep the ramp snow-free even in winter. These aforementioned systems are already cheaper in the first winter than the maintenance costs of winter without them.
10. The ramp may have a maximum lateral inclination of two (2) per cent, for example due to water run-off. (See figures 12.8a, 12.8b, 12.8c and 12.8d)
11. The upper and lower landing of the ramp must have a horizontal area at least 1,500 mm long and 1,500 mm wide (clear space) outside the opening curve of the door leaf to ensure safe use of the ramp and access to the ramp. The landing allows stopping before and after the ramp. The landing at the lower end of the ramp should be longer than 1,500 mm when the ramp is steeper than five (5) per cent and the landing is bounded by a transverse obstacle, such as a rail, wall or masonry. (See figures 12.8a, 12.8b, 12.8c and 12.8d)

12. The opening side of the door must have a clear space at least 400 mm wide so that the wheelchair or rollator user can open the door or use any door opening equipment. For example, in order to be more functional for a wheelchair user, the space should actually be wider than 400 mm. (See figures 12.8a, 12.8b, 12.8c and 12.8d)
13. The level areas of the building and its outdoor areas must be safe, sufficiently spaced and fit for purpose. The sides of the staircase and landing must be provided with an elevation to prevent slipping over the edge if the gap between the landing and the handrail or wall can accommodate a cube with a width of 50 mm. The side kerb should be raised at least 50 mm high.
14. An intermediate landing of at least 2,000 mm in length is always required for ramps with a height difference of more than 500 mm or ramps with a length of more than 6,000 mm. In other words, after each maximum 500 mm high rise, a 2,000 mm long intermediate landing is always required. (See figures 12.8a, 12.8b, 12.8c and 12.8d)
15. The inclined sections of the ramp should be straight and the turning should only take place at the intermediate landings. A curved ramp is quite demanding for wheelchair or a wheeled walker user, as in addition to the effort caused by the difference in elevation, it should also be possible to direct the movement according to the curve.
16. The ramp must start directly from the landing and end on landing without a difference in elevation. A difference in level of even a few centimetres at the starting or ending point of a ramp makes it difficult to use the ramp with wheeled aids. The ramp cannot start directly from the door without a landing. The inclination of the landing must not exceed two (2) per cent (1:50) due to water dissipation, for example. (See figures 12.8a, 12.8b, 12.8c and 12.8d)
17. The surface of the ramp must be flat and hard, the surface must reduce rolling resistance and facilitate the movement of the assistive device. The ramp must not be slippery even when wet so that it is possible to rise and descend safely.
18. If the ramp is implemented as a steel grating structure, the hole/mesh size of the grating may not exceed 11 mm x 33 mm or 17 mm x 75 mm. The grating should also be toothed.
19. The positioning (direction of perforation) of the gratings is always transverse to the door/ direction of travel. (See figure 8e)
20. The surface of the landings above and below the ramp should also be smooth and hard, as a pit can easily form in front of a ramp that starts from a sand surface, thus preventing wheelchair access to the ramp, for example.
21. Ramps and stairs must be visible to persons with reduced mobility and functional impairment.
22. It is recommended that the starting and ending points of stairs are marked with a separate warning/attention area if the passage leads directly to the stairs, in which case the length of the warning area is ≥ 1,200 mm.
23. The purpose of the protective edging on the ramp is to prevent the wheels of a wheelchair or other wheeled aid from derailing over the edge of the ramp. To the extent that the ramp is limited to a fixed structure, such as a wall or masonry, no protective edging is required. (See figure 12.8f)

Inclinations of ramps

LASKUKAAVA KALTEVUUKSIA VARTEN:

Korkoero (cm) ÷ Nousukulma (%) = Tarvittavan luiskan pituus

esim. 7 cm : 5 % = 1,4 m = 140 cm

esim. 7 cm : 8 % = 0,875 m = 87,5 cm

KALTEVUUDET PROSENTTEINA JA ASTEINA:

Suhdeluku	Prosentit %	Asteet °
1:50	2%	1,78°
1:20	5%	2,86°
1:12,5	8%	4,57°

LASKUSKAAVA PROSENTTIEN JA ASTEIDEN VÄLILLE:

tan (Asteet °) = Prosentit %

esim. tan (45°) = 1 = 100 %

esim. tan (2,86°) = 1 = 5 %

$\tan^{-1}$ (Prosentit %) = Asteet °

esim. $\tan^{-1}$ (100%) = $\tan^{-1}$ (100/100) = 45°

esim. $\tan^{-1}$ (5%) = $\tan^{-1}$ (5/100) = 2,86°

KALTEVUUSTAULUKKO / KATTOKALTEVUUKSIEN ERI ILMAISUTAPOJA:

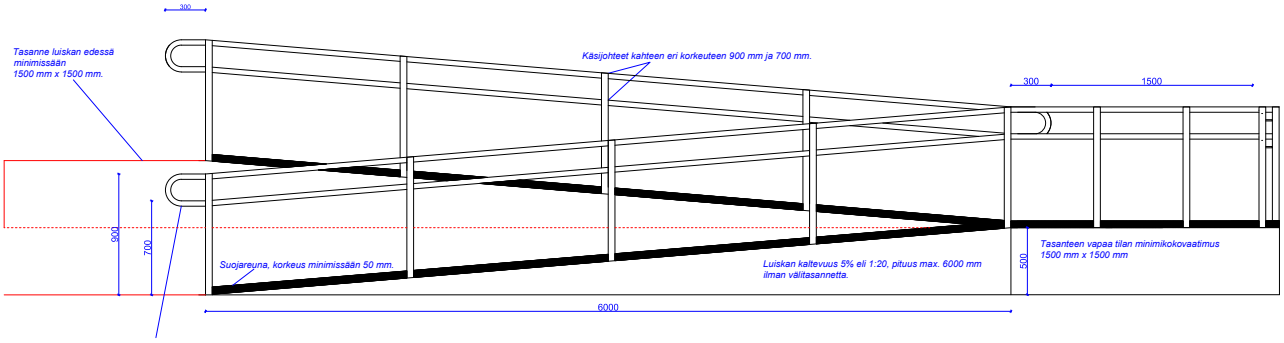
Kaltevuus suhde(aste)	Kaltevuus asteissa	Kaltevuus prosentteina
1:1	45,00°	100,0 %
1:1,5	33,69°	66,7 %
1:2	26,57°	50,0 %
1:2,5	21,80°	40,0 %
1:3	18,43°	33,3 %
1:3,5	15,95°	28,6 %
1:4	14,04°	25,0 %
1:4,5	12,53°	22,2 %
1:5	11,31°	20,0 %
1:6	9,46°	16,7 %
1:7	8,13°	14,3 %
1:8	7,13°	12,5 %
1:9	6,34°	11,1 %
1:10	5,71°	10,0 %
1:16	3,58°	6,3 %
1:20	2,86°	5,0 %
1:40	1,43°	2,5 %
1:50	1,15°	2,0 %
1:60	0,95°	1,7 %
1:80	0,72°	1,3 %
1:100	0,57°	1,0 %

LUISKA U-MALLI

Luiskan kaltevuus saa olla ulkotilassa yli 5% vain, jos se voidaan pitää sisätilaan verrattavassa kunnossa.Jos korkeusero on enintään 1000 mm, luiskan kaltevuus saa kuitenkin olla enintään 8%. Tällöin yhtäjaksoisen luiskan korkeusero saa olla enintään 500 mm ja pituus enintään 6000 mm. Jokaisen K500 mm/P6000 mm nousun jälkeen on oltava vähintään 2000 mm pitkä vaakasuora tasanne.

Ulkotilassa yli 5 %:n luiska voidaan pitää sisätilaan verrattavassa kunnossa esimerkiksi, kun se on katettu tai sulanapidetty/lämmitetty.

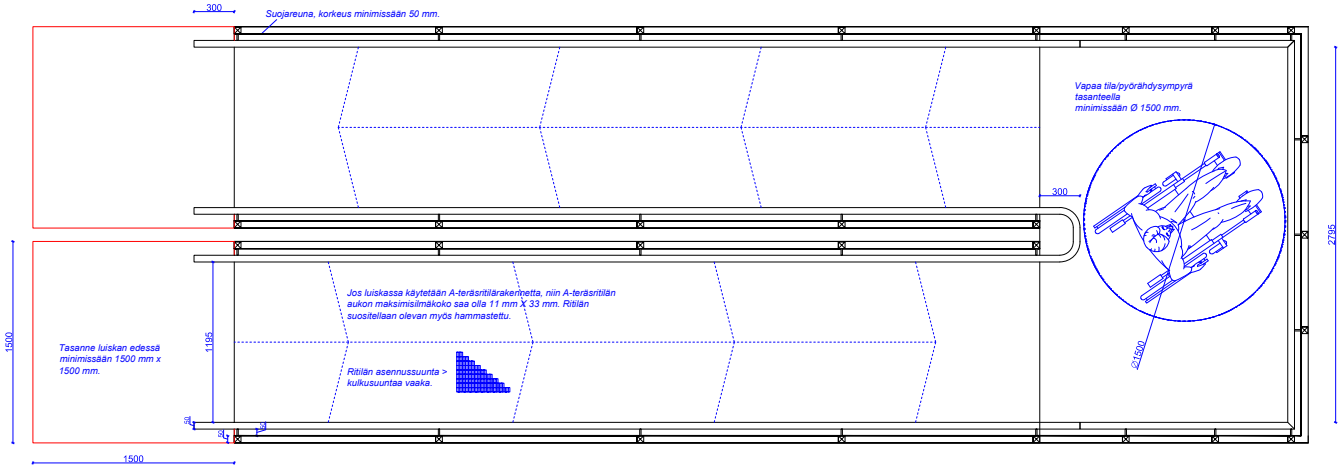
8 %:n luiska ei sovellu yli metrin korkeuseroille pyörätuolilla siirtymisen raskauden vuoksi. Kuitenkin myös loivempi luiska, jonka kaltevuus on 5 %, rasittaa pitkällä matkalla käyttäjää ja se pitää varustaa välitasantein.



Luiskassa on oltava käsijohde koko pituudella ja molemmilla puolilla syöksyä. Käsijohteet asennetaan kahteen eri tasoon (900 mm ja 700 mm) eri käyttäjäryhmät huomioon ottaen.

Käsijohteen ja sen päätteen on oltava turvallinen ja sen on jatkuttava vähintään 300 mm syöksyn alkamis- ja loppumiskohdan ohi. Johteen on jatkuttava yhtenäisenä välitasanteella. Yli 2,4 metrin levyisissä portaissa tai luiskissa käsijohteen on sijoituttava myös jakamaan väylä enintään mainitun mitan levyisiin osiin.

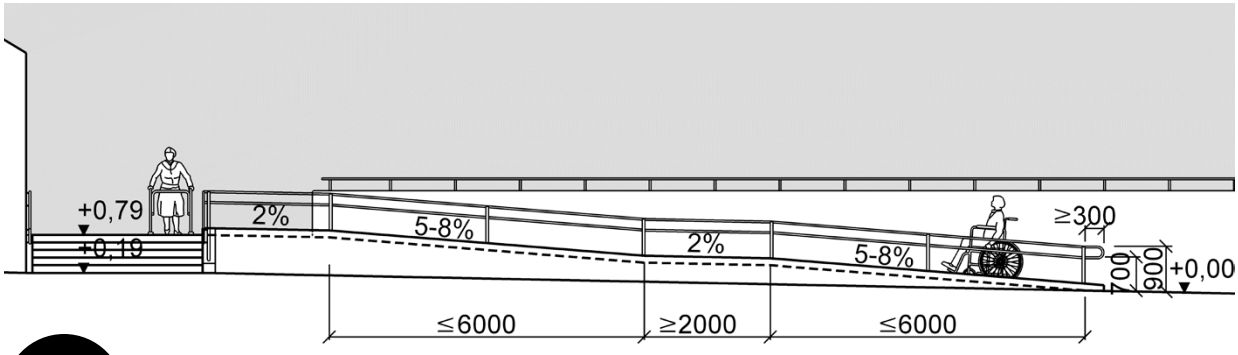
Käsijohteiden alkamis-ja loppumiskohdat (min. 300 mm) suositellaan aina käännettäviksi vaakatasoon, että käsijohdetta käyttävä henkilö pystyy havainnoimaan portaiden aloitus-ja loppumiskohdan ylä- ja alatasanteilla.



12.8a

Figure 12.8a Example of ramp dimensioning. (City of Turku, Accessibility Coordinator)

Download the ramp dwg file from the City of Turku's data bank M-files (in Finnish) ▶



12.8b

Figure 12.8b Example of ramp dimensions, cross-section. (SuRaKu)

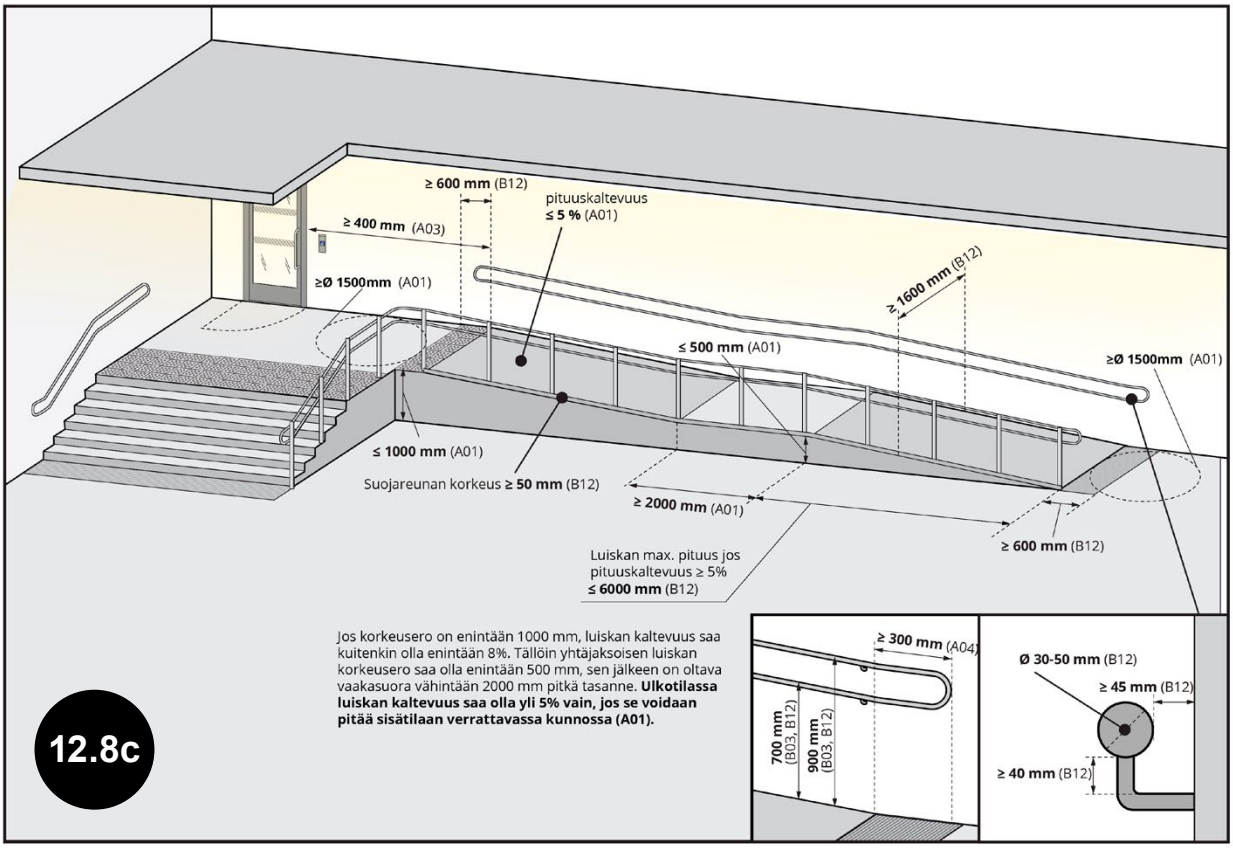


Figure 12.8c Example of the upper and lower landing of the ramp in front of the external door. Take into account the position of the clear space, i.e. the turning circle, on the upper landing of the ramp outside the door leaf. (Sujuva.info). The figure also takes into account other elements required for correctly implemented stairs and ramps.

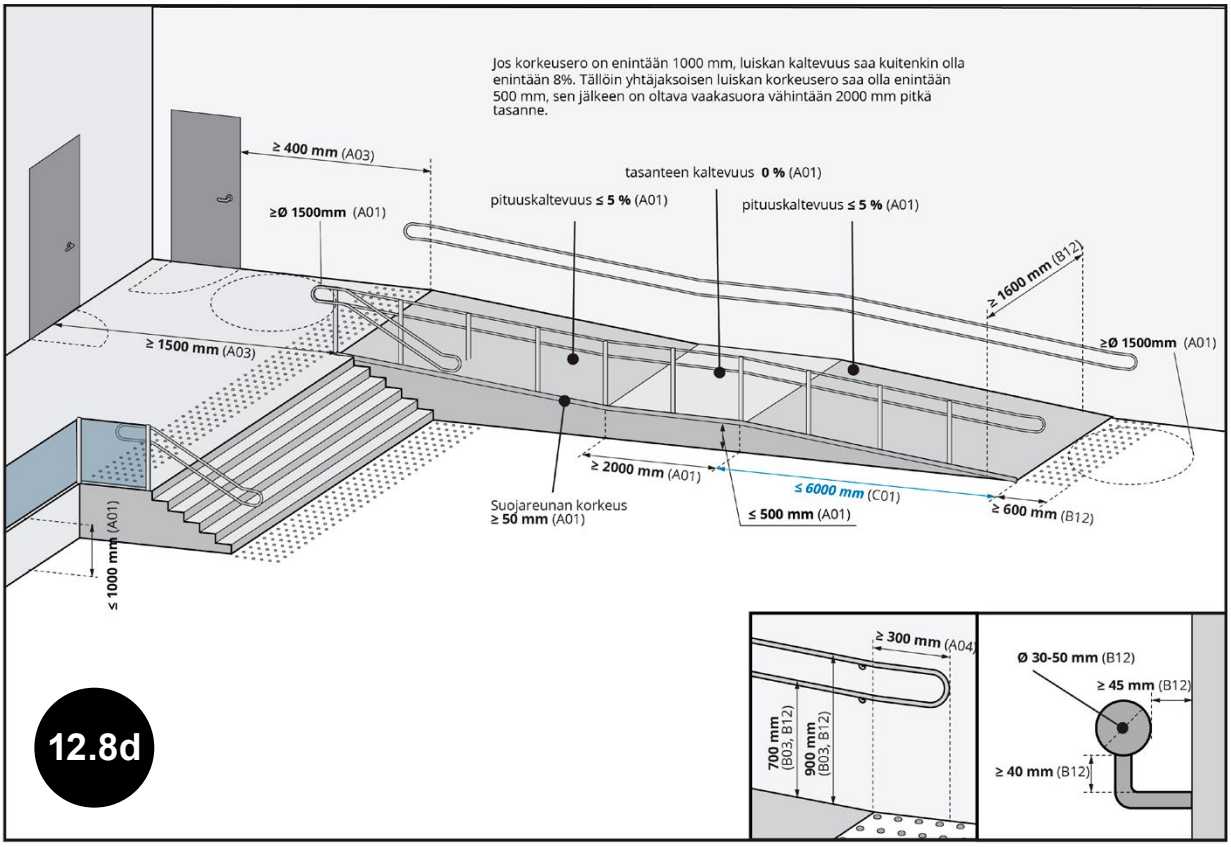
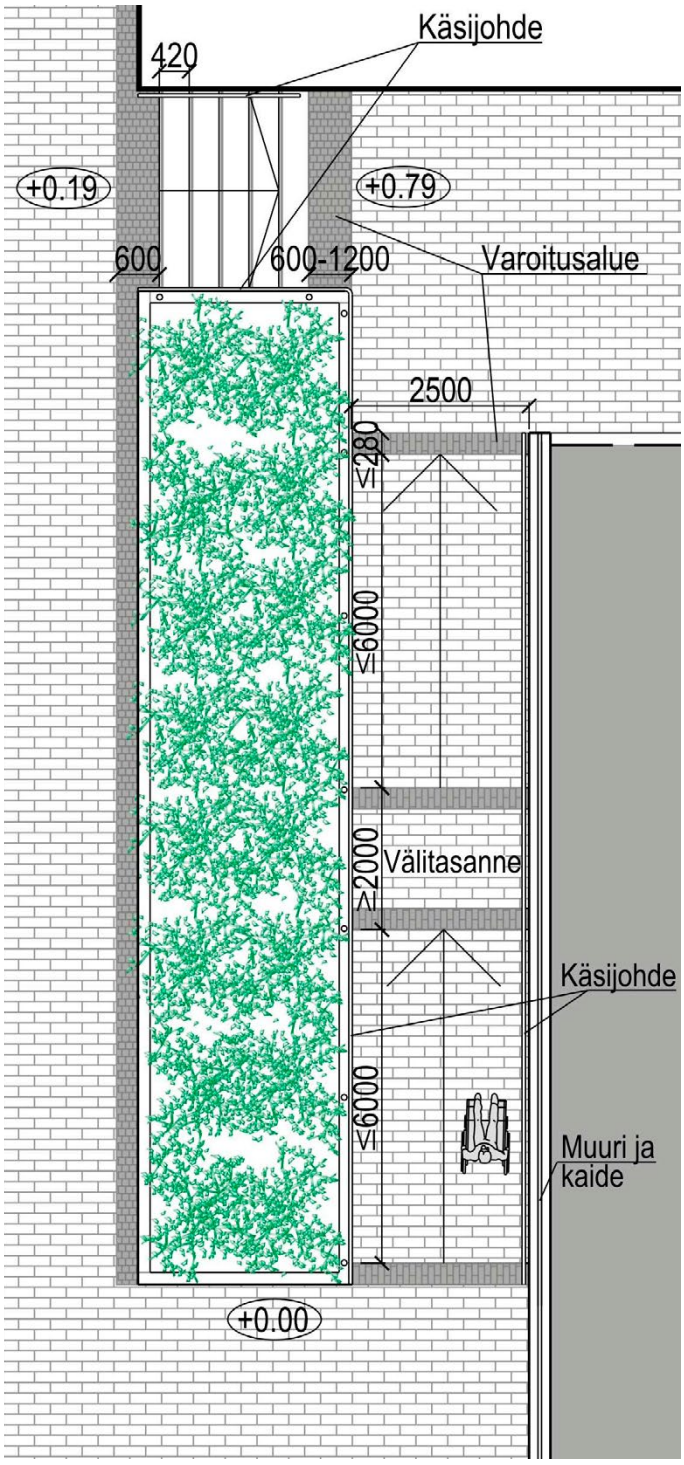
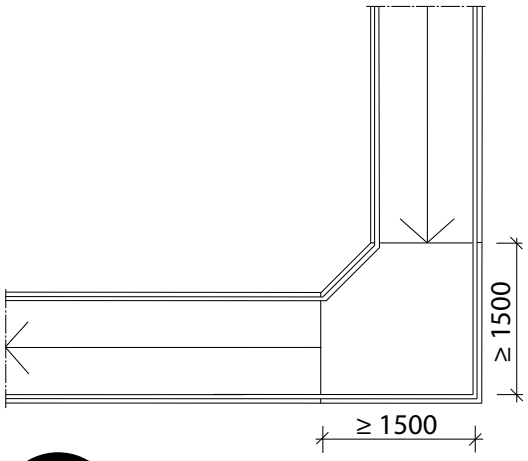


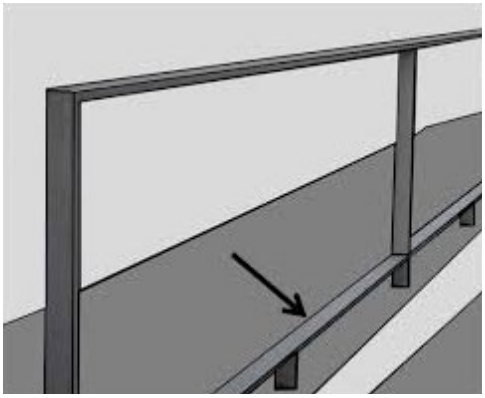
Figure 12.8d Example of the upper and lower landing of the ramp in front of the door. Take into account the position of the clear space, i.e. the turning circle, on the upper and lower landing of the ramp, outside the door leaf. (Sujuva.info). The figure also takes into account other elements required for correctly implemented stairs and ramps.



12.8e



12.8f



12.8g

Figure 12.8e Example of ramp dimensions, floor plan. (SuRaKu)

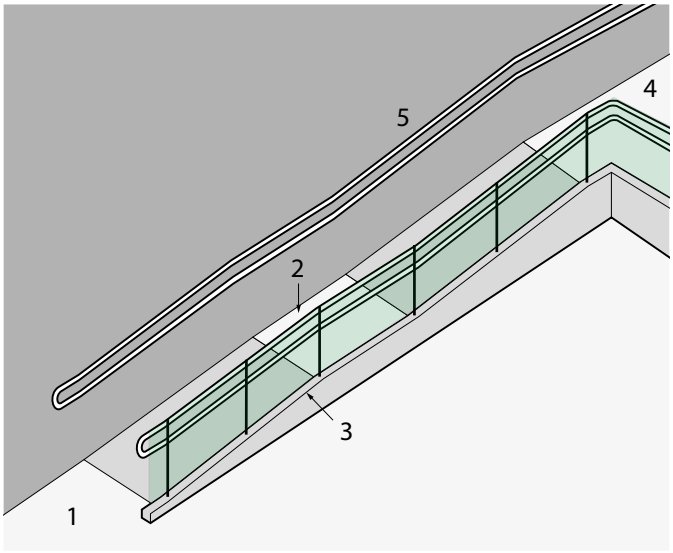
Figure 12.8f Example Dimensioning of the intermediate landing of a turnng ramp in which a wheelchair can turn. When the ramp turns 90 degrees, a clearance is made on the landing. (clear space of at least 1,500 mm in diameter). (Finnish Association of People with Disabilities and RT 103027 Portaat ja luiskat [RT 103027 Stairs and ramps])

Figure 12.8g Example of the protective edging of the ramp. The protective edging must always be at least 50 mm high (Ministry of the Environment guidelines on the accessibility of buildings)



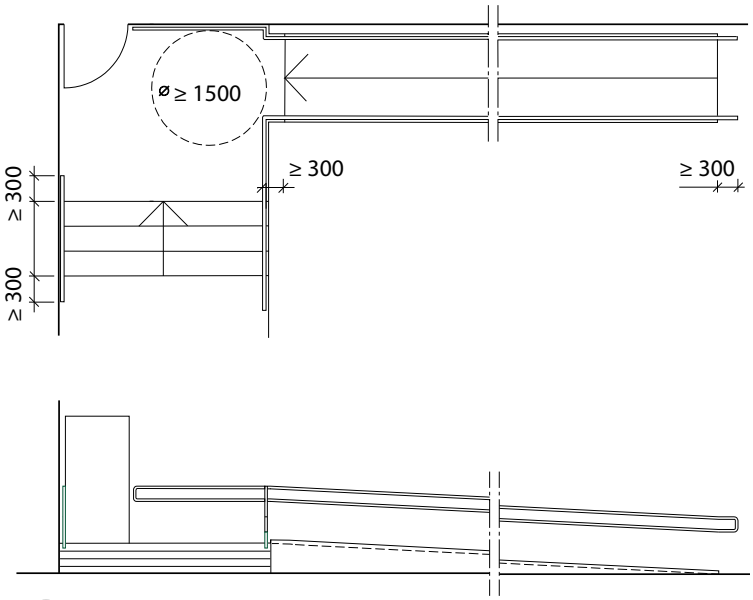
12.8h

Figure 12.8h Good solution: [1] The long ramp has an intermediate landing. An intermediate landing with a maximum inclination of two (2) per cent is required for ramps with a height difference of more than 500 mm or ramp length of more than 6,000 mm. (Turku Teacher Training School, Turku)



12.8i

Figure 12.8i Names of parts of the ramp: 1. lower landing, 2. Intermediate landing, 3. protective edging, 4. upper landing, 5. handrail. (RT 103027 Portaat ja luiskat [RT 103027 Stairs and ramps])



12.8j

Figure 12.8j Example of the upper landing of the ramp in front of the exterior door. Note the location of the clear space, i.e. the turning circle, on the upper landing of the ramp, outside the door leaf. (RT 103027 Portaat ja luiskat [RT 103027 Stairs and ramps])

12.9 Railings and handrails



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Legislation

Government Decree on the Accessibility of Buildings (241/2017)

Section 6, subsection 1 Other spaces in the building
The premises of a building other than a residential building and the common areas of a residential building, as well as their fixtures and fittings, must be suitable for persons with reduced mobility and functional impairment.

Section 8 Connection between levels in a non-residential building
If the difference in elevation in a building other than a residential building is smaller than the floor height of the building, in addition to the stairs, the connection between the floors must be provided, in addition to the stairs, either by a ramp as provided for in section 2, subsection 2 or by a lift as provided for in section 7, subsection 3 or by any other permanently installed device suitable for lifting persons using a wheelchair and a wheeled walker. If the difference in elevation is equal to or greater than the floor height, access between the levels must be provided by means of a lift in accordance with section 7, subsection 3.

Decree of the Ministry of the Environment on the Safety of Use of Buildings (1007/2017)

Section 7 Railing

The building or its surroundings must have a handrail when the falling height exceeds half a metre and there is a risk of falling or stumbling, and the nature of the activities does not require the absence of a handrail. The handrail must be safe and withstand the loads it will need to bear. The rail can be a guard rail or an open railing.

A guard rail must be used for a difference in elevation of more than 0.7 m in the areas to which children have access. The protective part of the handrail must extend at least 0.7 m above the surface of the landing or step. There must be no horizontal structures or patterns that make climbing possible. An open railing can be used in places to which children do not have access or where there is no falling hazard.

Instead of a handrail, another arrangement may be used to prevent a fall or otherwise achieve the required level of safety where the difference in height does not exceed one metre.

The total height of the railing must be one metre when the fall height does not exceed six metres. The total height of the rail above this must be 1.2 metres. A one-metre railing is sufficient for a balcony serving up to one apartment regardless of the falling height.

However, in indoor areas, the railing height may be at least 0.9 metres when the falling height is less than 3 metres.

Section 8 Railing and staircase structure

The railing and stair must be able to withstand the loads required for the purpose of the space throughout the lifetime of the structure.

If the protective part of a railing has only vertical structures, a cube with a maximum edge length of 100 millimetres may pass through its openings. A cube with a maximum edge length of 30 millimetres may pass through the openings of any other protective part. However, the horizontal gap of the protective part must not exceed 10 millimetres.

A cube with a maximum edge length of 200 millimetres may pass between the top edge of the railing and the protective part. A cube of no more than 50 millimetres may pass between the lower edge of the protective part of the railing and the upper surface or edge of the landing or step.

A cube of no more than 100 mm may fit between the steps.

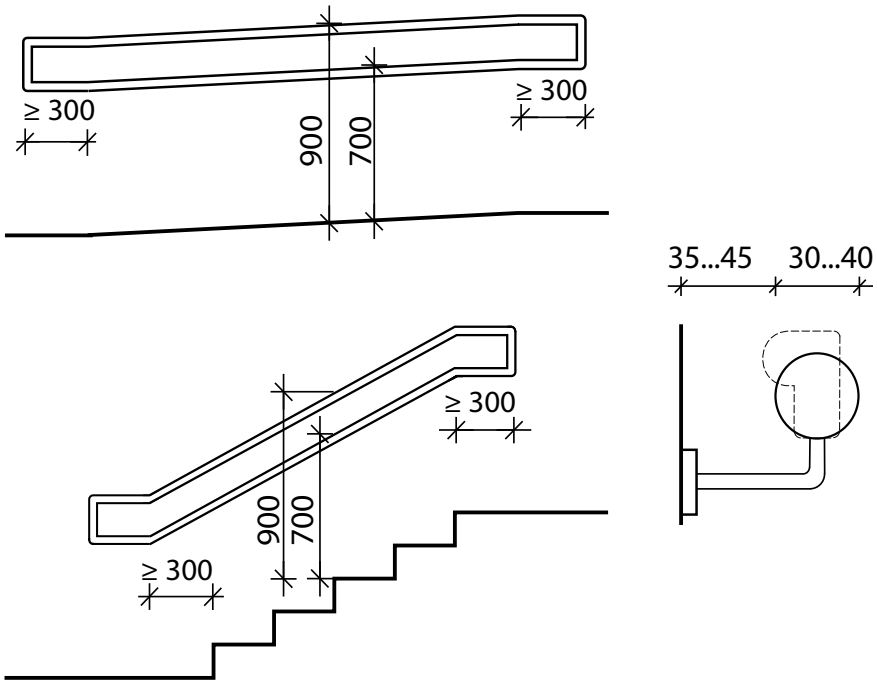
Section 9 Handrail

The stair and ramp must be equipped with a handrail along the entire length and on both sides of the flight. Where necessary, two handrails must be provided, one above the other, to accommodate children and wheelchair users. The handle must have a firm grip. The handrail and its end must be safe and must continue past the starting and ending point of the flight. The handrail must continue uninterrupted on the middle landing.

In public outdoor and indoor spaces, commercial spaces and service spaces, the handrail must continue at least 300 millimetres past the starting and ending point of the flight. For stairs or ramps of more than 2.4 metres in width in assembly areas, the handrail must also be positioned to divide the passage into sections of up to that width.

Accessibility recommendations of the City of Turku

1. **It is important to note that the railing is different from the handrail.**
2. A railing is constructed whenever there is a risk of falling or misleading. A rail must be constructed when the fall height exceeds at least 500 mm. The railing must be safe and suitable for its purpose. The rail can be a guard rail or an open railing. However, the height of the railing is always determined by the height of the fall and the purpose of the space.
3. Only for residential staircases with a railing height of 1,000 mm or less, the top part of the railing can be designed as a handrail, in which case a separate handrail at a height of 900 mm is not required. The height of the handrail at 700 mm must be taken into account, as children may not use the lift alone.
4. A handrail is a rod-like structure mounted on top of or on the side of a railing that can be held and supported while walking. The handrail controls the passage and can be used for support if necessary. A handrail is always mandatory and building regulations require a handrail on both sides of the staircase.
5. When installing handrails, sufficient loads must be ensured during construction/repair/installation. Ensure adequate reinforcement of the handrails to the wall.
6. Considering different user groups, i.e. users of different ages and sizes, handrails are always recommended to be installed at two different heights, the lower at 700 mm (non-accessible, children and the elderly) and the upper at 900 mm. It is recommended to bend the ends downwards or connect them together. (See figures 12.9a, 12.9d and 12.9e)
7. Handrails must be located on both sides of stairs and ramps, including the fixed wall side, and must extend at least 300 mm beyond the starting and ending point of the stair or ramp. The positioning of the handrail on either side of the staircase or ramp entry is intended to take into account the handedness of the walker and the safety of the passage.
8. The starting and ending points of handrails (minimum of 300 mm) are always recommended to be turned horizontally so that the person using the handrail can identify the starting and ending points of the stairs at the upper and lower landings.
9. In wide staircases (meeting space), a railing and handrails on both sides and two-level handrails must run down the middle of the staircase at 2,400 mm intervals.
10. Handrails must stand out clearly from their background and be uninterrupted. (See figures 12.9b and 12.9c)
11. In public spaces, handrails must continue uniformly at landings. (See figure 12.9c)
12. If necessary, it must be ensured that handrails are also installed in the accessible toilet and accessible shower room.
13. The handrail is attached to the underside so that the hand can slide freely. A good grip is provided by a round handrail with a diameter of 30 to 40 millimetres. (See figures 12.9a and 12.9e)
14. A handrail or handhold to facilitate support is installed on all stairs and ramps, even when the difference in elevation is only one step high.



