



Draft regulatory provisions

TECHNICAL REGULATIONS

This English translation of the draft regulatory provisions is for information purposes only and is not to be considered a formal regulation.

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Chapter 1. Common provisions

Chapter 1. Common provisions

Section 1-1. Purpose

These regulations are intended to ensure that projects are planned, designed and executed on the basis of good visual aesthetics, universal design, and in a manner that ensures that the project complies with the technical standards for safety, the environment health and energy.

Section 1-2. The Regulation's application to special projects

- (1) The following apply to agricultural buildings and equivalent non-agricultural buildings for domestic animals:
 - a) chapters 1 to 7
 - b) sections 8-1 and 8-4, first paragraph
 - c) chapters 9 to 11
 - d) sections 12-1, first paragraph, 12-4, first paragraph, 12-5, 12-6, first to fourth paragraphs, 12-7, first paragraph, 12-13, first paragraph and second paragraph (a) and (d), 12-14, first paragraph and fifth paragraph (b), 12-15, , 12-16, first paragraph, 12-17 and 12-18, first and second paragraphs
 - e) sections 13-1, first paragraph, 13-6, first paragraph (1), and third paragraph, 13-7 and 13-9 to 13-16
 - f) chapter 14 with the exception of section 14-4
 - g) chapters 15 to 17.
- (2) The following apply to leisure homes containing a single dwelling unit:
 - a) chapters 1 to 7
 - b) section 8-1
 - c) chapters 9 to 11
 - d) sections 12-1, first paragraph, 12-5, 12-7, first paragraph and second paragraph (c) and (d), 12-11, first and second paragraphs, 12-13, first paragraph and second paragraph (d), 12-14, first paragraph (a) to (d) and fifth paragraph (b), 12-15 first to fifth paragraphs and 12-17
 - e) sections 13-1, first paragraph, 13-4, 13-5, 13-7 and 13-9 to 13-16
 - f) chapter 14
 - g) chapters 15 to 17.
- (3) The provisions in the second paragraph shall apply correspondingly to shelters for summer dairy farming, reindeer husbandry and forestry.
- (4) The regulations shall apply to structures and installations, including temporary ones, with the exception of chapters 8, 12, 13 and 14, which shall apply insofar as they are appropriate.
- (5) The regulations shall apply to temporary buildings, with the exception of chapters 8, 12 and 13, which shall apply insofar as they are appropriate. Only section 14-3 of chapter 14 applies.
- (6) In buildings listed as student accommodation by student welfare organisations and student housing associations that have been awarded grants for student accommodation pursuant to Regulation no. 424 of 28 January 2004 on grants for student accommodation:
 - a) it is sufficient that 20% of the dwelling units meet the requirements for accessible dwelling units in sections 12-7, fourth paragraph, 12-8, first paragraph, 12-11, third and fourth paragraph, and 12-18, third paragraph, and the requirements regarding the design of bathrooms and toilets in section 12-9, first paragraph
 - b) *the requirement for storage rooms pursuant to section 12-10, second paragraph, does not apply*
 - c) *all visitors shall have equitable access to a toilet in compliance with section 12-9, first paragraph, on each storey in buildings with a lift.*
- (7) The exceptions in the sixth paragraph also apply to other student accommodation on the condition that an encumbrance is registered on the property ensuring that the property is to be used to rent to students for at least 20 years from the issuance of a completion certificate or granting of a temporary use permit. The registered document that the municipality accepts must be presented before permission to start the project is granted. The Ministry is the holder of the encumbrance.
- (8) In the event of a change of use from an additional part to the main part or vice versa within a dwelling unit, the requirements in the regulation apply with the exception of sections 12-2, 12-9, 12-10, second paragraph, 13-5, second and third paragraphs, 13-8 and 14-2 to 14-5. This provision only applies to change of use of rooms that have a roof,

wall or floor directly adjoining the main part of the dwelling unit. This provision only applies to change of use in homes where construction of the home was applied for before 1 July 2011.

Section 1-3. Definitions

For the purposes of these regulations, the following definitions shall apply:

- a) *dwelling unit: functional unit that has all the necessary room functions and that is going to be used for residential purposes*
- b) *construction works: building, construction or installation*
- c) *functional requirement: general purpose or task that is to be fulfilled in completed construction works. Functional requirements are specified in qualitative terms and may apply to construction works as a whole or building components, installations and outdoor areas*
- d) *pedestrian access: walkway from a drivable road and parking to the entrance of construction works and outdoor amenity areas, and between these*
- e) *primary functions: living room, kitchen, bedroom, bathroom and toilet. This term is only used in connection with dwellings and requirements relating to accessible dwelling units*
- f) *entrance: the construction works' access area by the main entrance door*
- g) *equivalent standards: standards covering the same subject area, that is based on the same assumptions, that has the same validity and that ensures similar qualities.*
- h) *mezzanine: a level located between two levels with open connection to the underlying level*
- i) *developed outdoor area: prepared access routes, parking areas, outdoor amenity areas next to construction works and outdoor amenity areas for public use*
- j) *pre-accepted solution: solution set by the Norwegian Building Authority that is deemed to satisfy or help ensure compliance with one or more functional requirements in the building regulations. Pre-accepted solutions represent the minimum level of performance that will satisfy the relevant functional requirements stipulated in the regulations*
- k) *production documents: technical drawings, descriptions, specifications and other support materials that form the basis for execution*
- l) *rooms for constant occupancy: rooms where the same person will spend more than one hour at a time or a total of more than two hours during the course of a 24-hour period. Rooms for constant occupancy in dwelling units are the living room and equivalent, kitchen and bedroom*
- m) *step-free: surface with a maximum threshold height or difference in level of 25 mm. A threshold or difference in level of between 20 mm and 25 mm is considered step-free if it has a chamfered edge no steeper than 45°*
- n) *performance: technical, functional or environmental quality, capacity or property of a construction works, building component, installation or outdoor area. Performance is an interpretation and specification of functional requirements and may be specified quantitatively or qualitatively*

Chapter 2. Documentation of compliance with the requirements

Proposed new regulations (TEK17)

Chapter 2. Documentation of compliance with the requirements

Section 2-1. Documentation of compliance with the requirements. General

- (1) *It shall be documented that the finished construction works complies with the requirements stipulated in the regulation.*
- (2) *Documentation must be in writing.*
- (3) *The mathematical rounding rules shall apply to regulatory requirements and pre-accepted solutions given in numerical values.*
- (4) *Compliance with requirements and pre-accepted solutions may be documented by using Standards Norway's standards or an equivalent standard.*

Section 2-2. Documentation of compliance with functional requirements. Basis for detailed project design

- (1) *Performance requirements stipulated in the regulations shall be complied with.*
- (2) *In those areas in which performance requirements are not stipulated in the regulations, compliance with the functional requirements in the regulations shall be documented either:*
 - a) *by use of pre-accepted solutions, or*

- b) by analysis that demonstrates performance in compliance with the functional requirements stipulated in the regulations.
- (3) If compliance with the regulations' functional requirements is documented by analysis, it must be verified that the applied method of analysis is suitable and valid for the purpose. The assumptions used shall be described and justified. The analysis shall state the necessary safety margins.
- (4) *Documentation provided shall describe the required performance and how the construction works shall be designed. The specified required performance shall provide a sufficient basis for the detailed design and planning.*

Section 2-3. Documentation of compliance with performance requirements. Production documents

- (1) *Documentation shall verify that the design details and chosen products comply with the specified performance requirements.*
- (2) *Production documents shall be prepared that are sufficient for execution of the project.*

Section 2-4. Documentation of execution

It shall be documented that the execution is in compliance with the production documents.

Chapter 3 Documentation of products

Section 3-1. General requirements relating to construction products

- (1) The rules for documentation of products derive from the Regulations concerning sales and documentation of construction products.
- (2) - - -
- (3) Documentation is required proving that the products have the characteristics – necessary to ensure the completed construction works comply with the requirements stipulated by this Regulation before products are built into construction works.

Section 3-2 – section 3-16.

(Repealed from 1 January 2014 by Regulation no. 1579 of 17 Dec. 2013)

Chapter 4 Documentation for management, operation and maintenance (MOM)

Section 4-1. Documentation for the operating phase

- (1) The responsible designer and responsible contractor shall, within their areas of responsibility, provide the responsible applicant with the documentation necessary to satisfactorily carry out the start-up, management, operation and maintenance of the construction works, technical installations and systems.
- (2) In cases where such documentation is obviously superfluous, this requirement does not apply.

Section 4-2. Retention of documentation for the operating phase

Documentation for the operating phase shall be handed over to and retained by the owner of the construction works.

Chapter 5 Degree of utilisation

Section 5-1. Determination of degree of utilisation

- (1) The purpose is to regulate the volume of buildings above ground level and the total area of buildings in relation to the required outdoor amenity area, the impact on infrastructure and the relationship to the surroundings. The degree of utilisation shall be stipulated in the provisions of the land-use element of the municipal master plan or in the zoning plan for a specific area.
- (2) The degree of utilisation shall be determined using one or more of the following methods:
 - a) Built-up area (BYA)
 - b) Percentage of built-up area (% BYA)
 - c) Usable area (BRA)
 - d) Percentage of usable area (% BRA).

For areas regulated for shopping centres or shops, the degree of utilisation shall always be stipulated in terms of usable area (BRA).

Section 5-2. Built-up area (BYA)

Built-up area is calculated on the basis of Norwegian Standard *NS 3940:2012 Area and volume calculations for buildings*, though such that parking areas are included in the basis for calculation in accordance with section 5-7. A building plot's built-up area shall be stated in m² BYA and given in whole numbers.

Section 5-3. Percentage of built-up area (% BYA)

Percentage of built-up area indicates the ratio between the built-up area in accordance with section 5-2 and the building plot area. Percentage of built-up area shall be stated as % BYA and given in whole numbers.

Section 5-4. Usable area (BRA)

- (1) Usable area for buildings on a building plot shall be stated in m² BRA and given in whole numbers.
- (2) Usable area is calculated on the basis of Norwegian Standard *NS 3940:2012 Area and volume calculations for buildings*, though such that parking areas are included in the basis for calculation in accordance with section 5-7. In addition the following applies:
 - a) For buildings with a storey height of over 3 m, usable area is calculated as if a horizontal plane had been laid every three metres. It may be stipulated in plans for land use that the usable area shall be calculated without the addition of hypothetical planes.
 - b) The planning provisions shall stipulate how the usable area fully or partly below ground level is to be included in the degree of utilisation assessment. If the plan does not provide otherwise, the usable area below ground level shall be included in the usable area.
 - c) When calculating usable area as a basis for energy calculations, a hypothetical horizontal plane laid every three metres for buildings with a storey height of over 3 m shall not apply.

Section 5-5. Percentage of usable area (%-BRA)

Percentage of usable area indicates the ratio between usable area in accordance with section 5-4 and the building plot area. Percentage of usable area shall be stated as % BRA and given in whole numbers.

Section 5-6. Minimum outdoor amenity area (MUA)

For dwellings, schools, kindergartens, etc. where the municipality has deemed it necessary to require a minimum outdoor amenity area, the planning provisions should indicate the minimum outdoor amenity area, including play areas. MUA is indicated in whole m² per unit / dwelling / pupil / child, etc. and is stated as m² MUA. Outdoor amenity areas are those parts of the building plot that are not built on or earmarked for driving or parking and that are suited to this purpose. The municipality may decide that all or parts of terraces and roof terraces that are covered may be counted as outdoor amenity areas.

Section 5-7. Parking areas

An application for a project shall show how parking is to be provided. The area for parking is included in the calculation basis for the degree of utilisation. The number of parking spaces and the intended parking solution shall be in accordance with the current zoning plan and/or the provisions of the municipal master plan.

Section 5-8. Building plot

In this chapter a building plot means land in the land-use part of the municipal master plan or the zoning plan earmarked as an area for buildings or construction. Unless otherwise stipulated in provisions in the individual plan, the stipulated degree of utilisation also applies to individual plots.

Section 5-9. The height of buildings

Cornice and roof ridge heights are to be specified with contour figures or in metres from graded ground. Heights are measured in accordance with section 6-2. Deviations from the height provisions of section 29-4, first paragraph, of the Planning and Building Act must be stipulated in the individual plan. The municipality may stipulate heights for various parts of a building in the provisions of the plan.

Chapter 6. Calculation and measurement rules**Section 6-1. Number of storeys**

The number of storeys in a building is the total number of measurable levels lying above one another and which constitute the main part and additional parts of the building. However, the following levels are not included in the number of storeys:

- a) a basement that only contains an additional part that has a ceiling less than 1.5 m above the average ground level around the building after grading
- b) a mezzanine that has a usable area of less than 1/5 of the underlying full storey's usable area

- c) an attic that only contains an additional part and which has a usable area of less than 1/3 of the underlying storey's usable area

Section 6-2. Height

- (1) Cornice height is the height to the intersection between the outer surface of the outer wall and the roof surface. If the wall has a turret or a parapet that protrudes more than 0.3 m above the roof surface, the height is taken as the height to the top of the turret or parapet. Cornice height is measured relative to the mean height of the terrain around the building after grading is completed.
- (2) Roof ridge height is the height to the intersection between two sloping roof surfaces. Roof ridge height is measured relative to the mean height of the terrain around the building after grading is completed.
- (3) Height as described in section 29-4, second paragraph, of the Planning and Building Act is the average cornice height of the façade facing the boundary of an adjoining property.
- (4) Municipalities may stipulate in their planning provisions that heights shall be measured relative to graded terrain, existing terrain, street level or a specified contour height. For buildings that extend across a block, the municipality decides which heights are to be used for the various parts of the building. The same applies to corner buildings and to construction works covering a very large area or that have an unusual shape.

Section 6-3. Distance

Distance is measured as the shortest horizontal distance between the construction works' façade line and the neighbouring construction works' façade line or the boundary of an adjoining property. For construction works with protruding building components, the distance is increased by an amount equivalent to the amount by which the building component protrudes in excess of 1.0 m from the façade line.

Section 6-4. Area

Minor projects as described in section 29-4, third paragraph (b), of the Planning and Building Act are buildings in which neither the total usable area nor the developed area exceeds 50 m². The same applies to other minor projects that cannot be measured pursuant to Norwegian Standard *NS 3940:2012 Area and volume calculations for buildings*.

Chapter 7. Protection against acts of nature

Proposed new regulations (TEK17)

Chapter 7. Protection against acts of nature

Section 7-1. General requirements relating to protection against acts of nature

- (1) Construction works shall be sited, designed and constructed to ensure satisfactory protection against damage or significant nuisance from acts of nature.
- (2) Projects shall be designed and constructed to ensure that construction works, building land and adjoining terrain are not exposed to damage or significant nuisance as a consequence of the project.

Section 7-2. Protection against flooding and storm surges

- (1) Construction works that would suffer particularly severe consequences due to flooding shall not be sited in areas prone to flooding.
- (2) The flooding safety class of construction works in areas prone to flooding shall be stipulated. Construction works shall be sited, designed or protected against flooding such that the largest nominal annual probability in the table below is not exceeded. In cases where there is a risk to life, the same safety class as for landslides and avalanches shall apply, cf. section 7-3.

Table: Safety classes for construction works in areas prone to flooding

Flooding safety class	Impact	Greatest nominal annual probability
F1	slight	1/20
F2	moderate	1/200
F3	severe	1/1000

- (3) The first and second paragraphs apply correspondingly to storm surges.
- (4) Construction works shall be sited or protected such that damage due to erosion does not occur.
- (5) Safety class F1 also includes the following projects where the project does not lead to reduced personal safety and does not involve establishment of a new functional unit:

- a) one extension or one addition of up to 50 m² of usable area in the lifetime of the construction works
- b) change of use and conversion of up to 50 m² of usable area.

This provision does not apply to projects that result in the establishment of activities covered by section 7-2, first paragraph.

Section 7-3. Protection against landslides and avalanches

- (1) Construction works that would suffer particularly severe consequences due to a landslide or avalanche, including the secondary effects of a landslide or avalanche, shall not be sited in areas prone to landslides or avalanches.
- (2) The landslide / avalanche safety class of construction works in areas prone to landslides or avalanches shall be stipulated. Construction works and their related outside areas shall be sited, designed or protected against landslides or avalanches, including the secondary effects of a landslide or avalanche, such that the largest nominal annual probability in the table below is not exceeded.

Table: Safety classes for siting construction works in areas prone to landslides or avalanches

Landslide/avalanche safety class	Impact	Greatest nominal annual probability
S1	slight	1/100
S2	moderate	1/1000
S3	severe	1/5000

An equivalent level of safety shall be established in areas with a risk of quick-clay slides.

- (3) Safety class S1 also includes the following projects where the project has little consequence for personal safety and does not involve establishment of a new functional unit:
 - a) one extension, one addition or one instance of building below existing construction works of up to 50 m² of usable area in the lifetime of the construction works
 - b) change of use and conversion of up to 50 m² of usable area.

The third paragraph does not apply to projects that result in the establishment of activities covered by section 7-3, first paragraph. The third paragraph does not apply to projects in areas with a risk of quick-clay slides.

Section 7-4. Protection against landslides and avalanches – exemption for tidal waves due to rock falls

- (1) Permission may nevertheless be granted to build construction works not covered by section 7-3, first paragraph, in areas prone to tidal waves due to rock falls in cases where all the following conditions are met:
 - c) the consequences of building restrictions are severe, and the development of decisive social importance,
 - d) personal safety is addressed by a proper emergency system based on real-time monitoring, warnings and evacuation, and a special assessment has been carried out of whether or not there should be restrictions concerning the construction of construction works that are difficult to evacuate. The warning period shall not be shorter than 72 hours and the evacuation time shall be a maximum of 12 hours,
 - e) there are no alternative, appropriate, safe building sites,
 - f) physical protection measures against the secondary effects of rock falls have been clarified, and
 - g) the development has been clarified in the regional master plan, the land-use element of the municipal master plan or a zoning plan (area zoning plan), including through an environmental impact assessment.
- (2) Small extensions, additions or building below existing construction works may be permitted without the requirement for a plan pursuant to the first paragraph (e) and dispensation pursuant to chapter 19 of the Planning and Building Act, as long as the extension does not result in an increased risk to life and health.

Chapter 8. Developed outdoor areas

Proposed new regulations (TEK17)

Chapter 8. Developed outdoor areas

Section 8-1. Developed outdoor areas

Developed outdoor areas shall be adequately suitable and designed for their function.

Section 8-2. Developed outdoor areas subject to universal design requirements

- (1) The following developed outdoor areas shall be universally designed pursuant to the provisions in the regulations:
 - h) outdoor areas for the general public
 - i) outdoor areas for residential buildings that require a lift

- j) outdoor areas for construction works for the general public
 - k) outdoor areas for work buildings.
- (2) The first paragraph does not apply in cases where an outdoor area or part of an outdoor area is pursuant to its function unsuitable for people with disabilities.

REPEALED

Section 8-3. Outdoor amenity areas

- (1) Outdoor amenity areas shall pursuant to their function be suitable for recreation, play and activities for various age groups.

Outdoor amenity areas shall be sited and designed such that good quality is achieved with regard to:

- a) *light and sun conditions, and*
 - b) *noise and other environmental impacts.*
- (2) *Outdoor amenity areas shall be designed to avoid risk to people. The following shall, as a minimum, be complied with:*
- a) *Play areas shall be shielded from traffic.*
 - b) *Differences in level shall be secured to prevent fall injuries.*
- (3) *Pools, wells, etc. in outdoor amenity areas shall be secured by means of a fence, cover or a similar barrier to prevent people from falling into them.*
- (4) The following apply to outdoor amenity areas subject to universal design requirements:
- a) Developed areas designated for play and recreation shall also have a horizontal field with a solid surface of at least 1.6 m x 1.6 m, which enables participation and equitable use.
 - b) Differences in level in outdoor developed areas shall be marked with visual and tactile means.
 - c) Columns, railings, etc. shall visually contrast with their surroundings.
 - d) There shall be room for a wheelchair where seating is constructed.
 - e) Developed swimming areas shall be equipped or designed so that it is easy to enter and exit the water.

Section 8-4. General requirements relating to pedestrian access and walking lines

- (1) Pedestrian access ways must be safe and designed for the expected traffic and transport.
- (2) Key walking lines that cross open areas in larger squares and squares subject to universal design requirements must have clearly demarcated walking zones or guide lines. Patterns in the roadways that provide misleading directional information shall be avoided.

Section 8-5. Pedestrian access to buildings containing dwelling units

- (1) *Pedestrian access ways to buildings containing dwelling units shall comply with the following:*
- a) Pedestrian access shall be step-free.
 - b) Gradients shall not be steeper than 1:15. A maximum gradient of 1:12 is permitted for sections up to 5 m long.
 - c) For every 1.0 m difference in height there must be a resting platform with a minimum length of 1.5 m.
- (2) *The first paragraph (a) to (c) do not apply to buildings containing dwelling units that are not required to have a lift if the terrain is too steep to allow compliance with the gradient requirements*
- (3) *Pedestrian access ways to buildings subject to accessible dwelling unit requirements shall have a minimum clearance width of 1.6 m. A minimum clearance width of 1.4 m is permitted for sections up to 5 m long.*
- (4) *Pedestrian access ways to buildings containing dwelling units that are required to have a lift shall also have:*
- a) *a minimum clearance width of 1.8 m, except for sections up to 5 m long, which may have a minimum clearance width of 1.4 m*
 - b) *maximum cross fall of 1:50*
 - c) *a solid, non-slip surface*
 - d) *visual and tactile demarcation*
 - e) *the necessary lighting.*

Section 8-6. Pedestrian access to construction works subject to universal design requirements

- (1) *Pedestrian access ways to construction works subject to universal design requirements shall comply with the following:*
- a) *Pedestrian access shall be step-free.*

- b) *Gradients shall not be steeper than 1:15. A maximum gradient of 1:12 is permitted for sections up to 5 m long. If the terrain is too steep to comply with the gradient requirements, a maximum gradient of 1:10 is permitted.*
 - c) *For every 1.0 m difference in height there must be a resting platform of minimum 1.6 m x 1.6 m.*
- (2) *In addition, pedestrian access ways to construction works subject to universal design requirements shall also have:*
- a) *a minimum clearance width of 1.8 m, except for sections up to 5 m long, which may have a minimum clearance width of 1.4 m*
 - b) *maximum cross fall of 1:50*
 - c) *a solid, non-slip surface*
 - d) *visual and tactile demarcation*
 - e) *the necessary lighting.*

Section 8-7. Pedestrian access to outdoor amenity areas subject to universal design requirements

- (1) *Pedestrian access ways to outdoor amenity areas subject to universal design requirements shall comply with the following:*
- a) *Pedestrian access shall be step-free.*
 - b) *Gradients shall not be steeper than 1:15. A maximum gradient of 1:12 is permitted for sections up to 5 m long. If the terrain is too steep to comply with the gradient requirements, a maximum gradient of 1:10 is permitted.*
 - c) *For every 1.0 m difference in height there must be a resting platform of minimum 1.6 m x 1.6 m.*
- (2) *If there are several outdoor amenity areas with the same function, at least one of these shall have pedestrian access that complies with the requirements in the first paragraph. Other pedestrian access ways shall have a maximum gradient of 1:10.*
- (3) *In addition, pedestrian access ways to outdoor amenity areas subject to universal design requirements shall also have:*
- a) *a minimum clearance width of 1.8 m, except for sections up to 5 m long, which may have a minimum clearance width of 1.4 m*
 - b) *maximum cross fall of 1:50*
 - c) *a solid, non-slip surface*
 - d) *visual and tactile demarcation.*

REPEALED

Section 8-8. Parking spaces and other standing spaces

- (1) *Buildings containing dwelling units that are required to have a lift, construction works subject to universal design requirements and outdoor areas for use by the general public shall have a sufficient number of parking spaces for people with impaired mobility where parking must be provided pursuant to the Planning and Building Act. The following apply to these parking spaces:*
- a) *The parking spaces must be close to the main entrance.*
 - b) *The parking spaces must have adequate lighting.*
 - c) *The parking spaces must be clearly signposted and marked.*
- (2) *Buildings containing dwelling units that are required to have a lift, construction works subject to universal design requirements and outdoor areas for use by the general public shall have a sufficient number of standing spaces for wheelchairs, prams, strollers, etc. adapted to the size and function of the construction works and the outdoor area.*

Section 8-9. Steps in outdoor areas

- (1) *Steps in outdoor areas must be easy and safe to navigate.*
- (2) *In addition, steps in outdoor areas subject to universal design requirements shall also have:*
- a) *an even gradient, and each riser shall have the same height*
 - b) *handrails on both sides that follow the entire course of the flight of stairs and end after the first and last step with a rounded edge*
 - c) *tactile and visual warning fields before the uppermost step*
 - d) *an awareness field before and into the lowest step*
 - e) *visually marked contrast field on the front edge of the other treads*

Chapter 9. External environment

Proposed new regulations (TEK17)

Chapter 9. External environment

Section 9-1. General requirements relating to the external environment

Construction works shall be designed, constructed, operated and demolished in a manner that results in the least possible impact on natural resources and the external environment. *Construction waste shall be handled accordingly.*

Section 9-2. Substances posing a health or environmental risk

Products shall be chosen that have no or a low content of substances posing a health or environmental risk.