12.9a

Figure 12.9a Staircase dimensions. The railing must continue at least 300 mm above the beginning and end of the stairs. The handrail should be at two heights (700 mm and 900 mm). (RT 103027 Portaat ja luiskat [RT 103027 Stairs and ramps])

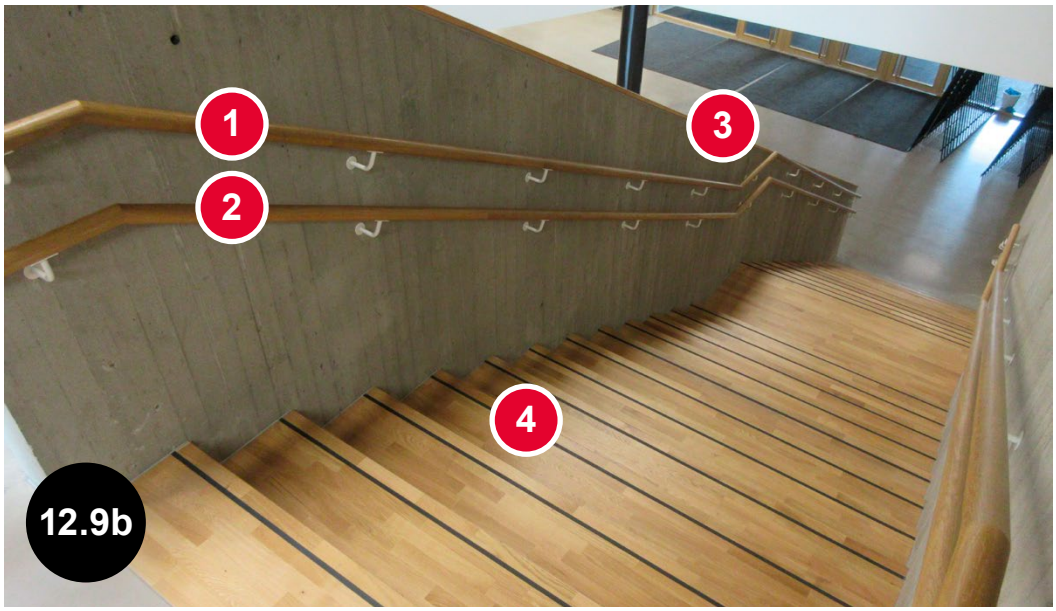
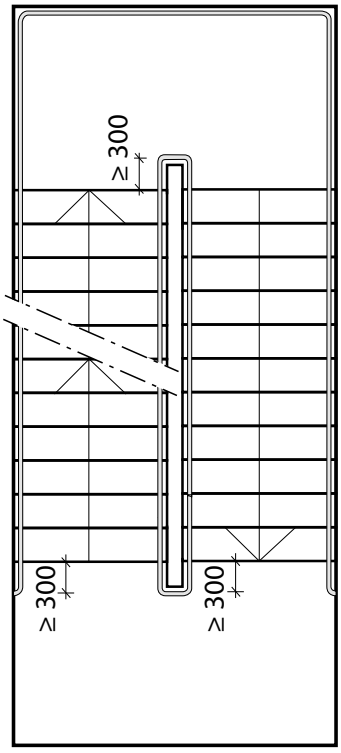


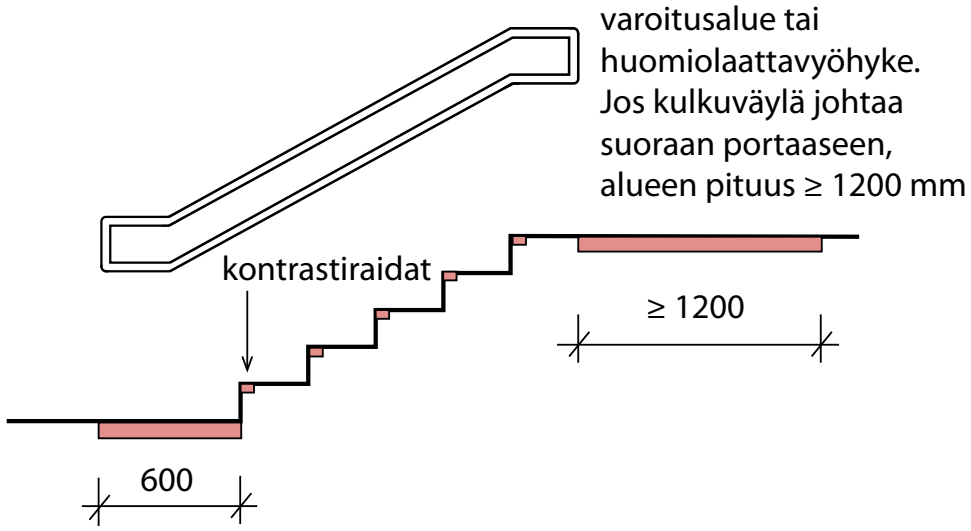
Figure 12.9b Good solution: [1.2] The handrails are at two heights and [3] are uninterrupted even on the intermediate landing. Note [4] The stairs also have a contrasting strip. (Syvälahti multipurpose centre, Turku)

Julkisten ulko- ja sisätilojen
sekä liike- ja palvelutilojen
sisäportaat



12.9c

Figure 12.9c Good solution: In indoor and outdoor public areas, the handrail always extends at least 300 mm beyond the starting and ending point of the flight of stairs or ramp. Handrails must continue to be uniform on landings. Handrails must stand out clearly from their background and be uninterrupted. (RT-kortisto: RT 103027 Portaat ja luiskat [RT Card: RT 103027 Stairs and ramps])



12.9d

Figure 12.9d Handrails must stand out clearly from their background and be uninterrupted. It is recommended that the starting and ending points of stairs are marked with a separate warning/attention area if the passage leads directly to the stairs, in which case the length of the warning area is ≥ 1,200 mm. However, contrasting strips and lighting must always be taken into account and installed to facilitate perception of the staircase. (RT-kortisto: RT 103027 Portaat ja luiskat [RT Card: RT 103027 Stairs and ramps])

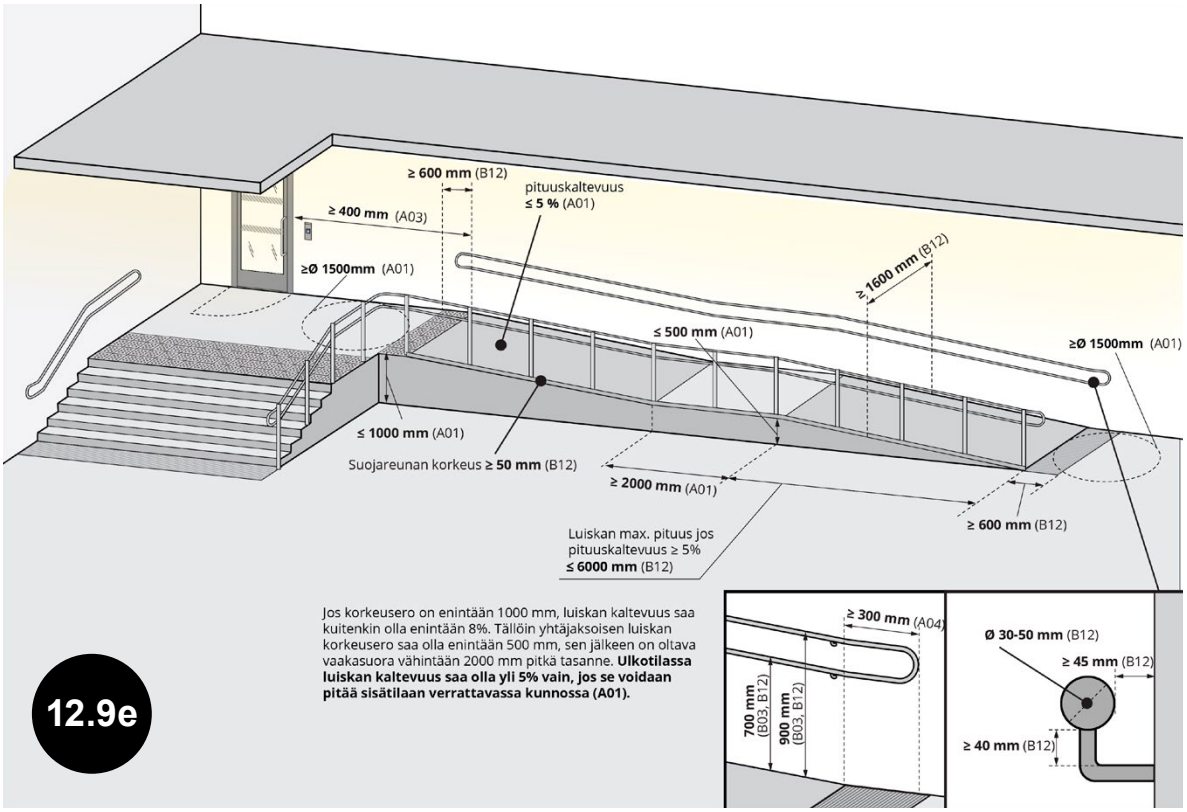


Figure 12.9e Example of the good implementation and dimensioning of handrails for ramps and stairs **outdoors.** (Sujuva.info) The figure also takes into account other elements required for correctly implemented stairs and ramps.

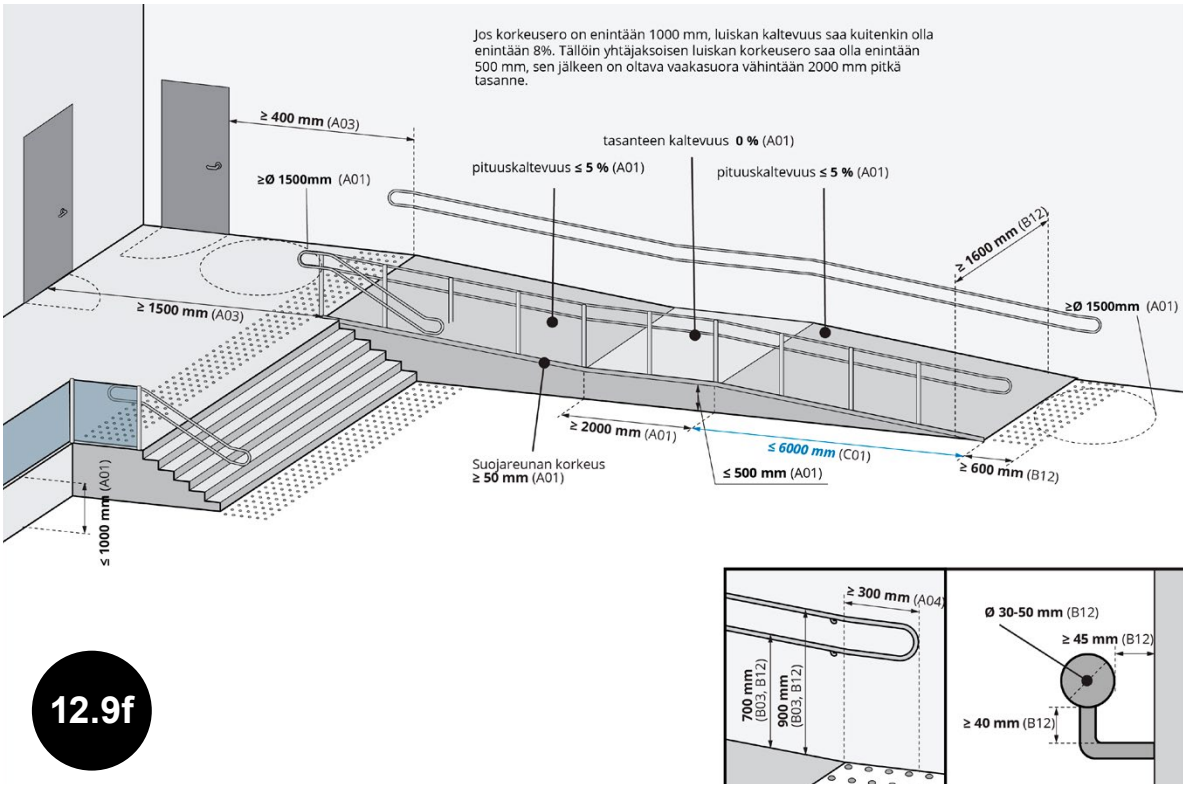


Figure 12.9f Example of good implementation and dimensioning of handrails for ramps and stairs **indoors**. (Sujuva.info) The figure also takes into account other elements required for correctly implemented stairs and ramps.

13 Toilets



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Legislation

Government Decree on the Accessibility of Buildings (241/2017)

Section 4 Doors, subsections 1, 3 and 4
The clear width of a door and opening in a passage within a building, a door leading from a staircase to an apartment and a door to a space referred to in section 9, subsection 2 and section 10 must be at least 850 mm. The dimensioning of the external door and other exit doors of a building is regulated by in a decree issued pursuant to section 117 b, subsection 3 of the Land Use and Building Act.

There must be no difference in elevation or threshold at the door unless necessary for sound, humidity or other similar conditions. In this case, the threshold or difference in elevation must not be more than 20 mm high and must be shaped so that it can be easily crossed by wheelchairs and wheeled walkers. The difference in elevation at an apartment-specific exterior door may exceed 20 mm outside the door if the difference in elevation can be reasonably eliminated by outfitting the exterior space. The provisions laid down in subsections 2 and 3 above apply only to the entrance floor in a single-family house.

The exterior door of a building and the door to the space serving the use of a residential building must function in such a way that it can be easily opened by a person with reduced mobility or functional impairment.

CONTINUE ▼

Section 6 Other Other spaces in the building, subsection 1
The premises of a building other than a residential building and the common areas of a residential building, as well as their fixtures and fittings, must be suitable for persons with reduced mobility and functional impairment.

Section 9 Toilet and washing facilities in residential buildings
In a residential building in which a lift is required in addition to stairs in accordance with section 7, each apartment must have at least one toilet and washroom with a clear space of at least 1,300 millimetres in diameter. Fixed furniture must be positioned in relation to the clear space so that it can be used by a person with reduced mobility. Such toilet and washroom facilities must be equipped to accommodate persons with reduced mobility.

In an apartment intended for service housing or sheltered housing for persons with reduced mobility or functional impairments, there must be at least one toilet and washroom with a clear space of at least 1,500 mm in diameter. Fixed furniture must be positioned in relation to the clear space so that it can be used by a person with reduced mobility. In addition, there must be at least 800 mm of clear space on one side of the toilet seat. Such toilet and washroom facilities must be equipped to accommodate persons with reduced mobility.

The provision in subsection 1 above does not apply to a building that only contains apartments intended for persons entitled to student financial aid under the Student Financial Aid Act (65/1994) or for persons aged 18 to 29. In such a building, at least five per cent of the apartments, however at least one apartment, must have one toilet and washeoom in accordance with the provisions laid down in subsection 2. In addition and in accordance with section 10, the public spaces of such a building must have a toilet, which can be accessed from the internal passageway of the building.

In a residential building, the shared sauna, washroom and dressing room must be suitable for persons with reduced mobility and functional impairment. The toilet and washing room connected to the space must comply with the provisions laid down in subsection 2.

Section 10 Toilet space in non-residential buildings
A building other than a residential building must have an adequate number of appropriately located toilets suitable for wheelchair and wheeled walker users, taking into account the purpose of the building, its function and the length of access routes. The toilet facilities referred to above must be located in such a way that the gender of the user and the assistant does not affect the possibility of using them. The toilet facilities must be marked with the symbol for a person with reduced mobility.

The toilet referred to in subsection 1 above must have a clear space that is at least 1,500 mm in diameter. Fixed furniture must be positioned in relation to the clear space so that it can be used by a person with reduced mobility. In addition, there must be at least 800 mm of clear space on both sides of the toilet seat. Alternatively, two toilets may be placed close together, one with at least 800 mm of clear space on the left and the other has the same amount of clear space on the right side of the toilet seat. The toilet seat must be located 200–300 mm from the rear wall.

CONTINUE ▼

Toilet facilities must be adapted for persons with reduced mobility. If the building has a monitoring system, there must be a safety alarm connection from the toilet to the monitoring system.

Section 13 Accommodation facilities
A hotel building and other similar accommodation buildings must have at least five (5) per cent of the accommodation spaces, but at least one accommodation space, suitable for persons with reduced mobility and functional impairments and their assistants. Such accommodation must have a toilet and washing facility in accordance with section 9. At least half of these toilets and washrooms, but at least one, must be adapted for persons with reduced mobility and the others must be so adapted where necessary.

Decree of the Ministry of the Environment on the Safety of Use of Buildings (1007/2017)

Section 10 Brightness and lighting
The building and its surroundings must be illuminated in such a way as to ensure safe operation and maintenance. Lighting must not cause glare that could compromise safety.

The surfaces and lighting of the building must be such that the differences in brightness necessary for detection are achieved.

Section 12 Floor surfaces
The floor surface must be flat and made of a material suitable for the intended use of the space, so as to minimise the risk of stumbling and slipping.

Section 13 Doors and gates
The door and gate of a building must be easily accessible even when the conditions change.

The door, gate and boom must operate safely so as to avoid any risk of injury. They must be fitted with appropriate safety equipment.

Other features of doors are governed by the Government Decree on the Accessibility of Buildings (241/2017) and the Ministry of the Environment Decree on the Safety of Fire in Buildings (848/2017).

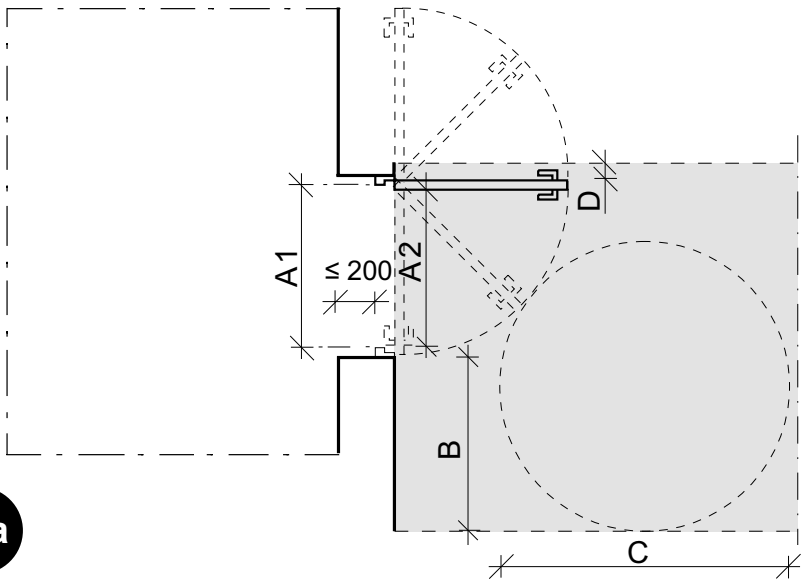
Section 14 Access height, subsection 1
The minimum height of the passage to the room is 2,100 mm. At the doorway, the height can be reduced by the height of the necessary frames and thresholds.

Section 15 Safety equipment, subsection 1
The building must be equipped with appropriate and durable security solutions and equipment suitable for their intended use.

Accessibility recommendations of the City of Turku

Entrance

1. Toilet facilities for wheelchair or wheeled walker users should be located on the same floor as the functional space and have an unobstructed passage to the toilet. It must be easily perceived, flat and slip-resistant and of reasonable length compared to other passages to the toilet facilities. With direct access from a lobby, corridor or similar space, the location of the toilet is independent of the gender of the user and assistant. The doors are designed to be easy to open.
2. The number and location of toilet facilities depend on the purpose of the building and the number of users. For example, a larger number of users is prepared for in meeting spaces at the same time as in service or office facilities. If there are several toilets suitable for a person with reduced mobility in connection with the same functional space, some of them can be placed in toilet room groups that correspond to the genders.
3. According to section 4 of the Accessibility Decree, the clear width of the toilet door must be at least 850 mm. In the Turku area, a minimum door size of M10 with a clear space of 925 mm in width is generally used at the entrance to an accessible toilet area.
4. In the entrance to the accessible toilet, it is advisable to take into account the need for clear space required for wheelchair use and the usability of the door from the wheelchair. The minimum 1,500 mm x 1,500 mm flat clear space required in front of the accessible toilet door must never be located within the opening angle/opening area of the door leaf. Clear space means clear space from all obstacles up to a height of at least 2,000 mm. (See figure 13a)



13a

Figure 13a Space requirement for opening a door from a wheelchair (RT 103141 Accessible environment for moving and working):

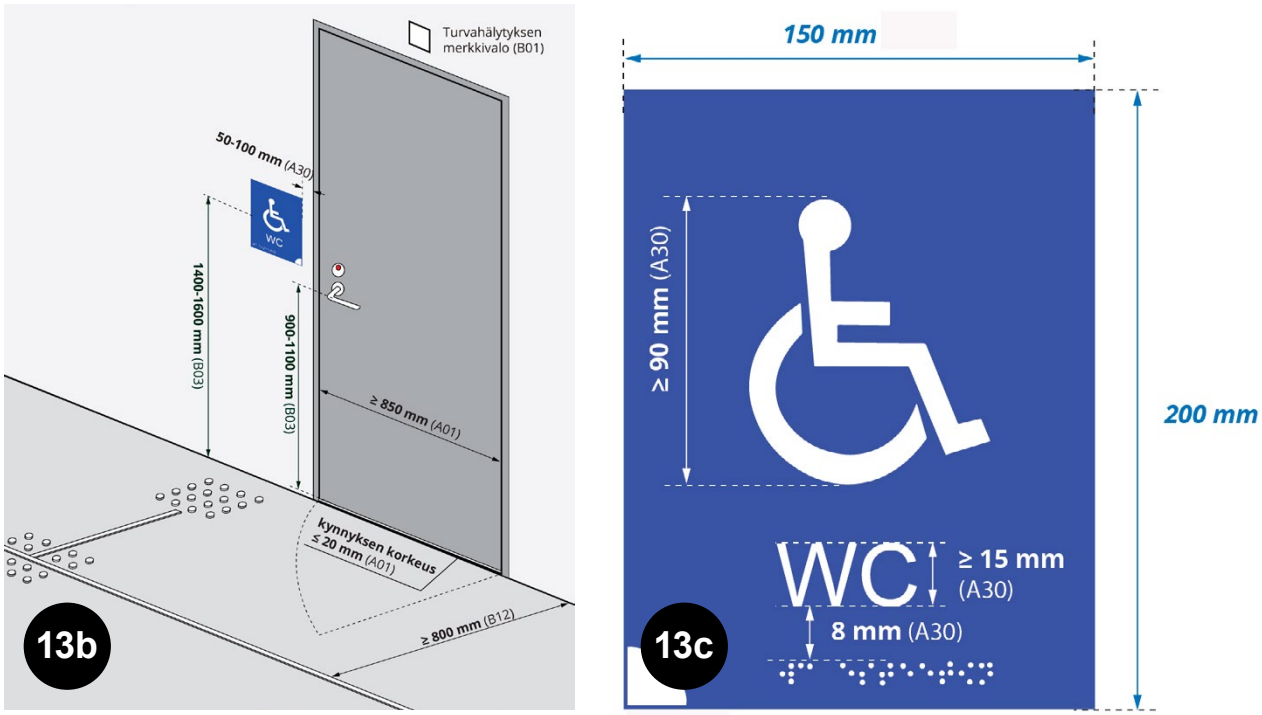
A1 clear width of door = clear width of door frame, door opens 180°

A2 clear width of door = clear width of door frame – thickness of door, door opens 90°
C = space required by door opener D = door opener

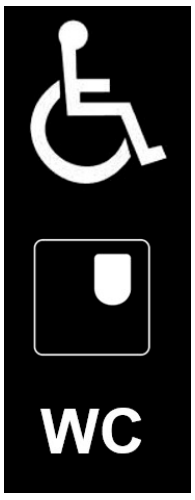
It should be noted that the distance from the opening side of the access door to the inside corner of the wall or other fixed barrier (B) outside the door should be at least 400 mm.

5. An accessible toilet must be marked visibly and clearly so that it is easy to find. The toilet is marked with the symbol of a person with reduced mobility, i.e. the international wheelchair symbol, which has a clear contrast of colour and is also identifiable by touch. The handedness of the toilet facilities, i.e. which side of the toilet seat is clear for wheelchair users, should be indicated on the signs.

6. High-contrast pictorial, ISA-compliant, tactile sign, including Braille, is installed on the opening side of the door on the wall at a height of 1,400 mm (centre of the sign). This makes it easy to find the sign, as the guide dog guides to the door handle. In addition, the sign on the wall can be felt in peace without the sudden opening of the door, as would happen if the sign were attached to the door. If the toilet is only accessible from one side, this must also be indicated on the sign. (See figures 13b, 13c, 13d, 13m, 13q and 13r).



Figures 13b and 13c The accessible toilet sign is always placed on the opening side of the door. Accessible signs are always implemented in an embossed form, and the minimum dimensions of the sign are shown in the figure. Braille option. (Sujuva.info)



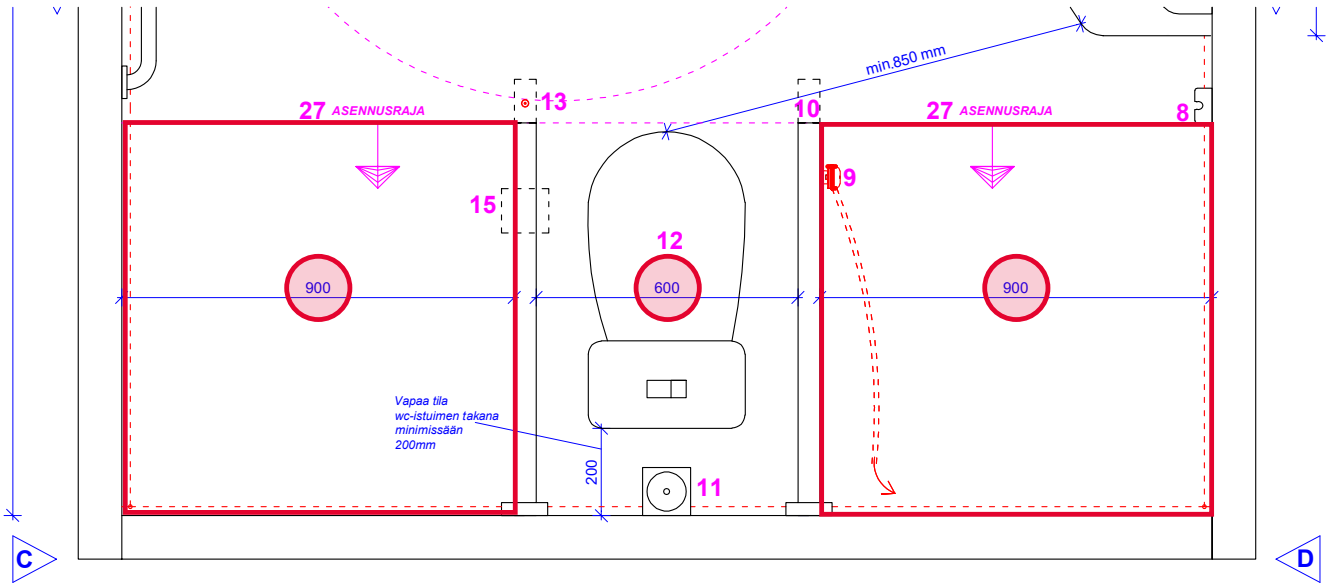
13d

Figure 13d An accessible toilet sign for an accessible toilet with a toilet seat that has at least 800 millimetres of clear space on the left side. The sign is always implemented in relief. If the clear space in the accessible toilet is on the right side of the toilet seat, the clear space is shown as a mirror image. (Accessibility Coordinator)

7. An accessible door has no threshold and no other difference in elevation. If a threshold has to be made for the door, it must not be more than 20 mm high and must be bevelled, flexible, ascending or collapsing, so that it can be crossed by wheeled assistive devices. (See figure 13k)
8. The door to the accessible toilet is equipped with a lock that is easy to unlock and lock with just one hand. The lock can be opened from the outside to assist the user, if necessary.
9. The structure of the door must be such that it is possible to attach a puller to it to facilitate the closing of the door when entering the space with a wheelchair. The horizontal puller that is at least 600 mm long must be attached to a height of 800 mm starting from the floor surface and the hinge side. The installation of the puller starts about 50 mm from the hinge edge of the door. (See figure 13n)
10. An electrical door pump is not used for accessible doors. The door opening force must not exceed 10 Newtons (approximately 1 kg) even when the automatic control is not available.
11. The opening button for electrically opening and locking doors is placed on the opening side of the door at a height of 900 to 1,100 mm above the floor. The button is designed so that it can also be pressed with the elbow. (See figure 13l) The door should be equipped with a door opening system, which includes a separate opening button for the doors and a door hold sensor. The door hold sensor stops the movement of the opening door or reopens the closing door when an obstacle is detected. The finger protection of the hinge space must be taken into account. An automated door that is not equipped with a door hold sensor must remain open for at least 25 seconds to allow good passage in and out.
12. Elbow switches, which are easy-to-use impulse devices, are recommended as door openers. Alternatively, the use of a microwave switch as a door opener is recommended. The microwave switch does not need to be touched as it detects hand movement from a distance of up to 50 cm. The switch is ideal for use in, for example, hospitals and clean rooms where hygiene requirements are high. It is also suitable for persons with reduced mobility, as no force is required to operate the switch. Both options are suitable for side hung doors and sliding doors.

Status

1. **The installation wall of the washbasin must be at least 2,500 mm and the installation wall of the toilet seat must also be at least 2,500 mm.**
2. An accessible toilet should always be designed so that it can be used from two sides, i.e. there must be at least 900 mm of clear space on both sides of the toilet seat. This must be taken into account to ensure that a person with reduced mobility can place a wheelchair next to the toilet to allow lateral movement. Clear space means clear space from obstacles up to 2,000 mm above floor level. The measurement of the specified 900 mm of clear space is begun from the outer edge of the toilet seat support rail and focused on the nearest fixed point, i.e. the nearest wall/structure or other installation, e.g. a radiator or toilet paper holder.
3. All clear space measurements for accessible toilets are always performed with the hand supports in the lowered position. The measurement of the specified 900 mm of clear space is begun from the outer edge of the toilet seat support rail and focused on the nearest fixed point, i.e. the nearest wall/structure or other installation, e.g. a radiator or toilet paper holder. The clear space between the hand supports of the accessible toilet seat is at least 600 mm. In this case, the measurement of clear space is performed from the inner edge of the support rail to the inner edge of the other support rail.
4. If, for any reason, the accessible toilet is intended to be used to move from a wheelchair to a toilet from one side only, it must be so designed as to provide at least 900 mm of clear space for the wheelchair and a wheeled walker on the other side of the toilet from the outer edge of the support rail. If the toilet is designed to be one-sided, there must be another toilet near the toilet that can be used from the opposite side. The signs must show the handedness of the toilet. (See figures 13j and 13n)
5. If, for some reason, the accessible toilet is equipped with a separate shower and mixer, the clear space on the shower side of the toilet seat must be at least 900 mm wide from the outer edge of the support rail to the nearest fixed point, i.e. the nearest wall/structure or other installation, e.g. a radiator or a toilet paper holder. However, a minimum of 1,000 mm is recommended. (See figure 13o)



13e

Figure 13e Example floor plan of the dimensioning of an accessible toilet space at the wall against which the toilet seat is positioned. (City of Turku, Accessibility Coordinator)

No additional furniture, such as toilet paper holders, shelves, etc., may be installed in the clear space behind the toilet seat or its associated support handles. The clear space shall be defined up to a height of 2,000 mm.

Download the floor plan dwg file from the City of Turku's data bank M-files (in Finnish) ▸

6. In accessible toilets, the clear space, or turning circle, must be at least 1,500 mm in diameter. Clear space means: clear space up to a height of 2 metres. The measurements of the clear space in the accessible toilets are always carried out with the support rails in the down position, i.e. there must be no fixed or movable furniture in the clear space.

   When the fixed furniture is placed entirely outside the clear space, the person with reduced mobility can also use it with assistive devices. Fixed furniture means permanently installed furniture, the fixing of which penetrates the waterproofing in the floor or walls. The washing machine reservation in the toilet and washroom is not comparable to a fixed furniture. (See figure 13j)

   Places are reserved for loose furniture outside the clear space needed for movement and transfer, so that they do not cause the users of the toilet a risk of stumbling or collision.

7. A minimum of 300 lux is recommended for general lighting in the accessible toilet.

Seat

1. The toilet seat in the accessible toilet must always be a so-called pedestal type toilet. The toilet must have a minimum of 200 to 300 mm of clear space in accordance with the decree. This is because, for example, a wall-mounted toilet seat prevents the assistant from operating in transfer situations. The front edges of the wheelchair and toilet seat must be in line to ensure a safe change of seats when coming alongside.
2. The recommended seat height for the toilet seat is 450 to 480 mm. **Based on user experience, the minimum height of the toilet seat should be at least 470 mm.** The accessible toilet seat must never be raised separately, for example, with separate raised sections.
3. The support rails to assist in seating and rising from the seat should be wall-mounted and freely swivelled so that they are strong enough to allow access to the seat from the wheelchair. The installation height of the support rails is 700 to 800 mm depending on the height of the toilet seat. Clear space inside the support rails 600 mm. Length of the support rail at least to the front edge of the toilet seat. The support rails should be height-adjustable and the height adjustment recommended to be between 700 and 900 mm. (See figure 13o)
4. The toilet paper holder and the remote hand shower are placed in the support rails installed next to the toilet seat. The toilet paper holder and the remote-controlled hand shower must be positioned to the front diagonal from the toilet seat and in such a way that they are easily accessible and the water flow for the hand shower can be opened from the toilet seat. It is not possible to reach the sink faucet from the toilet seat, nor is it possible to reach the wall-mounted toilet paper holder from the seat. (See figure 13p)

Hand washing

1. At least 1,200 mm x 1,200 mm of clear space must be reserved in front of the washbasin. The clear knee-recess under the washbasin also makes it possible to use the basin from a wheelchair. The recommended clear dimensions of the knee-recess are: width 800 mm, height 670 mm and depth 500 to 600 mm. The basin and its fixtures must be able to withstand a weight of at least 150 kg when being leaned on. The installation height of the washbasin is between 800 and 950 mm. For persons of short stature and children, the installation height of the washbasin is 600 to 750 mm. The washbasin must be equipped with a solid support rail at the front edge of the basin.
2. Only an electronic tap is not accessible. A hand-operated tap is always recommended for an accessible toilet, together with an electrically operated remote hand shower. The so-called hybrid taps currently available are very functional options for accessible toilets.
3. The placement of equipment needed for washing hands, such as a soap dispenser and a hand towel dispenser, takes into account that they can be accessed from a wheelchair and also with just one hand and that the washing and drying of hands is successful without having to move in the space. In toilets, it is also recommended to use a loose paper holder or separate towels instead of towel holders. Towel holders are too heavy for the weak to use. (See figure 13s)
4. It is recommended to place the hand towel dispenser at a height of 1,000 mm from the floor. If there is a wastepaper basket on the wall below the hand towel dispenser, a minimum distance of 350 mm is recommended, i.e. the top of the wall-mounted wastepaper basket should be at a height of 650 mm.
5. The recommended height of the bottom edge of the mirror above the washbasin is 800 to 900 mm from the floor, depending on the height of the washbasin. The height of the upper edge of the mirror will then be approximately 1,800 to 2,000 mm. The height of the lower edge of the full-length mirror that is installed elsewhere than above the washbasin, must be at least 300 mm from the floor so that it does not cause misinterpretation of the passage and, for example, the footrest of a wheelchair does not break the mirror.

Other

1. The toilet must be furnished correctly, as incorrect furnishings can easily make the accessible space inaccessible: For example, Waste bins should not preferably have lids. Waste bins are also recommended to be attached to the wall or under the washbasin level, as loose bins and other loose furniture create obstacles to the clear space required in the toilet.
2. **In the Turku area, a child care counter may not be installed in an accessible toilet without the approval of the accessibility coordinator**, as the accessible toilet is only intended to be used as a toilet. The child care point with its various accessories always restricts the clear space required in the toilet and also restricts/decreases the access of persons with disabilities to the space when necessary. There is also a statement from the Disability Council of Turku on this matter, which can be obtained from the accessibility coordinator if necessary.

3. There must be a safety alarm connection from the accessible toilet to the monitoring system. The security alarm is always implemented in two different forms for an accessible toilet:

    a. The alarm cord hanging from the ceiling must be reached from the toilet seat and must therefore never be knotted. Installation of the alarm cord directly from the ceiling in front of the toilet support rail. The cord must be free-hanging. The height of the cord is 150 to 200 mm above the floor.

    b. The floor level alarm cord must go around the entire space so that help can be called from around the room even at floor level. The alarm cord is installed to co around the entire space approximately 150 to 200 mm above the floor level. The alarm cord goes around the entire room except for the doorway, i.e. also under the washbasin, for example.

    The safety alarm should also have an indicator light and sound signal inside and also outside the toilet. A fire alarm is indicated by sound and light signals inside the accessible toilet. If necessary, an accessible toilet must also be equipped with an induction loop in larger locations, such as terminals, stadiums, hospitals, etc.

4. It is a good idea to prevent the tying of an alarm cord hanging from the ceiling by, for example, placing a prohibition marking on it in plain view.

5. Equipping the toilet space for a person with reduced mobility means that wall structures are recommended for securing handles and supports. The wall structures of the toilet take into account the installation of support rails, toilet seats, etc. In connection with the alteration work, wall structures will be reinforced if necessary.

6. It is recommended that clothes hooks be installed at different heights (1 to 3 pcs), at between approximately 1,000 and 1,400 mm. (See figure 13t)

7. The surfaces of the furniture and accessories should be easy to clean. For example, antibacterial surface materials can be used.

8. All light fixtures are recommended to be operated with a separate switch. Motion-activated lighting is not suitable for accessible toilets, as a person with reduced mobility may not be able to restart the motion sensor independently. Fluorescent lamps are not recommended in toilets due to the vibration of light, as the vibration may trigger a seizure.

9. Light switches should be marked with an illuminated sign so that they can also be found in the dark. Not to be combined/mixed with the acknowledgement button of the alarm system, i.e. light switches must not be installed too close to the acknowledgement button of the alarm system.