Section 9-3. Soil contamination

Surveys shall be carried out to find out if there is any soil contamination when planning construction works.

Section 9-4. Selected habitats

The following provisions apply when laid down in regulations pursuant to sections 52 and 53, fifth paragraph, of the Nature Diversity Act concerning specific habitats, when such habitats occur in the municipality and the conditions of the habitat have not been clarified in a legally binding plan.

- a) The construction, siting and designing of projects shall take particular account of occurrences of a selected habitat to avoid diminishing the habitat's distribution and the occurrence's ecological status.
- b) Where the impact on the selected habitat has not been clarified pursuant to the rules concerning impact assessments in chapter 4 of the Planning and Building Act, the developer shall prepare an environmental impact assessment of the project's effects on the habitat.

Section 9-5. Construction waste

- (1) Construction works shall be ensured a satisfactory, intended lifetime such that the quantities of waste over a construction works' lifetime are kept to a minimum.
- (2) Products suitable for reuse and material recovery shall be chosen.

Section 9-6. Waste management plan

- (1) Waste management plans shall be prepared for the following types of projects, providing an account of the planned management of construction waste by type of waste and quantity:
 - c) construction, additions, extension and building below a building if the project exceeds 300 m² of usable area
 - d) substantial modification, including façade alteration, or substantial repair of the building if the project affects more than 100 m² of the building's usable area
 - e) demolition of a building or part of a building that exceeds 100 m² of usable area
 - f) construction, additions, extension, building below, modification or demolition of structures and installations if the project generates more than 10 tonnes of construction and demolition waste.
- (2) Projects affecting more than one building, structure or other installation shall be considered as a single project.

Section 9-7. Surveys of hazardous waste and environmental restoration plans

- (1) Upon completion of projects in existing construction works, a survey shall be carried out of building components, installations, etc. that may constitute hazardous waste.
- (2) A separate environmental restoration plan shall be drawn up for the projects listed in section 9-6, first paragraph, (b) to (d).
- (3) The environmental restoration plan shall as a minimum contain information about:
 - a) who carried out the survey
 - b) the date of the survey
 - c) the year of construction and previous use if known
 - d) the results of representative material tests and analyses
 - e) the occurrence and quantity of hazardous waste by type
 - f) the location of hazardous waste in the building, indicated by a photograph or drawing in cases of doubt
 - g) how hazardous waste is identified by marking, signposting or other means
 - h) how it is planned to remove the hazardous waste

- i) where it is planned to deliver the hazardous waste
- j) all finds of hazardous waste, compiled in a table.

Section 9-8. Waste separation

A minimum of 60% by weight of the waste generated by projects in section 9-6, first paragraph, shall be separated into different types of waste and delivered to an approved waste collection facility or directly to a resource recovery facility.

Section 9-9. Final report on actual disposal of waste

A final report describing the actual disposal of waste by type of waste and quantity shall be prepared for projects in section 9-6, first paragraph. Delivery to an approved waste collection facility or directly to a resource recovery facility shall be documented.

Section 9-10. Emissions requirements relating to wood-burning stoves

- 1) Enclosed wood-burning heaters shall be adequately designed to satisfactorily prevent pollution. Emissions from such a heater shall not exceed the values stipulated in *Norwegian Standard NS 3059 Enclosed wood heaters – Smoke emissions – Requirements*.
- 2) In those cases where old heaters worthy of preservation are necessary out of consideration to the interior of buildings of cultural-historical, antiquarian or preservation value, heaters worthy of preservation may nevertheless be used.

Chapter 10 Structural safety

Section 10-1. Personal and material safety

Construction works shall be sited, designed and constructed to ensure the attainment of an adequate level of safety for people and domestic animals and to ensure that any collapse or accident does not result in unacceptably great material damage or loss to society.

Section 10-2. Structural safety

- 1) The characteristics of materials and products in construction works shall ensure compliance with the fundamental requirements for the construction works' mechanical resistance and stability.
- 2) Construction works shall be designed and constructed to ensure the attainment of an adequate level of safety against failure and sufficient rigidity and stability for loads that may occur during their intended use. This requirement applies to construction works under construction and completed construction works.
- 3) The fundamental requirements relating to the construction works' mechanical resistance and stability, including ground conditions and safety measures during construction and upon completion, can be complied with by designing construction works in accordance with Norwegian Standard NS-EN 1990 Eurocode: Basis of structural design and additional standards in the series NS-EN-1991 to NS-EN-1999, with appurtenant national additions.

Section 10-3. Falling objects from and collisions with construction works

- 1) Roof and façade materials with affixed equipment and devices must be executed and fastened to ensure they do not fall down under expected climatic conditions and design loads.
- 2) Construction works shall be secured so that ice and snow cannot fall onto places where people and domestic animals may be.
- 3) Distances from underlying terrain to roof protrusions and other overhead fixed or movable components of construction works shall be satisfactory to ensure collisions are avoided.

Chapter 11. Safety in case of fire

Proposed new regulations (TEK17)

Chapter 11. Safety in case of fire

I. General requirements relating to safety in case of fire

Section 11-1. Safety in case of fire

- (1) Construction works shall be designed and constructed to ensure the attainment of an adequate level of safety in case of fire for people present in or on the construction works, for material assets, and for environmental and social factors.
- (2) There must be adequate provisions to enable the rescue of people and domestic animals and for effective fire extinguishing.

- (3) Construction works shall be sited, designed and constructed to ensure that the probability of fire spreading to other construction works is minimal.
- (4) Construction works where a fire may pose a serious environmental hazard or affect other material community interests shall be designed and constructed to ensure that the probability of harm to the environment or other material community interests is minimal.

Section 11-2. Hazard classes

Based on the threat a fire could entail in relation to danger to life and health, construction works, or different areas of use in construction works, shall be categorised into hazard classes pursuant to the table below. The hazard classes shall provide a basis for design and construction to ensure escape and rescue in case of fire.

Table: Hazard classes

Hazard class	Construction works designed for only the sporadic presence of people	People in the construction works are familiar with the opportunities for escape, including escape routes, and can get to safety unassisted	Construction works designed for overnight stays	Intended use of the construction works does not represent a serious fire hazard
1	Yes	Yes	No	Yes
2	Yes/No	Yes	No	No
3	No	Yes	No	Yes
4	No	Yes	Yes	Yes
5	No	No	No	Yes
6	No	No	Yes	Yes

Section 11-3. Fire classes

Based on the consequences a fire could entail in relation to danger to life and health, social interests and the environment, a construction works, or different areas of a construction works, shall be categorised into fire classes pursuant to the table below. The fire classes shall provide a basis for design and construction to ensure the construction works' load bearing capacity in case of fire.

Table: Fire classes

Fire class	Impact
1	Slight
2	Moderate
3	Serious
4	Very serious

II. Load-bearing capacity and stability in case of fire and explosion

Section 11-4. Load-bearing capacity and stability

- (1) Construction works shall be designed and constructed to ensure that the construction works as a whole, as well as its individual parts, attains an adequate level of safety with regard to load-bearing capacity and stability.
- (2) The thermal load from the energy of a fire and the expected progress of a fire in the construction works shall be taken into account when designing for adequate load-bearing capacity and stability in case of fire.
- (3) Load-bearing systems in construction works in fire classes 1 and 2 shall be designed to maintain adequate load-bearing capacity and stability for a minimum of the time necessary to escape and rescue persons and domestic animals in or on the construction works.
- (4) Main load-bearing systems in construction works in fire classes 3 and 4 shall be designed to maintain adequate load-bearing capacity and stability for the complete duration of a fire, insofar as this can be modelled.
- (5) *Exemption may be granted from the requirements in the fourth paragraph on design for a full-scale fire for industrial buildings, warehouses and similar structures with high fire energy, provided that the necessary escape time and adequate safety for extinguishing crews are safeguarded.*
- (6) Secondary structures and structures that are only load-bearing for one storey or for the roof shall be designed to maintain adequate load-bearing capacity and stability for the time necessary to escape and rescue persons and domestic animals in or on the construction works.

Section 11-5. Safety in case of explosion

Construction works whose intended use may pose an explosion hazard shall be designed and constructed with relief surfaces or other systems to maintain personal safety and load-bearing capacity at an adequate level.

III. Measures to prevent ignition and the development and spread of fire and smoke

Section 11-6. Measures to prevent the spread of fire between construction works

- (1) *Fires shall be prevented from spreading between construction works:*
 - a) *in order to maintain the safety of people and domestic animals*
 - b) *so that a fire does not cause unreasonably large financial losses or social consequences*
- (2) The distance between low-rise construction works shall be at least 8 m, unless measures are taken to prevent fires spreading between the construction works during the time required for escape and rescue in the other construction works. This provision does not apply to low-rise construction works that together comprise only one functional unit.
- (3) When low-rise construction works are constructed with a distance of less than 8 m between them, the construction works' total gross usable area shall be limited so that a fire does not result in unreasonably large financial losses, unless other measures are implemented to prevent such losses.
- (4) High-rise construction works shall be a minimum distance of 8 m from other construction works, unless the construction works are constructed to ensure fire will be prevented from spreading for the full duration of a fire.
- (5) *Firewalls shall be designed and constructed so that they prevent fire spreading from one construction works to another, regardless of the fire services' extinguishing efforts.*
- (6) *Construction works that, either due to their very nature or the activity taking place in them, entail a particularly high probability of fire spreading shall be designed, constructed and protected or sited to ensure that the particularly high probability of fire spreading to other construction works is reduced to an acceptable level.*

Section 11-7. Fire sections

- (1) *The spread of fire in construction works shall be prevented in order to:*
 - a) *preserve life and health where escape and rescue may take a long time,*
 - b) *prevent unreasonably large financial or material losses, and*
 - c) *help ensure that a fire, given the anticipated extinguishing efforts, shall be able to be limited to the fire section in which it started.*
- (2) *The spread of fire in large construction works shall be limited by division into fire sections or by other means that provide at least equivalent safety.*
- (3) *Sectioning walls shall be designed and constructed so that a fire, given the anticipated extinguishing efforts, can be limited to the fire section in which it started.*
- (4) *Doors and windows in sectioning walls shall have equivalent fire resistance to that of the wall and shall be limited to those that are necessary for the intended use.*
- (5) *Within a fire section, the characteristics of the fire barrier between parts of the construction works with the different fire classes shall be determined by the highest fire class, unless at least equivalent safety can be obtained by other means. Underlying storeys shall have a fire class at least equal to the storeys above.*

Section 11-8. Fire cells

- (1) Construction works shall be appropriately divided into fire cells. Areas posing differing risks to life and health and/or in which the risk of fire occurring differs shall be separate fire cells unless the same level of safety can be obtained by other means.
- (2) Fire cells shall be constructed in a manner that prevents the spread of fire and conflagration gases to other fire cells during the time necessary for escape and rescue.

Section 11-9. The fire characteristics of materials and products

- (1) Construction works shall be designed and constructed to ensure that the probability of fires occurring, developing and spreading is minimal. The use of the construction works and the time necessary for escape and rescue shall be taken into account.
- (2) Products and materials shall not have characteristics that make an unacceptable contribution to the development of a fire. Weight shall be given to the possibility of ignition, speed of heat transfer, smoke production, development of burning drops and time to flashover.
- (3) *Interior surfaces on walls and ceilings shall comply with at least class D-s2, d0 [In 2].*

Section 11-10. Technical installations

- (1) Technical installations shall be designed and installed to ensure an installation does not substantially increase the risk of a fire occurring or a fire and smoke spreading.
- (2) Installations intended to perform a function during a fire shall be designed and constructed to ensure their function is maintained for the necessary time. This also includes the necessary supply of water, electricity or signals needed to maintain the installation's function.

IV. Facilitating escape and rescue

Section 11-11. General requirements relating to escape and rescue

- (1) Construction works shall be designed and constructed to allow speedy and safe escape and rescue. Account shall be taken of people with disabilities.
- (2) The time available for escape shall be greater than the time required to escape from the construction works. An adequate safety margin shall be included.
- (3) Fire cells shall be laid out in such a way and have interior fittings that facilitate speedy and efficient warnings, escape and rescue.
- (4) Escape routes from places where people spend time to the exits from a fire cell must be clear and facilitate speedy and efficient escape.
- (5) During the time a fire cell or escape route shall be used by people escaping, no temperatures, concentrations of smoke gases or other circumstances shall occur that hinder escape.
- (6) Signs, symbols and text showing escape routes and safety equipment must be able to be read and understood while escaping when fire or smoke are developing.

Section 11-12. Measures that influence escape and rescue times

- (1) In construction works designed for activities that could result in escape and rescue taking a long time, proactive measures shall be implemented that increase the available escape time. The following shall, as a minimum, be complied with:
 - a) Construction works, or parts of construction works, in hazard class 4 that require a lift shall have an automatic fire extinguishing system.
 - b) *Parts of construction works in hazard class 4 without an automatic fire extinguishing system shall be separated by a sectioning wall from parts of the construction works with an automatic fire extinguishing system.*
 - c) Construction works in hazard class 6 shall have an automatic fire extinguishing system.
 - d) In those cases where an automatic fire extinguishing system is required, other measures may nonetheless be used that can hinder, limit or control a fire locally where it arises.
- (2) Construction works shall have equipment that enables the early detection of fires such that the necessary escape time is reduced. The following shall, as a minimum, be complied with:
 - a) Construction works designed for activities in hazard classes 2-6 shall have a fire alarm system.
 - b) In construction works designed for few people and smaller construction works, smoke detectors can be used if the escape situation is particularly simple and clear. Smoke detectors shall be connected to the mains and have a battery backup system. In fire cells needing more than one smoke detector, the detectors shall be connected in series. In construction works without power supplied by the mains, battery-operated smoke detectors may be used.
- (3) *In construction works in which escape and evacuation routes may be long and involve changes of direction or that are going to be used by large numbers of people, the escape routes shall be well lit and marked such that escape can be effected in a speedy and efficient manner. Large construction works and construction works designed for a large number of people, as well as construction works designed for activities in hazard classes 5 and 6, shall have a satisfactory guide system.*
- (4) Construction works in hazard classes 5 and 6, other construction works for the general public and work buildings, shall have evacuation plans drawn up for them before they are occupied.
- (5) Technical fire installations of importance for escape and rescue efforts shall be clearly identified by signs, unless the equipment is intended for people in a single functional unit and it must be assumed the people are well acquainted with its location.

Section 11-13. Exits from fire cells

- (1) Fire cells shall have at least one exit to a safe location or exits to two independent escape routes or one exit to an escape route that has two alternative directions of escape that lead to independent escape routes or safe locations.

- (2) Fire cells in construction works in hazard class 4 with up to 8 storeys can have an exit to a stairwell executed as an escape route. Dwelling units are required to have at least one window or balcony available for rescue and fire extinguishing efforts, cf. section 11-17.
- (3) Fire cells consisting of more than one storey, or which have a mezzanine, shall have at least one exit from each storey. In construction works in hazard classes 1, 2, 3 and 4, the exits from these levels, besides the entrance level, may be windows that facilitate safe escape. In construction works in hazard class 4 that do not require a lift, the uppermost level may have its exit via the nearest underlying level, provided an automatic extinguishing system is installed.
- (4) In low-rise construction works intended for activities in hazard classes 1, 2, 3 and 4, the exit from a fire cell may either lead to a safe location or to an escape route that has only one direction of escape, provided that each fire cell has windows designed for and which can facilitate safe escape.
- (5) Fire cells for a large number of people shall have an adequate number of, and a minimum of two, exits leading to an escape route.
- (6) The exit from fire cells designed for only the sporadic presence of people can pass through another fire cell.
- (7) Doors to escape routes shall be designed and constructed to ensure speedy escape and avoid a risk of congestion. The following shall, as a minimum, be complied with:
 - a) Doors shall be adequately wide and high, and they must be easy to open without a key.
 - b) Doors shall open outwards in the direction of escape. Doors to escape routes may nevertheless open inwards against the direction of escape if there is no risk of congestion during an evacuation.

Section 11-14. Escape routes

- (1) Escape routes shall, in a clear and easily understandable way, lead to a safe location. They shall be of adequate width and constructed as a separate fire cell designed for speedy and efficient escape.
- (2) Where an escape route goes over more than one storey, stairs shall be separated from the rest of the escape route and other fire cells, so that the stairs' function as a safe escape route is safeguarded during the stipulated available escape time.
- (3) Escape routes that contain two directions of escape shall be divided into appropriate units so that smoke and conflagration gases do not block both directions of escape.
- (4) Main entrances to construction works, or a part of construction works, for large numbers of people shall facilitate safe escape.
- (5) Doors in escape routes shall be designed and constructed to ensure speedy escape and avoid a risk of congestion. The following shall, as a minimum, be complied with:
 - a) Doors shall be adequately wide and high, and they must be easy to open without a key.
 - b) Doors shall open outwards in the direction of escape. *Doors in escape routes may nevertheless open inwards against the direction of escape if there is no risk of congestion during an evacuation.*
- (6) A roof-covered yard or street may be used as an escape route if it is designed for safe escape. There shall also be an alternative escape route besides the roof-covered space. Small fire cells located at courtyard level may use the roof-covered area as an escape route from both exits, provided that the space is designed for safe escape.
- (7) Lifts and escalators may not be included as parts of evacuation or escape routes. Such devices shall come to a stop in a safe manner in the event of a fire alarm. Moving pavements specially designed for safe use can be included as part of an evacuation or escape route.

Section 11-15. Facilitating rescue of domestic animals

Construction works designed for domestic animals shall be designed and constructed to ensure the speedy and safe rescue of domestic animals.

V. Facilitating the extinguishing of fires

Section 11-16. Facilitating the manual extinguishing of fires

- (1) Construction works shall be designed for the effective manual extinguishing of fires.
- (2) In or on all construction works where a fire may occur, there shall be fire extinguishing equipment that facilitates effective fire fighting efforts in the initial phase of a fire. This is in addition to any automatic fire extinguishing system.
- (3) Fire extinguishing equipment shall be sited to facilitate effective extinguishing efforts. In the case of small construction works designed for activities in hazard class 1, the equipment may be located in neighbouring construction works.
- (4) Fire-extinguishing equipment must be clearly marked unless it is intended for people in a single functional unit and the people must be expected to be well acquainted with its location

Section 11-17. Facilitating the work of rescue and fire-fighting personnel

- (1) Construction works shall be sited and designed to ensure rescue and fire-fighting personnel, and their required equipment, are able to gain useful access to and inside the construction works for rescue and fire-fighting efforts.
- (2) Construction works shall be designed to ensure fires can be easily located and fought.
- (3) Technical fire installations of importance for escape and fire-fighting efforts shall be clearly marked.

Chapter 12. Layouts of and building components in construction works

Proposed new regulations (TEK17)

Chapter 12. Layouts of and building components in construction works

I. Introductory provisions relating to layouts of and building components

Section 12-1. Requirements relating to layouts and universal design of construction works

- (1) *Construction works shall have a layout adapted to the construction works' function.*
- (2) Construction works for the general public and work buildings shall be universally designed pursuant to the provisions in the regulations, unless the construction works or part of the construction works is, given its function, unsuitable for people with disabilities.

Section 12-2. Requirements relating to accessible dwelling units

- (1) Dwelling units in buildings that are required to have a lift shall have all the primary functions on the entrance level of the dwelling unit. The entrance level shall be accessible to people with disabilities pursuant to the provisions in the regulations.
- (2) *In buildings that are required to have a lift, cf. section 12-3, it is nevertheless sufficient that at least 50% of the dwelling units with a usable area of up to 50 m² meet the requirements relating to accessible dwelling units and the requirements relating to the design of bathrooms and toilets in section 12-9, first paragraph. When applying for permission to build several buildings, the exemption applies to all the buildings together.*
- (3) Dwelling units in buildings that do not require a lift and that have all the primary functions on the entrance level of the building shall be accessible on the entrance level pursuant to the provisions in the regulations, unless pedestrian access meets the conditions for exemption in section 8-5, second paragraph.

Section 12-3. Requirements relating to lifts in construction works

- (1) Construction works for the general public and work buildings with two or more storeys shall have lifts. Construction works with up to three storeys and little movement of people may have a lifting platform instead of a lift. Lifts and lifting platforms shall be designed in accordance with the Lifts Directive and the Machinery Directive, respectively. The following requirements relating to dimensions apply:
 - a) At least one lift car shall have minimum interior dimensions of 1.10 m x 2.10 m in construction works with three storeys or more.
 - b) At least one lift car shall have minimum interior dimensions of 1.10 m x 1.60 m in construction works with only two storeys.
 - c) Lifting platforms shall have minimum interior dimensions of 1.10 m x 1.60 m.
- (2) Buildings with three storeys or more containing dwelling units shall have lifts. *Buildings with three storeys containing dwelling units may have a lifting platform instead of a lift. The lifting platform shall serve a maximum of six dwelling units. The following requirements relating to dimensions apply:*
 - a) *At least one lift car shall have minimum interior dimensions of 1.10 m x 2.10 m.*
 - b) *Lifting platforms shall have minimum interior dimensions of 1.10 m x 1.40 m.*
- (3) The requirement for a lift or lifting platform in the second paragraph does not apply to:
 - a) *small houses containing a single dwelling unit*
 - b) *where access from the entrance to the dwelling unit is over maximum one storey.*
- (4) *When calculating the number of storeys in connection with the requirements relating to lifts, the exceptions in section 6-1 (a) to (c) do not apply.*

II. Entrances, layouts, communication routes, rooms, etc.

Section 12-4. Entrances

- (1) Entrances shall be clearly visible, centrally located and easily understood in relation to access. Entrances shall be safe and easy to use.
- (2) Buildings subject to accessible dwelling unit requirements and construction works subject to universal design requirements shall comply with the following:
 - a) The lighting installed in entrances shall ensure the entrance and main entrance doors are visible in relation to surrounding surfaces.
 - b) There must be a visual and tactile awareness field in front of main entrance doors.
 - c) Entrances shall be step-free.
 - d) There shall be a horizontal field with minimum dimensions of 1.5 m x 1.5 m outside main entrance doors. If the doors are side-hinged, this horizontal field shall lie outside the swing radius of the doors.
 - e) Automatic door opener buttons shall be located in a position accessible to people in wheelchairs and such that collisions with doors are avoided.

Section 12-5. Safety in use

Construction works shall be designed to ensure any risk of harm to people and domestic animals through collisions or falls is avoided.

Section 12-6. Communication routes

- (1) Communication routes shall be safe, appropriate and usable for the expected traffic and transport.
- (2) Communication routes shall be easy to find and orient oneself in.
- (3) Level differences shall be clearly marked and have the necessary lighting.
- (4) *Openings in floors shall be secured to ensure they do not pose a danger to people and domestic animals.*
- (5) Buildings subject to accessible dwelling unit requirements shall, in addition to the first to fourth paragraphs, comply with the following:
 - a) Communication routes to accessible dwelling units shall be step-free.
 - b) Corridors and porticoes shall have a minimum clearance width of 1.50 m. Long corridors shall have adequate space that allows two wheelchairs to pass each other. Short sections of less than 5.0 m that have no doors may have a minimum clearance width of 1.20 m.
- (6) Construction works subject to universal design requirements shall, in addition to the first to fourth paragraphs, comply with the following:
 - a) Communication routes shall be step-free. Gradients shall not be steeper than 1:15.
 - b) Corridors and porticoes shall have a minimum clearance width of 1.50 m. Long corridors shall have adequate space that allows two wheelchairs to pass each other. Short sections of less than 5.0 m that have no doors may have a minimum clearance width of 1.20 m.
 - c) There shall be signage and marking that provides the general public with necessary information. Signage and marking shall be easy to read and understand. There shall be lighting necessary to attain a minimum visual luminance contrast of 0.4 between text and the background colour. Signage and marking shall be sited in an accessible location and be easily visible to seated people and pedestrians. The storey number shall be visually and tactilely readable on all storeys.
 - d) Auditory information shall be supplemented with visual information.
 - e) Dazzling lighting shall be avoided in communication routes.
 - f) Columns and similar components shall be sited to ensure they do not obstruct communication routes. Columns and similar components shall have a minimum luminance contrast of 0.4 in relation to their surroundings or be marked at two heights with a minimum luminance contrast of 0.8 in relation to the background colour.
 - g) Directional information shall be provided if necessary where the direction of travel changes. Repeated information shall be as identical as possible throughout the building.
 - h) Large rooms, where the main walking lines cross open spaces, shall have defined walking zones or guide lines. Patterns in the floor that provide misleading directional information shall be avoided.