10. It is a good idea to attach a cane holder to the wall at a height of 800 mm, from which you can safely move to the toilet seat and washbasin using any handrails and support rails in the room. (See figure 13g)

11. Toilet furniture, such as the washbasin, should be clearly distinguishable from the surrounding area/wall by contrasting colour. Equipment, accessories, etc., such as paper holders, towel hooks, auxiliary/lifting handles, must be placed in such a way that they can also be used in a wheelchair and that they do not make the space inaccessible.

12. The passage to the toilet must be easily perceived, flat and slip-resistant and of reasonable length.

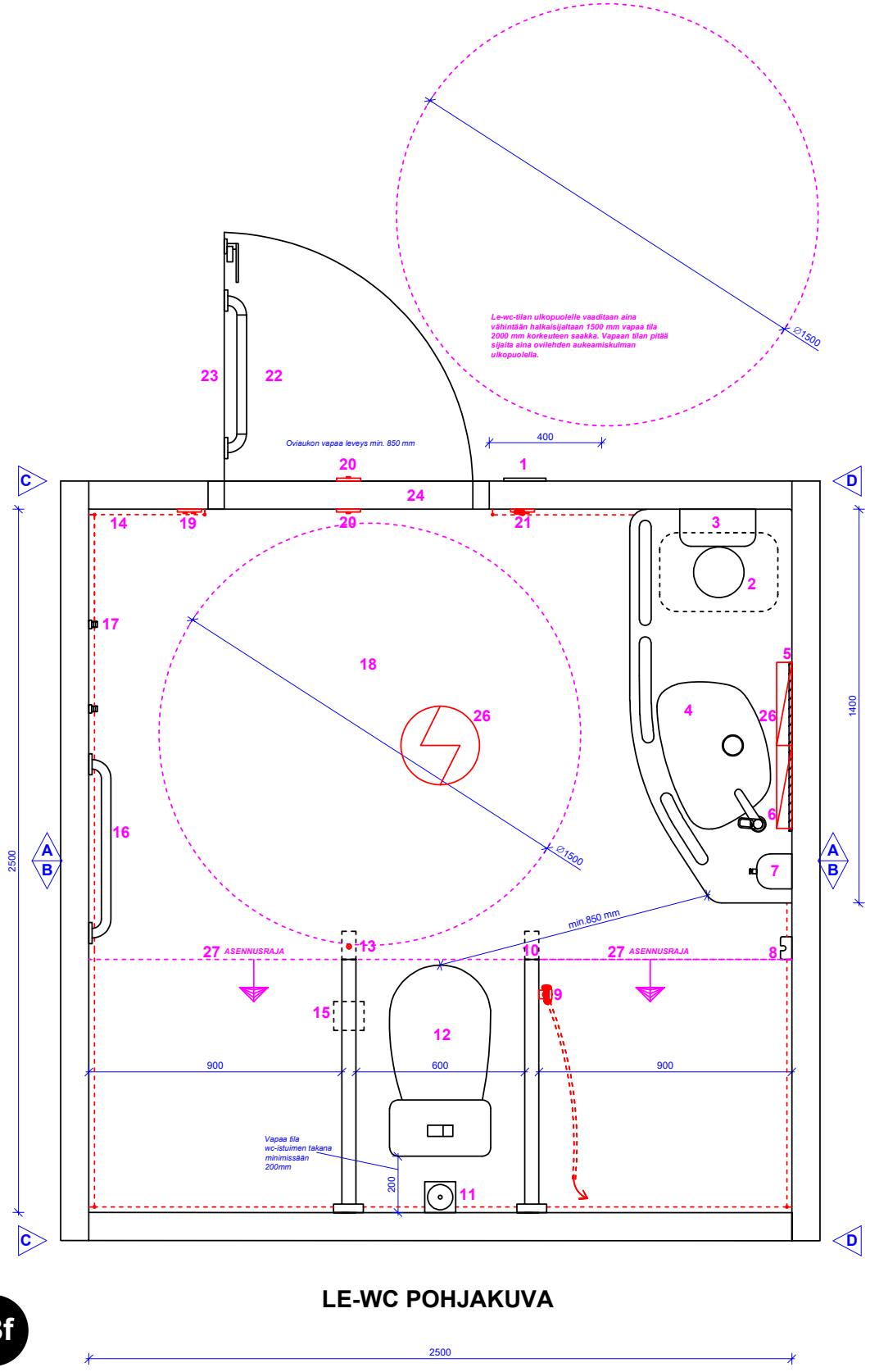


Figure 13f Model floor plan of an accessible toilet. The numbers on the floor plan are explained on the next page. (City of Turku, Accessibility Coordinator)

Download the floor plan dwg file from the City of Turku's data bank M-files (in Finnish) ▸

Clarifications of the numbers in the floor plan

1. The distance between the opening side of the external door of an accessible toilet and the inside corner of a wall or other fixed obstacle outside the door must be at least 400 mm. The non-mounted space is required to allow the wheelchair or rollator user to open the door. Clear space is needed both when entering and leaving the toilet. A clear space of at least 1,500 mm in diameter up to a height of 2,000 mm is also always required outside the accessible toilet. The clear space must always be located outside the door leaf opening angle.
2. Waste bin under the tabletop or wall mount, lidless, approx. 50 l. An opening in the tabletop for dropping rubbish.
3. Hand paper dispenser (loose paper), wall-mountable. Installation height bottom edge 1,000 mm.
4. Washbasin with front edge support rail and garbage hole (Korpinen Sense Public or equivalent product). The clear knee-recess under the washbasin also makes it possible to use the basin from a wheelchair. The recommended clear dimensions of the knee-recess are: width 800 mm, height 670 mm and depth 600 mm. The basin and its fixtures must be able to withstand a weight of at least 150 kg when being leaned on. The installation height of the washbasin is between 800 and 950 mm.
5. Wall-mounted mirror, if not framed, must have its edges rounded. The interchangeability of the mirror should always be taken into account. The height of the bottom edge of the mirror above the washbasin is 800 to 900 mm depending on the height of the floor. The height of the upper edge of the mirror is 1,800 to 2,000 mm. The height of the lower edge of the full-length mirror that is installed elsewhere than above the washbasin, must be at least 300 mm from the floor so that it does not cause misinterpretation of the passage and, for example, the footrest of a wheelchair does not break the mirror.
6. The recommended faucet model is a so-called hybrid model, where the same faucet has both functions, i.e. it is both touch-free and manual. The faucet is always connected to an electrically operated remote controllable hand shower. The manual function is important, because an automatic tap alone is not suitable for things like adjusting the water temperature, timing the water intake, for persons with impaired vision, etc. A hybrid model could be the Oras Optima Style HYBRIDI (battery-powered and mains-powered) or an equivalent functional product.
7. Soap dispenser, wall-mounted, easy and clear to use/operational or touch-free model. Installation height bottom edge 1,000 mm.
8. Walking cane holder, wall-mounted, 1 to 2 pcs.
9. A hand-held shower (bidet), always a remote-controlled model, Oras Optima Style HYBRIDI (battery-powered and mains-powered) or an equivalent functional product. Attaching the hand shower to the support rail with a swivel hand shower holder (Model Korpinen 1764N or equivalent product). The toilet paper holder and the remote-controlled hand shower must be positioned to the front diagonal from the toilet seat and in such a way that they are easily accessible and the water flow for the hand shower can be opened from the toilet seat. It is not possible to reach the sink faucet from the toilet seat, nor is it possible to reach the wall-mounted toilet paper holder from the seat. Note the length of the shower hose, i.e. do not install a hose that is too short, so that usability is not compromised.

10. Height-adjustable support rails that are lifted up, one on each side of the toilet seat, are attached directly to the wall. Take into account the durability of the wall structures required for installation and use. Minimum length 920 mm. Support rails are always equipped with a separate toilet paper holder and when lifting, a swivel holder for the bidee shower. The installation height is 700 to 800 mm depending on the height of the toilet seat. Clear space inside the support rails 600 mm. Length of the support rail at least to the front edge of the toilet seat. The support rails should be height-adjustable and the height adjustment recommended to be between 700 and 900 mm.

    PLEASE NOTE! The support rails must not exceed the front edge of the toilet seat by more than 100 mm (in the floor plan, the 100 mm overhang of the support rails is indicated by a dotted line).

11. Toilet brush holder and toilet brush (optional). Wall-mountable, anti-theft protection. Optional equipment. If a fixed position, then placed behind the toilet seat in clear space, thus not using the clear space on the sides of the toilet seat.

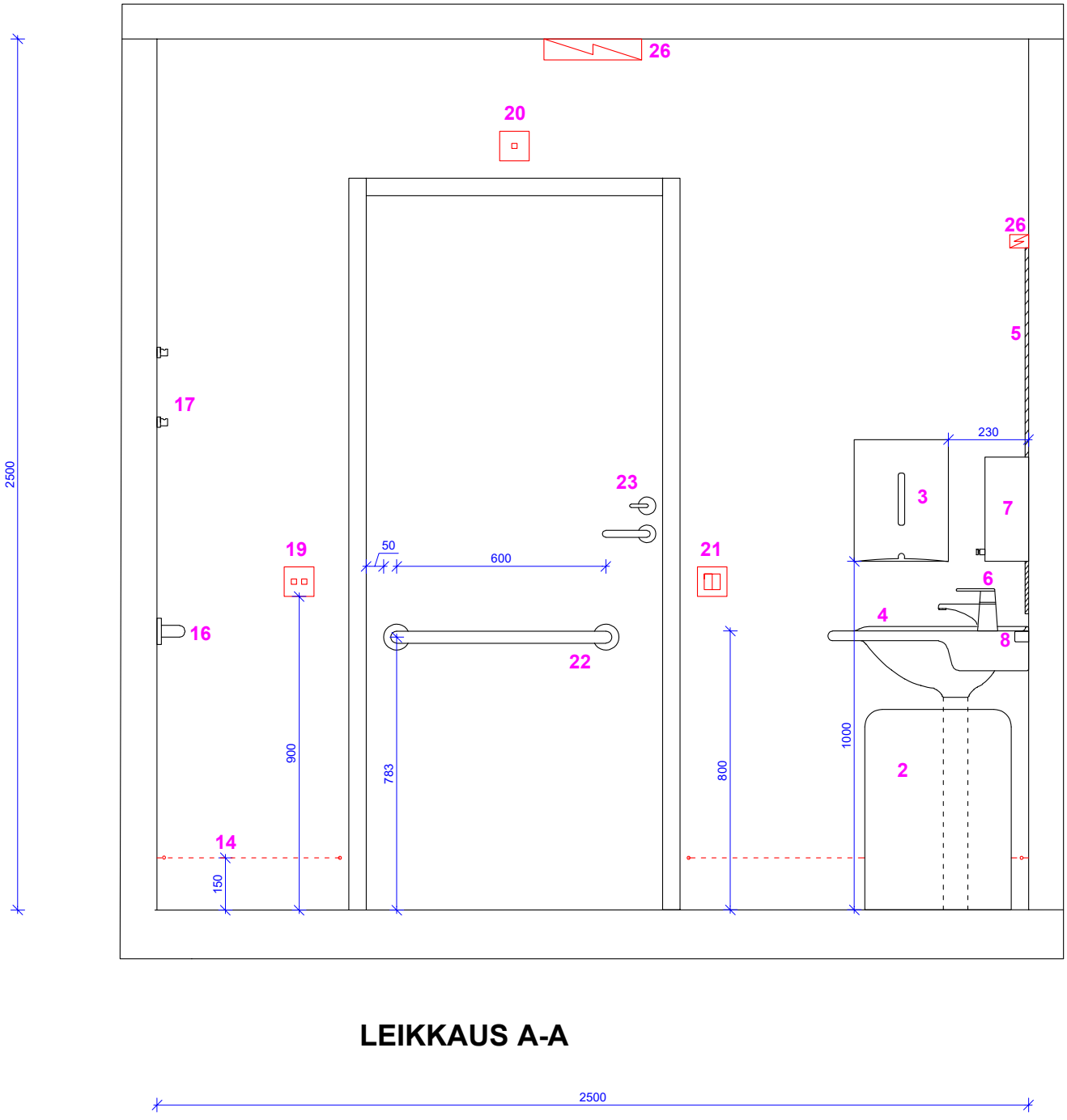
12. Accessible toilet seat. An accessible toilet is always designed so that it can be used from two sides, i.e. there must be at least 900 mm of clear space on both sides of the toilet seat. This must be taken into account to ensure that a person with reduced mobility can place a wheelchair next to the toilet to allow lateral movement. Here, too, clear space means clear space from obstacles from floor level to the height of 2,000 mm.

    The measurement of the specified 900 mm of clear space is begun at the outer edge of the toilet seat support rail and focused on the nearest fixed point, i.e. the nearest wall/structure or other installation, e.g. a radiator or toilet paper holder. Seat height normal, i.e. around 450 to 480 mm, with a minimum seat height of 470 mm recommended by experts by experience. Always leave at least 200 to 300 mm of clear space behind the toilet seat. The front edges of the wheelchair and toilet seat must be in line to ensure a safe change of seats when coming alongside. In terms of depth, a clear space of at least 900 mm in width is required next to the seat outside the outer edge of the support rails, not only behind the toilet seat, so that the wheelchair can be positioned sufficiently behind the toilet seat. The clear space behind the toilet seat also makes it easier for the assistant to act in transition situations, and more space is available for support rails when they are in their upright position.

13. The alarm system is always in two parts. Installation of the alarm cord (A) directly from the ceiling in front of the toilet support rail. The cord must be free-hanging. The height of the cord is approximately 150 to 200 mm above the floor.

    The alarm is also always directed to monitoring, if one exists at the site. In this case, information is also needed on which toilet the alarm comes from. The alarm is also indicated by an indicator light, which always includes an alarm tone. In the alarm, attention should also be paid to, for example, the provision of a fire alarm with audible and light signals inside and outside the accessible toilet. If necessary, it must be possible to equip the accessible toilet with an induction loop system on a case-by-case basis. (special sites)

14. Alarm system alarm cord (B). Installed around the entire room, i.e. the toilet area, at a height of 150 to 200 mm above floor level. Can also be installed under the washbasin. The alarm is also always directed to monitoring, if one exists at the site. In this case, information is also needed on which toilet the alarm comes from. The alarm is also indicated by an indicator light, which always includes an alarm tone. In the alarm, attention should also be paid to, for example, the provision of a fire alarm with audible and light signals inside and outside the accessible toilet. The accessible toilet must also be equipped with an induction loop system if necessary.
15. Toilet paper holder on the support rail. The toilet paper holder is fastened to the support rail of the toilet seat or to the place where it extends easily from the seat, approximately 300 to 400 mm diagonally from the front of the seat.
16. Support rail (metal), always wall-mounted, mounting height 800 mm from floor level.
17. Clothes hook 1 to 3 pieces, installation heights 1,000 mm to 1,400 mm from floor level.
18. The turning circle Ø 1,500 mm, the turning circle is always completely clear up to a height of 2,000 mm.
19. Alarm system acknowledgement button. Do not connect to light switch.
20. Alarm indicator, always includes an alarm tone. In the alarm, attention should also be paid to, for example, the provision of a fire alarm with audible and light signals outside the accessible toilet.
21. Light switch with indicator light. Light switches should be marked with an illuminated sign so that they can also be found in the dark. Not to be connected to the acknowledgement button of the alarm system. All light fixtures are recommended to be operated with a separate switch. Motion-activated lighting is not suitable for accessible toilets, as a person with reduced mobility may not be able to restart the motion sensor independently.
22. Entrance door handle, minimum length 600 mm. Installation of the door handle from the door hinge edge approximately 50 to 120 mm, installation height of the handles 800 mm from the floor level.
23. Minimum door size 10M. The door to the accessible space is equipped with a lock that is easy to unlock and lock with just one hand. The lock can be opened from the outside to assist the user, if necessary.
24. The minimum width of the doorway is 850 mm. Threshold height max. 20 mm.
25. Contrast wall always (tiling/painting) behind the toilet seat to make it easier to see the toilet furniture. Contrast should be combined with floor colour.
26. Ceiling lamps. Minimum lighting output 300 to 500 lux at face height (wheelchair dimensioning). A light fixture on the mirror is a good option.
27. Installation limit. No additional furniture, e.g. toilet paper holders, shelves, etc., may be installed in the clear space behind the toilet seat or its associated support rails. The clear space must be defined up to a height of 2,000 mm. With the exception of a wall-mounted toilet brush, which can be attached to a clear space behind the toilet seat if necessary.

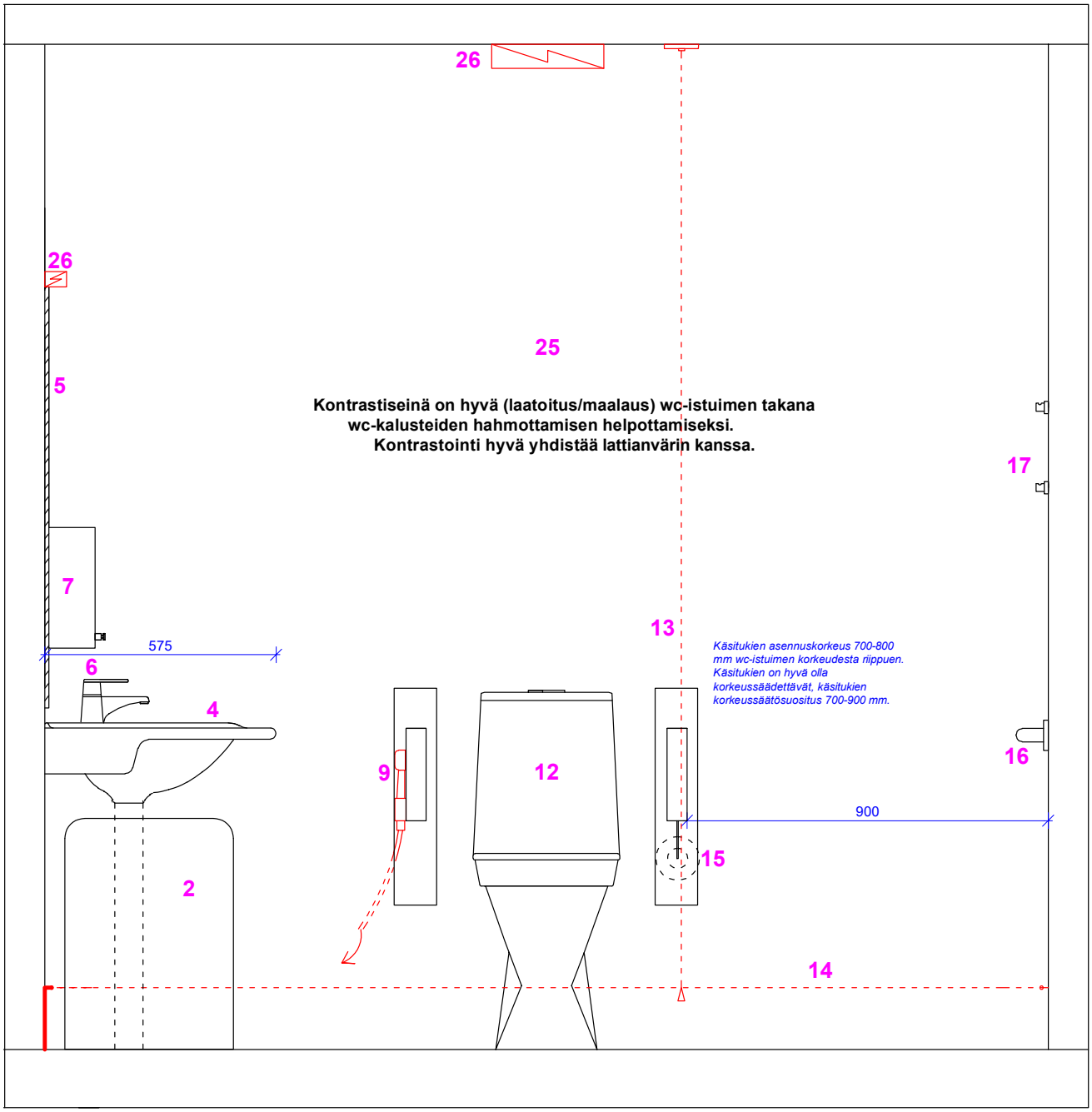


LEIKKAUS A-A

13g

Figure 13g A-A sectional image of an accessible toilet. (City of Turku, Accessibility Coordinator)

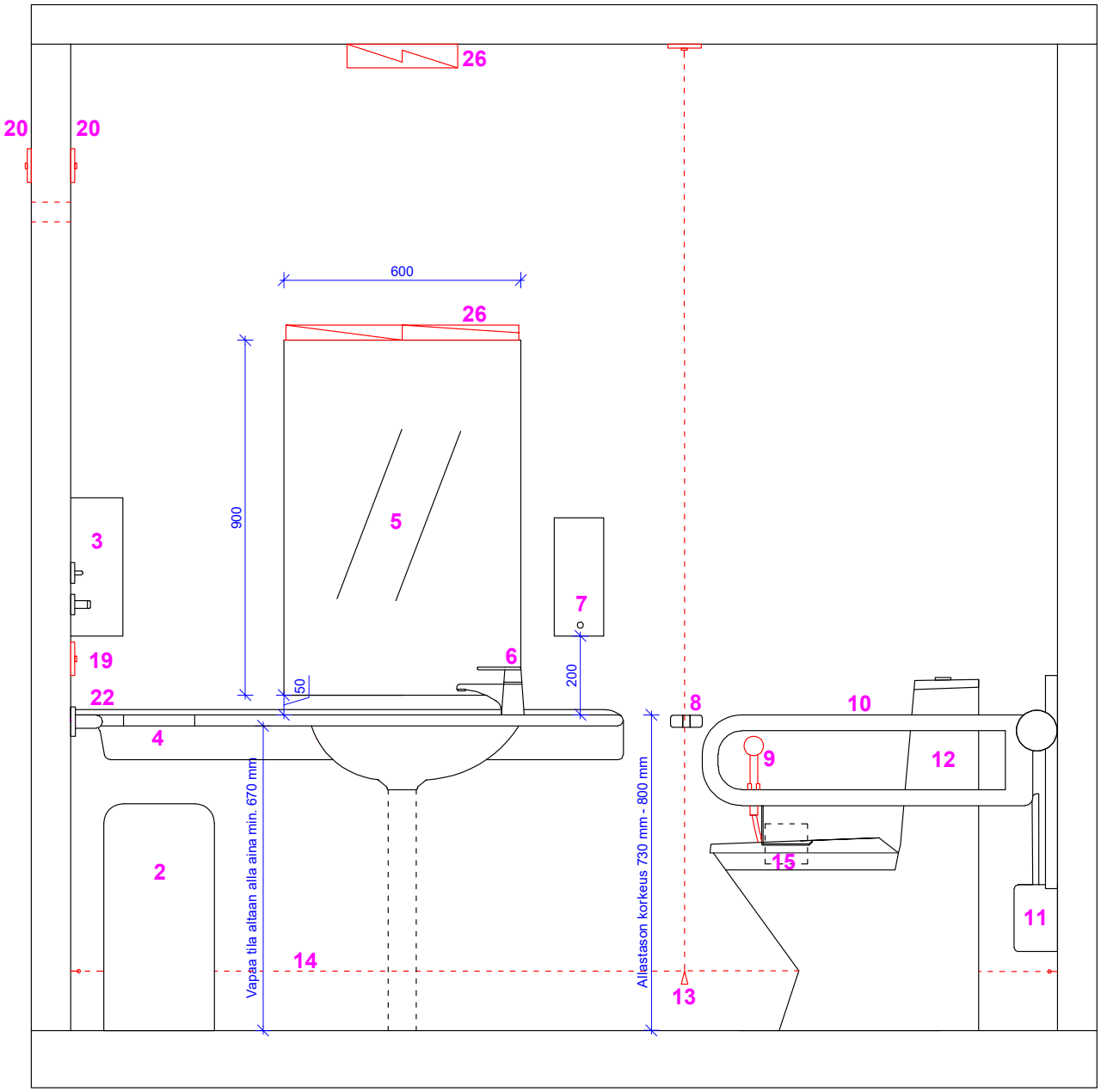
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13h

Figure 13h B-B sectional image of an accessible toilet. (City of Turku, Accessibility Coordinator)

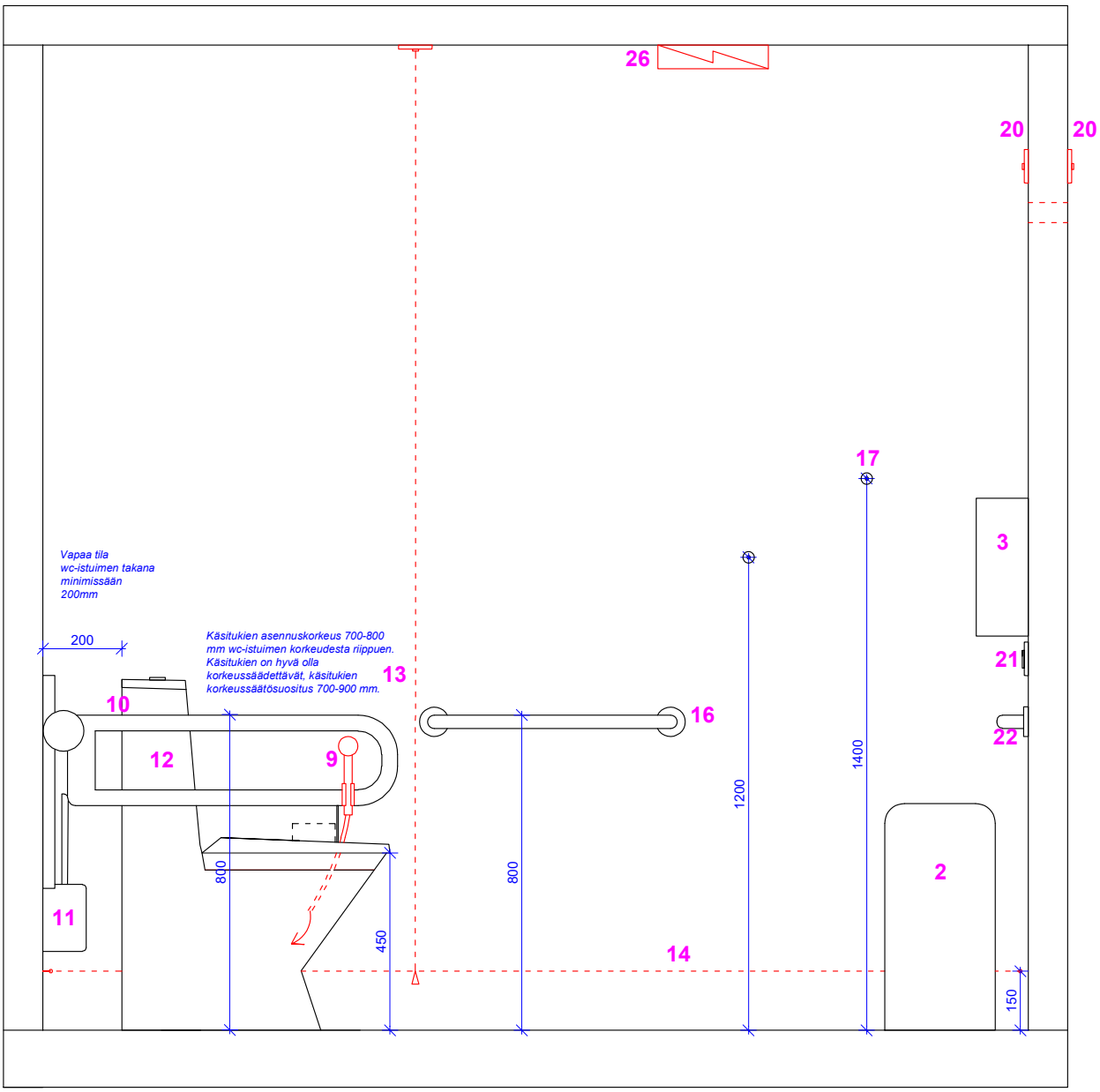
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13i

Figure 13i C-C sectional image of an accessible toilet. (City of Turku, Accessibility Coordinator)

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LEIKKAUS D-D

13j

Figure 13j D-D sectional image of an accessible toilet. (City of Turku, Accessibility Coordinator)

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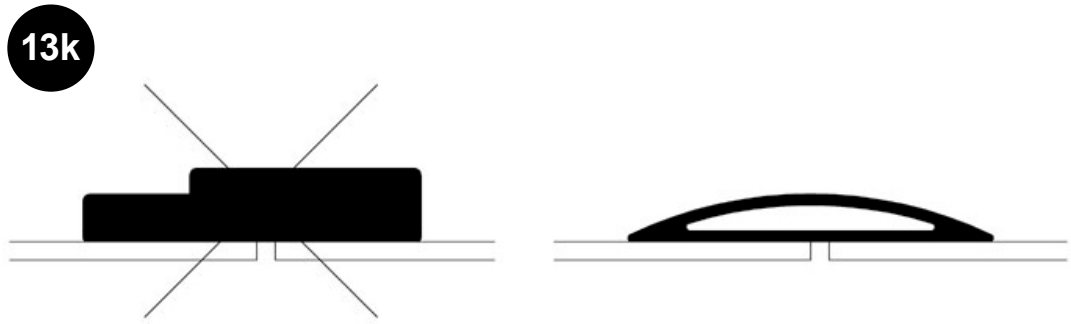
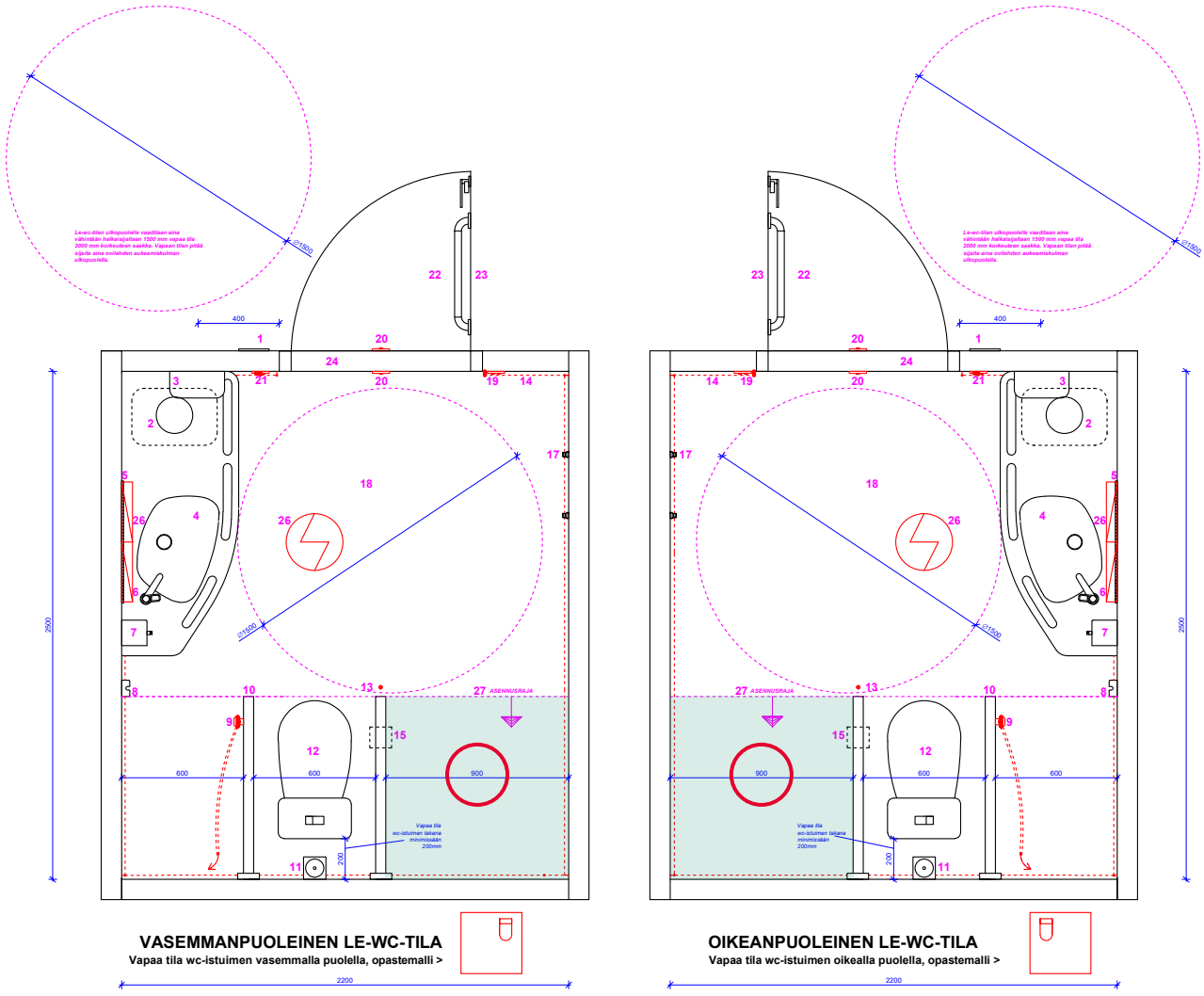


Figure 13k Example of an accessible flexible threshold. (Finnish Association of People with Physical Disabilities)



Figure 13l Examples of electronic door openers that can also be opened with an elbow.
(Finnish Association of People with Physical Disabilities)



13m

Figure 13m Mirrored floor plans of accessible toilets where the toilet can only be accessed from one side of the seat.

Note: The clearance of 1,500 mm in diameter must extend unobstructed up to a height of 2,000 mm.
The 800 mm clear space (**green area**) adjacent to the toilet seat must also be completely free (e.g. support rails, bins, toilet paper holders, etc. must not be attached to the wall). (City of Turku, Accessibility Coordinator)

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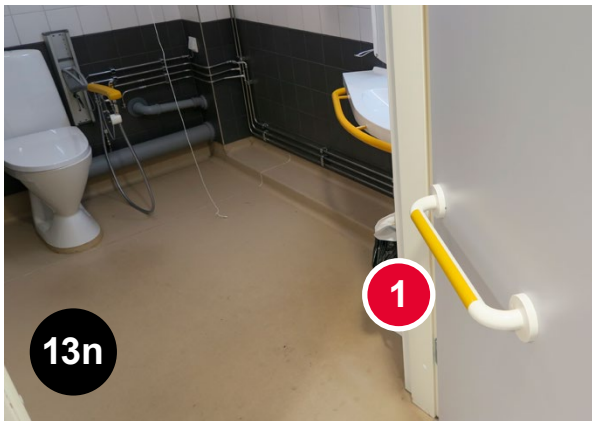


Figure 13n Good solution: [1] Long horizontal pull handle on the door. The pull handle is long enough (more than 600 mm) and at a height of approximately 800 mm.

The installation of the puller starts on the hinge side of the door 50 mm. The toilet also has good contrast colours. (Turun klassillinen lukio, Turku)



Figure 13o Good example: There is enough space in the accessible toilet to work with assistive devices.

[1] There is room behind the toilet seat, so the wheelchair can back up enough next to the seat. [2] The support rails on both sides of the toilet seat are attached directly to the wall. [3] The support rail must have a toilet paper holder.

Bad example: However, the hand shower is incorrectly installed, as it is impossible to reach it from the toilet seat by hand. The second support rail must be fitted with a space for a remote hand shower. The toilet is also missing a safety alarm. (Tallimäki day-care centre, Turku)



Figure 13p Example of the correct hand shower installation on the support rail with a separate holder. (Finnish Association of People with Physical Disabilities)



Figure 13q Good solution: The accessible toilet is marked with a high-contrast visual [1] tactile sign which also has [2] Braille. [3] The accessible toilet is only usable from the right side, which is indicated in the upper right corner. (Turun suomalainen yhteiskoulu, Turku)

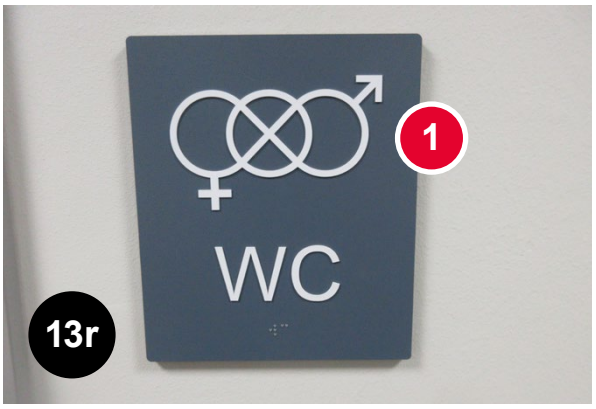


Figure 13r Good example: The toilet is marked with a high-contrast visual tactile sign which also has Braille. [1] Gender neutral toilet label.
(Turun suomalainen yhteiskoulu, Turku)

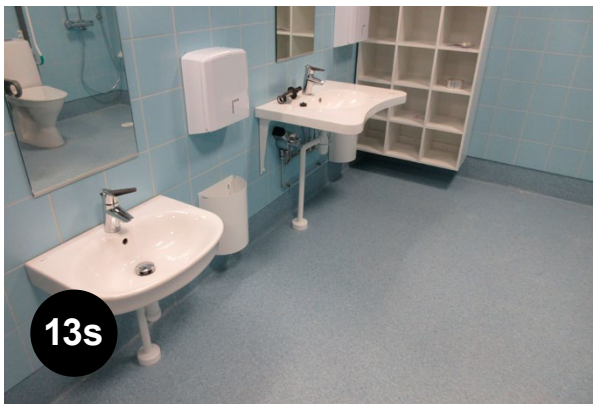


Figure 13s Good solution: A child-oriented site has washbasins at different heights.