Section 12-7. Requirements relating to the design of rooms and other areas for people

- (1) Rooms and other areas for people shall be designed and have a ceiling height and space adapted for their function.
- (2) *Ceiling height in the dwelling unit shall comply with the following:*
 - a) *Rooms for constant occupancy shall have a minimum height of 2.4 m.*
 - b) *Rooms not intended for constant occupancy shall have a minimum height of 2.2 m.*

- c) *Leisure homes containing a single dwelling unit shall have a minimum height of 2.2 m.*
- d) *Parts of the room may have a lower ceiling height where this does not affect the room's intended function.*
- (3) *In connection with change of use in a dwelling unit from an additional part to the main part or vice versa, ceiling height may be lower than 2.4 m.*
- (4) Accessible dwelling units shall be dimensioned for wheelchairs on the entrance level. *The following shall be complied with:*
 - a) Rooms shall have step-free access and turning space for wheelchairs.
 - b) Rooms shall be designed to ensure wheelchair users can operate necessary functions in a satisfactory manner.
 - c) *Rooms for constant occupancy shall have access ways with a clearance width of 0.90 m to doors and windows outside furnished zones.*
- (5) Rooms and other areas for people in construction works subject to universal design requirements shall have:
 - a) design and dimensions that enable equitable participation, and
 - b) step-free access and wheelchair turning spaces. Spaces for wheelchairs shall be sited to ensure wheelchair users can operate necessary functions in a satisfactory manner.
- (6) *Construction works subject to universal design requirements shall have a reception or noticeboard where necessary. Any receptions and noticeboards shall be easy to find and centrally sited in relation to the main access point.*
- (7) In construction works subject to universal design requirements that have a large number of rooms with the same function, it is sufficient for 1/10 of the rooms to be universally designed pursuant to the provisions in the regulations. However, this does not apply in cases where the expected use indicates that more or all rooms should be universally designed.

Section 12-8. Entrance halls and cloakrooms

- (1) Entrance halls or entrances to accessible dwelling units shall have:
 - a) *an access way with a clearance width of 0.9 m outside the furnished zone*
 - b) space for a wheelchair turning area beyond the door's swing radius.
- (2) In the case of construction works subject to universal design requirements, at least 1/10 of the cloakrooms shall have a maximum operating height of 1.2 m.

Section 12-9. Bathrooms and toilets

- (1) Dwelling units shall have at least one bathroom and toilet that comply with the following:
 - a) The size and layout shall ensure there is unobstructed floor space for a wheelchair turning area in front of the toilet, a minimum of 0.90 m unobstructed floor space on one side of the toilet and a minimum of 0.20 m on the other side. There shall be an access way with a minimum clearance width of 0.90 m to the free space at the side of the toilet.
 - b) It shall be possible to install a step-free shower zone. *There shall be an access way with a minimum clearance width of 0.90 m to the shower zone.*
 - c) Walls in the shower and toilet zone shall enable the subsequent mounting of the necessary equipment.
- (2) On storeys with a bathroom or toilet in construction works subject to universal design requirements, 1/10, and a minimum of one of these bathrooms and toilets shall be designed in compliance with the following:
 - a) The flooring and walls shall have a visible colour contrast. Fixed equipment shall have a visible contrast in relation to the flooring and walls.
 - b) The size and layout shall ensure there is unobstructed floor space for a wheelchair turning area in front of the toilet and a minimum of 0.90 m free floor space on both sides of the toilet. There shall be an access way with a clearance width of 0.90 m to the free space at the side of the toilet. Toilets shall have hand supports on both sides.
 - c) There shall be adequate unobstructed space under the sink.
 - d) Shower zones shall be step-free and minimum 1.6 m x 1.3 m. The heights of showerheads shall be adjustable, and shower zones shall enable the mounting of the necessary equipment.

Section 12-10. Storage rooms and storage spaces

- (1) Dwelling units shall have adequate, suitable space for storing clothing and food.
- (2) Dwelling units shall have storage space or storage rooms of minimum 5.0 m² for bicycles, sports equipment, prams / strollers, etc. *Dwelling units with a usable area of up to 50 m² shall have storage space of at least 2.5 m² of usable area.*

- (3) Dwelling units subject to accessibility requirements shall have step-free access to the storage space or storage room. The required storage space or storage room shall be accessible to a wheelchair user.

Section 12-11. Balconies, terraces, etc.

- (1) Balconies, terraces, etc. shall have adequate safety features and quality of use.
- (2) Level differences greater than 0.5 m shall be secured with railings, cf. section 12-15.
- (3) Buildings subject to accessible dwelling unit requirements and construction works subject to universal design requirements shall comply with the following:
- a) Access ways to balconies, terraces, spaces etc. shall be step-free in work buildings and public buildings and on the entrance level of dwelling units.
 - b) Balconies, terraces and outdoor spaces shall have unobstructed floor space that provides room for a wheelchair turning area.
- (4) *In accessible dwelling units with multiple balconies, terraces and outdoor spaces, etc. on the entrance level, the requirements in the third paragraph only apply to the largest area.*

Section 12-12. Waste system and source separation

- (1) There shall be facilities for source separation of waste. Semi-underground waste containers, pneumatic disposal units or other waste systems shall be designed and constructed to prevent bothersome noise, odours or other nuisances.
- (2) Common waste systems for residential buildings subject to accessible dwelling unit requirements and construction works subject to universal design requirements shall be easily accessible, have step-free access and have a maximum disposal height of 1.2 m.

(REPEALED)

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III. Building components

Section 12-13. Doors, gates, etc.

- (1) Doors, gates and similar components shall be easy to see and use and be designed in a way that prevents harm to people, domestic animals or equipment.
- (2) Their width and height shall be designed for the expected traffic and transport, including escape in case of fire and shall, as a minimum, comply with the following:
- a) Entrance doors and doors in communication routes shall have a minimum clearance width of 0.9 m. The minimum clearance width in construction works designed for large numbers of people shall be 1.2 m.
 - b) Internal doors in dwelling units shall have a minimum clearance width of 0.76 m.
 - c) (3) Internal doors in construction works subject to universal design requirements shall have a minimum clearance width of 0.9 m. *Doors to bathrooms in overnight rooms that are exempt from universal design requirements pursuant to section 12-7, seventh paragraph, shall have a minimum clearance width of 0.76 m.*
 - d) *Doors in saunas refrigerated storage rooms and deep-freeze storage rooms shall open outwards and be able to be opened from the inside without a key.*
 - e) Doors shall have a minimum clear height of 2.0 m.
- (3) *Buildings subject to accessible dwelling unit requirements shall comply with the following:*
- a) *Doors to and in access ways and escape routes that are designed to be opened manually shall be able to be opened with a maximum opening force of 30 N.*
 - b) *Automatic door opener buttons shall be installed outside the swing radius of the door. Buttons shall be clearly visible and located at an operating height of between 0.8 m and 1.2 m above the floor. Door opener buttons shall be sited at a sufficient distance from inside corners.*
 - c) *Thresholds shall be step-free.*
 - d) *Sliding doors and side-hinged doors shall have enough side clearance for wheelchair users to be able to open and close the door. This requirement does not apply to doors with an automatic door opener.*
- (4) *In addition to the first to third paragraphs, the following apply to construction works subject to universal design requirements:*
- a) *The requirement relating to the opening force for doors in the third paragraph (a) only applies to doors to and in the main access way and the main escape route.*
 - b) *Doors shall be visible relative to the surrounding walls. The minimum luminance contrast shall be 0.4.*

Section 12-14. Stairs

- (1) *Stairs shall be easy and safe to navigate. The width and height of stairs shall be designed for the expected traffic and transport, including escape. The following shall, as a minimum, be complied with:*
- a) *Stairs shall have safe edges and handrails on both sides.*
 - b) *The upper edge of at least one handrail shall be between 0.80 m and 0.90 m above the floor or steps.*
 - c) *Flights of stairs shall have a regular gradient, and the risers shall be the same height for the entire length of the flight of stairs.*
 - d) *Treads in straight flights of stairs shall have the same tread depth. Treads in the walking line shall be a minimum of 0.25 m.*
 - e) *Landings shall be large enough to prevent and halt falls. Height differences of more than 3.3 m require a landing.*
 - f) *Stairwells shall be well lit so that the steps are visible.*
 - g) *Treads shall have a non-slip surface.*
 - h) *Straight flights of stairs shall have a minimum clearance width of 0.9 m and minimum clearance height of 2.10 m. Straight, internal flights of stairs in dwelling units shall have a minimum clearance width of 0.80 m and minimum clearance height of 2.00 m.*
 - i) *Treads in flights of stairs that are not straight shall have a minimum width that is 0.10 m wider than the requirements for straight flights of stairs in (h).*
 - j) *Treads in curved flights of stairs shall have a minimum width of 0.15 m along the inside walking line. In curved flights of stairs in escape routes for large numbers of people, the minimum tread width along the inside walking line shall be 0.20 m.*
- (2) *In addition to the first paragraph, the following apply to main flights of stairs that serve more than one dwelling unit:*
- a) *Straight flights of stairs shall have a minimum clearance width of 1.10 m and a minimum clearance height of 2.10 m.*
 - b) *Handrails shall:*
 1. *be at one height, with an upper edge height of 0.80 m, or at two heights, with upper edge heights of 0.90 m and 0.70 m respectively. Heights shall be measured from the front edge of the tread*
 2. *continue beyond the top and bottom steps and have rounded ends*
 3. *follow flights of stairs continuously, including around mid-level landings.*
 - c) *Treads shall be marked such that a minimum luminance contrast of 0.4 is attained in relation to the colour of the steps. The marking on treads shall span the entire width of the step and be a maximum of 0.04 m deep.*
 - d) *The depth of landings from the front edge of a step or from the bannister to the opposite wall shall be a minimum of 1.50 m.*
- (3) *In addition to the requirements in the first and second paragraphs, the following apply to construction works subject to universal design requirements:*
- a) *Main flights of stairs shall have a minimum clearance width of 1.20 m.*
 - b) *Handrails shall have a minimum luminance contrast of 0.4 in relation to the background colour. At the beginning of each storey, the storey indicator shall be marked. Handrails shall continue 0.30 m beyond the top and bottom steps and have rounded ends.*
 - c) *There shall be a warning field in front of the top step and an awareness field in front of and up to the bottom step spanning the entire width of the flight of stairs. The warning fields shall be tactilely and visually marked with a minimum luminance contrast of 0.8 in relation to the background colour. The awareness fields shall be tactilely and visually marked with a minimum luminance contrast of 0.4 in relation to the background colour.*
- (4) *Handrails in buildings subject to accessible dwelling unit requirements and construction works subject to universal design requirements shall be designed to provide a good grip.*
- (5) *The following exceptions apply to requirements stipulated in the first to fourth paragraphs:*
- a) *Handrails are not required on both sides where they would obstruct access to seating and standing room in amphitheatres, sports arenas, etc.*
 - b) *Stairs and ladders used exclusively in connection with the operation of the construction works shall be designed to be functional for their intended use and such that personal safety is maintained, but are otherwise exempt from the provisions in this section. This exception does not apply if stairs or ladder are part of an escape route.*

Section 12-15. The design of railings

- (1) *The design and height of railings shall prevent falls and collisions, and railings shall be designed to prevent climbing.*

- (2) Bannisters in flights of stairs and railings on ramps shall have a minimum height of 0.90 m above the floor or steps. *The height requirement also applies to railings and bannisters on landings and mid-level landings.*
- (3) Railings in or on balconies, terraces, stands in arenas, passageways, etc. shall have a minimum height of
 - a) 1.20 m where the height difference between levels is more than 10.0 m
 - b) 1.00 m where the height difference between levels is up to 10.0 m
- (4) *If the difference in height to the terrain or underlying level is less than 3.0 m, other acceptable safety devices than railings can be used.*
- (5) *Openings in railings shall be a maximum of 0.10 m up to a minimum height of 0.75 m. In railings over 1.00 m, openings in the railings shall be maximum 0.10 m up to a height of at least 0.25 m below the top of the railing. The maximum horizontal distance between a building component and railings affixed to its outer surface shall be 0.05 m.*

Section 12-16. Ramps

- (1) The width of ramps shall be adapted to the expected transport. The minimum permitted width is 0.90 m.
- (2) Ramps must have an even, non-slip surface and a maximum gradient of 1:15. A maximum gradient of 1:12 is permitted for sections of up to 3.0 m. For every 1.0 m height difference there must be a horizontal resting platform with a minimum length of 1.50 m.
- (3) Ramps shall have handrails on both sides at one height, with the upper edge 0.80 m above the surface, or at two heights, with the respective upper edges 0.90 m and 0.70 m above the surface. Handrails shall visually contrast with the walls and railings. *Handrails shall be designed to provide a good grip.*
- (4) In construction works subject to universal design requirements, the start of a ramp shall be marked across the entire span of the ramp with a minimum luminance contrast of 0.4 between the marking and the background.

(REPEALED)

Section 12-17. Windows and other glazed fields

- (1) Windows and other glazed fields that if broken could cause harm to people or domestic animals shall be protected against collisions and falls *up to a minimum height of 0.8 m above the floor. Such protection may take the form of a parapet, shielding with safety glass or some other acceptable method.* In general the following apply:
 - a) In buildings with dwelling units, glazed fields facing balconies, terraces, etc. shall be secured. In addition, windows and other glazed fields in exterior walls from 6.6 m above the terrain or underlying surface upwards shall be secured.
 - b) In construction works subject to universal design requirements, windows and other glazed fields in exterior walls above the terrain shall be secured. In schools and kindergartens, all windows and other glazed fields in places where children may be present shall be secured.
 - c) Glazed fields in entrances and communication routes shall be secured in the direction of traffic.
- (2) Glazed fields in entrances and communication routes where there may be a risk of collision shall be contrast-marked with glass markings visible on both sides and at two levels, with their centres at 0.9 m and 1.5 m above the floor. Patterns in glass markings on doors shall be different from those in glass markings in nearby glazed fields.
- (3) Windows in construction works where children may be present shall have a child-safety catch from 3.3 m above the terrain or underlying surface upwards.
- (4) Windows and glazed fields shall be able to be cleaned and maintained without risk.

Section 12-18. Signage, control and operating panels, handles, fittings, etc.

- (1) Signage, control and operating panels, handles, fittings, etc. shall be easy to understand and operate.
- (2) Information shall be easy to read and understand. There shall be a visible contrast between text and its background, with a minimum luminance contrast of 0.4. Important information shall be accessible via text and sound. *Sound may be replaced by tactile signs.*
- (3) In addition, buildings subject to accessible dwelling unit requirements and construction works subject to universal design requirements shall comply with the following:
 - a) Operating panels shall be located at an operating height of between 0.8 m and 1.2 m above the finished floor.
 - b) Handles shall be placed at an operating height of between 0.8 m and 1.2 m, be designed with a functional grip and require an operating force that makes them easy to use.
 - c) Sink and shower fixtures shall be able to be operated using one hand. Shower fixtures shall have a thermostat. This does not apply to buildings subject to accessible dwelling unit requirements.
 - d) In cases where openable windows are required pursuant to the regulations, at least one of these shall be able to be operated using one hand. The handle shall require little operating force and be located where it can be reached from a sitting position. This does not apply to construction works for the general public.

- e) *Power sockets shall be installed a minimum of 0.5 m from an inside corner.*

Chapter 13. The environment and health

Proposed new regulations (TEK17)

Chapter 13. Indoor climate and health

I. Air quality

Section 13-1. General requirements relating to ventilation

- (1) Buildings shall have ventilation that ensures satisfactory air quality through:
 - a) *ventilation adapted to the rooms' design, intended use, pollution and humidity loads*
 - b) *satisfactory air quality in the building with regard to odour*
 - c) *indoor air that does not contain harmful concentrations of pollutants that pose health hazards or cause irritation.*
- (2) *Buildings and buildings' ventilation systems shall be sited and designed to ensure the quality of supply air. If the quality of the outdoor air is unsatisfactory it shall be purified before being piped into the building to prevent health risks or the risk of fouling ventilation equipment.*
- (3) *Ventilation shall be adapted to the pollution loads from people.*
- (4) *Air shall not be piped from rooms with lower air quality requirements to rooms with higher air quality requirements.*
- (5) *Air inlets and outlets shall be designed and sited to ensure that pollution from outlets does not re-enter inlets and such that the air entering the inlet is as unpolluted as possible.*
- (6) *Circulating air shall not be used if this results in the transfer of pollutants between rooms where people are present.*
- (7) *Products for construction works shall emit low levels of or no pollution into the indoor air.*

Section 13-2. Ventilation in residential buildings

- (1) Dwelling units shall have ventilation that ensures an average supply of fresh air at a minimum rate of 1.2 m³ per hour per m² of floor space when the dwelling unit is occupied.
- (2) Bedrooms shall be supplied with a minimum of 26 m³ of fresh air per hour per planned bed space when the room is in use.
- (3) Rooms not intended for constant occupancy shall have ventilation that ensures at least 0.7 m³ of fresh air per hour per m² of floor space.
- (4) Kitchens, toilets and wet rooms shall have satisfactorily effective vents.

Section 13-3. Ventilation in construction works for the general public and work buildings

- (1) An average supply of fresh air at a minimum rate of 26 m³ per hour per person shall be supplied due to the pollution caused by people performing light activities. If activities other than light activities are to be performed, the supply of fresh air shall be adapted such that the air quality is satisfactory.
- (2) *The minimum supply rate of fresh air due to pollution from materials, products and systems shall be:*
 - a) *2.5 m³ per hour per m² of floor space when the functional unit is in use*
 - b) *0.7 m³ per hour per m² of floor space when the functional unit is not in use.*
- (3) *Rooms with polluting activities and processes shall have adequate extraction to maintain satisfactory air quality.*

II. Indoor thermal climate

Section 13-4. Indoor thermal climate

- (1) The indoor thermal climate in rooms intended for constant occupancy shall be regulated in a manner promoting health and satisfactory comfort when the rooms are used as intended.
- (2) In rooms for constant occupancy it must be possible to open at least one external window or door.
- (3) *The second paragraph does not apply to rooms in work buildings and public buildings where openable windows are undesirable in light of the use.*

III. Radiation environment

Section 13-5. Radon

- (1) *The annual average radon concentration in buildings with rooms for constant occupancy shall not exceed 200 Bq/m³.*
- (2) *Buildings with rooms for constant occupancy shall:*
 - a) *have a radon barrier towards the ground, and*
 - b) *have arrangements for radon ventilation beneath the building.*
- (3) *The second paragraph does not apply if it can be documented that the measures are unnecessary to satisfy the requirements in the first paragraph.*

IV. Sound and vibrations

Section 13-6. Sound and vibrations

- (1) *Acoustic conditions shall be satisfactory for people inside construction works and in outdoor amenity areas designated for recreation and play. Requirements relating to acoustic conditions apply on the basis of their intended use and can be met by ensuring compliance with sound class C in Norwegian Standard NS 8175: 2012 Acoustic conditions in buildings. Sound classification of various types of buildings.*
- (2) *For student accommodation covered by section 1-2, sixth and seventh paragraphs, there is adequate airborne sound insulation between rooms for constant occupancy in dwelling units and common areas or communication routes if the minimum weighted field-measured sound reduction rating (R_w) is 45 decibels.*
- (3) *Vibration conditions shall be satisfactory for people inside constructions works and in outdoor amenity areas designated for recreation and play.*
- (4) *Construction works for the general public and work buildings shall have sound and voice transmission equipment, unless it can be documented that this is unnecessary to achieve good speech intelligibility. Entrances to rooms with amplified audio and speech transmission shall be clearly marked.*

REPEALED (Covered by NEW section 13-6)

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REPEALED (Covered by NEW section 13-6)

V. Light and views

Section 13-7. Light

- (1) *Buildings shall have adequate access to light.*
- (2) *Rooms for constant occupancy shall have adequate access to daylight.*
- (3) *The second paragraph does not apply to rooms in work buildings and public construction works where the intended use indicates otherwise.*

Section 13-8. Views

- (1) *Rooms for constant occupancy shall have a window that provides a satisfactory view.*
- (2) *The first paragraph does not apply to bedrooms in dwelling units or rooms in work buildings and public construction works where the intended use indicates otherwise.*

VI. Wet rooms and rooms with water installations

Section 13-9. General requirements relating to moisture

Groundwater, surface water, precipitation, service water and humidity shall not penetrate and lead to damp damage, mould and fungi growth or other hygienic problems.

Section 13-10. Moisture from the ground

The necessary measures shall be put in place around building components below ground level and under floor structures on the ground to divert seeping water and prevent moisture penetrating structures.

Section 13-11. Surface water

The terrain around construction works shall have an adequate slope away from the construction works, unless other measures have been taken to divert surface water, including roof water.

Section 13-12. Precipitation

- (1) Façade cladding, windows, doors, and installations that pass through walls shall be designed to allow precipitation that penetrates them to be drained away and moisture to dry out without damage occurring.
- (2) Roofs shall be designed and constructed with sufficient pitch and drainage so that rain and melt water drain away. *Rain, melting snow and ice shall not result in damage to the construction works.*
- (3) In ventilated roof structures where condensation can occur on the underside of the roofing material or the roofing material is not sufficiently impermeable to prevent the penetration of water, the underlying structure shall be protected by a watertight sheathing.

Section 13-13. Moisture from indoor air

Building components and structures shall be designed and constructed to ensure that moisture damage does not arise as a result of condensed water vapour from indoor air.

Section 13-14. Moisture in buildings

Products and structures shall be so dry at the time they are built in or sealed that problems from mould and fungi growth, decaying organic materials or increased degassing do not arise.

Section 13-15. Wet rooms and rooms with water installations

- (1) Wet rooms shall be designed and constructed to ensure damage does not occur to structures and products because of service water, water spills, leaking water and condensation.
- (2) *The following shall, as a minimum, be complied with in wet rooms:*
 - a) *The room shall have a drain.*
 - b) *Floors shall be sufficiently sloped towards the drain so that service water is led away.*
 - c) *Leaking water shall be made visible and led to the drain.*
 - d) *Underlying structures that may be adversely affected by moisture shall be protected by a suitable watertight layer. Ducts etc. shall not compromise the tightness.*
- (3) *Other rooms with water installations shall comply with the following:*
 - a) *Floors and walls that may be subjected to water spills, leaking water or condensation shall be made from moisture-resistant materials.*
 - b) *Rooms shall be designed so that any leaks are made visible.*
 - c) *Building components with built-in cisterns or similar installations shall be protected against moisture penetration from leaks from the installation.*

VII. Cleaning before the building is occupied

Section 13-16. Cleaning before a building is occupied

Surfaces in rooms, ducts, etc. shall be cleaned before a building is occupied. Surfaces shall be free of visible dust and grease.

Chapter 14 Energy

Section 14-1. General requirements

- 1) Buildings shall be designed and constructed such that satisfactory energy use is facilitated.
- 2) The energy requirements apply to the building's heated usable area (BRA).
- 3) U-values shall be calculated as the mean for the various parts of the building.
- 4) The energy requirements do not apply to buildings or parts of buildings that are going to maintain a low indoor temperature, provided its energy needs are kept at a reasonable level.
- 5) In the case of projects where compliance with the requirements in this chapter is incompatible with the preservation of monuments of cultural and/or antiquarian value, the requirements apply insofar as they are appropriate.

Section 14-2. Requirements relating to energy efficiency

- (1) The building's total net energy needs shall not exceed the energy budgets in the table in (a) and shall at the same time satisfy the requirements stipulated in section 14-3.

a)

Table: Energy budgets

Building category	Total net energy needs [kWh/m² of heated usable area per year]
Small house and leisure home with more than 150 m ² of heated usable area	100 + 1,600/m ² heated usable area
Block of flats	95
Kindergarten	135
Office building	115
School building	110
University / college	125
Hospital	225 (265)
Nursing home	195 (230)
Hotel building	170
Sports building	145
Commercial building	180
Cultural building	130
Light industry / workshop	140 (160)

b) The requirements stated in parentheses apply to spaces in which heat recovery from ventilation air poses a risk of spreading pollutants / contagions.

(2) For residential buildings, the requirement for energy efficiency as an alternative to the first paragraph may be met by following the steps 1-9 in the table. The energy-saving measures may be departed from, provided that the building's heat loss figures do not increase and the requirements in section 14-3 are met.