Handpaper holders are also at different heights, and fixed waste bins are attached to the wall directly below them.

There is sufficient space between the waste bin and the paper towel holder for both fixtures to be used (a height of 350 mm between them is recommended).

There is also plenty of space in the toilet.

(Tallimäki day-care centre, Turku)



Figure 13t Good solution: The toilet has several clothes hooks at different heights. (Paattinen Library, Turku)

14 Dressing rooms, washrooms and saunas



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Legislation

Government Decree on the Accessibility of Buildings (241/2017)

Section 4, subsection 1 Doors
The clear width of a door and opening in a passage within a building, a door leading from a staircase to an apartment and a door to a space referred to in section 9, subsection 2 and section 10 must be at least 850 mm. The dimensioning of the external door and other exit doors of a building is regulated by in a decree issued pursuant to section 117 b, subsection 3 of the Land Use and Building Act.

Section 9 Toilet and washing facilities in residential buildings, subsection 2
In an apartment intended for service housing or sheltered housing for persons with reduced mobility or functional impairments, there must be at least one toilet and washroom with a clear space of at least 1,500 mm in diameter. Fixed furniture must be positioned in relation to the clear space so that it can be used by a person with reduced mobility. In addition, there must be at least 800 mm of clear space on one side of the toilet seat. Such toilet and washroom facilities must be equipped to accommodate persons with reduced mobility.

CONTINUE ▼

Section 9 Toilet and washing facilities in residential buildings, subsection 4
In a residential building, the shared sauna, washroom and dressing room must be suitable for persons with reduced mobility and functional impairment. The toilet and washing room connected to the space must comply with the provisions laid down in subsection 2.

Section 11 Other hygiene facilities in non-residential buildings
Some of the dressing rooms, washing rooms, saunas and swimming pools in buildings other than residential buildings must be suitable for persons with reduced mobility and functional impairment. Suitable spaces for persons with reduced mobility and functional impairment must be marked with the symbol for persons with reduced mobility. If the building has a monitoring system, spaces suitable for persons with reduced mobility and functional impairment must have a safety alarm connection to the monitoring system.

In addition to the provisions laid down in subsection 1, at swimming pools, spas, service centres, educational establishments and other similar buildings, at least one set of dressing and washing facilities must be accessible to persons with reduced mobility or functional impairment and their assistants, irrespective of their gender.

Accessibility recommendations of the City of Turku

1. All applicable sections of the City of Turku accessibility guidelines will be taken into account in the design of sanitary spaces for persons with reduced mobility and functional impairment.
2. The planning guide and checklists created by Helsinki in 2020 will also be taken into account in the planning of dressing, washing and sauna facilities as applicable.

   The guide published by the City of Helsinki outlines accessibility requirements for different areas of swimming pools, which also apply to the design of dressing rooms and washrooms. The guide is intended to be read alongside with the Ministry of the Environment's Guide on Accessible Construction and Environment.

   Guide: www.hel.fi/static/hki4all/kirjasto/opas-esteettomyys-uimahalleissa.pdf (in Finnish)

   Checklist: www.hel.fi/static/hki4all/kirjasto/Tarkistuslistat_esteeton_uimahalliymparisto.pdf (in Finnish)

3. **Special attention should be paid to the following points:**

   a. At least one set of dressing and washing facilities must be accessible to a person with reduced mobility or functional impairment and their assistant, regardless of gender.

   b. An accessible door has no threshold and no other difference in elevation. If a threshold has to be made for the door, it must not be more than 20 mm high and must be bevelled, flexible or collapsing, so that it can be crossed by wheeled assistive devices. (See figure 14a)

   c. The door to the accessible space should be equipped with a lock that is easy to unlock and lock with just one hand. The lock can be opened from the outside to assist the user, if necessary.

d. The structure of the door must be such that it is possible to attach a puller to it to facilitate the closing of the door when entering the space with a wheelchair. The horizontal 600 mm long puller must be attached to a height of 800 mm starting from the floor surface and the hinge side.

e. An electrically assisted door pump is not used for accessible doors. To ensure fire safety, a door closer is required in some cases. In this case, it is advisable to install an easy-to-use door opening and closing system. The door opening force must not exceed 10 Newtons (approx. 1 kg).

f. If the door is equipped with a door opening system, a separate unlock button and a door hold sensor are provided for the doors. The door hold sensor stops the movement of the opening door or reopens the closing door when an obstacle is detected. The finger protection of the hinge space must be taken into account. An automated door that is not equipped with a door hold sensor must remain open for at least 25 seconds to allow good passage in and out.

g. Elbow switches, which are easy-to-use impulse devices, are recommended as door openers. Alternatively, the use of a microwave switch as a door opener is recommended. The microwave switch does not need to be touched as it detects hand movement from a distance of up to 50 cm. The switch is ideal for use in areas where hygiene requirements are high. It is also suitable for persons with reduced mobility, as no force is required to operate the switch. Both options are suitable for side hung doors and sliding doors.

h. Clothes hooks should be installed at different heights (approximately at 1,200, 1,400 and 1,600 mm). A minimum of two hooks per space is recommended.

i. It is recommended that cane holders (800 mm in height) be attached to the walls, and that the handrails and support rails in the space can be used to move safely from them.

j. If the space is equipped with a full-body mirror, the height of the lower edge of the mirror should be at least 300 mm from the floor so that it does not cause an incorrect interpretation of the passage and does not break when the footrest of the wheelchair hits it.

k. Colours must be used to create sufficient contrast between floors and walls, doors and walls, fixtures and their surroundings. Furniture, such as the shower, should be clearly distinguishable from the surrounding area/wall by contrasting colour. (See figures 14c and 14d)

Dressing room

1. The dressing room must be furnished correctly, as incorrect furnishings can easily make the accessible space inaccessible: For example, the waste bins must not have lids. Places are reserved for loose furniture outside the clear space needed for movement and transfer, so that they do not cause the users of the space a risk of stumbling or collision.
2. Accessible dressing rooms should be marked with an international wheelchair symbol in accordance with the ISA standard, which is clearly contrasted and also detectable by touch sense (housing model).
3. A dressing bench with a seat height of approximately 500 mm, a width of 600 to 700 mm and a length of at least 1,200 mm should be placed in the dressing room.

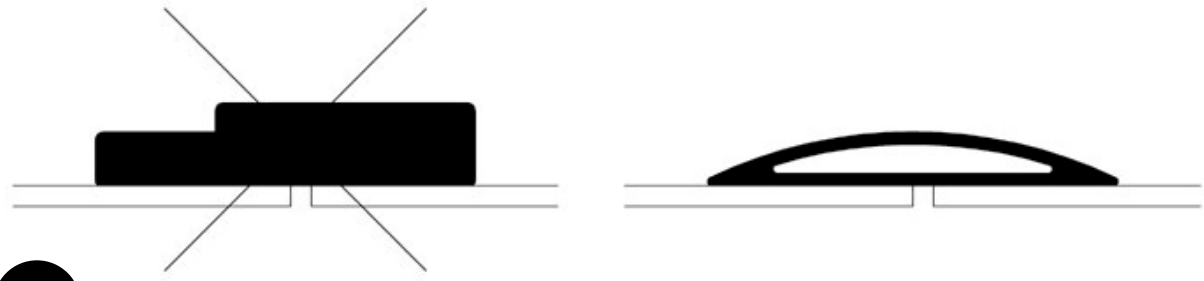
Washroom

1. The washroom must be furnished correctly, as incorrect furnishings can easily make the accessible space inaccessible: For example, the waste bins must not have lids. Places are reserved for loose furniture outside the clear space needed for movement and transfer, so that they do not cause the users of the space a risk of stumbling or collision.
2. Accessible washrooms should be marked with an international wheelchair symbol in accordance with the ISA standard, which is clearly contrasted and also detectable by touch sense (housing model).
3. The clear space must also be at least 1,500 mm in diameter in the washrooms. Clear space means clear space up to a height of 2 metres. The fixed furniture is placed entirely outside the clear space, the person with reduced mobility can also use it with assistive devices. Fixed furniture means permanently installed furniture, the fixing of which penetrates the waterproofing in the floor or walls. The washing machine reservation in the washroom is not comparable to a fixed furniture.
4. Equipping the washroom space for a person with reduced mobility means that wall structures must be for securing rails and supports. The wall structures of the space should take into account the installation of support rails and a shower seat. In the case of alterations, it is also a good idea to reinforce the wall structures if necessary. (See figure 14c)

Sauna

1. An accessible sauna should fit two wheelchairs at a time. (See figure 14f)
2. The stove in an accessible sauna should be designed so that the heat is distributed as evenly as possible, even at low level. The sauna is therefore recommended to be built, for example, on the principle of recirculation. For more detailed instructions on how to implement an accessible sauna, see for example **https://saunologia.fi/esteeton-sauna/#gref** (only in Finnish) and the Finnish Association for People with Physical Disabilities or the accessibility coordinator.
3. A sauna must have clear space of at least 1,500 mm in diameter for a shower or sauna wheelchair. (See figure 14f)
4. Like the accessible toilet, the accessible sauna is equipped with an alarm system.
5. Accessible saunas are recommended to be marked with an international wheelchair symbol in accordance with the ISA standard, which is clearly contrasted and also detectable by touch sense (housing model).
6. The sauna needs atmospheric, but good general lighting. The stairs leading to the benches should be illuminated particularly well.
7. For the door to an accessible sauna, a framed glass door with sufficient contrast markings is recommended so that there is no collision risk. The door must be light and easy to open. A long horizontal puller attached to the inside of the door (recommended: a wooden 600-millimetre long puller at a height of 800 mm from the floor). The door must also be easily opened and closed from the wheelchair.

8. Access to the benches must be easy and accessible. All possible factors supporting mobility, such as handrails, should be easily accessible.
9. The handrails leading to the benches must be sturdy and genuinely functional. It is good to get a firm grip on them at two different levels.
10. Handrails are recommended to be made of a different coloured wood material than the wall, so that they stand out as a dark contrast to their surroundings. The handrails must be on both sides of the stairs and the handrails must be at two heights (700 and 900 mm).
11. A sauna bench at a height of around 500 mm from the floor is best suited for wheelchair users. The width of the bench should be at least 2,000 mm. (See figure 14f)
12. Low stairs with a minimum step tread of 300 mm should lead to the upper benches. The height of risers should not exceed 120 mm if the user has rigid knees or hips. In this case, the appropriate length of the tread is 390 mm.
13. Special care is taken when fixing the sauna guard rails to avoid leaving hot parts exposed. The stove must also be safe to use and protected from possible accidental collisions.
14. An accessible sauna should be equipped with its own water system installed above the stove, a so-called "steam shower" / steam dispenser, which is operated from a separate switch/ push-button next to the benches. Throwing water on the stove can be difficult for people with limited mobility, so a water throwing system is a good idea. An automatic steam dispenser, on the other hand, does not allow sauna users to regulate the amount of steam. It is a good idea to install the switch/pushbutton at both ends, so that it works on both sides for the customers. (See figures 14g and 14i)
15. The entire height of the stove should be protected so that it cannot be accidentally hit. (See figures 14e and 14f)



14a

Figure 14a Example of an accessible flexible threshold. (Finnish Association of People with Physical Disabilities)



Figure 14b Examples of electronic door openers that can also be opened with an elbow. (Finnish Association of People with Physical Disabilities)



Figure 14c Good solution: The washroom has [1] support rails and [2] a folding seat with armrests. [3] There is a cane holder next to the seat. In the washroom, there are also good contrasts between the shower, the rails, the floor and the wall. (Kulkurin Valssi KOY, Turku)

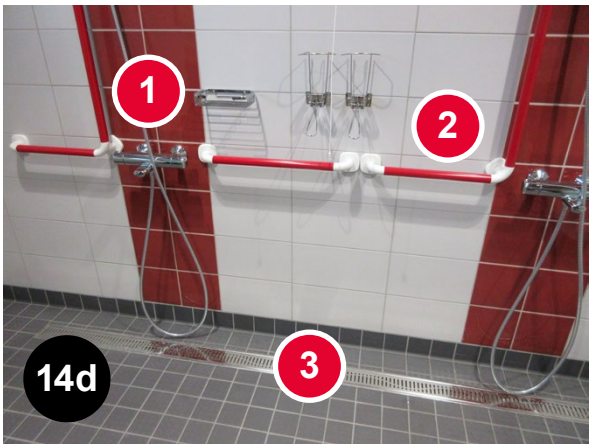


Figure 14d Good solution: The washroom has [1] good contrasts, [2] support rails throughout the room and [3] a good sewer solution. (Kulkurin Valssi KOY, Turku)



Figure 14e Good solution: [1] The sauna stove is protected over its entire height. (Kaskenlinna Hospital, Turku)



Figure 14f Good solution: [1] The sauna stove is protected over its entire height. [2] The sauna benches have a sitting height of 520 mm. In addition, there is plenty of room for a wheelchair in the sauna. (Kulkurin Valssi KOY)

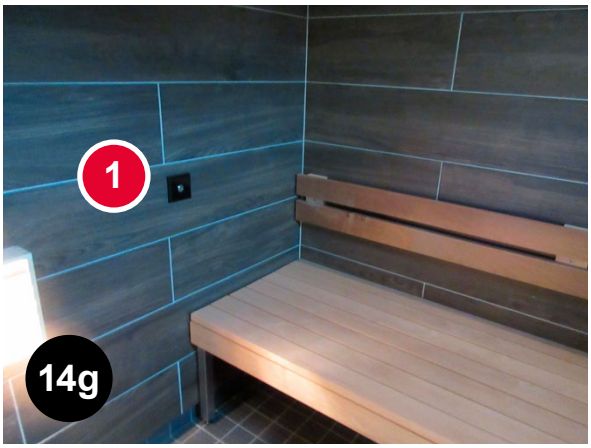


Figure 14g Good solution: [1] The sauna is equipped with a steam dispenser: press the button to drop water on the stove. The button is easily identifiable and accessible. The height of the button from the floor is 950 mm. (Kulkurin Valssi KOY, Turku)

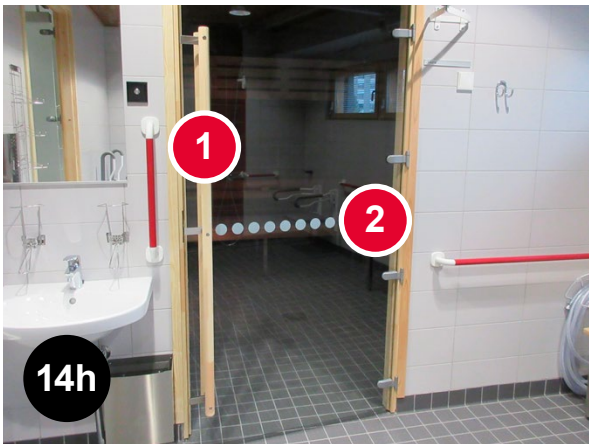


Figure 14h Good solution: The sauna door has a [1] wooden handle and [2] contrast marking. (Kulkurin Valssi KOY, Turku)



Figure 14i Good solution: In the sauna of the Finnish Association of People with Physical Disabilities, there is no need to throw water on the stove; it is dispensed by [1] a steam dispenser at the push of a button. (Sauna of the Finnish Association of People with Disabilities, Saunalogia.fi)

Staff facilities: dressing, washing and toilet facilities

1. The personnel facilities of permanent workplaces must have sufficient group facilities for the employees, i.e. dressing, washing and toilet facilities, which are separate for men and women if necessary. Facilities should be designed to be mainly accessible and are also recommended to cater for special groups.
2. Group dressing rooms and washrooms should have their own toilets. As a rule, at least one accessible toilet is placed in each toilet unit. If there is only one accessible toilet in a dressing room-washroom unit, it should preferably be located on the washroom side.

3. Personnel facilities are placed so that they can be easily and safely accessed from the workspaces. The access between the dressing and washrooms and the work areas will be made via an internal passage. There must be easy and unobstructed access to personnel facilities without detours.
4. Separate work, service and business premises in the same building can use common facilities for people with reduced mobility. Suitable dressing, washing, toilet and social facilities, provided they are within easy and reasonable reach of the workplace.
5. Dressing rooms are usually designed for both genders as separate group rooms.
6. Group dressing rooms and washrooms should have their own toilets. As a rule, at least one accessible toilet is placed in each toilet unit. If there is only one accessible toilet in a dressing room-washroom unit, it should preferably be located on the washroom side. An accessible toilet may also function as an accessible washroom.
7. At least one separate accessible dressing room is placed in the group dressing room for the duration of use. (See figure 14k)
8. An accessible dressing room with a minimum diameter of 1,500 mm must be provided in connection with group dressing rooms and a 2,100 mm long and 600 to 700 mm wide dressing bench must be placed there. (See figure 14k)
9. There will be no lockers in the accessible dressing room, but clothes will be stored in accessible lockers in the group dressing room.
10. There is no fixed bench in front of the accessible locker and the shelf and/or hooks are installed at a height of 1,100 to 1,400 mm from the floor.
11. The dressing and washing facilities can be designed to be completely or partially gender neutral. In this case, the solution consists of individual, enclosable single-person dressing and washrooms and a common drying and storage area with lockers.
12. A gender-neutral solution also serves special groups who cannot use a shared dressing and washroom for personal or cultural reasons.
13. For the needs of these special groups, at least one lockable dressing room and shower area is recommended. This can include, for example, accessible dressing rooms and toilets and washrooms. (See figure 14k)
14. The accessible washroom must be spacious enough for a wheelchair user. This is ensured by a turning circle with a diameter of 1,500 mm (clear space up to 2,000 mm in height). (See figure 14k)
15. If there is more than one (1) accessible wash area in the washroom, the walls of the accessible wash areas must be either at least 1,300 mm x 1,300 mm or at least 1,600 mm wide and at least 900 mm deep.
16. Vertical handrails are also required for showers. At least two showers must be fitted with tip-up shower seats (h=500 mm) so that each other's spaces are mirrored.



Figure 14j Even an accessible sauna can be elegantly implemented with colour contrasts that work well. Bad solution: Handrails are missing. (Asuntomessut 2020, Site 38 Hetena, Saunalogia.fi)

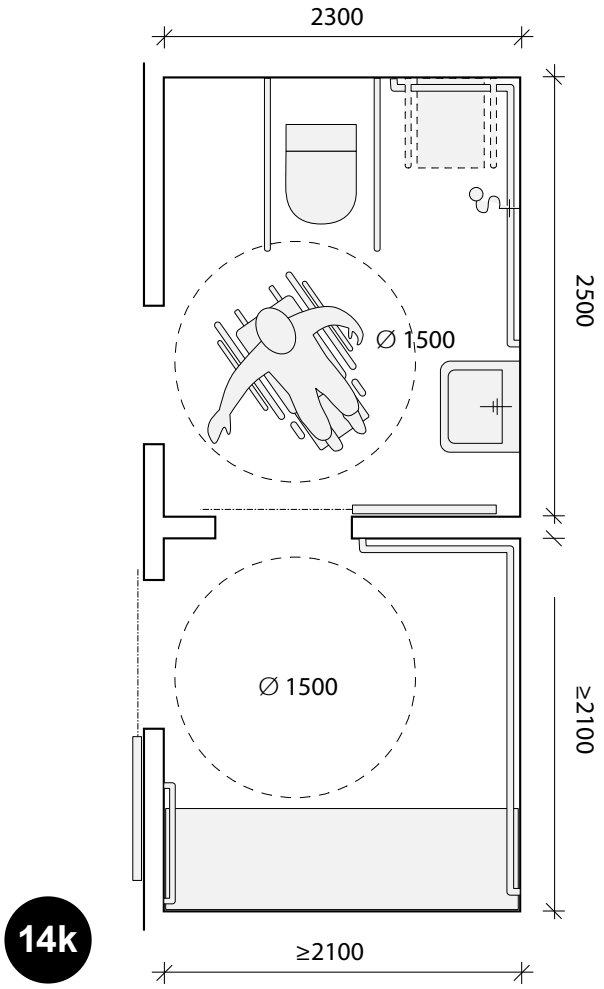
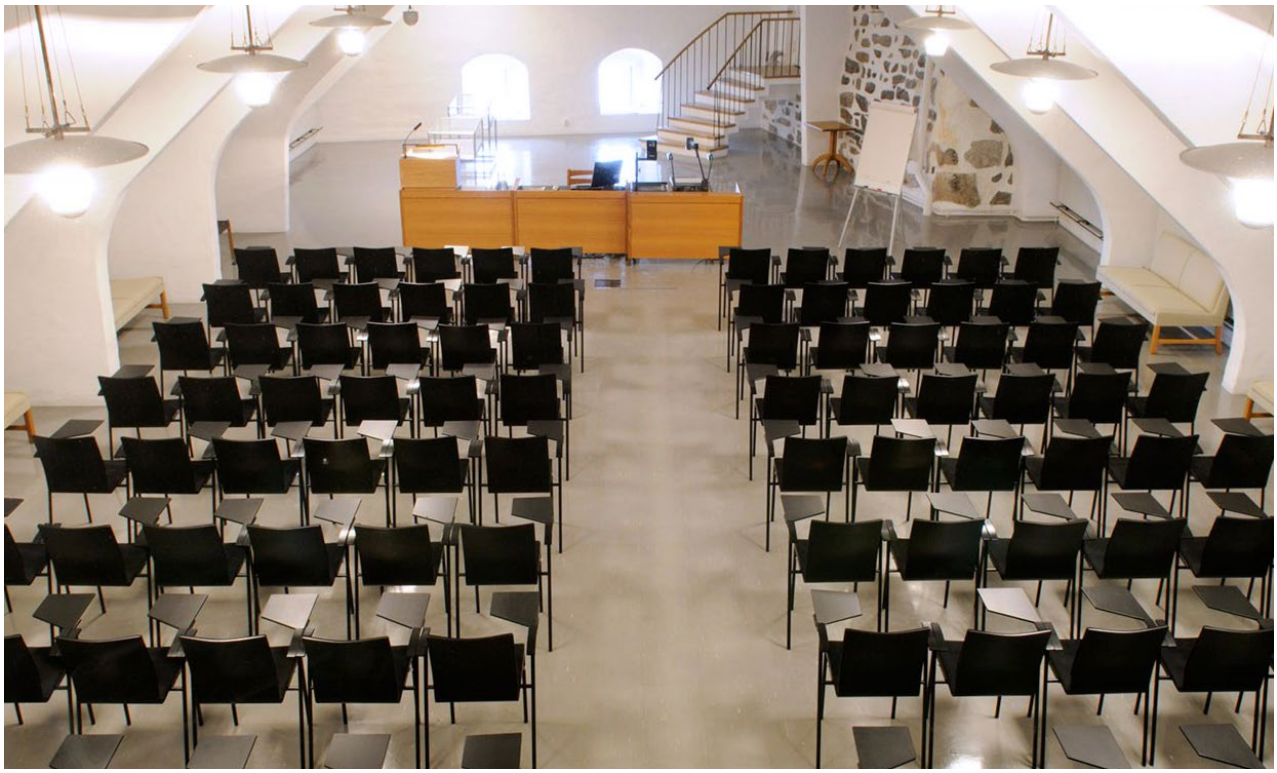


Figure 14k Diagram of an accessible dressing room with an accessible toilet and washroom. (RT 103140 Henkilöstötilat (Personnel facilities.))

15 Meeting spaces



©City of Turku

Legislation

Government Decree on the Accessibility of Buildings (241/2017)

Section 12 Meeting spaces

If there is a sound reproduction system in a stand, auditorium, banquet room, conference room or restaurant room, teaching room or other similar meeting room or public service space, it must have an induction loop or other similar sound transfer system.

If there are fixed seats in a space referred to in subsection 1, accessible approaches must lead to more than one row of seats and there must be a sufficient number of wheelchair spaces.

Decree of the Ministry of the Environment on the Safety of Use of Buildings (1007/2017)

Section 9 Handrail

The stair and ramp must be equipped with a handrail along the entire length and on both sides of the flight. Where necessary, two handrails must be provided, one above the other, to accommodate children and wheelchair users. The handle must have a firm grip. The handrail and its end must be safe and must continue past the starting and ending point of the flight. The handrail must continue uninterrupted on the middle landing.

In public outdoor and indoor spaces, commercial spaces and service spaces, the handrail must continue at least 300 millimetres past the starting and ending point of the flight. For stairs or ramps of more than 2.4 metres in width in assembly areas, the handrail must also be positioned to divide the passage into sections of up to that width.

Section 20 Meeting spaces

The meeting space must be appropriately designed and constructed taking into account its use.

Section 21 Number of persons in a meeting space

The intended maximum number of persons in the meeting space at any one time is the sum of the number of persons in the meeting space. The requirements for the characteristics of the premises in the building permit are determined by the intended number of persons.

The maximum number of persons in the space must be calculated on the basis of the characteristics of the different spaces in the space so that the number of persons in the space with fixed seats is determined by the number of seats. The maximum number of seats in a room without fixed seating, but where the furnishings are shown on acceptable plans, is also determined by the number of seats. The number of persons in rooms without fixed seats or furnishings must be calculated as two persons per square metre.

When calculating the number of persons per square metre of room space, the space for the stage, speaker podium or other such space, as well as for the storage, kitchen, washing, toilet and storage of clothes, must not be included.

Section 22 Seats in a meeting spaces

Seats must be secured to the chassis if the floor of the seating area is sloping or there are differences in level between the floors of the rows of seats.

On a horizontal floor, the seats may be loose. If the space has more than 60 chairs, they must be connected in groups of at least four, unless the chairs are placed around the tables.

Fixed and interconnected seats shall be arranged in rows as seating areas with a passage on each side.

CONTINUE ▼

Section 23 Auditoriums and spectator stands

There must be a suitable barrier, open railing or handrail for differences of more than half a metre. The handrail in front of the lowest row of benches in a raised stand can be a 0.7-metre high guard rail and a fall protection area when there is access between the row of benches and the handrail only to that row of benches.

The grandstand must be staggered so that it is safe to move around the row. The depth of the stand must be at least half a meter.

Control devices for mechanically movable components of the stand must be prevented from being accessed by unauthorised persons.

Section 24 Access routes

The access route to the seating area or grandstand must be directly accessible from the end of each row.

The width of the passage of the meeting space of up to 60 persons must be at least 900 millimetres. In a space intended for more than 60 persons, the passage width must be at least 1,200 millimetres.

The clear width of the clearance between the rows of seats must be in relation to the number of persons using the clearance and the quality of the seats as set out in Table 1 and to whether the route is at both ends of the clearance or only at one end.

Table 1

Clear width of the passage to a row of seats in relation to the number of seats	**Minimum clear width of the passage number of seats on the row**	**400 mm**	**500 mm**	**600 mm**	**900 mm**
Fixed seats	Access routes at both ends	< 40	< 50	< 60	> 60
Fixed seats	Access route at one end only	< 10	< 10	< 15	< 30
Connected seats	Access routes at both ends	< 16	< 28	< 40	> 40
Connected seats	Access route at one end only	< 8	< 8	< 12	< 24

The inclination of the floor surface in the seating area and in the course of the passage must not exceed eight (8) per cent (I:12,5). Section 5 of the Government Decree on the Accessibility of Buildings (241/2017) applies to the dimensioning of the passage leading to accessible stands.

Accessibility recommendations of the City of Turku

1. The meeting spaces are different and therefore the accessibility coordinator must always be consulted when planning them.
2. Meeting space are often diverse and in versatile use. Therefore, a range of movable furniture and fixed structures that do not add unnecessary inaccessibility are recommended in the design and furnishing of the space. (See figures 15a and 15b)
3. The stands must have several optional wheelchair spaces in different parts and have accessible passage to them. For assistants, seats must be placed next to wheelchair spaces.
4. There should be accessible passage to the performer's podium or stage, etc.
5. It is also recommended that the adjoining facilities of the meeting room, sspaceuch as cafés, dressing and break facilities, etc., be designed to be accessible.
6. An induction loop is installed in meeting spaces, such as auditoriums, banquet halls, theatres, concert halls and sports halls. In these facilities, the loop coverage area must cover both the performers' and users' facilities and stands.
7. At the site, a fixed induction loop will be installed in one room designed as a meeting room for more than 10 people. The conference room in which the induction loop is installed is primarily selected from the conference rooms available to the customer, if they exist at the site.
8. A fixed service point loop is installed at all customer service points of the meeting spaces. For example, there are customer service points in venues such as theatres, where you can buy tickets.
9. It is also recommended to equip the service point with a communicator for people who are hearing impaired but do not have a hearing aid.
10. The lifts in the meeting space must have induction loops connected to the lift alarm system.
11. Spaces equipped with an induction loop system are always marked with an induction loop sign and a coverage map associated with the induction system. (Figures 15c, 15d and 15e)



Figure 15a Good solution: The meeting space has easy-to-move furniture, making it suitable for a wide variety of events and users.
(Turku City Main Library, Turku)



Figure 15b Good solution: The meeting space has easy-to-move furniture, making it suitable for a wide variety of events and users.
(Turku City Main Library, Turku)



Figure 15c Good solution: The banquet hall is equipped with an induction loop. (Turun suomalainen yhteiskoulu, Turku)

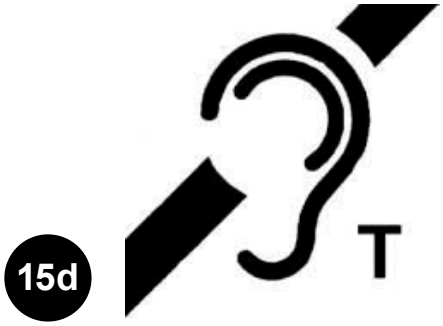


Figure 15d Good solution: General induction loop sign.

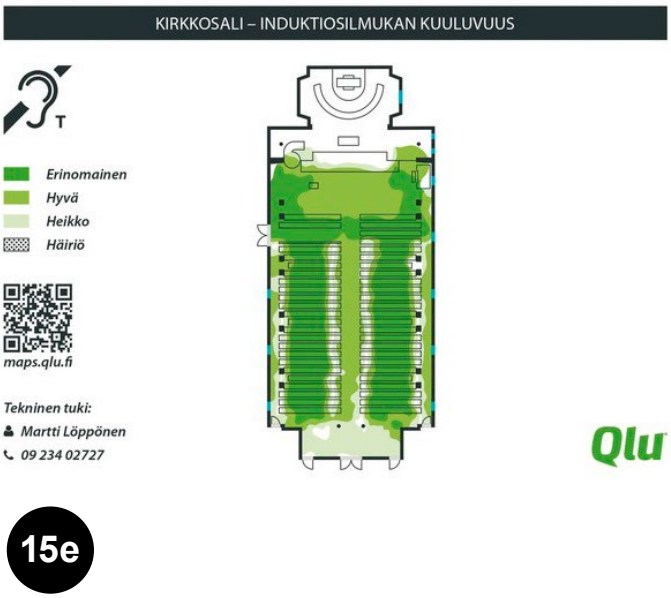


Figure 15e Good solution: Coverage map (Qlu OY, Paavali Church, Helsinki)

16 Accommodation facilities



© iStock

Legislation

Government Decree on the Accessibility of Buildings (241/2017)

Section 6, subsection 1 Other spaces in the building
The premises of a building other than a residential building and the common areas of a residential building, as well as their fixtures and fittings, must be suitable for persons with reduced mobility and functional impairment.

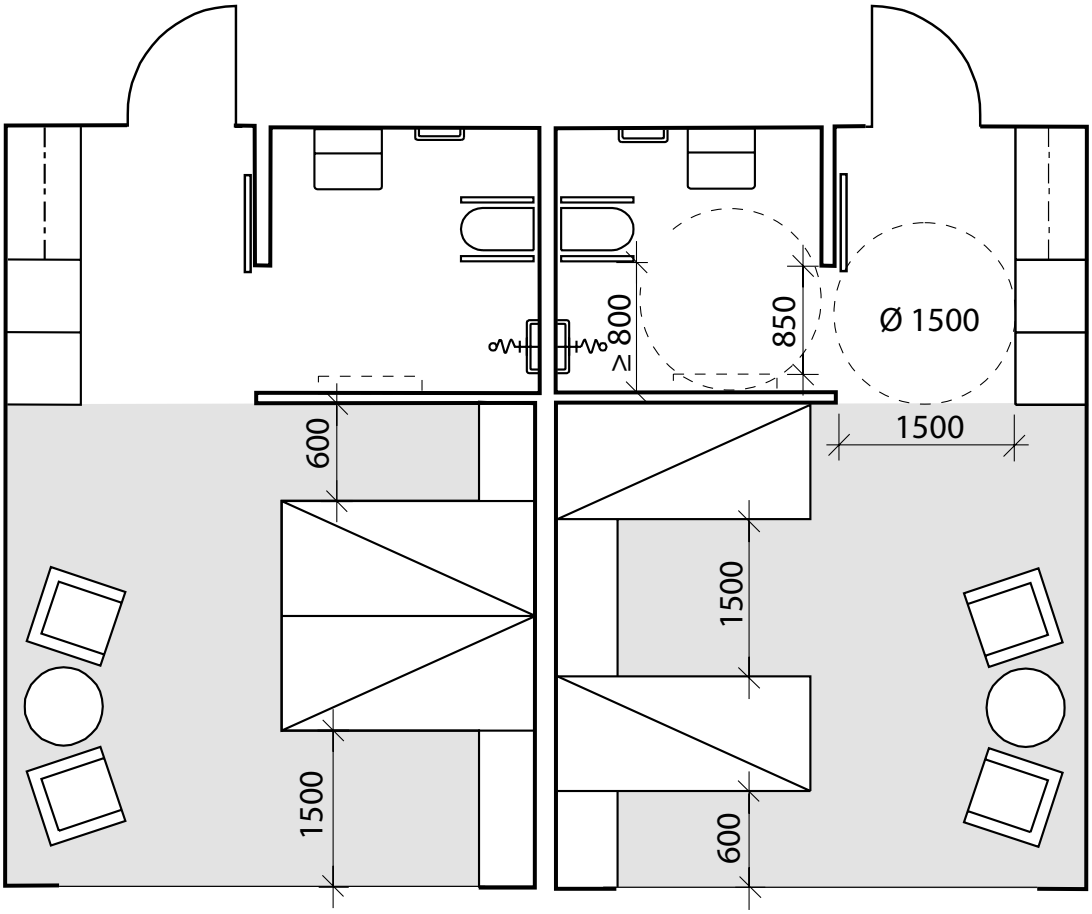
Section 9, subsection 2 Toilet and washing facilities in residential buildings
In an apartment intended for service housing or sheltered housing for persons with reduced mobility or functional impairments, there must be at least one toilet and washroom with a clear space of at least 1,500 mm in diameter. Fixed furniture must be positioned in relation to the clear space so that it can be used by a person with reduced mobility. In addition, there must be at least 800 mm of clear space on one side of the toilet seat. Such toilet and washroom facilities must be equipped to accommodate persons with reduced mobility.

Section 13 Accommodation facilities
A hotel building and other similar accommodation buildings must have at least five (5) per cent of the accommodation spaces, but at least one accommodation space, suitable for persons with reduced mobility and functional impairments and their assistants. Such accommodation must have a toilet and washing facility in accordance with section 9. At least half of these toilets and washrooms, but at least one, must be adapted for persons with reduced mobility and the others must be so adapted where necessary.