Table: Energy-saving measures

	Energy-saving measures	Small house	Block of flats
1.	U-value outer walls [W/(m ² K)]	≤ 0.18	≤ 0.18
2.	U-value roof [W/(m ² K)]	≤ 0.13	≤ 0.13
3.	U-value floors [W/(m ² K)]	≤ 0.10	≤ 0.10
4.	U-value windows and doors [W/(m ² K)]	≤ 0.80	≤ 0.80
5.	Proportion of window and door areas of heated usable area	≤ 25%	≤ 25%
6.	Annual mean temperature efficiency ratio for heat recovery systems in ventilation systems (%)	≥ 80%	≥ 80%
7.	Specific fan power (SFP) in ventilation systems [kW/(m ³ /s)]	≤ 1.5	≤ 1.5
8.	Air leakage rate per hour at 50 Pa pressure difference	≤ 0.6	≤ 0.6
9.	Normalised thermal bridge value, where m ² is stated as heated usable area [W/(m ² K)]	≤ 0.05	≤ 0.07

(3) Multifunctional buildings shall be divided up into zones based on building category, and the respective energy budgets shall be complied with within each zone.

(4) Buildings' energy needs and heat loss figures shall be calculated in accordance with Norwegian Standard NS 3031:2014 Calculation of energy performance of buildings – Method and data.

(5) For non-residential buildings, the energy budget must be calculated using the actual figures for the specific building. These calculations are in addition to control calculations made using standardised values.

(6) Blocks of flats with a central heating system and non-residential buildings shall have dedicated energy meters for heating and hot water.

Section 14-3. Minimum requirements relating to energy efficiency

(1) The following requirements must be met:

Table: Minimum requirements

U-value outer walls [W/(m² K)]	U-value roof [W/(m² K)]	U-value floors on ground and facing open air [W/(m² K)]	U-value windows and doors including frames [W/(m² K)]	Leakage figures at 50 Pa pressure difference [air change per hour]
≤ 0.22	≤ 0.18	≤ 0.18	≤ 1.2	≤ 1.5

- (2) Pipes, equipment and ducts connected to the building's heating system shall be insulated. The thickness of the insulation shall be economically optimal, calculated in accordance with a Norwegian standard or an equivalent European standard.

Section 14-4. Requirements relating to energy supply solutions

- (1) The installation of fossil fuel heating installations is not permitted.
- (2) Buildings with a heated usable area of over 1,000 m² shall:
- have multi-source heating systems, and
 - be adapted for use of low-temperature heating solutions
- (3) The requirements in the second paragraph do not apply to small houses.
- (4) Dwelling units in small houses must have a chimney. This requirement does not apply if:
- the dwelling unit has a water-borne heating system, or
 - the annual net energy need for heating does not exceed the requirements for passive houses, calculated as specified in Norwegian Standard NS 3700:2013 Criteria for passive houses and low energy buildings – Residential buildings.

Section 14-5. Exceptions and requirements relating to special projects

- (1) For freestanding buildings with a heated usable area of up to 70 m², only sections 14-1, 14-3 and 14-4, first paragraph, of this chapter apply.
- (2) Leisure homes with a heated usable area of up to 70 m² are exempt from the requirements in chapter 14.
- (3) For leisure homes with a heated usable area of between 70 m² and 150 m², only the requirements in sections 14-1, 14-3 and 14-4, first paragraph, of this chapter apply.
- (4) Residential buildings and leisure homes with log outer walls are exempt from the requirements in sections 14-2 and 14-3. Leisure homes with a heated usable area of between 70 m² and 150 m² and log outer walls are also exempt from the requirements in section 14-4, fourth paragraph. The following requirements apply regarding energy efficiency:
- leisure homes with a heated usable area of more than 150 m² and residential buildings with log outer walls

Table: Residential buildings and leisure homes

Dimension of outer walls	U-value roof [W/(m ² K)]	U-value floors on ground and facing open air [W/(m ² K)]	U-value windows and doors, including frames [W/(m ² K)]	Leakage figures at 50 Pa pressure difference (air change per hour)
≥ 8" log	≤ 0.13	≤ 0.10	≤ 0.80	≤ 4.0

- Leisure homes with a heated usable area of between 70 m² and 150 m² and log outer walls

Table: Leisure homes

Dimension of outer walls	U-value roof [W/(m ² K)]	U-value floors on ground and facing open air [W/(m ² K)]	U-value windows and doors, including frames [W/(m ² K)]	Leakage figures at 50 Pa pressure difference (air change per hour)
≥ 8" log	≤ 0.13	≤ 0.15	≤ 1.2	≤ 4.5

- (5) The general requirement relating to energy efficiency in section 14-2, first paragraph, may be increased by up to 10 kWh/m² of heated usable area per year. This presupposes that renewable electricity for the building is produced on the property, at least 20 kWh/m² of heated usable area per year.

Chapter 15. Installations and systems

Proposed new regulations (TEK17)

Chapter 15. Installations and systems

I. Heating and cooling installations

Section 15-1. General requirements relating to heating and cooling installations

- (1) *Heating and cooling installations shall be designed and constructed such that:*
 - a) *they comply with safety and indoor environment requirements*
 - b) *they perform as intended*
 - c) *they can be regulated and are adapted for energy-efficient operation*
 - d) *they do not increase the risk of fire and explosions*
 - e) *heat loads in building components do not pose a risk of fire or impair the performance of building components*
 - f) *they are protected against leaks*
 - g) *they have safe, facilitated access for easy and efficient cleaning and maintenance of the installation, including safe sweeping.*
- (2) *Heating and cooling installations shall be pressure tested before delivery to the end user.*
- (3) *Heating installations shall:*
 - a) *be installed on a surface that can withstand the expected weight of the installation*
 - b) *have sufficient distance between the installation and flammable materials to prevent ignition*
 - c) *be constructed to ensure protection against damage or injury due to high surface temperature.*
- (4) *Heating installations that are documented for use without a flue shall only be sited in rooms with adequate ventilation.*
- (5) *Heating installations based on combustion shall:*
 - a) *be energy-efficient under normal operating conditions*
 - b) *be connected to a flue unless it can be documented that such connection is not necessary*
 - c) *have an acceptable flue-gas temperature*
 - d) *be adapted to the temperature class of the flue or chimney*
 - e) *be installed in a furnace room, unless they are designed for installation in another room.*
- (6) *Fireplaces shall not be sited in rooms where combustible gases or dust particles can occur that could result in dust explosions, unless the fireplace is designed for this.*
- (7) *Open fireplaces without doors shall have a tight fitting flue gas damper.*

Section 15-2. Central heating installations

- (1) *Central heating installations shall:*
 - a) *be leak-tight at the maximum occurring pressure*
 - b) *have the necessary safeguards against excessively high pressures and temperatures*
 - c) *have satisfactory sectioning and shut-off capabilities.*
- (2) *Connection to the water supply system shall be effected in a manner that prevents backflow from the central heating installation.*
- (3) *Supply air for hot air units located in furnace rooms shall be taken from outdoors through an airtight duct.*

Section 15-3. Flues and chimneys

- (1) *Flues and chimneys shall be designed and constructed to ensure heating installations can function satisfactorily.*
- (2) *Flue gases shall be conducted out from construction works in a manner that does not pose a risk of igniting the construction works or neighbouring construction works.*
- (3) *Chimney flues shall have a constant cross-section from bottom to top.*
- (4) *Moulded or brick-lined chimneys shall be constructed on a load-bearing structure of incombustible materials.*
- (5) *Flues and chimneys shall:*
 - a) *be sufficiently leak-tight*
 - b) *have outer surfaces that are sufficiently accessible for cracking to be detected*
 - c) *be able to move freely in relation to adjoining building components*
 - d) *have satisfactory opportunities for sweeping and clearing out soot.*

Section 15-4. Heat pumps and cooling installations

- (1) *Heat pumps and cooling installations shall be designed and constructed to prevent harm occurring to people, the environment, installations or construction works.*
- (2) *Installations shall:*
 - a) *be leak-tight and have the necessary safeguards against abnormal operating conditions*
 - b) *be able to be regulated automatically and be adapted for energy-efficient operation*
 - c) *have a sectioning system with a stop valve for gas and fluid.*
- (3) *Machinery, refrigerated storage rooms and deep-freeze storage rooms with large quantities of refrigerants, as well as other rooms that may be exposed to leaks of refrigerants, shall have:*
 - a) *gas detectors*
 - b) *an emergency ventilation system.*

II. Indoor water and drainage installations

REPEALED (Incorporated in new section 15-5 and 15-6)

Section 15-5. Indoor water installations

- (1) *Installations shall be designed and constructed to ensure good health is safeguarded through:*
 - a) *choice of products that do not release substances that may degrade the quality of drinking water or pose a risk to health*
 - b) *prevention of bacterial growth*
 - c) *water temperatures that cannot cause scalding injuries*
 - d) *the installations being protected against the backflow or infiltration of impure liquids, substances or gases.*
- (2) *Equipment and pipes shall perform as intended at normal operating pressure.*
- (3) *Installations shall:*
 - a) *be adapted for future maintenance and be easy to replace*
 - b) *withstand internal and external loads and chemical impacts*
 - c) *be protected against frost*
 - d) *be sufficiently leak-tight.*
- (4) *Leaks shall be easy to detect and not result in damage to other installations and building components.*
- (5) *There shall be a satisfactory means of shutting the installation off with stopcocks that are readily accessible and marked.*

Section 15-6. Indoor drainage installations

- (1) *Installations shall:*
 - a) *be designed and constructed to ensure waste water is drained at the same rate as the water is supplied*
 - b) *be designed for a high level of operational reliability and for efficient operation and maintenance*
 - c) *withstand internal and external loads and chemical impacts*
 - d) *be protected against frost*
 - e) *be sufficiently leak-tight.*
- (2) *All equipment connected to waste-water installations shall have traps or an equivalent function.*
- (3) *The water level in the lowermost trap shall be at the height above the inside top of the common main at the branching point necessary to prevent backflow.*

Waste-water installations shall have a minimum of one air line leading out to the open air without a trap, unless it can be documented that the drain can function satisfactorily when another solution is used.

Installations shall have the necessary cleaning points for cleaning. Waste-water pipes shall be self-cleaning.

III. Outdoor water-supply and sewerage systems

(REPEALED) (Incorporated in new sections 15-7 and 15-8)

Section 15-7. Outdoor water-supply systems with mains network

- (1) *Installations shall be designed and constructed to ensure good health is safeguarded through:*

- a) *choice of products that do not release substances that may degrade the quality of drinking water or pose a risk to health*
 - b) *the water mains being protected against the backflow or infiltration of impure liquids, substances or gases. This also applies to back-suction and infiltration of water from another water source or installation.*
- (2) *Installations shall be dimensioned to ensure sufficient volumes and sufficient pressure to meet water needs, including for fire fighting.*
- (3) *Water-supply installations shall:*
- a) *be designed for a high level of operational reliability and for efficient operation and maintenance*
 - b) *withstand internal and external loads and chemical impacts*
 - c) *be protected against frost*
 - d) *be sufficiently leak-tight at the maximum operating pressure.*
- (4) *Service pipes for water-supply installations that are no longer in use shall be disconnected.*

Section 15-8. Outdoor sewerage installations with water mains. Surface water and drainage water

- (1) *Surface water and drainage water shall, as far as possible, be infiltrated or managed locally in some other manner to ensure water balance in the area and avoid overburdening sewerage installations.*
- (2) *Surface water and drainage water shall be drained in a manner that ensures overflowing or other nuisances do not occur at design rain loads.*
- (3) *Construction works shall be protected against overflows and bothersome odours due to high water levels or overpressure in drainpipes.*
- (4) *Sewerage installations shall:*
- a) *be designed and constructed to ensure that waste water is drained at the same rate as the water is supplied and in a manner that safeguards good hygiene and health*
 - b) *be designed for a high level of operational reliability and for efficient operation and maintenance*
 - c) *be self-cleaning and have the necessary points for inspection and cleaning*
 - d) *withstand internal and external loads and chemical impacts*
 - e) *be protected against frost*
 - f) *be sufficiently leak-tight.*
- (5) *Service pipes for sewerage installations that are no longer in use shall be disconnected.*

Chapter 16 Lift safety inspections

Section 16-1. Lifting equipment. Administrative provisions

- (1) In addition to the requirements pursuant to section 29-9 of the Planning and Building Act, the following apply to lifts, escalators, moving walkways, lifting platforms and stair lifts:
- a) The municipality shall issue an operating permit before lifting equipment goes into service.
 - b) Lifting equipment shall not be used after an accident, remodelling or being moved until a safety inspection body has performed a safety inspection and the municipality has issued an operating permit.
 - c) When faults in an installation may pose an immediate danger to personal safety, the lifting equipment shall be taken out of service and the matter reported to the municipality and owner.
 - d) Owners shall immediately report accidents and incidents to the municipality and safety inspection body. The safety inspection body shall report accidents and incidents to the national installation register.
 - e) Completed repair work shall be logged in a logbook kept for each piece of lifting equipment. The logbook shall be available during safety inspections.
 - f) Owners shall ensure a safety inspection is carried out at least every second year when the lifting equipment is in operation. Safety inspections may also be carried out as spot checks of lifting equipment in operation.
 - g) In the event of a change of owner and when an installation is permanently taken out of service, the owner shall report this to the municipality and national installation register.
- (2) The following apply to lifting platforms and stair lifts inside a dwelling unit:
- a) Owners may install lifting platforms or stair lifts inside dwelling units themselves, cf. section 4-1, first paragraph (b) (2), of the Regulations relating to building applications.