Accessibility recommendations of the City of Turku

1. The general interior and access facilities of the accommodation building will be constructed as accessible as possible in accordance with the decrees so that access to accessible facilities can be secured.
2. Accommodation rooms with toilets and showers will be equipped for persons with reduced mobility, and these rooms will always be located at the beginning of the accommodation section near shared spaces and routes.
3. A tourist accommodation must have at least one accessible public toilet for all. This accessible toilet must be located on the entrance floor. If there are several floors in the building, each floor must be equipped with an accessible public toilet.
4. The entrance to the accommodation room must be clear and wide enough for accessible mobility. A clear and easily perceivable passage to the emergency exit route is also ensured.
5. The hallway, washroom/toilet and room area of the accommodation must have a clear turning point with a diameter of at least 1,500 mm (turning circle). Clear space means clear space up to a height of 2,000 mm. The clear space must not include a door opening, a door leaf opening angle or any other recess in the atrium or aisle.
6. The accommodation must have sufficient space for rest, lounging and recreation, hygiene and the storage necessary for accessible accommodation.
7. The basic dimensions of the accommodation room should meet the requirements of accessibility and the needs for independent, accessible accommodation. As such, the accommodation room must also enable not only the main accommodation but also the accommodation of the assistant and the use of a wheelchair or other assistive device. The walls and their structures should already be fitted with support rails and other equipment to make it easier to live in the accommodation.
8. The accommodation room should be equipped with a fixed temporary bed for a possible assistant.
9. There must be enough space in the accommodation room to accommodate any assistive devices, such as a wheelchair. It is advisable to install a socket in the wheelchair storage area where an electric wheelchair can be charged. The outlet is placed between 400 mm and 1,100 mm above the floor and at least 400 mm from the corner.
10. The accommodation room must be equipped with an alarm system. For example, alarm button bracelets are recommended in accommodation, so that guests can call for help from anywhere. The alarm clock is also recommended to have an alarm. However, these alarm systems must not replace fixed alarm systems prescribed by a decree in public spaces.
11. The general alarm system in the accommodation building must also function in the accommodation room in such a way that a hearing impaired person can also detect the alarm. An alarm system can be connected to a TV receiver, for example, so that a flickering TV also attracts the attention of a person who is deaf. It is a good idea to place an indicator light above the entrance to the washroom in the accommodation room, so that the alarm system is visible and also acts as a sign during an alarm.

12. The accommodation room is equipped with safety and sign illumination in accordance with the decrees and regulations.
13. The furnishings and equipment of the accommodation room pay attention to accessibility. For example, the height of the bed must be a maximum of 450 to 500 mm and the seats in the room, such as armchairs, must be back-reclining and have armrests. The bed must not be sinking either.
14. Fixed furniture must be positioned in relation to the clear space so that it can be used by a person with reduced mobility. In addition, there must be at least 800 mm of clear space on one side of the toilet seat. Such toilet and washroom facilities must be equipped to accommodate persons with reduced mobility. (See figure 16a).



16a

Figure 16a Good solution: Example of the dimensioning of accessible accommodation. (RT 103141 Esteetön liikkumis- ja toimimisympäristö, in Finnish only)

17 Illumination and colours



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Legislation

Decree of the Ministry of the Environment on the Safety of Use of Buildings (1007/2017)

Section 10 Brightness and lighting

The building and its surroundings must be illuminated in such a way as to ensure safe operation and maintenance. Lighting must not cause glare that could compromise safety. The surfaces and lighting of the building must be such that the differences in brightness necessary for detection are achieved.

Ramps, steps, thresholds and level differences on the access route must be clearly indicated by lighting and contrasting surfaces or safety signs.

Accessibility recommendations of the City of Turku

1. A good level of indoor lighting should be between 200 and 300 lx. Adaptive lighting is versatile, as the lighting needs of spaces vary from situation to situation.
2. Lighting systems should aim to provide an energy-efficient solution that is fit for purpose. In addition to normal comfort and health considerations, the lighting and acoustic design of the premises will take into account the requirements of any AV systems and camera surveillance. The light switches must be placed at a height of 900 mm from the floor surface.
3. All light fixtures should operate with a switch. Motion-activated lighting is not suitable for spaces for people with reduced mobility, as a person with reduced mobility may not be able to restart the motion sensor independently. The light switches must also be marked with an illuminated sign.
4. Colours must be used to create sufficient contrast between floors and walls, doors and walls, fixtures and their surroundings. Furniture should be clearly distinguishable from the surrounding area/wall by means of contrasting colour. The colouring of the goods must also be such that they stand out, are not dangerous for persons with impaired vision to bump into and are easy to distinguish from the background. For this reason, the furniture must be placed in special contrast areas. (See figures 17a and 17b)
5. Differences in the contrast of surfaces are important for orientation and for preventing stumbling, collision, straying and falling. A minimum light reflectance value of 0.40 is used as the contrast minimum value.
6. The materials used for furniture and fittings should have a matte finish to prevent glare.

Entrances

1. The entrances are well-illuminated. The recommended general lighting intensity is 100 to 300 lx. The illumination of the entrance is adapted to the surrounding lighting so that it stands out from its surroundings.
2. In roofs, the general lighting comes from above and the light fixtures are embedded in the roof structure. The use of light fixtures embedded in the ground or on the floor should be avoided as they may be dazzling.
3. An entrance canopy or recess and an entrance tambour and its lighting can be used to compensate for changes in lighting levels between the exterior and interior spaces. The entrance tambour is well illuminated to prevent glare due to differences in indoor and outdoor lighting. (See figure 17d)

Passages

1. Smooth and glare-free lighting must be implemented on the passage without dark blind spots. The recommended lighting intensity on the passage is at least 50 lx.
2. Lamps must not block passages.
3. Differences in elevation, crossing points, entrances, signs, service points and other points of change and danger should be particularly well illuminated.

4. A non-glare row of light fixtures running parallel to the passage, on the ceiling or wall, guides the way.
5. The windows are positioned so that they do not cause glare on the passages. It is a good idea to place them on the side walls at the end of the hallway.
6. Bumping into glass doors, windows and other large glass surfaces must be prevented by contrasting strips, colours or framing. Contrast markings are installed on two different levels (1,000 mm and 1,400–1,600 mm).

Toilets, dressing and washing facilities

1. The recommended intensity for general lighting is 300 to 500 lx, also in mirror lighting measured at face height. The light must not glare directly or through shiny surfaces.
2. All light fixtures should operate with a switch. Motion-activated lighting is not suitable for spaces for people with reduced mobility, as a person with reduced mobility may not be able to restart the motion sensor independently. The light switches must also be marked with an illuminated sign.
3. Any cabinet and storage areas are illuminated.
4. Colours must be used to create sufficient contrast between floors and walls, doors and walls, fixtures and their surroundings. Toilet furniture, such as the washbasin, is clearly distinguishable from the surrounding area/wall by contrasting colour. (See figure 17c)

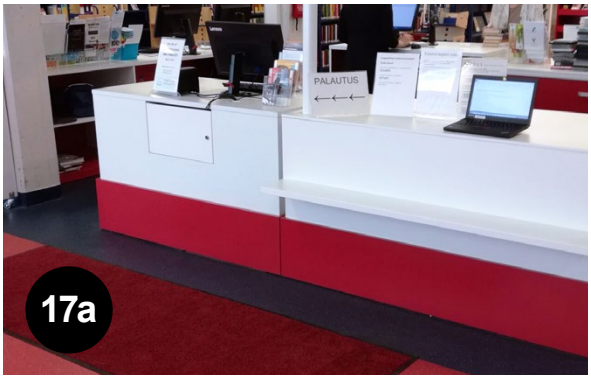


Figure 17a Good solution: Good colour contrasts help finding and identifying the customer service counter. (Ilpoinen Library, Turku)



Figure 17b Good solution: Good colour contrast on doors helps in identifying them. (Runosmäki Elderly Centre, Turku)



Figure 17c Good solution: [1] Doors and [2] toilets stand out [3] from the floor and [4] from the walls thanks to contrast differences. (Ypsilon multipurpose centre, Turku)



Figure 17d Bad solution: A poorly lit entrance tambour exacerbates the glare caused by the difference in lighting between indoor and outdoor spaces. (Disability Services, City of Turku, Turku)

18 Guidance and signs



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Legislation

Government Decree on the Accessibility of Buildings (241/2017)

Section 2 Passage leading to the building
If there are parking places for a building, a sufficient number of them, but at least one, must be for the use of persons with reduced mobility and functional impairments. Such a parking place must be at least 3,600 mm wide and at least 5,000 mm long and must be marked with the symbol of a person with reduced mobility. The provisions of this subsection do not apply to single-family houses, semi-detached houses or urban single-family houses.

Section 6, subsection 1 Other spaces in the building
The premises of a building other than a residential building and the common areas of a residential building, as well as their fixtures and fittings, must be suitable for persons with reduced mobility and functional impairment.

Section 10, subsection 1 Toilet and washing facilities in a building other than a residential building
A building other than a residential building must have an adequate number of appropriately located toilets suitable for wheelchair and wheeled walker users, taking into account the purpose of the building, its function and the length of access routes. The toilet facilities referred to above must be located in such a way that the gender of the user and the assistant does not affect the possibility of using them. The toilet facilities must be marked with the symbol for a person with reduced mobility.

Decree of the Ministry of the Environment on the Safety of Use of Buildings (1007/2017)

Section 10, subsection 3 Brightness and lighting
Ramps, steps, thresholds and level differences on the access route must be clearly indicated by lighting and contrasting surfaces or safety signs.

Section 13, subsection 1 Doors and gates
The door and gate of a building must be easily accessible even when the conditions change.

Accessibility recommendations of the City of Turku

1. The City of Turku's sign concept, introduced in 2020, must always be used in the City of Turku sites and environments. For more information on the sign concept and its use, please contact the Accessibility Coordinator and Project Manager Riikka Niemelä riikka.niemela@turku.fi.
2. The signs are easy to perceive, clear and large enough and have a clear contrast for easy reading. Information is also logical and uninterrupted. The signs are placed at the viewing height of a standing adult (centre of the sign) at a height of 1,400 mm.
3. The signs must use the symbols of a person with reduced mobility at as high a contrast as possible. The most recommended symbol has a blue base. (See figure 18a)
4. Text signs use both uppercase and lowercase letters to make long and multiline text easy to read. Short signs for a single space can also be written in upper case only.
5. Signs in public spaces should at least use raised lettering for short texts or, for example, room numbers. Braille can also be added to sign texts. The raised and Braille texts are placed at the lower edge of the space sign for persons with impaired vision.
6. Sound and light signals and audiovisual communication systems can also be used to enhance textual guidance. In addition to the colour, a symbol is needed for the light sign. The audio signs help, for example, persons with impaired vision to find their way around. The sound beacon guiding you to the door is placed above the door. The non-irritating tone is selected as the guide tone.
7. The colouring of the signs must be uniform and distinguishable from the colouring of the space. The darkness contrast between the background and the letters and symbols should be as high as possible.

Parking places

The most effective way to mark accessible parking places is to use the international ISA wheelchair symbol painted on the surface of the parking place and accompanied by a fixed vertical sign. The sign to be painted on the surface of the parking place is an ISA symbol that must be at least 500 mm in size. A vertical sign must be placed at a height of at least 900 mm in front of the parking place and on the centre line. It is recommended that the base of the accessible parking place is also marked in blue to increase visibility. (See figure 18a)

Passages

1. The passages must be easy to detect. The passages are marked with tactile and contrasting strips. (See figure 18h and 18i) Sound beacons also help the person with impaired vision navigate the space. Guidance with signs leads from the entrance first to the information point and the lift. If there is no lift but is stairs and a ramp instead, guidance leads to the stairs. Guidance also to the accessible toilet. Guidance on the most accessible entrances and doors (e.g. in addition to a revolving door, there should always be an alternative door to which the guidance takes you). If necessary, contact the accessibility coordinator.
2. In outdoor areas, in addition to signs, rainwater gutters can be used for access control. Rainwater gutters do not pose a stumbling hazard and can act as a guiding element, whereby the gutter is placed parallel to the passage, without creating differences in elevation. Guidance tiles are used to mark a route or to warn of crossings, stairs or other differences in elevation.
3. A row of light fixtures placed on one side or above the passage helps people with poor vision to navigate along the passage.

Entrance

1. The entrance is signposted from the approaches and parking area by means of signs and guiding structures such as handrails and guide strips. (See figures 18h, 18j, 18k, 18m, 18n, 18p ja 18q) It is also accentuated by the canopy, the massing of the building and the lighting.
2. If it is impossible to provide an accessible main entrance to an old building, the route to an alternative entrance will be signposted from the direction of entry and from the main entrance. The alternative entrance must be as independently accessible as the main entrance. (See figure 18o)

Accessible toilets

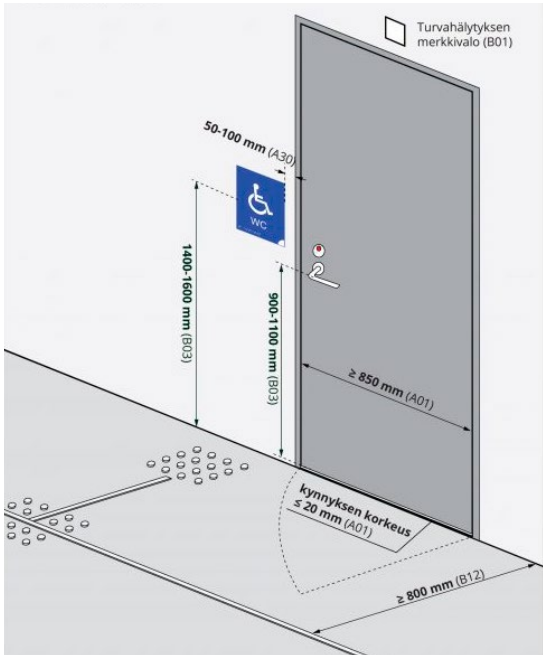
1. An accessible toilet must be marked visibly and clearly so that it is easy to find. The passage to the accessible toilet must be easily perceived, flat and slip-resistant and of reasonable length.
2. An accessible toilet is marked with the symbol of a person with reduced mobility, i.e. the international wheelchair symbol, which has a clear contrast of colour and is also identifiable by touch. (See figures 18b and 18c)



18a **Figure 18a** Symbol for persons with reduced mobility, international wheelchair symbols (ISO 7001 Graphical symbols – Public information symbols).



18b **Figure 18b** Accessible toilet sign. (Sujuva.info)



18c **Figure 18c** The accessible toilet sign is always placed on the opening side of the door. (Sujuva.info)







Figure 18d, 18e and 18f Clear and uniform indoor guidance is easier to direct the customer to the right service point. Clear pictograms, visible and readable text, and good colour contrast helps in understanding the sign. (Monitori at Market Square, City of Turku, Turku)



Figure 18g Bad solution: The information board has reflections, which makes it difficult to read the information board. Black markings on a white background would be easier to read.

(Syvälahti multipurpose centre)

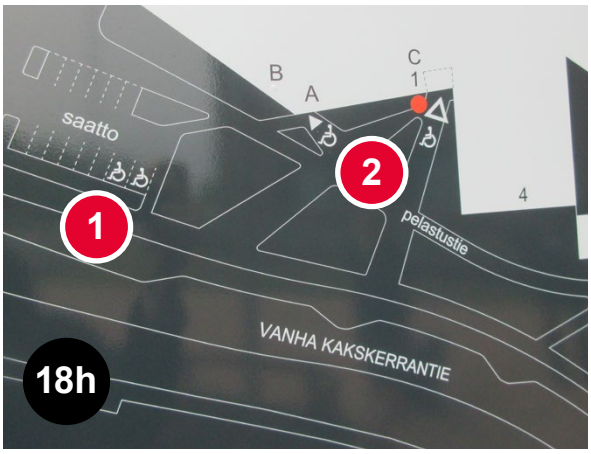
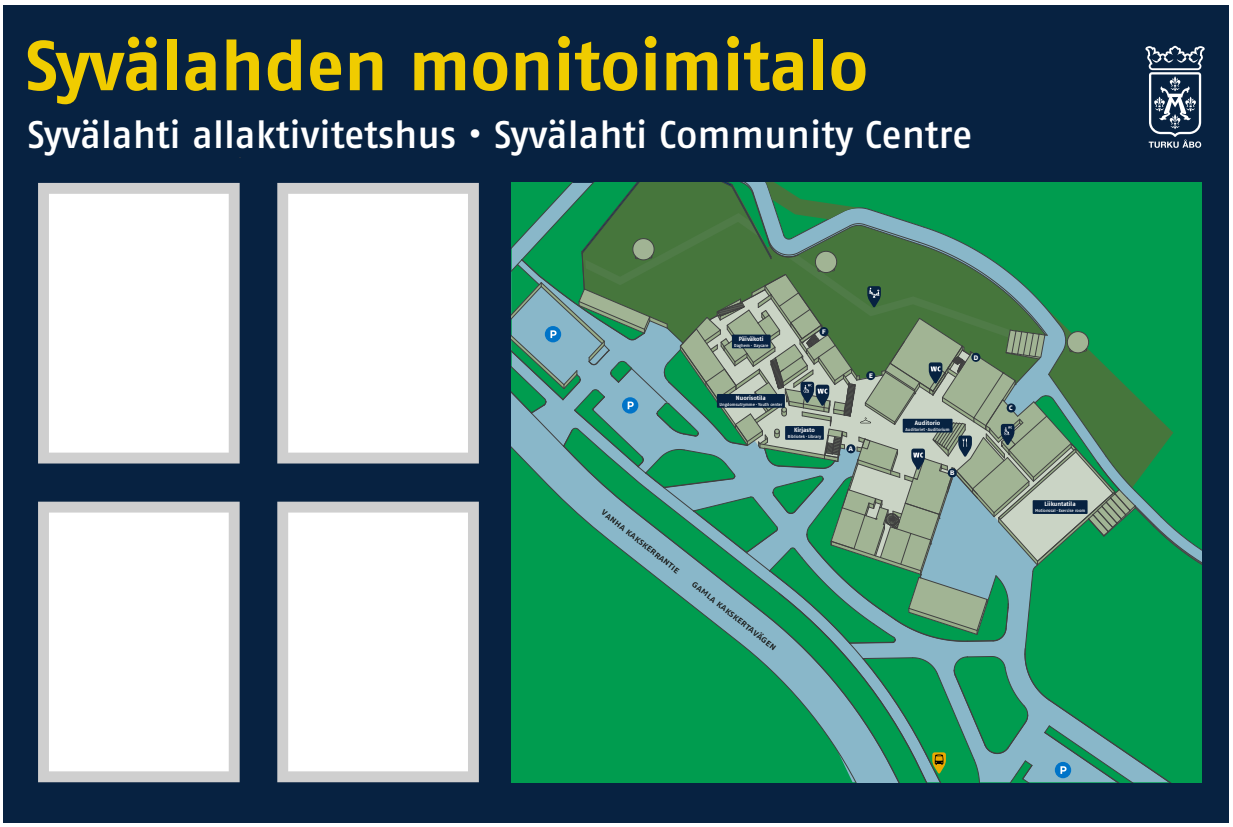


Figure 18h Both upper and lower case letters have been used in the text signs. [1] The sign indicates accessible parking places and [2] access routes to the entrances.

(Syvälahti multipurpose centre, Turku)



18i

Figure 18i In the new sign concept, the buildings are designed in three dimensions. The use of colours also makes it easier to perceive the location and map. Announcements can also be added to the left side of the information board, for example.

(Draft version of the information board, Design Studio Muotohiomo Oy, Syvälahti multipurpose centre, Turku).



Figure 18j Good solution: The sign is clear and has an index. (University of Turku, Turku)

Bad solution: Sign with stickers does not survive well outdoors (e.g. texts worn, "You are here" sign completely removed). Marking entrances and parking places is more important than showing adjacent house solutions.
(Turku Teacher Training School, Turku)



Figure 18k Good solution: The sign is clear and has an index.

Bad solution: The sign has poor contrasts, especially the red numbers are hard to see. The sign has also been placed aside. (Katariina School, Turku)

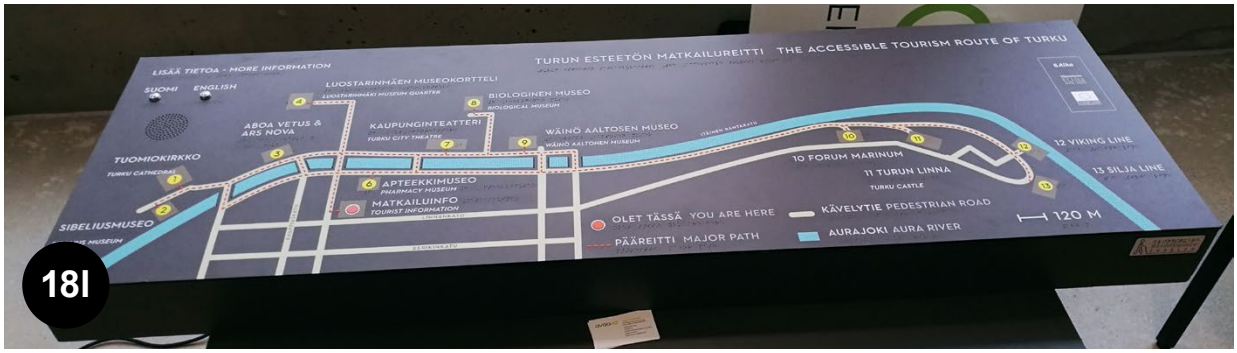


Figure 18l The sign for an accessible tourist route on the Turku riverbank: the sign is non-reflective and high contrast, with raised letters and patterns and Braille. In addition, the sign provides audio guides.
(City of Turku, Turku Accessible Tourism Route, 6Aika/Opastamisen ekosysteemi)

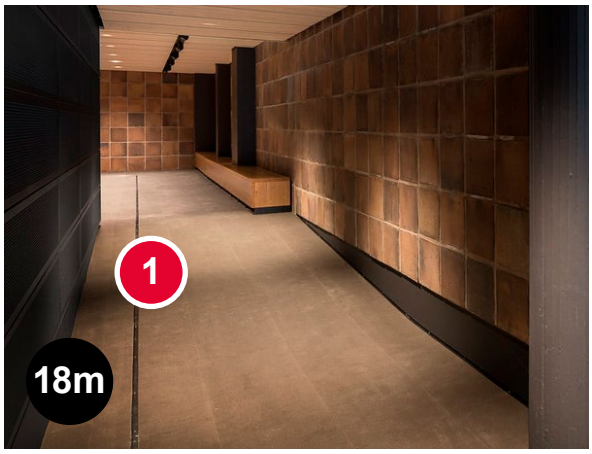


Figure 18m Good solution: [1] The passage has a tactile contrasting strip. (Turku City Theatre, Turku)



Figure 18n Good solution: [1] The passage has a dark contrasting strip. (TYKS, Turku)



Figure 18o Good solution: Emergency exit signs must be illuminated and easily visible.
(Räntämäki day care, Turku)

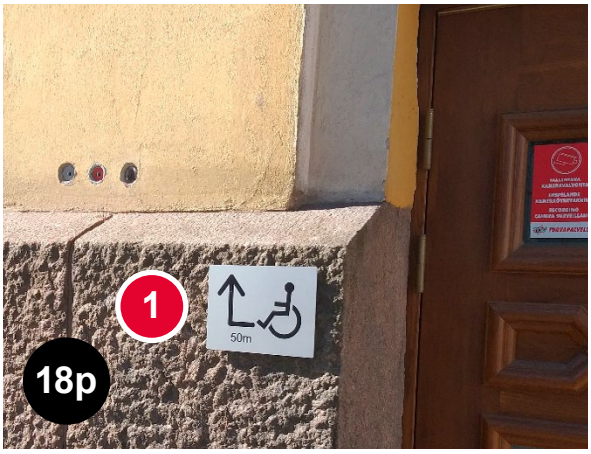


Figure 18p Good solution: [1] The alternative entrance is clearly guided from the non-accessible entrance. When the accessible entrance is not at the end of the line of sight, the distance is indicated on the sign. (TSYK, Turku)

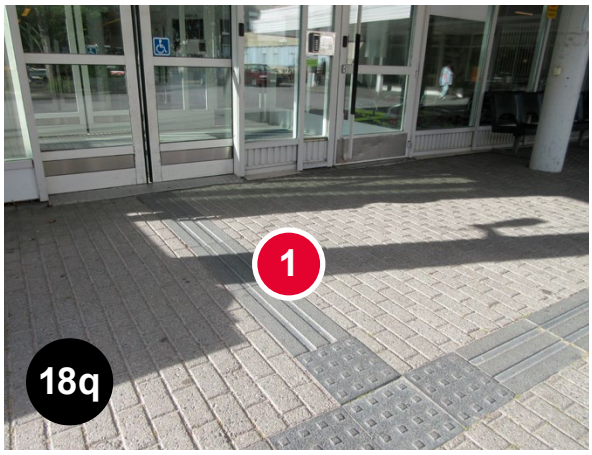


Figure 18q Good solution: [1] The tactile strip directs to the entrance. (Mäntymäki health station, Turku)

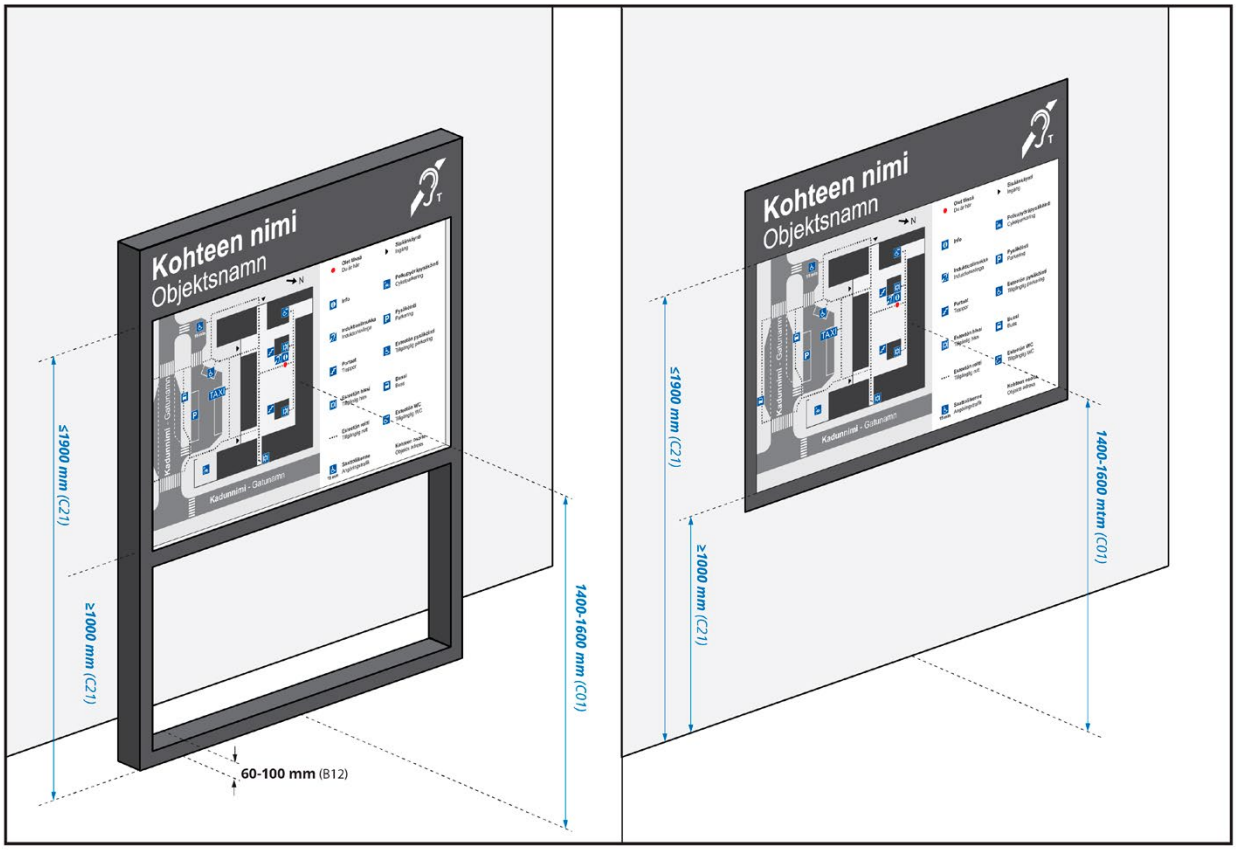
Plain map/area map outdoors

1. The area map must be placed on the side of the main route and the walking surface in front must be hard and flat. The map is located at the beginning of the main access route.
2. There must be no structural obstacles or furniture, planting or differences in elevation in front of the sign.
3. If the sign is intended to be read at close range or has Braille, it must also be accessible with a wheeled assistive device.
4. The map is positioned according to the viewing direction.
5. The map describes the most important objects in the area. The name and address of the site, all buildings in the area, entrances, accessible entrances and key functions, such as accessible toilets and information points, are recorded and marked in the area map. The area map also includes parking places for cars and bicycles, accessible parking places, taxi and bus stops and information points. Signs, symbols and images must be displayed consistently along the entire accessible route.
6. The minimum area map size is 800 x 1,200 mm. Height of the centre of the information area of the close-reading sign from the ground (viewing height of a standing person) 1,400 to 1,600 mm.
7. The area map makes it easier to perceive the building/space/environment.
8. The plain map text is large and the letters are clear. In Turku, the map languages are Finnish and Swedish.
9. Under different lighting conditions, the different elements of the map must also be clearly differentiated from each other for colour-blind persons. The text and symbol should form a clear contrast against the background and the surface on which the sign is fixed.
10. Colour combinations red-green, orange-brown and blue-green are not used.
11. The background of the sign does not include a transparent structure or plastic plate, or a glass wall, door or plate, as there is no darkness contrast between the text and the symbols and the background.
12. Colour should always be combined with a shape or symbol. Light texts and symbols are most noticeable on a dark background.
13. The colour combination of the warning signs is yellow-red and the yellow black of the warning devices is not used so that they are not mixed with the warning signs.
14. In the dim light, yellow, orange, light green stand out well.
15. The colouring of the signs must be uniform and distinguished from the colouring of the space.
16. The signs must contain short, simple words that are easy to read, understand and recognise.
17. The signs use a clear standard language that is suitable for everyone (benefits for people with intellectual disabilities, persons who are blind from birth, people with multiple disabilities).
18. Initials and short words are capitalized.

19. As little text as possible, Text alignment to the left, Sign typeface without serifs.
20. The typeface for signs is **Arial, Helvetica Medium** or an equivalent non-serif font.
21. The font size of the sign text when read at a distance of 1 m from the immediate vicinity ≥ 15 mm. Text font size at close range (relative to reading distance) 25 to 40 mm. Text font size when reading from a distance of more than three (3) metres: 70 to 100 mm.
22. The accessible route is marked with a dotted line and a wheelchair symbol (ISA symbol). Accessibility services for wheelchair users marked with symbols (ISA symbol); parking place, entrance and stepless entrance to the building (e.g. ramp to an accessible toilet), accessible toilet.
23. Signposts are always marked with "**YOU ARE HERE**" and also with the north arrow.
24. The related symbols on the same sign are placed in the same frame.
25. The labels used on the map are described in the map description.
26. All important objects are guided by visual symbols, and the symbols must be well-known, concrete and easy to understand.
27. The size of the symbols (s) depends on the viewing distance (D). The size of the graphic symbol at a viewing distance of 1,000 mm to 10,000 mm must be calculated as s=0,09 D. The size of the symbol at a distance of 1,000 mm ≥ 90 mm.



18r **Figure 18r** Plain map/area map (Sujuva.info)



18s **Figure 18s** Plain map/area map placement (Sujuva.info)



18t **Figure 18t** Placement of the area map in connection with the main entrance (Daghem Port Arthur, Turku)



18u **Figure 18u** Guide maps (Forum Marinum, Turku)



18v **Figure 18v** Placement of the area map in an accessible manner taking into account all user groups is very important. The notifications section also includes announcements of current events at the museum. (Luostarinmäki, Turku)

Tactile signs

1. For persons with low vision and for blind people, it is advisable to install tactilie floor signs between certain points on the route (routes, customer service points, lifts, etc.) A model example of the placement of tactile signs in the indoor space as an attachment. (See figure 18z)

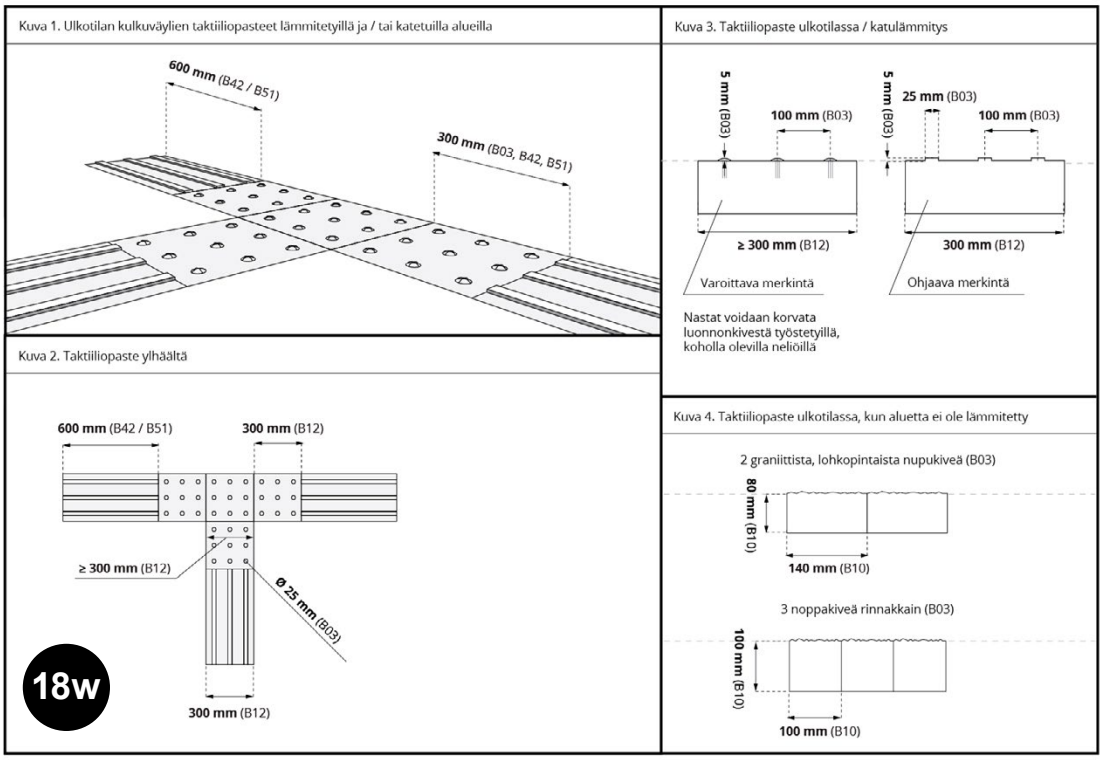


Figure 18w Outdoor tactile sign (Sujuva.info)

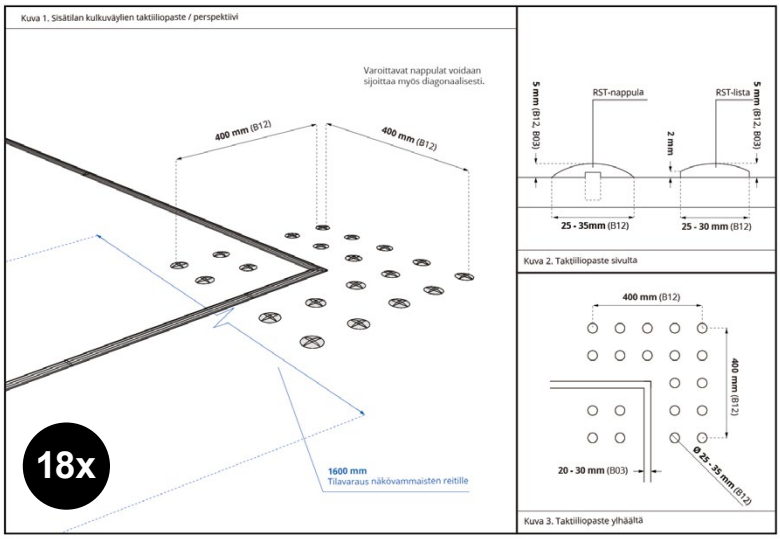


Figure 18x Tactile sign for indoor passages (Sujuva.info)

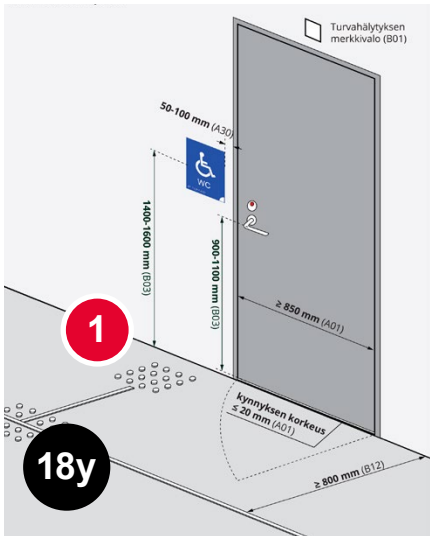
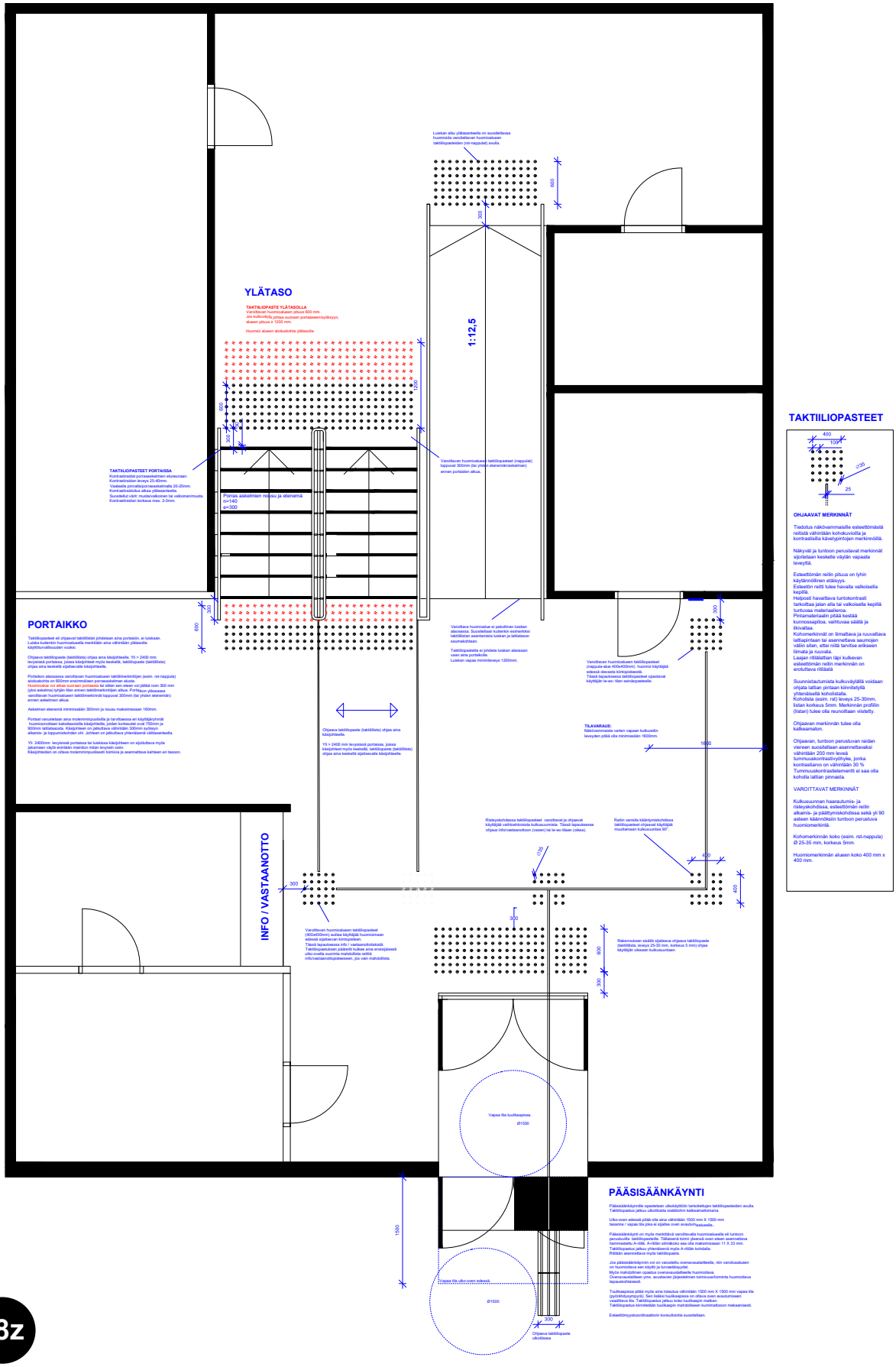


Figure 18y [1] Example of a tactile sign in an accessible toilet. (Sujuva.info)

2. The placement and specification of the tactile strip and attention areas is important, and experts by experience should be used in the planning of all facilities.

3. Always contact the accessibility coordinator when planning the tactile strip/attention area. The tactile strip model is also available from the accessibility coordinator. (See figures 18w, 18x, 18y and 18z)

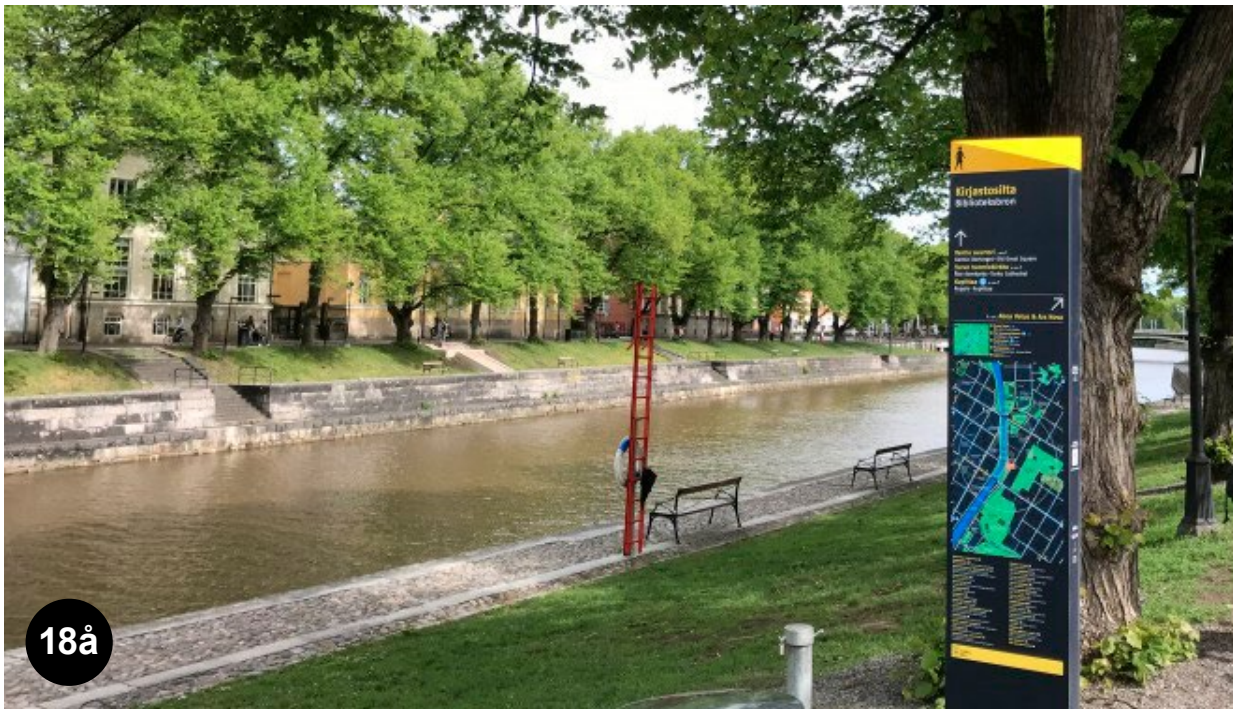
TAKTIILIOPASTUS SISÄTILOISSA



18z

Figure 18z Example of placing tactile signs in the space. (City of Turku, Accessibility Coordinator)

Download the tactile sign dwg file from the City of Turku's data bank M-files (in Finnish) ▸



The City of Turku's guidance is based on the new concept of guidance. In Turku, the aim of guidance is not only to guide people from one place to another, but also to guide people to better perceive and understand urban spaces. The new signs are intended for outdoor and indoor guidance of the City of Turku's facilities and environments.

The City of Turku's guidance concept (only in Finnish) is a guidance method/model used in the City of Turku's facilities and environments.

More information and assistance on guidance is available from Project Manager Riikka Niemelä.

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riikka.niemela@turku.fi

19 Furniture and equipment



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Legislation

Government Decree on the Accessibility of Buildings (241/2017)

Section 6, subsection 1 Other spaces in the building
The premises of a building other than a residential building and the common areas of a residential building, as well as their fixtures and fittings, must be suitable for persons with reduced mobility and functional impairment.

Section 9, subsection 1 Playground and recreation area
In a residential building in which a lift is required in addition to stairs in accordance with section 7, each apartment must have at least one toilet and washroom with a clear space of at least 1,300 millimetres in diameter. Fixed furniture must be positioned in relation to the clear space so that it can be used by a person with reduced mobility. Such toilet and washroom facilities must be equipped to accommodate persons with reduced mobility.

Section 10, subsection 3 Toilet and washing facilities in a building other than a residential building
Toilet facilities must be adapted for persons with reduced mobility. If the building has a monitoring system, there must be a safety alarm connection from the toilet to the monitoring system.

CONTINUE ▼

Section 11, subsection 1 Other hygiene facilities in non-residential buildings
Some of the dressing rooms, washing rooms, saunas and swimming pools in buildings other than residential buildings must be suitable for persons with reduced mobility and functional impairment. Suitable spaces for persons with reduced mobility and functional impairment must be marked with the symbol for persons with reduced mobility. If the building has a monitoring system, spaces suitable for persons with reduced mobility and functional impairment must have a safety alarm connection to the monitoring system.

Section 12 Meeting spaces
If there is a sound reproduction system in a stand, auditorium, banquet room, conference room or restaurant room, teaching room or other similar meeting room or public service space, it must have an induction loop or other similar sound transfer system.

If there are fixed seats in a space referred to in subsection 1, accessible approaches must lead to more than one row of seats and there must be a sufficient number of wheelchair spaces.

Decree of the Ministry of the Environment on the Safety of Use of Buildings (1007/2017)

Section 15 Safety equipment
The building must be equipped with appropriate and durable security solutions and equipment suitable for their intended use.

In apartments and other areas used by children, windows and other openings where there may be a risk of falling must be fitted with restrictors that allow an accessible opening of not more than 100 mm. However, the window restrictor of a window used as an emergency exit must be easily releasable by an adult.

Ladders and other structural components of the emergency passages and service routes must also be usable in an emergency.

The clear opening of a vertical hatch or window in an emergency passage must be at least 600 mm in height and 500 mm in width. The sum of these must not be less than 1,500 mm. The horizontal door opening must be at least 600 x 600 mm.

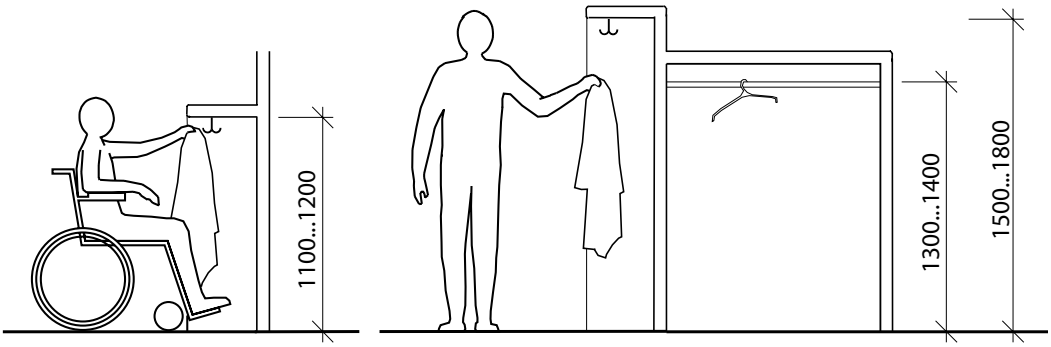
Section 17 Playground and recreation area
Steep differences in elevation of more than 0,7 m in courtyard areas and steep slopes in the vicinity of common playground and recreation areas for residential buildings other than those of two or fewer apartments must be provided with appropriate railings or planting or with a falling surface.

The gates and ramps in the yard must be safe and equipped with appropriate rails and handrails.

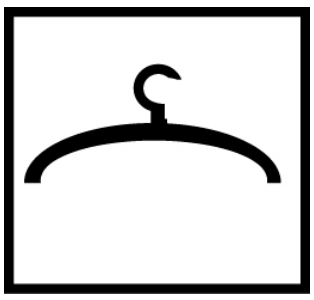
The playground equipment must be safe and have a suitable and shock-absorbing base structure.

Accessibility recommendations of the City of Turku

1. The facilities are equipped with safety and sign illumination in accordance with the decrees and regulations.
2. Equipment, fittings, etc. must be placed without obstruction and in such a way that they do not obstruct passageways. In addition, furniture may not be stored in accessible toilets; instead, other storage locations must be allocated to them.
3. When choosing colours for furniture and accessories, attention is paid to differences in darkness contrast that facilitate the orientation of persons with impaired vision.
4. Furniture materials must be easy to clean, hygienic and durable.
5. In public spaces, it is a good idea to have seats with different heights and backrests and armrests.
6. The placement of coat racks must not cause a collision hazard and, for example, open ends must be protected to avoid a collision hazard.
7. Clothes racks and hooks are placed at heights of 1,200 mm, 1,400 mm and 1,600 mm and they are well lit. (See figure 19a).
8. Seats and tabletops of different heights will be placed near the coat racks.
9. A mirror with a maximum height of 800 mm at the bottom and a minimum height of 2,000 mm at the top should be placed in connection with the clothing storage spaces. The lower edge of the whole body mirror must be at a height of at least 3,00 mm to prevent the mirror from misconceived as a passage and to reduce the risk of breaking.



19a **Figure 19a** Placement heights of clothes racks and hooks.
(RT 103141 Esteetön liikkumis- ja toimimisympäristö, in Finnish only)



19b **Figure 19b** Clothes storage guide
(www.kulttuuriakaikille.fi/accessibility_symbols_for_communication_culture_for_all_symbol_bank)

10. Accessibility will be taken into account when equipping the service areas.
11. Service points should be equipped with an induction loop (service loop) and be marked with a symbol in accordance with SFS-EN 60118-4. (See figures 19g and 19n)
12. Service counters are dimensioned so that you can sit and stand at them. (See figures 19c, 19d and 19g)
13. The face of the person serving the service is illuminated evenly and there are no glare or reflective surfaces between the customer and the person doing the service. (See figures 19c, 19d and 19g)

    Good and well-directed target lighting is needed at the service counter. It must not cause disturbing shadows.

    The design and implementation of service counters must always take customers with disabilities into account. These changes concern the correct height of the service counter, which is around 730 to 750 mm, and the clear space at the bottom of the service point, which is needed for wheelchair access, for example. The recommended dimensions of the knee recess are 800 mm wide, 670 mm high (from the floor below the level to the bottom of the level) and 600 mm deep. (See figure 19c)

    Even if the height of the counter is between the required 730 mm and 750 mm, non-accessible customers cannot be expected to approach/use the counter laterally, as such an arrangement is unsuitable for them due to reduced mobility or other difficulty. This also does not meet the criteria of equal and non-discriminatory service.

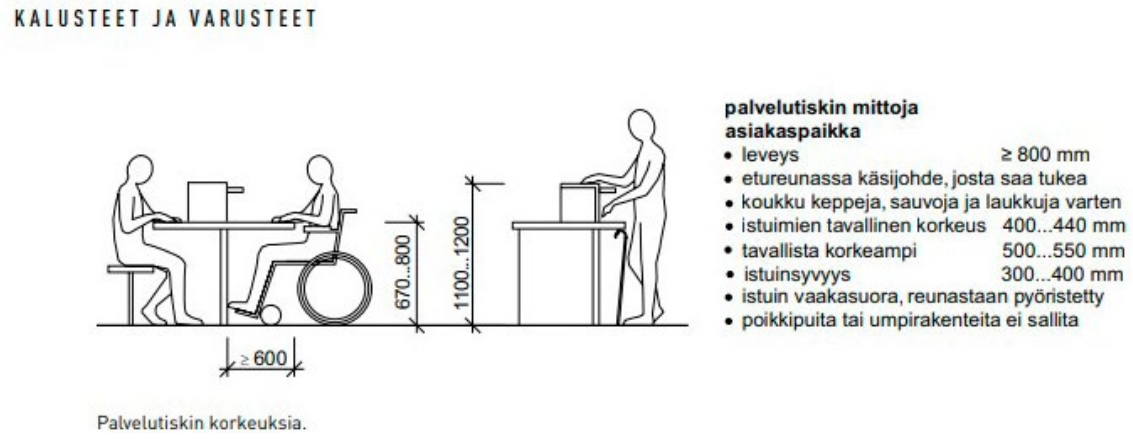
    The glass wall of the service desk between the customer and the staff makes it difficult for persons with impaired vision or hearing to communicate. Glossy glass prevents people from seeing behind the counter and also prevents reception. If a glass wall is necessary, it must be possible to open it or have a vertical opening. The face of the person behind the counter must be well illuminated. Care is also taken to ensure that the faces of both interlocutors are almost at the same height.

    Attention must also be paid to the sound insulation and noise suppression of the service point. The service counter takes into account the privacy of the customer and good listening conditions. Side walls and a sound-absorbing canopy above the counter can improve audibility at the service counter. A fixed service point loop and signage is required at the service counter for hearing aid users. In addition, a good visual contact with the employee's face is ensured. The face is illuminated to facilitate communication.

    The face of a person standing behind the service countwe is not visible enough for a lip reading (lip-to-lip reading) if there is a window behind them causing a backlight glare. In such a situation, the window must be covered with a blind, for example.

    The service counter is equipped with detachable chairs. In addition to conventional chairs (seat height approx. 450 mm), higher chairs (seat height approx. 550 mm) are also required.

    A cane holder is attached to the front wall of the service desk to keep canes or crutches upright when handling a transaction at the desk. A hook for the bag is also attached to the front edge of the counter. At the front edge of the service counter, a continuous support rail is installed at a height of 900 mm.



19c **Figure 19c** Service counter dimensions.
(RT 103141 Esteetön liikkumis- ja toimimisympäristö, in Finnish only)

14. The queue ticket device must provide visual and audible feedback. In addition to the sound signal on the number display, an announcement and a sound indicating the location of the service point are required. Queuing systems should not be based solely on sound. The queue ticket device should give the customer's queue number in the form of an audio announcement.
15. When designing spaces and their properties, attention must be paid to all types of users. For example, in clothing storage facilities, hooks are placed at heights of 1,200 mm, 1,400 mm and 1,600 mm so that they do not create a collision risk, and seats of different heights and tabletops are placed near them to facilitate dressing.
16. The playground is equipped with materials, shapes and dark contrasts to facilitate movement. The location of the swings and other moving play equipment is indicated by a darkness and material contrast that can be felt with a foot or a white stick, a change in the pavement. It is surrounded by protective structures or plantations. The play equipment must have a safety zone if the fall height exceeds 0.6 m (600 mm).



Figure 19d Good solution: The service desk can be used both [1] while standing and [2] sitting.
(Monitor at Skanssi, Turku)



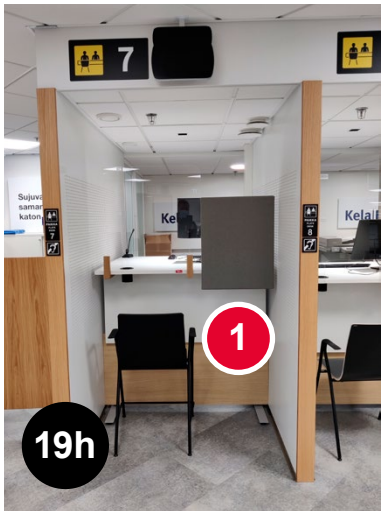
Figure 19e Good solution: Tables and chairs of different heights are suitable for a wide range of users.
(Ypsilon multipurpose centre, Turku)

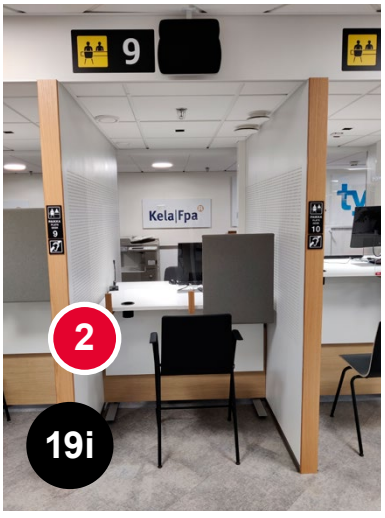


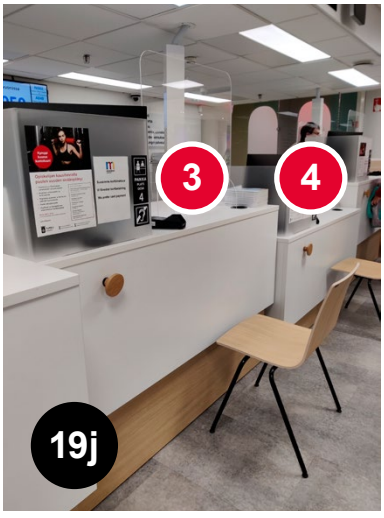
Figure 19f Good solution: The height of the registration machine is easily adjustable [1,2] by means of control buttons at different heights. (Central dental care, Turku)



Figure 19g Good solution: The location number of the service point is also indicated in connection with the service point [1]. The service point has an induction loop and is indicated by a symbol according to SFS-EN 60118-4 [2]. The service point is equipped with a clothes hook [3]. (Monitori at Market Square, City of Turku, Turku)







Figures 19h, 19i and 19j Good solution: The service point must be height-adjustable [1, 2, 3 and 4]. (Monitori at Market Square, City of Turku, Turku)

Figure 19j Bad solution: The design and implementation of service counters must always take customers with disabilities into account. The clear space at the bottom of the service point, which is needed, for example, in wheelchairs, has not been taken into account in the planning of the service counter. Even if the height of the counter is between the required 730 mm and 750 mm, non-accessible customers cannot be expected to approach/use the counter laterally, as such an arrangement is unsuitable for them due to reduced mobility or other difficulty. (Monitori at Market Square, City of Turku, Turku)

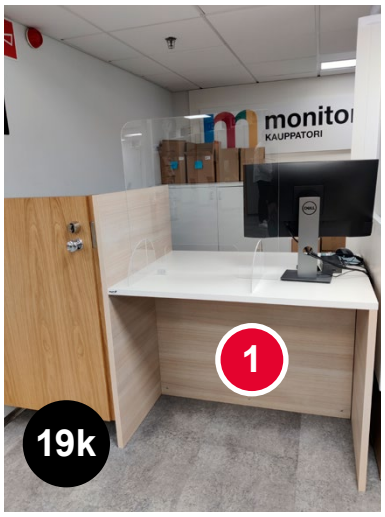










Figure 19k Good and bad solution: A separate service counter also takes non-accessible customers into account [1]. However, this is not the ideal situation for providing an equal service. The correct height of the service counter is approximately 730 to 750mm and the recommended dimensions for knee-recesses are: width 800 mm, height 670 mm (from the floor below the service counter to the bottom of the counter) and depth 600 mm. (Monitori at Market Square, City of Turku, Turku)

Figures 19k, 19l, 19m and 19n Good solution: Information desk at Monitori at Market Square. Guidance is also provided at all service points. Sign always with raised lettering and raised pictograms. (Monitori at Market Square, City of Turku, Turku).

Figure 19o Good solution: In the future, the screen in the picture [1] will also have real-time digital information. (Monitori at Market Square, City of Turku, Turku)



Figure 19p Good solution: Wheelchair users can easily get in front of the queue ticket device [1]. (Monitori at Market Square, City of Turku, Turku)



Figure 19q Good solution: A button for assisting visually impaired persons has also been added to the queue ticket device. (Monitori at Market Square, City of Turku, Turku)



Figure 19r Good solution: A dedicated, quieter customer access point is reserved for non-accessible customers. (Monitori at Market Square, City of Turku, Turku)



Figure 19s Good solution: Multifunctional furniture serves a wide range of customers. (Monitori at Market Square, City of Turku, Turku)

20 Acoustics



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Legislation

Government Decree on the Accessibility of Buildings (241/2017)

Section 12, subsection 1 Meeting spaces
If there is a sound reproduction system in a stand, auditorium, banquet room, conference room or restaurant room, teaching room or other similar meeting room or public service space, it must have an induction loop or other similar sound transfer system.

Accessibility recommendations of the City of Turku

1. The sound environment of outdoor passsages can be calmed down with the right choice and placement of vegetation. However, it is not recommended for day-care centres or school environments.
2. Wrong or misplaced damping material makes it difficult for people with hearing impairments to understand speech.
3. Overlay tones must never be used in accessible spaces.
4. A well-suppressed space helps persions with impaired vision to perceive space and find their way around.
5. Customer service facilities are equipped with service point loops. (See figure 20a)

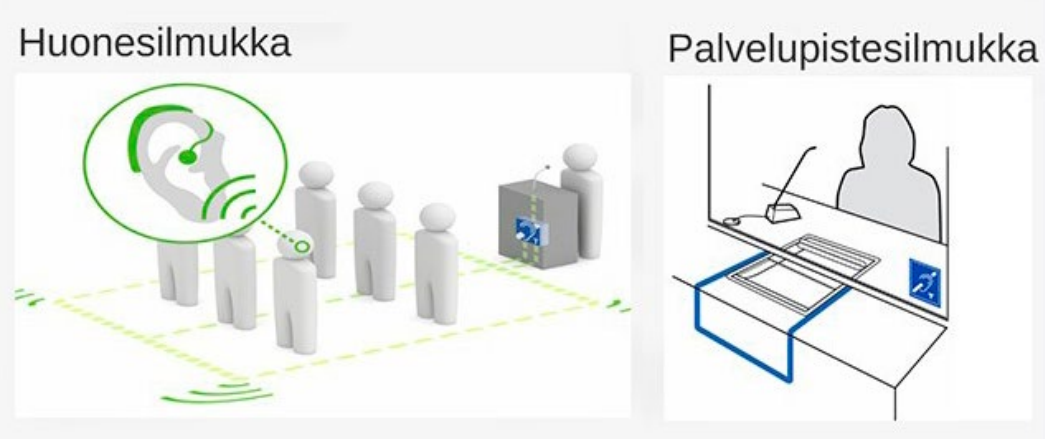


Kuva 20a Good solution: The service point has an induction loop and is indicated by a symbol in accordance with SFS-EN 60118-4. (Income support counselling, City of Turku, Turku)



Kuva 20b Bad solution: Large open spaces without appropriate attenuation are easily echoed, making it difficult for persons with impaired vision to perceive the space. (Turku City Main Library, Turku)

21 Induction loop



©Qlu Oy

Legislation

Government Decree on the Accessibility of Buildings (241/2017)

Section 6, subsection 1 Other spaces in the building
The premises of a building other than a residential building and the common areas of a residential building, as well as their fixtures and fittings, must be suitable for persons with reduced mobility and functional impairment.

Section 12, subsection 1 Meeting spaces
If there is a sound reproduction system in a stand, auditorium, banquet room, conference room or restaurant room, teaching room or other similar meeting room or public service space, it must have an induction loop or other similar sound transfer system.

Accessibility recommendations of the City of Turku

An induction loop for hearing impaired is a device that transfers sound through an electromagnetic field to the receiver coil of the hearing aid. An induction loop can be a system covering a large concert hall or auditorium, consisting of several loops and amplifiers, or a single-user cushion loop.

The induction loop is marked with the symbol according to SFS-EN 60118-4 and on the coverage map. For example, the size and colour of a label to be installed next to a door or door can be selected to suit the environment, but the user base of the space must be taken into account so that visually impaired and wheelchair users can easily detect the label and map (e.g. strong contrasts and low enough placement, embossing). (See figures 21a, b, c and d) The sound environment of external passages must be protected by the correct selection and placement of vegetation.
An effort must be made to place the induction loop inside the structures already during the construction phase.

The use of the device must not require any additional action and must always be operational.
The induction loop and also the service point loop must meet the requirements of the SFS-EN 60118-4:2014 standard.

Service point loop: The voice of the customer service representative must be transferred directly from the speaker's microphone to the hearing aid without environmental interference. Through the loop, speech must not be heard in an area where the conversation at the service point at normal volume would not be heard via an acoustic route. For service points spaced about 1,000 mm apart, the attenuation at the two listening points (in the middle of the loop, at seat height) should be approximately 25 dB to 30 dB.

The following options are available for creating a functional sound reproduction and transfer system using the induction loop system (hereinafter the induction loop):

- **A FIXED INDUCTION LOOP SYSTEM** that includes a fixed induction loop antenna cable (later referred to as an antenna cable) and a functional sound reproduction and transfer system. A fixed induction loop is suitable for premises where public events are held regularly or where the induction loop is used frequently for other reasons. A fixed induction loop application is a permanently installed service loop with a coverage area of one service point.
- Fixed induction loop equipment must include: Induction loop amplifier, mixer, wireless microphone receiver, wireless handheld microphone, wired microphone receiver, wired microphone on desk stand or wired head microphone, loop cable to be adapted to the space and its characteristics, other audio cables necessary for operation, and connectivity to external speakers must be ensured.
- **A FIXED ANTENNA CORD AND PORTABLE SOUND REPRODUCTION AND SOUND TRANSFER SYSTEM**, which requires the connection of a functional mobile sound reproduction and transfer system (amplifier and microphones) to a fixed antenna cable and the adjustment of the amplifier. Suitable for spaces where the induction loop is used regularly.
- Fixed induction loop equipment must include: Induction loop amplifier, mixer, wireless microphone receiver, wireless handheld microphone, wired microphone receiver, wired microphone on desk stand or wired head microphone, loop cable to be adapted to the space and its characteristics, other audio cables necessary for operation, and connectivity to external speakers must be ensured. A portable sound reproduction and sound reproduction system should be equipped with active loudspeakers and the necessary installation wiring to ensure that general reception is also ensured by using the same equipment.
- **An assembly consisting of a PORTABLE induction loop antenna cable and a sound reproduction and transfer system (amplifier and microphone)**, in which case the antenna cable is also inserted into the room before use. The portable induction loop system must also produce a signal that meets the quality criteria specified in the induction loop standard. A mobile induction loop is intended for temporary use only. It cannot replace fixed installations in areas where the induction loop is needed frequently or regularly or where it must be installed according to regulations. **A fixed or mobile service point loop device** can also be used in smaller spaces and conversations. As its name suggests, a service point loop is a miniature loop installed in a single service point that helps a customer using a hearing aid hear better the speech of an official or a customer service representative.
- The sound transfer and sound reproduction system in accordance with the Accessibility Regulation is primarily implemented with a fixed induction loop antenna cable and a fixed or mobile sound transmission system connected to it. Overflow into adjacent spaces is prevented by a phase transfer system. All fixed sound systems must be equipped with induction loop systems. **The induction loop may not be replaced by other sound transfer systems or, for example, by a system based on mobile applications, except in exceptional cases for justified reasons.**

1. A fixed induction loop system is installed in at least one meeting room designed for more than 10 people at each service point. The conference room in which the induction loop is installed is primarily selected from the conference rooms available to the customer, if they exist at the site. A fixed induction loop is also installed, for example, in the meeting room of the City Board and in the meeting rooms of the committees. A mobile service point loop device can be used in conference rooms with fewer than 10 people.
2. A fixed induction loop system is also installed in auditoriums, banquet halls, theatres, concert halls and sports halls, In these facilities, the loop coverage area must cover both the stands and the spaces for performers and users. In addition, the fixed induction loop system is installed in the stands of multipurpose halls and swimming pools.
3. Lifts intended for the general public of public spaces used by large numbers of people, health and well-being centres, senior centres and hospitals must have fixed induction loop systems connected to the alarm system of the lift. Public spaces used by large numbers of people include public transport terminals and shopping centres. Information points at public transport terminals and passenger platforms as well as in front of station hall display panels are equipped with induction loop systems, in which case any emergency information is also available to persons with hearing impairment in real time.
4. All sites providing the service and their meeting spaces, for example, the separately specified sound-proof facilities of restaurants, are equipped with a fixed induction loop system, and sites serving customers, for example, so-called service counters, are equipped with fixed service point induction devices. (See figures 21a, b and c)
5. **In schools and day-care centres (new and renovated), a fixed induction loop system is installed at least in the following facilities:**
   - Meeting spaces with electronic sound reproduction (e.g. multipurpose hall, banquet hall, dining room and other spaces in evening use).
   - In teaching facilities where electronic sound reproduction is provided. Based on the definition of the learning areas in the architectural plan, the listening areas are planned on a case-by-case basis and always together with the accessibility coordinator.
6. **The fixed antenna cable and the mobile sound reproduction and audio transfer system** are installed in schools and day-care centres (new and renovated) in the following facilities:
   - Music class.
   - Accessible workplaces for teaching subjects (e.g. handicraft classroom, home economics kitchen, chemistry laboratory, visual arts facilities) identified as appropriate on the basis of the regional service network and resident use.
7. **A mobile induction loop antenna and sound and transmission system (amplifier and microphone) or mobile service point induction loop** can be used in schools and day-care centres (new and renovated) in the following spaces:
   - Likely service point.
   - In conference rooms of less than 10 people.
   - In student welfare facilities or learning environments where there is no fixed induction loop.

8. A fixed service point loop is installed at all customer service points in accordance with the assessment. Alternatively, a mobile service point loop can be used. Customer service points can be found in places such as social and health services, libraries, sports facilities and performance spaces. It is also recommended to equip the service point with a so-called communicator. A communicator is for persons with hearing impairment who do not have access to a hearing aid.
9. All meeting spaces, banquet and sports facilities of senior centres, restaurants and information points serving visitors as well as the shared facilities of group homes are equipped with an induction loop and a fixed sound reproduction system.
10. The common spaces of developmentally disabled group homes and apartment groups, as well as meeting spaces of day activity facilities, group work and small group spaces are equipped with a fixed induction loop system.
11. A mobile induction loop system or a mobile service point loop will be used to prepare for discussions in the reception rooms of social welfare and health care services. If the size or other characteristics of the space do not allow good listening conditions for people with impaired hearing, the room must be equipped with an induction loop or other sound transfer system, even if there is no fixed sound reproduction system.
12. **At least one entirely mobile induction loop aerial and sound and transfer system (amplifier and microphone) is always procured for temporary spaces (e.g. schools). In addition, mobile service point induction loop equipment will be procured in temporary facilities. However, the minimum number of loops will always be two (2) units/object.**

    The total number of devices mentioned above is always determined on a case-by-case basis, taking into account the size of the facilities and the need for the equipment.

    As induction loop models/solutions, for example the following or equivalent products:

    – Fully portable induction loop antenna cable and sound reproduction and transmission system (amplifier and microphone): Opus LDP1.0M

    – Service point induction loop as a whole:
    Contacta / Portable Loop - IL-PL20-2, with the necessary accessories.
    Accessories: Small Boundary Microphone - IL-PL30, Portable Loop Shelf - IL-PL26



21a

Figure 21a Induction loop: The induction loop allows the hearing aid user to listen to amplified sound without background noise.

This symbol is a standard ETSI symbol. It can be ordered as a printable image via the Finnish Hearing Association.

(Culture for All service, Yhdenvertaisen kulttuurin puolesta ry, Helsinki)



21b

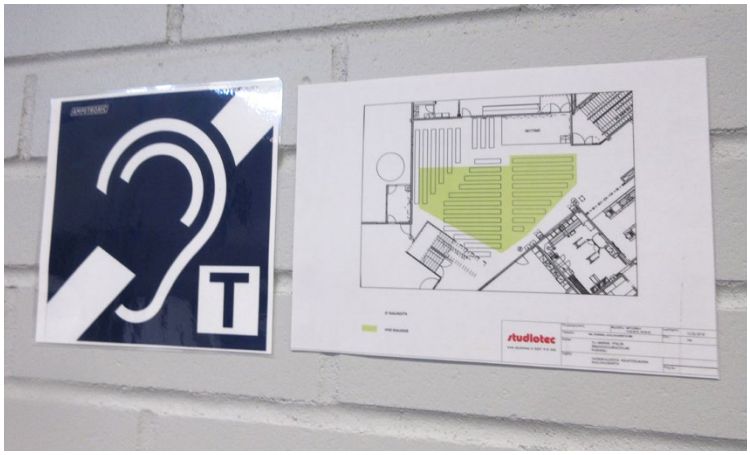
Figure 21b Good solution: The banquet hall is equipped with an induction loop. (Turun suomalainen yhteiskoulu, Turku)



21c

Figure 21c Good solution: The service point has an induction loop and is indicated by a symbol in accordance with SFS-EN 60118-4.

(Income support counselling, City of Turku, Turku)

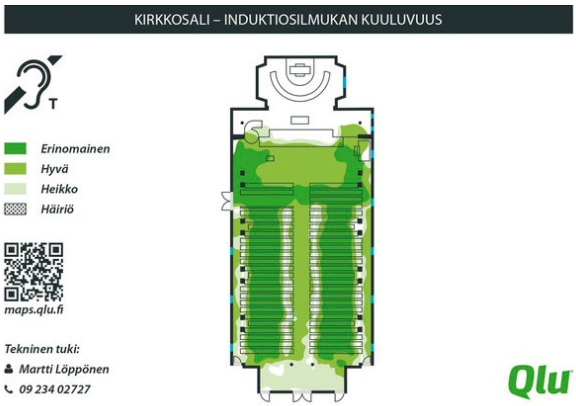


21d

Figure 21d Good solution: The multipurpose space is equipped with an induction loop. The coverage map makes it easier to find a good coverage area.

Bad solution: The coverage map shows that the space would have a steady area of good and high quality reception that is realistically impossible to achieve. In other words, the coverage map is not reliable.

(Ypsilon multipurpose centre, Turku)



21e

Figure 21e Good solution: The coverage map clearly identifies different coverage areas and also contact information.

(Paavali Church, Helsinki)

13. **Sound beacon:** Sound beacons are usually located in buildings at decision-making points, for example at main entrances. The sound beacon is located above the door, for example in the entrances of the most important spaces, toilets, service points and signs. It is advisable to discuss the possible location of the sound beacon at the site with the accessibility coordinator at the planning phase.