- b) Owners of lifting equipment are responsible for ensuring lifting equipment that is in use is in safe working order and that it is maintained and inspected.
 - c) Owners shall immediately report accidents and incidents to the municipality and national installation register.
- (3) When a fault in the installation may pose a danger to personal safety, the lifting equipment shall be taken out of service.

Section 16-2. Requirements relating to safety inspectors who carry out periodic safety inspections

- (1) Periodic safety inspections may be carried out by:
- a) safety inspectors employed in municipal lift inspection schemes
 - b) national lift inspection schemes with authorisation from the Ministry
 - c) national lift inspection schemes that carry out safety inspections on a temporary basis
 - d) The National Office of Building Technology and Administration.
- (2) Safety inspectors shall be approved by the National Office of Building Technology and Administration.
- (3) Safety inspectors shall as a minimum have training and practical experience pursuant to the following table:

Table: Qualification requirements for safety inspectors

Alternative	Training	Practical experience
1	Diploma from a three-year college of engineering, machinist or electrician course or equivalent	A minimum of five years' relevant experience in installing, maintaining and repairing lift installations
2	Diploma from a two-year technical vocational school, relevant course or equivalent	A minimum of five years' relevant experience in installing, maintaining and repairing lift installations
3	Lift installer craft certificate	A minimum of five years' all-round, relevant professional experience after passing the examination

- (4) Safety inspectors are approved for periods of two years. The following are assessed in connection with renewals:
- a) whether the applicant has worked as a safety inspector
 - b) whether the applicant can document up-to-date knowledge of lifting equipment and relevant regulations.

Section 16-3. Conditions for recognition as a lift safety inspector for lifts for people with professional qualifications from another EEA member state

- (1) The purpose of this provision is to implement the rights and obligations pursuant to Directive 2005/36/EC on the recognition of professional qualifications. The provision concerns approval to carry out periodic lift safety inspections for applicants who have acquired their professional qualifications in another EEA member state. This provision also pertains to the right to the temporary and incidental provision of services in Norway.
- (2) The following definitions apply in this provision:
- a) *regulated profession*: A professional activity, access to which or the pursuit of which is subject, directly or indirectly, by virtue of legislative, regulatory or administrative provisions to the possession of specific professional qualifications.
 - b) *professional qualifications*: Qualifications attested by evidence of formal qualifications, an attestation of competence referred to in article 11, point (a) (i) of the directive and/or professional experience.
 - c) *evidence of formal qualifications*: Diplomas, certificates and other documentation issued by an authority in a member state designated pursuant to legislative, regulatory or administrative provisions of that member state. The evidence of qualifications shall document successful completion of professional training that is mainly acquired in the EEA. Evidence of formal qualifications issued by a third country shall also be regarded as evidence of formal qualifications if the holder has three years' professional experience in the profession concerned on the territory of the member state that recognised the evidence.
 - d) *professional experience*: The actual and lawful pursuit of the profession concerned in a member state.
 - e) *probationary period*: The pursuit of a regulated profession in the host member state under the supervision of a qualified member of that profession.
 - f) *aptitude test*: A test limited to the professional knowledge of the applicant, conducted by the competent authorities of the host member state with the aim of assessing the ability of the applicant to pursue a regulated profession in that member state.
- (3) Nationals of an EEA member state have the right to recognition as a periodic lift safety inspector if this derives from the rules of Directive 2005/36/EC, even if they do not have qualifications equivalent to the requirements in section 16-2, third paragraph. Recognition as a safety inspector shall be granted if the activity concerned has previously been pursued:
- a) for six consecutive years on a self-employed basis or as a manager of an undertaking, or

- b) for three consecutive years on a self-employed basis or as a manager of an undertaking, where the beneficiary proves that he has received previous training of at least three years for the activity in question, as attested by a certificate recognised by the member state or judged by a competent professional body to be fully valid, or
 - c) for four consecutive years on a self-employed basis or as manager of an undertaking, where the beneficiary can prove that he has received, for the activity in question, previous training of at least two years' duration, as attested by a certificate recognised by the member state or judged by a competent professional body to be fully valid, or
 - d) for three consecutive years on a self-employed basis, if the beneficiary can prove that he has pursued the activity in question on an employed basis for at least five years, or
 - e) for five consecutive years in an executive position, of which at least three years involved technical duties and responsibility for at least one department in the company, if the beneficiary can prove that he has received, for the activity in question, previous training of at least three years' duration, as attested by a certificate recognised by the member state or judged by a competent professional body to be fully valid.
- (4) In cases (a) to (d) above, the activity must not have ended more than 10 years before the date on which the complete application was submitted.
- (5) Applicants who do not satisfy the requirements in section 16-2, third paragraph, can apply for alternative approval as a periodic lift safety inspector. The applicant shall submit evidence of qualifications that are as a minimum equivalent to the level of qualifications immediately below the qualification requirements pursuant to section 16-2, third paragraph. In addition, equalisation measures such as those described in the seventh paragraph can be required in such cases. The following five levels of qualifications apply when comparing levels of training:
- A – evidence of formal qualifications
 - B – certificate of completion of upper secondary education
 - C – examination certificate from education of at least one year after upper secondary education
 - D – examination certificate from education of at least three years and at most four years at university or other institution of higher education
 - E – examination certificate from education of at least four years at university or other institution of higher education
- (6) The qualification requirements pursuant to section 16-2, third paragraph, alternative 1 correspond to level D, alternative 2 corresponds to level C, and alternative 3 corresponds to level B. Applicants who have worked as a lift safety inspector in an EEA member state where this profession is not regulated are entitled to recognition if the applicant has pursued the profession on a full-time basis for at least two years, or for an equivalent period on a part-time basis, during the past ten years. Applicants must submit evidence of professional qualifications that document that the applicant can work as a periodic lift safety inspector.
- (7) For approval pursuant to the fifth and sixth paragraphs, the applicant may be required to complete a probationary period of at most three years or pass an aptitude test, if:
- a) the duration of the training of which the applicant provides evidence under the terms of section 16-2, third paragraph, is at least one year shorter than that required by the host member state, or
 - b) the training the applicant has received covers substantially different matters to those covered by the evidence of formal qualifications required in the host member state, or
 - c) the regulated profession in the host member state includes one or more regulated professional activities which do not exist in the equivalent profession in the applicant's home state, cf. Directive 2005/36/EC, article 4 no. 2, and that difference consists of specific training which is required in the host member state and which covers substantially different matters to those covered by the applicant's attestation of competence or evidence of formal qualifications.
- (8) If the host member state makes use of the option for equalisation measures, it must offer the applicant the choice between a probationary period and an aptitude test.
- (9) The approving authority shall require an applicant to submit the following in order to approve professional qualifications:
- a) proof of the person concerned's nationality
 - b) copies of certificates of qualifications or of the evidence of formal qualifications that entitle the person concerned to pursue the regulated profession, as well as certification of the person concerned's professional experience.
- (10) The National Office of Building Technology and Administration shall process applications as quickly as possible. Reception of the application shall be confirmed within one month after receipt of the application and the applicant informed of any missing documents. A decision shall be taken no later than within four months after all the necessary documentation has been presented. Even if a person satisfies the qualification requirements stipulated for approval as a periodic lift safety inspector, the National Office of Building Technology and Administration can reject an application for approval on the basis of inadequate documentation. Rejections of applications can be appealed by parties or others with a legal appeal interest.

Section 16-4. Temporary practice of safety inspections

- (1) Periodic lift safety inspections can be carried out on a temporary and incidental basis by people legally established in another EEA member state with a view to carrying out such activities there, cf. article 5. The service provision's temporary nature shall be assessed from case to case based on the service's duration, frequency, regularity and continuity. Service providers shall inform the National Office of Building Technology and Administration the first time they provide the service or if a material change occurs to the situation substantiated by the documents, by submitting a written provisional report accompanied by the following documents:
 - a) proof of the service provider's nationality
 - b) attestation certifying that the person concerned is legally established in another EEA member state for the purpose of pursuing the activities concerned, and that the person concerned is not at the time of submission prohibited from practising, even temporarily
 - c) professional qualifications
 - d) if the profession is not regulated in the state in which the service provider has established his activities, any means of proof that the service provider has pursued the activity concerned for at least two years during the previous ten years.
- (2) The National Office of Building Technology and Administration shall be notified each year the service provider wishes to pursue the profession. The National Office of Building Technology and Administration may verify the service provider's professional qualifications before the service is provided for the first time to prevent serious harm to the health or safety of the service recipient due to deficient professional qualifications. This verification shall not exceed what is necessary for the purpose. The National Office of Building Technology and Administration shall inform the service provider of whether or not his professional qualifications will be verified within one month after receiving the necessary documentation or of the results of such verification. In those cases where difficulties exist that will result in delays, the service provider shall be informed of the reasons for them and the schedule for a decision. The decision does not need to be taken within two months of receipt of complete documentation. A service provider who has not received a decision regarding verification of professional qualifications by this deadline is entitled to pursue the profession.

Section 16-5. Language requirements

The National Office of Building Technology and Administration may require a person granted approval as a lift safety inspector pursuant to section 16-3 or who will practise temporary service provision pursuant to section 16-4 to document that he or she has adequate knowledge of Norwegian to practise the profession.

Section 16-6. Installation register

A register shall be kept of installed lifting equipment and accidents involving lifting equipment. Owners of lifting equipment shall report installations to the municipality and the body that maintains the register. The register-keeping body shall be nominated by the National Office of Building Technology and Administration.

Section 16-7. Administrative co-operation

- (1) The National Office of Building Technology and Administration shall as far as feasible inform the competent authority of another EEA member state where the applicant performs tasks as defined in the regulations in so far as the professional is given administrative reactions, penal sanctions or any other serious circumstances that may have consequences for performing his profession. If a competent authority in another EEA member state has requested information, such information shall be given as soon as possible and not later than two months following the receipt of the request.
- (2) The relevant authorities in the host country and the country of origin shall ensure close co-operation and the exchange of all information necessary in order to facilitate the application of directive 2005/36/EC. The exchange of information shall be treated confidentially.

Section 16-8. Price adjustment

The Ministry may in regulations set a maximum price for safety inspection of lifts if this is deemed necessary to avoid disproportionate regional price differences and provided this may be considered by the Ministry to have consequences for personal safety.

Chapter 17. Entry into force and transitional provisions

Proposed new regulations

Chapter 17. Entry into force and transitional provisions

Section 17-1. Entry into force

- (1) This Regulation enters into force on 1 July 2017.
- (2) *Regulation no. 489 of 26 March 2010 on technical requirements for building works (Technical Regulations) shall be repealed from the same date.*

Section 17-2. Transitional provisions

- (1) *For applications that the municipality receives before 1 January 2019, the developer can choose whether the entire project shall comply with these regulations or with the provisions of Regulation no. 489 of 26 March 2010 on technical requirements for building works (Technical Regulations). Developers who choose the Technical Regulations (TEK10) shall indicate this in the application for permission for a project.*
- (2) On application, the municipality may also permit compliance with the previous provisions of Regulation no. 489 of 26 March 2010 on technical requirements for building works (Technical Regulations) for applications received after 1 January 2019. This only applies to projects where planning has commenced before 1 July 2017 and where application of these regulations will lead to extensive and costly alterations.