14. The sound beacon is particularly important for lifts and stopping levels. If necessary, sound beacons can also be installed on staircases, the information point and elevated maps. Taking into account the unobstructed functionality of the site, the lift itself should always be equipped with a synthetic acoustic detector to indicate the arrival at the stopping level. (See figure 21f)

15. Sound beacons are also used in lifts in public spaces. Lifts should, and at least in special cases must, always be equipped with a separate sound-based or voice-guided floor notification system, which indicates the direction of travel of the lift and announces the arrival of the lift at the selected floor. The adjustability of the device must be taken into account in the sound beacons.



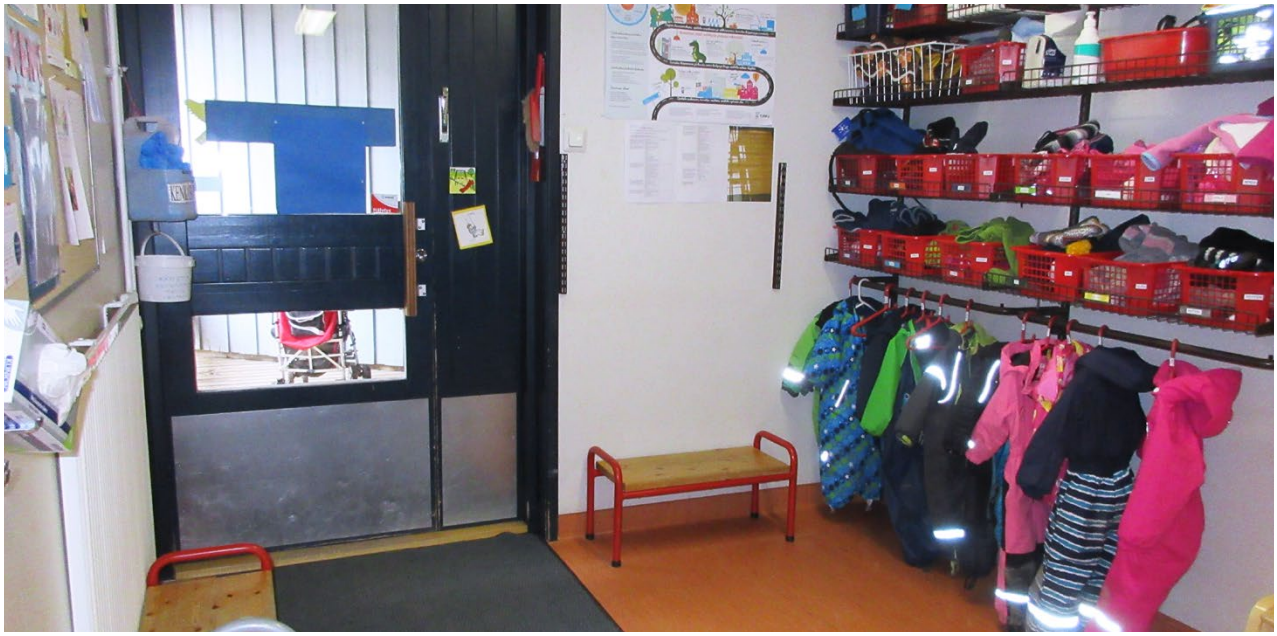
Figure 21f Good solution: The sound beacons installed in connection with the entrances are part of good accessibility planning.

The sound beacon serves accessibility for visually impaired and blind person, for example at the entrance to the Oodi Central Library in Helsinki. The audio content is designed to make it as easy as possible to locate the sound source from the hustle and bustle of the city around the Oodi.
(Image: City of Helsinki / Emma-Lotta Tynkkynen)

16. When planning induction loops, the planning guide created by the City of Helsinki in 2020 should be taken into account where applicable. The guide published by the City of Helsinki compiles accessibility requirements for induction loops.
Guide: www.hel.fi/static/hki4all/ohjeet/Induktiosilmukkaopas.pdf (in Finnish)

22 Special sites

22.1 Day-care centres and schools



©City of Turku

Legislation

Government Decree on the Accessibility of Buildings (241/2017)

Section 2 Passage to the building

The building must have a passage that is at least 1,200 mm wide, easily perceptible, flat and has a hard and slip-resistant surface from the boundary of the plot or the construction site as well as from the space and area serving the use of the building. The slope of a passage in an outdoor space must not exceed five (5) per cent. If there is a step on a passage, it must have a ramp or a permanently installed device suitable for lifting persons using wheelchairs and wheeled walkers. The provisions of this subsection do not apply to single-family houses, semi-detached houses or urban single-family houses, if it would be impossible to implement an accessible route, considering the construction site and height differences.

The ramp referred to in subsection 1 above must be easily perceptible, straight, flat, have a hard slip-resistant surface, with a width of at least 900 mm and a protective kerb at least 50 mm high if it is not adjacent to a fixed structure. The lower and upper ends of the ramp must have a horizontal landing that is at least 1,500 mm long. The slope of the ramp must not exceed five (5) per cent. However, if the difference in height does not exceed 1000 mm, the slope of the ramp must not exceed eight (8) per cent. In this case, the height difference of the continuous ramp must not exceed 500 millimetres, after which there must be a horizontal middle landing of at least 2,000 millimetres in length. However, an outdoor ramp may have a slope of more

CONTINUE ▼

than five (5) per cent only if it can be maintained in a condition comparable to that of an indoor ramp. Railings, handrails and other measures to prevent stumbling and falling from heights are regulated in a decree issued pursuant to section 117d of the Land Use and Building Act.

If there are parking places for a building, a sufficient number of them, but at least one, must be for the use of persons with reduced mobility and functional impairments. Such a parking place must be at least 3,600 mm wide and at least 5,000 mm long and must be marked with the symbol of a person with reduced mobility. The provisions of this subsection do not apply to single-family houses, semi-detached houses or urban single-family houses.

Section 3 Building entrance
The distance between the opening side of the external door of a building and the inside corner of a wall or other fixed obstacle outside the door must be at least 400 millimetres.

The landing in front of the outside door must be at least 1,500 mm wide and at least 1,500 mm long.

Section 4 Doors
The clear width of a door and opening in a passage within a building, a door leading from a staircase to an apartment and a door to a space referred to in section 9, subsection 2 and section 10 must be at least 850 mm. The dimensioning of the external door and other exit doors of a building is regulated by in a decree issued pursuant to section 117 b, subsection 3 of the Land Use and Building Act.

The clear width of the door and passage to the rooms of a building other than a residential building and to the residential rooms, essential accommodation spaces and spaces serving the use of the building must be at least 800 mm.

There must be no difference in elevation or threshold at the door unless necessary for sound, humidity or other similar conditions. In this case, the threshold or difference in elevation must not be more than 20 mm high and must be shaped so that it can be easily crossed by wheelchairs and wheeled walkers. The difference in elevation at an apartment-specific exterior door may exceed 20 mm outside the door if the difference in elevation can be reasonably eliminated by outfitting the exterior space. The provisions laid down in subsections 2 and 3 above apply only to the entrance floor in a single-family house.

The exterior door of a building and the door to the space serving the use of a residential building must function in such a way that it can be easily opened by a person with reduced mobility or functional impairment.

Section 5 Internal passage
The internal passage of a building other than a residential building and the public spaces of a residential building must be easily perceptible, flat and slip-resistant surface.

If the passage referred to in subsection 1 is less than 1,500 mm wide, the passage must have a turning point of at least 1,500 mm in diameter at least every 15 metres.

Section 6, subsection 1 Other spaces in the building
The premises of a building other than a residential building and the common areas of a residential building, as well as their fixtures and fittings, must be suitable for persons with reduced mobility and functional impairment.

CONTINUE ▼

Section 8 Connection between levels in a non-residential building
If the difference in elevation in a building other than a residential building is smaller than the floor height of the building, in addition to the stairs, the connection between the floors must be provided, in addition to the stairs, either by a ramp as provided for in section 2, subsection 2 or by a lift as provided for in section 7, subsection 3 or by any other permanently installed device suitable for lifting persons using a wheelchair and a wheeled walker. If the difference in elevation is equal to or greater than the floor height, access between the levels must be provided by means of a lift in accordance with section 7, subsection 3.

Section 10 Toilet space in non-residential buildings
A building other than a residential building must have an adequate number of appropriately located toilets suitable for wheelchair and wheeled walker users, taking into account the purpose of the building, its function and the length of access routes. The toilet facilities referred to above must be located in such a way that the gender of the user and the assistant does not affect the possibility of using them. The toilet facilities must be marked with the symbol for a person with reduced mobility.

The toilet referred to in subsection 1 above must have a clear space that is at least 1,500 mm in diameter. Fixed furniture must be positioned in relation to the clear space so that it can be used by a person with reduced mobility. In addition, there must be at least 800 mm of clear space on both sides of the toilet seat. Alternatively, two toilets may be placed close together, one with at least 800 mm of clear space on the left and the other has the same amount of clear space on the right side of the toilet seat. The toilet seat must be located 200–300 mm from the rear wall.

Toilet facilities must be adapted for persons with reduced mobility. If the building has a monitoring system, there must be a safety alarm connection from the toilet to the monitoring system.

Section 11 Other hygiene facilities in non-residential buildings
Some of the dressing rooms, washing rooms, saunas and swimming pools in buildings other than residential buildings must be suitable for persons with reduced mobility and functional impairment. Suitable spaces for persons with reduced mobility and functional impairment must be marked with the symbol for persons with reduced mobility. If the building has a monitoring system, spaces suitable for persons with reduced mobility and functional impairment must have a safety alarm connection to the monitoring system.

In addition to the provisions laid down in subsection 1, at swimming pools, spas, service centres, educational establishments and other similar buildings, at least one set of dressing and washing facilities must be accessible to persons with reduced mobility or functional impairment and their assistants, irrespective of their gender.

Section 12 Meeting spaces
If there is a sound reproduction system in a stand, auditorium, banquet room, conference room or restaurant room, teaching room or other similar meeting room or public service space, it must have an induction loop or other similar sound transfer system.

If there are fixed seats in a space referred to in subsection 1, accessible approaches must lead to more than one row of seats and there must be a sufficient number of wheelchair spaces.

Decree of the Ministry of the Environment on the Safety of Use of Buildings (1007/2017)

Section 7, subsection 2 Railing
A guard rail must be used for a difference in elevation of more than 0.7 m in the areas to which children have access. The protective part of the handrail must extend at least 0.7 m above the surface of the landing or step. There must be no horizontal structures or patterns that make climbing possible. An open railing can be used in places to which children do not have access or where there is no falling hazard.

A cube of no more than 100 mm may fit between the steps.

Section 9, subsection 1 Handrail
The stair and ramp must be equipped with a handrail along the entire length and on both sides of the flight. Where necessary, two handrails must be provided, one above the other, to accommodate children and wheelchair users. The handle must have a firm grip. The handrail and its end must be safe and must continue past the starting and ending point of the flight. The handrail must continue uninterrupted on the middle landing.

Section 15 Safety equipment
The building must be equipped with appropriate and durable security solutions and equipment suitable for their intended use.

In apartments and other areas used by children, windows and other openings where there may be a risk of falling must be fitted with restrictors that allow an accessible opening of not more than 100 mm. However, the window restrictor of a window used as an emergency exit must be easily releasable by an adult.

Ladders and other structural components of the emergency passages and service routes must also be usable in an emergency.

The clear opening of a vertical hatch or window in an emergency passage must be at least 600 mm in height and 500 mm in width. The sum of these must not be less than 1,500 mm. The horizontal door opening must be at least 600 x 600 mm.

Section 17 Playground and recreation area
Steep differences in elevation of more than 0.7 metres in courtyard areas and steep slopes in the vicinity of common playground and recreation areas for residential buildings other than those of two or fewer apartments must be provided with appropriate railings or planting or with a falling surface.

The gates and ramps in the yard must be safe and equipped with appropriate rails and handrails.

The playground equipment must be safe and have a suitable and shock-absorbing base structure.

CONTINUE ▼

Section 18 Protection of access routes and recreational areas
The entrance and passage point and the playground and recreational area to be used in winter as well as the street area and other public area surrounding the building must be protected from snow and ice falling from the roof of the building, taking into account the roofing material and the inclination of the roof. The entrance must also be protected against snowdrifts by a canopy.

Accessibility recommendations of the City of Turku

All applicable sections of the accessibility guidelines of the City of Turku are taken into account in the design of day-care centres and schools.

The planning of schools and day-care centres will also take into account the Helsinki 2020 planning guide and checklists, where applicable.

The guide published by the City of Helsinki compiles accessibility requirements for different school and day-care facilities. The guide is intended to be read alongside with the Ministry of the Environment's Guide on Accessible Construction and Environment.

Guide: www.hel.fi/static/hki4all/kirjasto/opas-esteettomyys-kouluissa-paivakodeissa.pdf (in Finnish)

Checklists:
www.hel.fi/static/hki4all/kirjasto/Tarkistuslistat_esteettomyys_kouluissa.pdf (in Finnish)
www.hel.fi/static/hki4all/kirjasto/Tarkistuslistat_esteettomyys_paivakodeissa.pdf (in Finnish)

Special attention should also be paid to the following points:

Passages

1. In spaces designed for children, the aim is to place the signs at a height of 1,000 to 1,200 mm in addition to the eye height of an adult (1,400 to 1,600 mm).
2. Large glass surfaces should always be contrast marked at a height of 1,400 to 1,600 mm and for children at a height of about one metre from the floor.
3. If the access control system includes a door camera, it is recommended to place it at a height such that, in addition to the adult, the child is visible on the control room screen.
4. Door motion sensors should respond not only to adults but also to children. Other door-opening devices are also within reach of children. The devices are placed at a height of 900 to 1,100 mm on the opening side of the door.
5. Spacious entrance tambours and mudrooms are particularly important on sites intended for children. (See figure 22.1c)

Outdoor recreational facilities

1. The spaces between playgrounds should support and facilitate movement, for example through carefully chosen materials, shapes and contrasting shades.
2. It must also be possible to move and operate in the playground with a wheelchair.
3. The location of mobile playground equipment should be indicated by contrasting shade and material, and surrounded by protective structures or planting.

Differences in elevation

Handrails should be at two heights, with a height of around 700 mm being suitable for children. The handrail, which is mainly intended for children, should be approximately 25 mm in diameter.

Furniture and equipment

1. Clothes hangers and clothes hooks should be placed at several heights so that children can also reach them. A suitable height for children is 1,100 to 1,400 mm. (See figures 22.1a and 22.1b)
2. In schools and day-care centres, a fixed induction loop is installed in the following facilities:
   - Meeting spaces with electronic sound reproduction (e.g. multi-purpose hall, banquet hall, restaurant and other spaces in evening use).
   - Information Point
   - At least one of the listening areas of a flexible learning environment where electronic sound reproduction is implemented. The listening areas are planned based on the definition of the learning areas in the architectural plan.
   - Music class
   - Accessible workstations for teaching subjects (e.g. craft class, home economics kitchen, chemistry laboratory), identified as appropriate at regional level on the basis of the service network and resident use.
   - In addition, a single mobile induction loop system is reserved for schools and day-care centres for use in conference rooms, student welfare facilities or learning environments where there is no fixed induction loop.

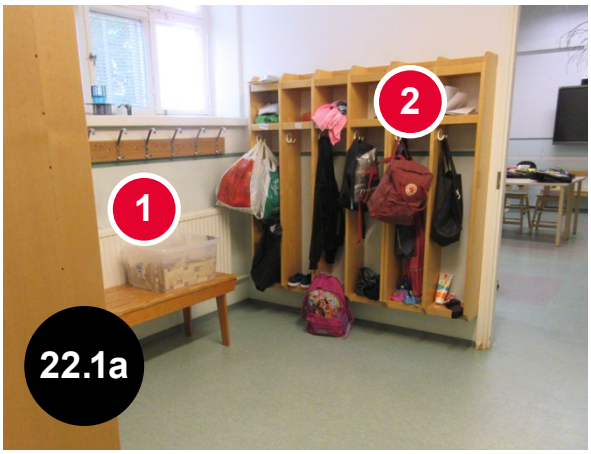


Figure 22.1a Good solution: [1.2] Clothes hooks for children are at a suitable height for children. (Topelius School, Turku)



Figure 22.1b Good solution: It is a good idea to have coats at different heights for children of different ages and sizes. (Halinen day care, Turku)

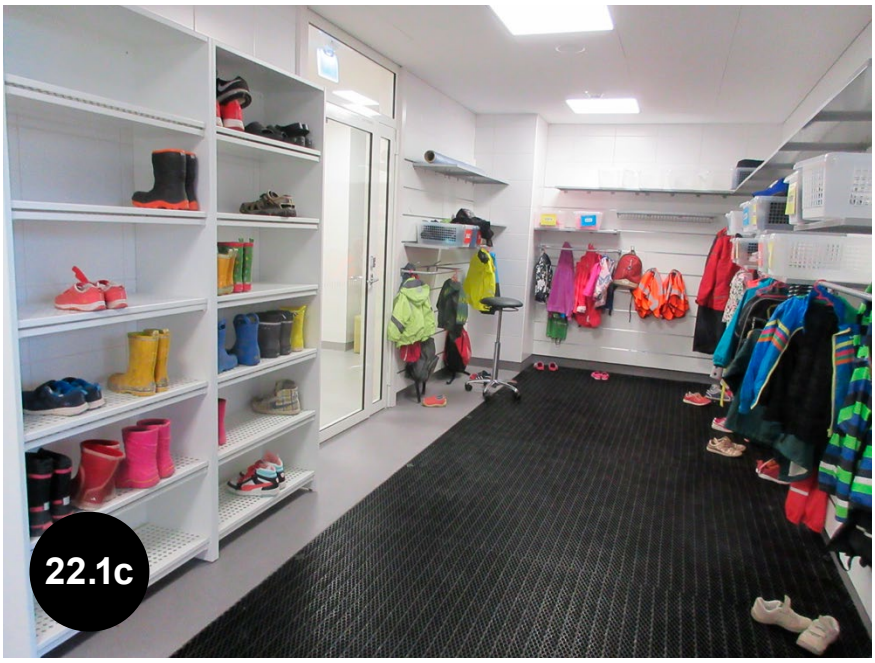


Figure 22.1c Good solution: The mudroom is spacious. (Syvälahti day care, Turku)



Figure 22.1d Good solution: A child-oriented site has washbasins at different heights. Handpaper holders are also at different heights, and fixed waste bins are attached to the wall directly below them. There is sufficient space between the waste bin and the paper towel holder for both fixtures to be used (a height of 350 mm between them is recommended). There is also plenty of space in the toilet.
(Tallimäki day-care centre, Turku)

22.2 Playground area



©City of Turku

Legislation

Government Decree on the Accessibility of Buildings (241/2017)

Section 6, subsection 1 Other spaces in the building
The premises of a building other than a residential building and the common areas of a residential building, as well as their fixtures and fittings, must be suitable for persons with reduced mobility and functional impairment.

Decree of the Ministry of the Environment on the Safety of Use of Buildings (1007/2017)

Section 7, subsection 2 Railing
A guard rail must be used for a difference in elevation of more than 0.7 m in the areas to which children have access. The protective part of the handrail must extend at least 0.7 m above the surface of the landing or step. There must be no horizontal structures or patterns that make climbing possible. An open railing can be used in places to which children do not have access or where there is no falling hazard.

A cube of no more than 100 mm may fit between the steps.

Section 9, subsection 1 Handrail
The stair and ramp must be equipped with a handrail along the entire length and on both sides of the flight. Where necessary, two handrails must be provided, one above the other, to accommodate children and wheelchair users. The handle must have a firm grip. The handrail and its end must be safe and must continue past the starting and ending point of the flight. The handrail must continue uninterrupted on the middle landing.

Section 17 Playground and recreation area
Steep differences in elevation of more than 0.7 metres in courtyard areas and steep slopes in the vicinity of common playground and recreation areas for residential buildings other than those of two or fewer apartments must be provided with appropriate railings or planting or with a falling surface.

The gates and ramps in the yard must be safe and equipped with appropriate rails and handrails.

The playground equipment must be safe and have a suitable and shock-absorbing base structure.

Section 18 Protection of access routes and recreational areas
The entrance and passage point and the playground and recreational area to be used in winter as well as the street area and other public area surrounding the building must be protected from snow and ice falling from the roof of the building, taking into account the roofing material and the inclination of the roof. The entrance must also be protected against snowdrifts by a canopy.

Accessibility recommendations of the City of Turku

1. In the playground, special attention should be paid to people with reduced mobility, impaired vision and allergies.
2. The passages should be at least 1,500 mm wide and the major passages 1,800 mm wide, allowing two wheelchairs to meet each other.
3. In spaces designed for children, the signs should be placed at a height of 1,000 to 1,200 mm in addition to the eye height of an adult (1,400 to 1,600 mm).
4. Large glass surfaces always require contrast markings at a height between 1,400 mm and 1,600 mm. For children, it is advisable to install additional contrast markings approximately one metre above the floor.
5. The spaces between playgrounds should support and facilitate movement, for example through carefully chosen materials, shapes and contrasting shades.
6. The playground should also provide opportunities for play for wheelchair users.
7. Playhouses should also be accessible in wheelchairs.
8. The location of mobile playground equipment should be indicated by contrasting shade and material, and surrounded by protective structures or planting. (See figures 22.2f and 22.2g)
9. Crop boundaries also protect against noise, wind and dust and provide visual protection. Care should be taken not to choose plants that are toxic, allergenic or prickly.
10. Rocking animals should have backrests and footrests, and swings and roundabouts should also have safety seats for bigger children.
11. Colours should be used to make it easier to perceive the different parts of the equipment and the whole.
12. Handrails should be at two heights, with a height of around 700 mm being suitable for children. The handrail, which is mainly intended for children, should be approximately 25 mm in diameter.
13. Handrails and different surface material guide from the slide back to the stairs or ramp.



Figure 22.2a Good solution: The playground has a variety of swings. (Pääskyvuori School, Turku)



Figure 22.2b Good solution: The playground has a variety of swings. (Ispoinen-Petrelius day care, Turku)



Figure 22.2c Good solution: [1] The slide ends at a height of less than 100 mm above the ground. (Parolanpolku day care, Turku)



Figure 22.2d Good solution: The width of the slide is 100 cm, which allows the child to slide with an assistant. (Ispoinen-Petrelius day care, Turku)

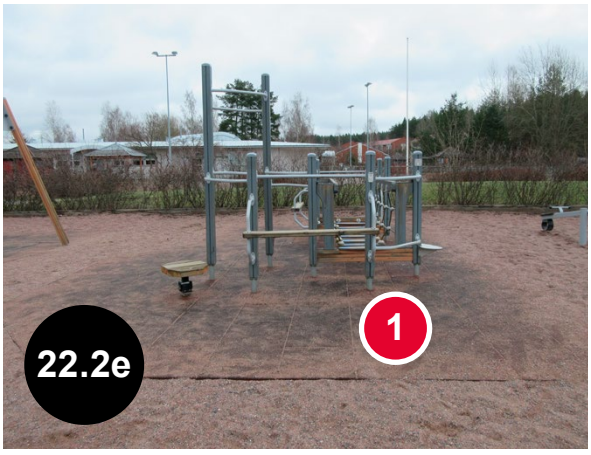


Figure 22.2e Good solution: [1] There is a safety tile under the climbing apparatus. (Nummenpakka School, Halinen Unit, Turku)



Figure 22.2f Good solution: [1] The swing area is surrounded by a protective fence. (Hannunniittu School, Turku)



Figure 22.2g Good solution: [1] A safety tile under the swings, which delimits the area with a contrast of colour and feel (the tile is raised and the material of the surface is different from its surroundings). (Pansio School, Turku)



Figure 22.2h Good solution: [1] The sandbox has a lying board that allows a child to lie down and reach the sand. [2] Wheelchair access to the sand table. (Uittamo accessible playground, Turku)



Figure 22.2i Good solution: The accessible roundabout can be ridden with a wheelchair as well. (Uittamo accessible playground, Turku)

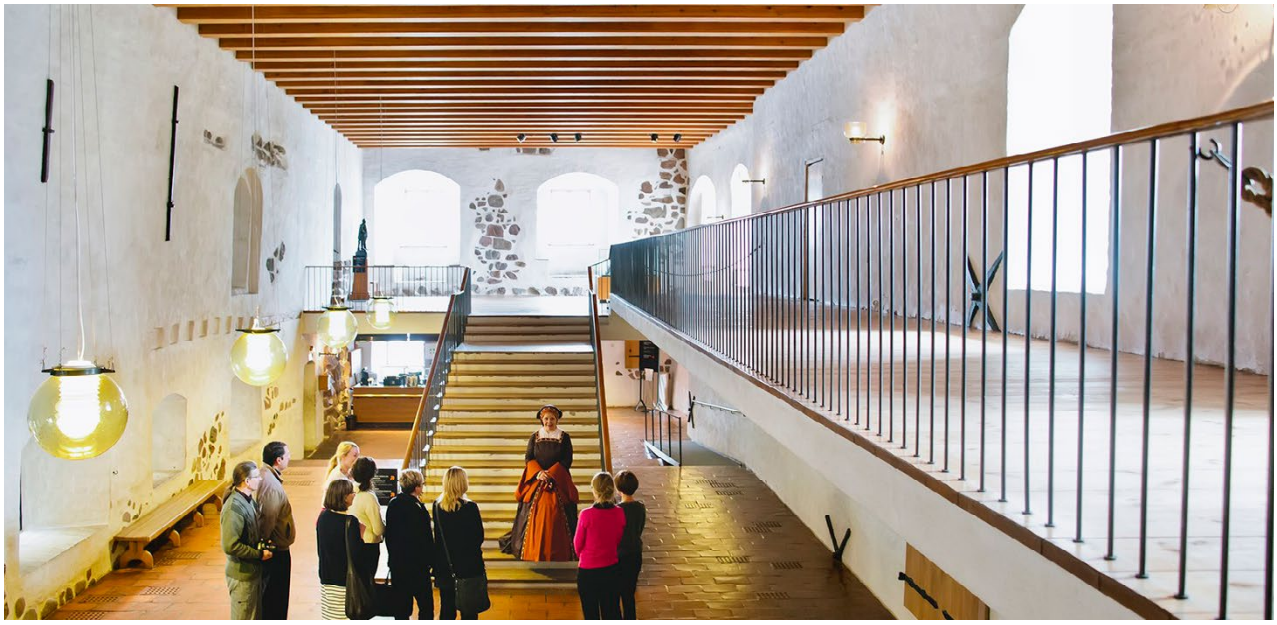


Figure 22.2j Good solution: The play area has a playground that can also be accessed by wheelchairs via a ramp. This playground contains high-contrasting colorful and touchable components. (Uittamo accessible playground, Turku)



Figure 22.2k Good solution: The playground has a table-bench group whose table has been extended so that it can also be accessed by a wheelchair. (Uittamo accessible playground, Turku)

22.3 Old buildings



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Legislation

Government Decree on the Accessibility of Buildings (241/2017)

Section 2 Passage to the building

The building must have a passage that is at least 1,200 mm wide, easily perceptible, flat and has a hard and slip-resistant surface from the boundary of the plot or the construction site as well as from the space and area serving the use of the building.

The slope of a passage in an outdoor space must not exceed five (5) per cent. If there is a step on a passage, it must have a ramp or a permanently installed device suitable for lifting persons using wheelchairs and wheeled walkers. The provisions of this subsection do not apply to single-family houses, semi-detached houses or urban single-family houses, if it would be impossible to implement an accessible route, considering the construction site and height differences.

The ramp referred to in subsection 1 above must be easily perceptible, straight, flat, have a hard slip-resistant surface, with a width of at least 900 mm and a protective kerb at least 50 mm high if it is not adjacent to a fixed structure. The lower and upper ends of the ramp must have a horizontal landing that is at least 1,500 mm long. The slope of the ramp must not exceed five (5) per cent. However, if the difference in height does not exceed 1000 mm, the slope of the ramp must not exceed eight (8) per cent. In this case, the height difference of the continuous ramp must not exceed 500 millimetres, after which there must be a horizontal middle landing of at least 2,000 millimetres in length. However, an outdoor ramp may have a slope of more than five (5) per cent only if it can be maintained in a condition comparable to that of an indoor

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ramp. Railings, handrails and other measures to prevent stumbling and falling from heights are regulated in a decree issued pursuant to section 117d of the Land Use and Building Act.

If there are parking places for a building, a sufficient number of them, but at least one, must be for the use of persons with reduced mobility and functional impairments. Such a parking place must be at least 3,600 mm wide and at least 5,000 mm long and must be marked with the symbol of a person with reduced mobility. The provisions of this subsection do not apply to single-family houses, semi-detached houses or urban single-family houses.

Section 3 Building entrance
The distance between the opening side of the external door of a building and the inside corner of a wall or other fixed obstacle outside the door must be at least 400 millimetres

The landing in front of the outside door must be at least 1,500 mm wide and at least 1,500 mm long.

Section 5 Internal passage
The internal passage of a building other than a residential building and the public spaces of a residential building must be easily perceptible, flat and slip-resistant surface.

If the passage referred to in subsection 1 is less than 1,500 mm wide, the passage must have a turning point of at least 1,500 mm in diameter at least every 15 metres.

Section 8 Connection between levels in a non-residential building
If the difference in elevation in a building other than a residential building is smaller than the floor height of the building, in addition to the stairs, the connection between the floors must be provided, in addition to the stairs, either by a ramp as provided for in section 2, subsection 2 or by a lift as provided for in section 7, subsection 3 or by any other permanently installed device suitable for lifting persons using a wheelchair and a wheeled walker. If the difference in elevation is equal to or greater than the floor height, access between the levels must be provided by means of a lift in accordance with section 7, subsection 3.

Accessibility recommendations of the City of Turku

1. When designing accessibility solutions for old buildings, you must always contact the accessibility coordinator.
2. In inaccessible and difficult areas, effective, clear and understandable signposting is particularly important. (See section Guidance and Signs)
3. The City of Turku's sign concept, introduced in 2020, must always be used in the City of Turku sites and environments. For more information on the sign concept and its use, please contact the Accessibility Coordinator and Project Manager Riikka Niemelä riikka.niemela@turku.fi.
4. If it is impossible to provide an accessible main entrance to an old building, the route to an alternative accessible entrance will be signposted from the direction of entry and from the main entrance. The alternative entrance must be as independently accessible as the main entrance.

5. If it is impossible to provide lift access to an old building, a light lift or a level lift is recommended. The use of a stair lift is not recommended.
6. Every site is different and therefore accessibility in such sites must be considered in a way that respects the building.
7. The inclusion of experts by experience is also recommended at the planning phase.



Figure 22.3a A ramp has been built for the entrance. (Pharmacy Museum, Turku). The ramp is missing handrails on both sides.

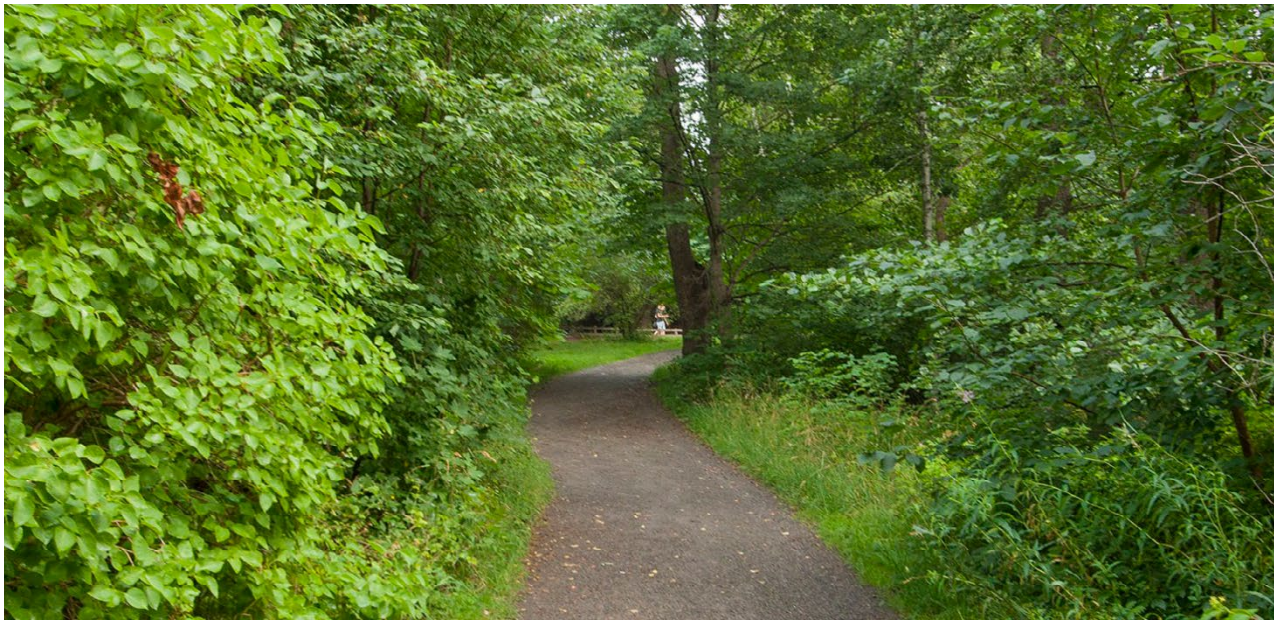


Figure 22.3b [1] The accessible entrance was implemented separately because it was impossible to make the main entrance accessible. (Turku Castle, Turku)



Figure 22.3c High threshold is marked with attention colours. In a historic building, things that need attention need to be done better and with respect for the building. (Turku Castle, Turku)

22.4 Outdoor sites



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Legislation

Government Decree on the Accessibility of Buildings (241/2017)

Section 2 Passage to the building

The building must have a passage that is at least 1,200 mm wide, easily perceptible, flat and has a hard and slip-resistant surface from the boundary of the plot or the construction site as well as from the space and area serving the use of the building.

The slope of a passage in an outdoor space must not exceed five (5) per cent. If there is a step on a passage, it must have a ramp or a permanently installed device suitable for lifting persons using wheelchairs and wheeled walkers. The provisions of this subsection do not apply to single-family houses, semi-detached houses or urban single-family houses, if it would be impossible to implement an accessible route, considering the construction site and height differences.

The ramp referred to in subsection 1 above must be easily perceptible, straight, flat, have a hard slip-resistant surface, with a width of at least 900 mm and a protective kerb at least 50 mm high if it is not adjacent to a fixed structure. The lower and upper ends of the ramp must have a horizontal landing that is at least 1,500 mm long. The slope of the ramp must not exceed five (5) per cent. However, if the difference in height does not exceed 1000 mm, the slope of the ramp must not exceed eight (8) per cent. In this case, the height difference of the continuous ramp must not exceed 500 millimetres, after which there must be a horizontal middle landing of at least 2,000 millimetres in length. However, an outdoor ramp may have a slope of more than five (5) per cent only if it can be maintained in a condition comparable to that of an indoor ramp. Railings, handrails and other measures to prevent stumbling and falling from heights are

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regulated in a decree issued pursuant to section 117d of the Land Use and Building Act.

If there are parking places for a building, a sufficient number of them, but at least one, must be for the use of persons with reduced mobility and functional impairments. Such a parking place must be at least 3,600 mm wide and at least 5,000 mm long and must be marked with the symbol of a person with reduced mobility. The provisions of this subsection do not apply to single-family houses, semi-detached houses or urban single-family houses.

Section 6, subsection 1 Other spaces in the building
The premises of a building other than a residential building and the common areas of a residential building, as well as their fixtures and fittings, must be suitable for persons with reduced mobility and functional impairment.

Decree of the Ministry of the Environment on the Safety of Use of Buildings (1007/2017)

Section 16 Driveway and parking area
The driveway and parking area of the plot and the construction site must be separated from the pedestrian, playground and residential area. The driveway must not cross the access route leading to the playground area. If crossing cannot be avoided, the crossing points must be marked with structural solutions.

The routes intended for vehicular traffic must be located in such a way that the space required for opening a door or a gate, or for a pedestrian route, is not restricted.

Section 17 Playground and recreation area
Steep differences in elevation of more than 0.7 metres in courtyard areas and steep slopes in the vicinity of common playground and recreation areas for residential buildings other than those of two or fewer apartments must be provided with appropriate railings or planting or with a falling surface.

The gates and ramps in the yard must be safe and equipped with appropriate rails and handrails.

The playground equipment must be safe and have a suitable and shock-absorbing base structure.

Section 18 Protection of access routes and recreational areas
The entrance and passage point and the playground and recreational area to be used in winter as well as the street area and other public area surrounding the building must be protected from snow and ice falling from the roof of the building, taking into account the roofing material and the inclination of the roof. The entrance must also be protected against snowdrifts by a canopy.

Section 19 Elevation of external building elements
The clear height of the lower edge of any building element, device or fixture projecting from the building, such as a balcony, bank, canopy, sign, lighting fixture and awning, must be at least 2.2 metres from the ground or from the surface of the driveway and passage, unless the point is protected to prevent collision risk.

Accessibility recommendations of the City of Turku

1. At the nature trail site, it is a good idea to plan at least one trail that is accessible.
2. Accessible passages should always be designed and constructed to be loose and unobstructed in both width and height. The passages should be smooth and clearly distinguishable from the terrain. The aim is always to create the passage primarily by landscaping, without separate ramps and stairs, wherever conditions so allow.
3. The recommended clear width of an accessible passage is 1,200 to 2,300 mm. With a width of 1,800 mm, wheelchair users and wheeled walkers can meet each other and pass safely. Mechanical maintenance usually requires a minimum clear width of 2,300 mm.
4. Maximum longitudinal inclination of five (5) per cent and lateral inclination of two (2) per cent for all outdoor routes. A lateral inclination of more than two (2) per cent makes steering a wheelchair more difficult.
5. The connection between the levels must be implemented with ramps and staircases. Large differences between levels must be protected with rails when the fall height exceeds half a metre.
6. There should be no unprotected protrusions or other construction elements that create a collision risk or a difference in elevation that in turn creates a falling hazard and that are below the minimum height of 2,100 mm.
7. There must be no crossing traffic on the passages. If crossing cannot be avoided, the crossing points are marked with structural solutions.
8. When assessing the surface of a passage, the risk is considered to be the likely variation in slipperiness due to the nature of the use or the weather. Changes in slipperiness can be caused by water, ice, snow, grease, detergent or tree leaves on the surface. In addition, the risks arising from the aging and wear of the surface are assessed. Asphalt (5 cm thick) or an equivalent solid material (stone ash) is recommended for the surface material of outdoor passages.
9. A better solution than circular street inlets is to use gullies installed parallel to the passage. The gullies can also be used as a guiding element. The flow of traffic is controlled by the contrasting shade and material of the surface of the passage. The clear demarcation of the passage makes it easier to perceive it. The passage can be demarcated, for example, with bushes or fixtures. However, they must not narrow the passage or pose a risk of collision or stumbling.
10. The passage must not have any fixtures or structures presenting a risk of collision or stumbling. For example, bicycle racks are placed in the contrast material zone and outside the passages, so that the bicycles placed on them do not pose a collision risk.
11. Parks must have routes of different lengths for different kinds of visitors. The activities must be located so that they can be easily understood and are accessible to all user groups.
12. The recommended distance between resting places is 50 m at the special level and a maximum of 250 m at the basic level.

13. In parks, smells, sounds and tactile surfaces provide multi-sensory experiences for all user groups and can help persons who are partially sighted in particular to navigate and perceive the environment. Strongly scented plants should be placed in a separate part of the park.
14. The entire route must be uniformly illuminated and the uniformity of the lighting must be such that no dark spaces are created. The light fixtures must be placed on the same side of the passage and must not cause glare.
15. Resting places must be located outside the passages in such a way that they can also be accessed by wheelchairs. Resting places should use an identifiable surface material that is different from the passage.
16. Some benches and chairs should be equipped with backrests and armrests. Seats should also have varying seating heights. The standard seating height is 450 mm. 500 to 550 mm is the appropriate height for persons with rigid knees and hips, 300 mm for persons of short stature and children. Moving from a wheelchair to a 500 mm high bench is the easiest option. For wheelchairs, a clear space (empty, free of hand supports) of at least 900 mm in width must be provided at one end of the benches. For boarding from a wheelchair, the support rail should be placed in the middle of the bench or it should be possible to remove it if necessary.
17. The signs should be placed in such a way that there is clear space in front of them for standing or for a wheelchair. The height of the embossed sign from the ground must be approximately 1,100 mm. The information board must have a cane-identifiable lower part. The text of the signs should be placed at a height of 1,400 to 1,600 mm.



Figure 22.4a Good solution: There is a wide, sloping ramp and a wide, threshold-free door to the accessible outdoor toilet.

Bad: Handrails on both sides of the ramp are missing. (Kurala village, Turku)



Figure 22.4b Good solution: An accessible outdoor toilet has a large enough turning circle and plenty of space. There is space for a wheelchair on both sides of the seat.

Bad: Toilet paper placement and washbasin are missing. Support rails should also be added as needed. (Kurala village, Turku)

23 Other accessibility solutions



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Accessibility recommendations of the City of Turku

Shared Topten practices in construction

1. The City of Turku complies with the Topten practices for the construction sector, which are drawn up together with the building controls of different cities and actors in the industry. These practices can also help to improve accessibility development and awareness-raising in cities.

   The building controls involved in the shared TOPTEN practices include:

   – Helsinki, Espoo, Tampere, Vantaa, Oulu, Turku, Jyväskylä, Lahti, Kuopio, Pori, Kouvola, Joensuu, Lappeenranta, Vaasa, Lohja, Kauniainen, Naantali, Kaarina, Masku, Tuusula, Valkeakoski, Kalajoki.
   – The aim of the practices is to support the application of regulations, share information, promote good construction practices and prevent errors, and promote common practices and the smooth running of construction.
   – One possible practice or solution has been presented in the shared Topten practices. The special features of the construction project should be taken into account when applying the said practice. Other solutions can also be used if they comply with building regulations and good construction practice.

2. **The list of Topten cards** is available at:
   toptenrava.fi/rakentamisen-yhteiset-kaytannot (only in Finnish)

3. In particular, solutions concerning accessibility have been agreed on in the **Topten Interpretation Cards 117 e 01, 117 e 02 and 117 e 03**.

Interpretation cards

17 General requirements for construction

Section 117e Accessibility				
117 e 01	A	Muun rakennuksen esteettömyydestä (muu kuin asuinrakennus) (Accessibility of other buildings (other than residential buildings)	02 November 2012	12 March 2018
117 e 02	A	Pientalojen esteettömyydestä (Accessibility of single-family houses)	02 November 2012	12 March 2018
117 e 03	C	Muun asuinrakennuksen esteettömyydestä (muu kuin pientalo) Accessibility of other residential buildings (other than single-family houses)	18 December 2015	25 April 2019

24 Sensory accessibility



Glare-free lighting



Noise reduction



Mild scents



Comfortable materials



Clean, organised environment



Clear, visual signs



Natural, harmonious colour palette



Creating quiet environments

Legislation

Non-Discrimination Act (1325/2014)

Section 5 subsection 1 Obligation of the authorities to promote equality
The public authority must assess the implementation of equality in its activities and take the necessary measures to promote equality. Promotional measures must be effective, appropriate and proportionate, taking into account the environment, resources and other circumstances in which the authority operates.

Section 15, subsection 1 Reasonable adjustments for the equality of persons with disabilities
The public authority, the training provider, the employer and the provider of goods or services must make reasonable adjustments, as appropriate and necessary in the circumstances, to enable a person with a disability to have access, on an equal basis with others, to public authorities, education, employment, goods and services generally available, and to perform and advance in employment.

Decree of the Ministry of the Environment on the safety of use of buildings (1007/2017)

Section 10 Brightness and lighting
The building and its surroundings must be illuminated in such a way as to ensure safe operation and maintenance. Lighting must not cause glare that could compromise safety. The surfaces and lighting of the building must be such that the differences in brightness necessary for detection are achieved.

Ramps, steps, thresholds and level differences on the access route must be clearly indicated by lighting and contrasting surfaces or safety signs.

Government Decree on the Accessibility of Buildings (241/2017)

Section 5 Internal passage
The internal passage of a building other than a residential building and the public spaces of a residential building must be easily perceptible, flat and slip-resistant surface.

Occupational Safety and Health Act (738/2002)

Section 1 Purpose
The purpose of this Act is to improve the working environment and working conditions in order to protect and maintain the working capacity of workers and to prevent and combat accidents at work, occupational diseases and other harm to the physical and mental health (hereinafter referred to as health) of workers caused by work and the working environment.

Section 12, subsections 1, 2 and 3 Design of the working environment
When designing the structures of the working environment, work premises, working or production methods or the use of machinery, tools and other equipment used at work and substances hazardous to health, the employer must ensure that the design takes into account their effects on the safety and health of workers and that they are suitable for their intended purpose. Where applicable, the provisions of section 10 must be complied with in the investigation and assessment of hazards and risks.

The design must ensure that the conditions to be designed will meet the requirements of this Act. If necessary, the arrangements must take into account persons with disabilities and other employees whose work and other measures are required to ensure their health and safety at work.

If the planning referred to in paragraph 1 is entrusted to an external planner, the employer must provide the planner with sufficient information on the workplace to be planned.

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Section 31 Interruption of work
If the work requires continuous presence or a continuous workload, breaks must be provided, where necessary, to allow for short periods of absence from the workplace.

Government Decree on Safety and Health Requirements at Workplaces (577/2003)

Section 9 Workplace volume and ventilation
The airspace in the office must be at least 10 cubic metres for each employee. When calculating this, a maximum of three and a half metres of the height of the office must be taken into account.

If the workplace uses mechanical ventilation, it must be kept in working order. The dirt and other impurities in the equipment that cause immediate health damage to the worker must be cleaned. The equipment must operate in such a way that the health of workers is not adversely affected or endangered.

Where this is necessary for the safety and health of workers, the ventilation system must be equipped with a monitoring system indicating malfunctions.

Basic Education Act 628/1998

Section 3a Priority of the best interests of the child
When planning, organising and deciding on basic education, the best interests of the child must be a primary consideration.

Section 29 subsection 1 Right to a safe school environment
Students have the right to a safe learning environment.

47 a Participation and student union
The education provider must promote the inclusion of all pupils and ensure that all students have the opportunity to participate in the activities and development of the school and to express their views on matters relating to their status.

Section 48d Right to a safe operating environment and educational social benefits
A child participating in morning and afternoon activities has the right to a safe operating environment.

Act on Early Childhood Education and Care 540/2018

Section 3 Objectives of early childhood education and care
The aim of early childhood education and care referred to in this Act is to ensure a developmental, learning-promoting, healthy and safe early childhood education and care environment.

Section 4 Priority of the best interests of the child
The best interests of the child must be a primary consideration when planning, organising or providing early childhood education and care, and when making decisions about it.

Section 10 Early childhood education and care environment
The early childhood education and care environment must be developmental, conducive to learning, healthy and safe, taking into account the child's age, development and other conditions. Premises and equipment must be healthy, safe, appropriate and accessible.

Accessibility recommendations of the City of Turku

1. In sensory accessible design, the functionality of the environment is considered from a sensory perspective: what kind of environment is stressful for its users or, conversely, helps them to recover, feel well and work well.
2. In sensory accessible design, spaces are created where negative sensory stimuli are minimised and the space is equipped with solutions that promote psychological recovery.
3. Sensory accessible spaces are designed to allow for concentration and sustained work, and the spatial solutions guide people to focus their attention on the essentials.
4. Spaces should be designed so that access does not pass by or through areas that require concentration and quiet.
5. It is also a good idea to design restorative environments.
6. The building must have a sufficient number of separate and segregable spaces that also allow for quiet time. (figure 24a)
7. Facilities and environments should allow for the sensory load to be discharged on the move (without disturbing others).
8. Sensory accessible design must take into account the sense of community and privacy. The facilities must have the possibility of doing things together and withdrawing to the side as the sensory load becomes too great.
9. The environments and facilities must be clear, easy to understand and consistent.
10. The facilities must be restructurable and adaptable.
11. As a rule, the facilities must be built with sufficient space.

12. The floor plans should be clear and coherent: a well-designed space and environment helps the user to experience the space as pleasant and to orientate and act coherently in the space. A clear environment creates a sense of control for the space user and also promotes the structure of brain activity. Cramped, cluttered and labyrinthine spaces cause stress and anxiety.
13. The signs must be clear, visual and uniform. (figure 24b)
14. The premises must have adequate ventilation and good indoor air quality.
15. Nature elements are favoured in sensory accessible design. (figure 24c)
16. For example, workplaces and schools should have their own workstations and/or a place for personal belongings. (figure 24d)
17. When planning the foundation of a building, the placement of spaces in relation to the surroundings and external factors of the entire building (the sun, busy roads, parking places and other noise hazards, nearby neighbours and landscape factors) is observed.
18. Sensory accessibility must also be taken into account outdoors.
19. For example, early childhood education and school playgrounds must allow both active movement and quiet relaxation.
20. Sensory accessibility should be taken into account at the design stage of environments and spaces, as acoustic solutions, spatial relationships and open spaces, for example, are more difficult to modify afterwards.
21. The sensory accessibility of a site must also be considered as a whole: what kind of whole the sensory stimuli of the space form together (the cumulative effect of the sensory stimuli).

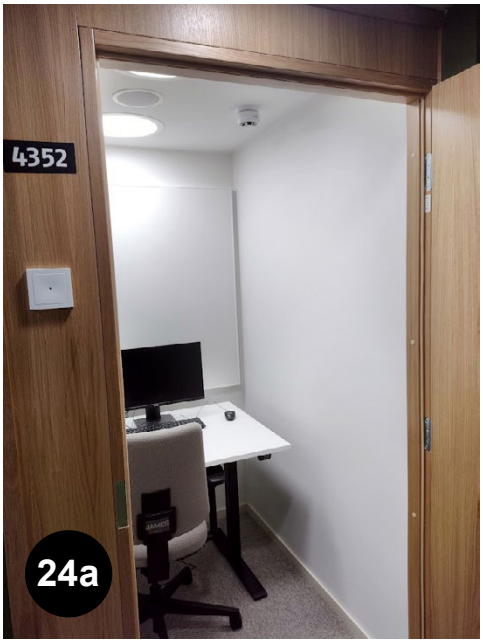


Figure 24a Good solution: separate spaces at the location, which allow for a quieter way of being (Yliopistonkatu 27, Turku)

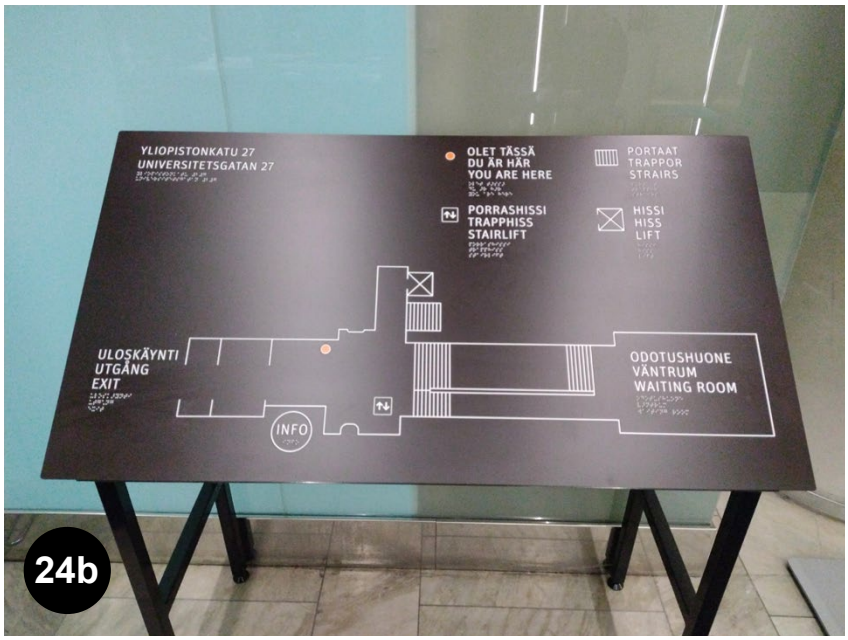


Figure 24b Good solution: signs are clear, visual and uniform. (Yliopistonkatu 27, Turku)

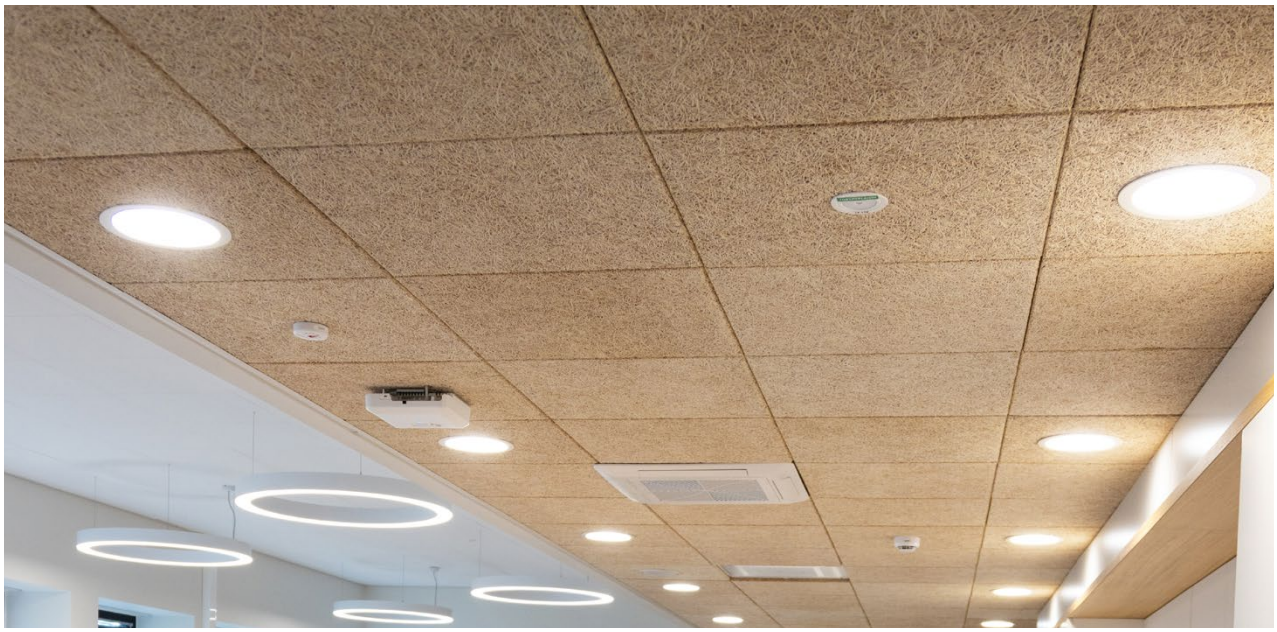


Figure 24c Good solution: nature elements increase well-being. (Lighthouse Hospital, Turku)



Figure 24d Good solution: Workplaces and schools should have their own workstation and place for goods. (Yliopistonkatu 27, Turku)

24.1 Hearing



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Legislation

Decree of the Ministry of the Environment on the sound environment of buildings 796/2017

Section 3 subsection 1 Design and implementation of the building sound environment
The design and construction of the building must take into account the noise and vibration conditions on the site.

Section 4 Requirements for sound insulation in a new building
The design and implementation of airborne and impact sound insulation in dwellings, accommodation and patient rooms shall comply with the following values:
see www.finlex.fi/fi/laki/alkup/2017/20170796#Pidm45843169568096 (Only in Finnish)

If an apartment, accommodation or patient room is structurally connected to spaces where intense, particularly disturbing or low-frequency noise is generated, special attention must be paid to the implementation of adequate sound insulation in the design and implementation. The one-hour average sound level of impulsive, narrowband or low-frequency noise must not exceed 25 decibels in rooms used for sleep or rest.

The sound insulation in teaching, meeting, dining, care, leisure, sports and office premises must be designed and implemented, taking into account the intended use of the premises, so as to achieve a sufficiently good sound environment for the activity. The sound insulation of retracted balconies, greenrooms and rooftop terraces must be designed and implemented in such a way that the sound environment does not harm the inhabitants.

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Section 5 Requirements for noise and vibration prevention in a new building
The sound insulation of the outer envelope of a building with apartments, accommodation or patient rooms must be designed and implemented in such a way that the sound insulation is at least 30 dB and the average sound level of impulsive, narrow-band or low-frequency noise does not exceed 25 dB in rooms intended for rest or sleep.

The installation of lifts and technical installations in a building must be designed and constructed in such a way that the sound level emitted by them does not exceed the following values in the living rooms or lounges of the apartments, in accommodation or patient rooms, outside opening windows or vents of the same or adjacent apartments, on balconies used for leisure or in courtyards or recreational areas:
see **www.finlex.fi/fi/laki/alkup/2017/20170796#Pidm45843169568096** (Only in Finnish)

The noise and vibration insulation of a building containing apartments, accommodation or patient rooms and the noise and vibration insulation of teaching, meeting, dining, care, leisure, sports and office rooms must be designed and implemented, taking into account the intended use of the space, in such a way as to achieve a sufficiently good sound environment for the activities.

Section 6 Requirements for the sound conditions of a new building
In buildings containing patient rooms, teaching, meeting, dining, care, leisure, sports or office facilities, the sound conditions must be designed and implemented in such a way as to achieve adequate speech intelligibility, taking into account the intended use of the space.

A building with apartments, accommodation or patient rooms must be designed and constructed in such a way that the reverberation time of the staircase and exit does not exceed 1.3 seconds. Recreational areas and balconies in the building must be designed and constructed so that the average noise level does not exceed 55 decibels between 7:00 and 22:00, and green rooms so that the average noise level does not exceed 45 decibels.

Section 7 Renovation construction, alteration work and change in the use of the building
The sound insulation, noise and vibration control, and acoustic conditions of a building as well as the noise control and acoustic conditions of a building's courtyards, recreational areas and balconies used for recreation must not be impaired during the renovation or alteration of the building.

When changing the use of a building, the sound insulation, noise and vibration control and acoustic conditions of the building, as well as the noise control and acoustic conditions of the building's courtyards and recreational areas and balconies used for recreational purposes, must be designed and implemented in such a way that the sound environment is not harmful to the occupants.

Environmental Protection Act 527/2014

Section 5 Definitions
For the purposes of this Act,

1. emission means the release of an anthropogenic substance, energy, noise, vibration, radiation, light, heat or odour from one or more points directly or indirectly into air, water or soil;

2. environmental pollution means emissions that result either individually or in combination with other emissions:

   a. health hazard;
   b. harm to nature and its functions;
   c. obstruction or considerable difficulty in the use of natural resources;
   d. a reduction in overall environmental comfort or specific cultural values;
   e. reduced suitability for general recreational use of the environment;
   f. damage or harm to property or its use; or
   g. any other comparable infringement of public or private interest;

4. health hazard means an illness, other health disorder or the occurrence of a factor or condition that may reduce the healthiness of the population or the individual's living environment;

142 § Quality of the sound environment
In all activities, the aim must be to achieve the quality of the sound environment in which hazardous or harmful sound (noise) does not appear to be harmful to health or other significant consequences referred to in section 5, subsection 1, paragraph 2 or to the extent that they cause a risk.

Provisions on environmental quality requirements and objectives are laid down by government decree to ensure the quality of the sound environment referred to in subsection 1. Requirements and objectives may differ between different types of noise sources and regions and may only be targeted at specific time periods.

Section 150 Promoting the quality of the sound environment
The municipality must promote the quality of the sound environment in its territory, taking into account the environmental quality requirements and objectives referred to in section 142.

CONTINUE ▼

Section 151 Noise surveys and noise abatement action plans
The noise report and the noise abatement action plan must be drawn up within the time limit laid down in Article 8 of Directive 2002/49/EC of the European Parliament and of the Council on the assessment and management of environmental noise:

1. population concentrations of more than 100,000 inhabitants which, based on their population density, can be considered urban areas;
2. public roads with more than three million vehicles per year;
3. railways with more than 30,000 trains per year; and
4. for civil airports where the number of take-offs and landings of aircraft, excluding light aircraft take-offs and landings for training purposes, together exceeds 50,000 per year.

The noise survey describes the current and future noise situation in the area, including quiet areas, using noise indicators in general, and the number of persons exposed to noise and the number of residential buildings in the area.

The action plan for combating noise aims to combat noise and its impacts, and to prevent the increase of noise in quiet areas.

A government decree lays down more detailed rules on the indicators to be used in noise reports, the content of the noise report and the noise abatement action plan and, where appropriate, the designation of population agglomerations.

Section 202 Municipal environmental protection regulations
Municipalities may issue general regulations that are necessary for the implementation of this Act and which are based on local circumstances (municipal environmental protection regulations).

Accessibility recommendations of the City of Turku

1. When designing a space, the following factors must be taken into account: radiators, air conditioning, lighting, IT equipment, background noise, doors, furniture, floors, microphones, people's speech, people's everyday activities, background music, building information and alarm sounds, sounds from outside the building and sounds from the yard and surroundings when working in the yard.
2. All rooms must be adequately soundproofed: no disturbing sounds, background noise or noise from machinery and equipment must be allowed.
3. An acoustically comfortable space is designed to prevent sound from circulating and to achieve a short reverberation time. Noise from indoor or outdoor areas must not become overbearing.
4. Good room acoustics is achieved in rooms by, for example, the use of different damping materials (furniture and textiles) and the design and placement of furniture. (figure 24e)
5. In quiet spaces, consideration should be given to such things as water pipes, drainage, ventilation, technical space and other sources of noise.
6. In an acoustically suitable space, materials with different absorption ratios are combined. (The acoustic properties of materials are measured by their absorption coefficient, which indicates the ability of a material surface to absorb sound. The higher the value, the more the material suppresses the sound. The thickness of the materials also affects the noises that the material absorbs. Thin materials sufficient to suppress high noises, while thick, porous or perforated materials suppress low noises.)
7. Even and hard surfaces reflect sound, but with proper and good design, these surfaces can be made to function as sound-dispersive materials.
8. The furniture is selected so that it does not cause a rattle when moved.
9. The building must have a sufficient number of separate and segregable spaces that also allow for quiet time.
10. Sensory accessibility is taken into account both indoors and outdoors.

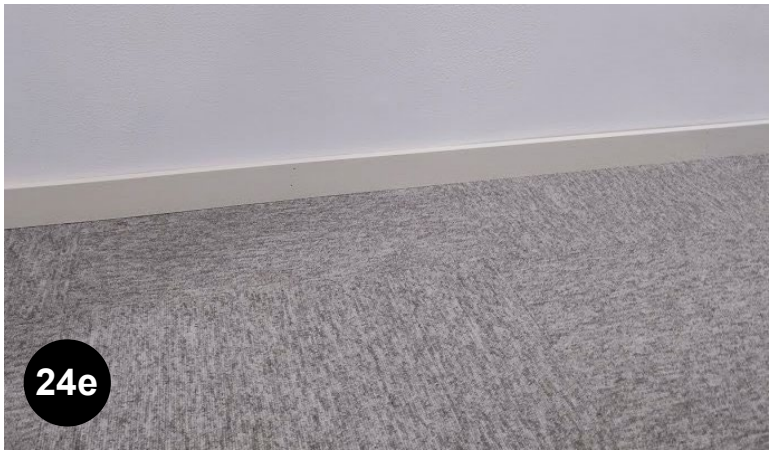


Figure 24e Good solution: sound-absorbing fitted carpet. Good room acoustics can be influenced by damping materials. (Yliopistonkatu 27, Turku)

24.2 Sight



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Legislation

Decree of the Ministry of the Environment on the safety of use of buildings 1007/2017

Section 10 subsections 1 and 2 Brightness and lighting
The building and its surroundings must be illuminated in such a way as to ensure safe operation and maintenance. Lighting must not cause glare that could compromise safety.

The surfaces and lighting of the building must be such that the differences in brightness necessary for detection are achieved.

Occupational Safety and Health Act (738/2002)

Section 34 Workplace lighting
A workplace must have suitable and sufficiently effective lighting as required by the work and in accordance with the employees' requirements. Where possible, sufficient natural light must be provided.

Further provisions on general and special lighting in the workplace may be issued by government decree.

Section 36 Order and cleanliness
The workplace must be kept tidy and clean to ensure safety and health.

Accessibility recommendations of the City of Turku

1. When considering the visual load, spatial design should take into account issues such as: general lighting, individual lights, reflections, variations in light and shadow, large glass surfaces, strong colours and contrasts, monochromatic colours, graphic patterns, mixed surface materials, moving view and image, cluttered overall appearance, perception of depth, signs, maps and guiding lines.
2. Sensory accessible space is designed to be clear and harmonious.
3. The visual stimuli of the premises are minimised:
   - Glass walls and windows must have the option of covering them to prevent visibility.
   - Goods must be able to be stored so that they are not visible.
   - Clear and consistent signs on cupboard doors to indicate what they contain.
   - No unnecessary or unwanted items in the facilities.
   - The cables are hidden.
4. Sensory accessible design favours circular and oval shapes and avoids sharp angles and excessive straightforward design. (figure 24f)
5. In sensory accessible design, physical solutions can affect the visibility of technical devices so that the light or sound stimulus from the devices does not disturb.
6. In certain situations, the fact that lighting is unobtrusive can be taken as a measure of good and pleasant lighting. Sensory accessible lighting includes correct light quality, colour characteristics, placement and orientation, as well as sufficient amount of light and consideration of glare factors.
7. The correct lighting supports the perception of the space and can contribute to orientation in the space.
8. All light fixtures should be positioned so that they do not obstruct visibility in the space.
9. The lighting fixture must not give rise to a disturbing voltage surge.
10. The light source in the lighting fixture is hidden so that it does not cause a disturbing glare. (figure 24g)

11. The optimum overall lighting intensity is sufficient, the colour temperature is neutral and illuminates the entire space evenly without leaving large differences in contrast.
12. In general lighting, both direct and indirect light sources may be used, but in the case of sensory accessible design, indirect lighting is generally preferred.
13. Indirect lighting that supports the perception of space and can be adjusted to support sensory accessibility.
14. In indirect lighting, the light is reflected through the surfaces and, when correctly implemented, is softer than a direct light source.
15. Glare from surfaces should be taken into account: glare from windows and shiny surfaces should be avoided.
16. Indirect lighting can also be used to support general lighting for tasks requiring special attention.
17. It is recommended to use lighting of uniform tone throughout the building, as variations in lighting tones are considered unpleasant.
18. In sensory accessible spaces, the dimmability of lights is essential for taking into account different alertness conditions and for supporting the reduction and recovery of loads.
19. In spaces where it must be possible to focus attention and focus, it is important to regulate natural light.
20. The positioning of windows should take into account that the light is evenly distributed throughout the space.
21. Light surfaces reflect light better than dark surfaces: in spaces where natural light is particularly needed, consider the colour scheme of large surfaces, while taking glare factors into account.
22. Strong colours, strong/striking surface materials and textures are very stressful for the sensory sensitive, so sensory accessible design uses earthy and muted tones and an upward fading colour palette.
23. White spaces are poorly perceived and give their users a monotonous sensory experience through the sense of sight: therefore, all-white interiors should be avoided.
24. The gradual upward fading of the colouring helps to make the spaces easier to perceive: the floor is one degree darker, the walls are medium in colour and the ceiling is light.
25. The colours of a sensory accessible space are harmonious, clear and consistent. The colours favour natural, muted or pastel tones that create a serene and calming whole.
26. Contrast enhances the perceptibility of different functions in a space by making it easier to distinguish different objects and elements from their background.
27. Strong patterns create a confusing impression and strain the senses, so they should be avoided.
28. Light-reflective surfaces cause sensory stress, which is why matte-coated materials are used as a rule.

29. Nature elements are favoured in sensory accessible design:
    - Greening
    - Natural materials
    - The utilisation of natural oval and round shapes
    - Use of indirect natural light
    - Linking places that are important to people to interior decoration
30. When designing the floor plans, the functionality of the spaces should be taken into account first and foremost. Functionality means that the key functions are logically placed in the space and that there is enough space for them.
31. Sufficient space should be left for the furniture, as a space that is too cramped creates a confusing impression.
32. The balance created by the placement of furniture in the space helps to create a calming and clear atmosphere.
33. If the space needs to be divided into smaller sections, for example with shelving, screens, wall racks, sofas, carpets, curtains or plants, accessibility and the overall functionality of the space must be taken into account.
34. The future layout of the furniture is already considered at the design stage.
35. Colours can be used to structure and illustrate the functions of a space: colours can be used to delimit parts of a space so that a particular colour symbolises a particular activity. Different colors can be used in different modes to combine a specific color with a specific mode and function.
36. It is important to consider how and what passage from one space to another takes place. Rooms where peace and quiet and concentration are required should be located in such a way that access does not pass by, let alone through, these spaces.
37. Windows (covered if necessary) are important as closed spaces can cause anxiety. (figure 24h)

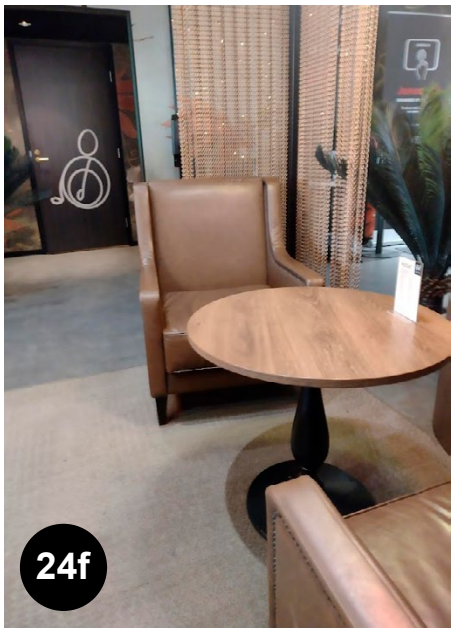


Figure 24f Good solution: favour round and oval shapes, natural materials, green interior decoration and earthy colours. (Sokos Hotel Kupittaa, Turku)

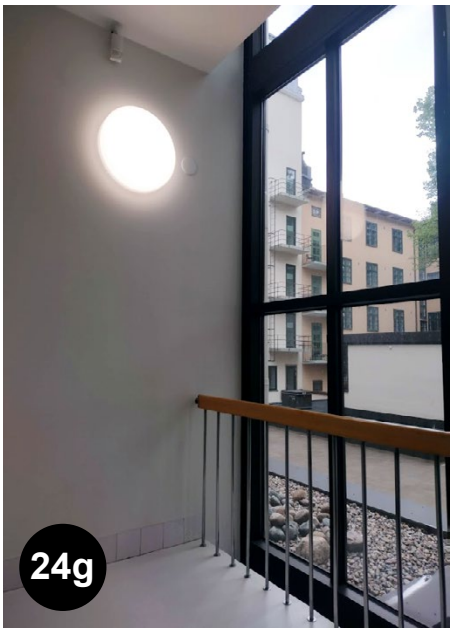


Figure 24g Good solution: light source hidden in the lighting fixture so that it does not cause disturbing glare. (Yliopistonkatu 27, Turku)

24.3 Sensation



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Accessibility recommendations of the City of Turku

1. When designing a space, the following should be taken into account when considering the sensory load caused by tactile perception: the volume of the space, the surface materials used, the feel and proportions of the furniture, the feel of the floor, underfloor heating, confined space, air conditioners/heat curtains with a strong breeze at the external door, dry room air, shower, toilet seat flushing mechanism, door handle/lever.
2. Materials that feel, look, sound and even smell good create a positive and multisensory experience of space and environment.
3. Improper dimensioning of furniture and rough, electrical or cold-feeling materials should be avoided, as they are stressful to the sense of touch.
4. Natural materials are favoured in a sensory accessible space. Antibacterial wood is a good choice when considering sensory-friendly materials. (figure 24h)

5. Artificial materials such as metal, plastic, glass and artificial fibre textiles in interior materials create a monotonous sensory experience. These materials also produce negative and stressful sensory stimuli with their properties more often than natural materials. Artificial materials are often cold and hard against the skin, and touching them can cause a slight stress reaction in the body.
6. The indoor temperature experienced as too warm or too cold is stressful from the perspective of the sense of touch. The experience of temperature is individual, but on average the room is most comfortable when the temperature is between 21°C and 22°C. Temperature is also influenced by draft, which is an essential factor.



Figure 24h Good solution: Antibacterial wood is a good choice when considering sensory-friendly materials. (Yliopistonkatu 27, Turku)

24.4 Scent



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Legislation

Occupational Safety and Health Act (738/2002)

Section 33 Workplace ventilation and room volume
Adequate breathing air must be available at the workplace. Ventilation in the workplace must be sufficiently efficient and appropriate.

The volume and surface area of the workroom must be sufficient. There must also be enough space to do the work and move around as required.

A government decree may lay down more detailed provisions on the volume and ventilation of workplaces.

Section 36 subsection 1 Order and cleanliness
The workplace must be kept tidy and clean to ensure safety and health.

Accessibility recommendations of the City of Turku

1. Spatial design must take into account the following factors when considering the odour load: general odour, materials used, fragranced plants, fresheners, candles, fragranced detergents, people, smell coming through air conditioning.
2. In sensory accessible design, the olfactory effects are kept as mild as possible.
3. On average, different scents from nature are perceived as the most pleasant.
4. The design must take into account that the strongest indoor smells and odours are most often emanating from the kitchen, the toilet, the sewage system, cleaning equipment and materials, and various textiles and surface materials.
5. Odours from furniture and building and interior materials must be taken into account in the design.
6. When choosing materials, ensure that the products meet the required allergy criteria and do not cause odour or other irritation to the occupants of the premises.
7. Other factors affecting indoor air must be taken into account in the design, such as ventilation, construction method, location of the building, users of the space and weather conditions.
8. The premises must have adequate ventilation and good indoor air quality. Good indoor air has a positive impact on the comfort, health and well-being of people using the space.

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