



The Industry Regulations

'Säker Vatteninstallation' 2026:1

The Industry Regulations

‘Säker Vatten- installation’

2026:1

The Industry Regulations ‘Säker Vatteninstallation’ 2026:1 are effective from 1 January 2026. The Industry Regulations ‘Säker Vatteninstallation’ is a quality management system intended to ensure that completed HVAC installations comply with the mandatory provisions and regulations set out in Boverket’s Building Regulations and the Consumer Services Act with regard to professional workmanship.



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1. These are The Industry Regulations 'Säker Vatteninstallation'

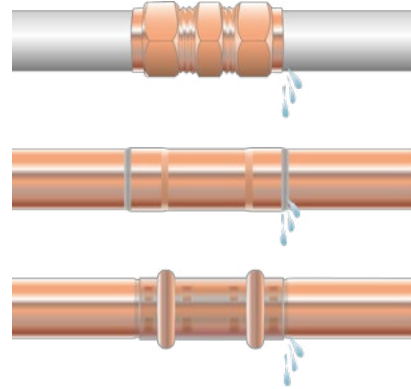
A basic societal expectation is for buildings and their installations to be designed with the safety and health of its residents and users in mind as well as with good and well-functioning features. The purpose of The Industry Regulations 'Säker Vatteninstallation' is to prevent water damage caused by dripping leaks and to prevent health risks from microbial growth, high temperatures and backflow. Installations carried out in accordance with The Industry Regulations 'Säker Vatteninstallation' generally meet the requirements of most insurance companies for compensation in the event of water damage.

By choosing tried and tested products and technical solutions which meet the standards set by official rules and regulations it is possible to extend the service life expectancy of the installations, which is an important sustainability aspect.

The Industry Regulations 'Säker Vatteninstallation' set out requirements for the technical execution of installations, the products to be used and the knowledge of the people and companies who carry out the work.

The Industry Regulations 'Säker Vatteninstallation' is intended to facilitate coordination between different operators in the construction process and to serve as the basis for both design and installation work. HVAC companies that carry out Säker Vatteninstallation (safe water installation) works must be authorised. Personnel performing the work must have vocational training and a certificate of training in the Industry Regulations 'Säker Vatteninstallation' as well as a Säker Vatteninstallation certificate. Only authorised HVAC companies can issue Säker Vatteninstallation attestations.

The Industry Regulations 'Säker Vatteninstallation' have been developed by HVAC companies, HVAC consultants, industry organisations, experts from universities, authorities, insurance companies, construction companies and HVAC product suppliers. They are based on the latest findings from sources such as the *Identification of Errors, Shortcomings and damage in the Building Sector* from Boverket (National Board of Housing, Building and Planning), The Water Damage Study and the industry's combined experience of what can cause structural and water damage, burns, poisoning and microbial growth, in particular legionella.



The purpose of the The Industry Regulations 'Säker Vatteninstallation' includes preventing water damage from dripping leaks.

1.1 Scope of the regulations

The Industry Regulations 'Säker Vatteninstallation' apply to new buildings, renovations, alterations and product replacements. It includes requirements for a building's tap water and wastewater installations and certain technical solutions for heating solutions that come with increased risk of water damage. The regulations set by The Industry Regulations 'Säker Vatteninstallation' are delimited to installations inside and beneath buildings.

Installations in spaces with special requirements such as commercial kitchens and laboratories are not dealt with in The Industry Regulations 'Säker Vatteninstallation'.

1.2 Coordination with AMA VVS & Kyla and requirements for waterproofing

The requirements set out in The Industry Regulations 'Säker Vatteninstallation' are coordinated with AMA VVS & Kyla 25, as well as with the trade rules issued by Byggkeramikrådet (BKR), Golvbranschens Våtrumskontroll (GVK) and Måleribranschens Våtrumskontroll (MVK).

Most of the measurements specified in The Industry Regulations 'Säker Vatteninstallation' are adapted to enable waterproofing to be carried out in a workmanlike manner.



1.3 Transitional rules

All design and installation work started after 1 January 2026 must be carried out in accordance with the Industry Regulations 'Säker Vatteninstallation' 2026:1.

Installation work started after 1 January 2026 may be carried out in accordance with The Industry Regulations 'Säker Vatteninstallation' 2021:2:

- If the building permit was granted prior to 1 January 2026, even if the design and installation work is started after 1 January 2026.
- If design or construction documents and blueprints in compliance with The Industry Regulations 'Säker Vatteninstallation' 2021:2 were started prior to 1 January 2026.

It must be clear from the Säker Vatteninstallation attestation which version of The Industry Regulations 'Säker Vatteninstallation' has been applied.

The Säker Vatteninstallation attestation states the version of the Industry Regulations 'Säker Vatteninstallation' under which the work has been carried out.

1.4 Reading instructions

The Industry Regulations 'Säker Vatteninstallation' are divided into chapters. The introduction to a chapter may include a paragraph clarifying the purpose of the rules in that chapter. The purpose of the clarifying texts is to facilitate understanding and application of the rules in practical work.

Certain sections describe exceptions for specific technical solutions.

The Industry Regulations 'Säker Vatteninstallation' also include illustrations. The purpose of the illustrations is to facilitate application of the rules in practical work. If the contents of an illustration appears to differ from how the written rule is to be understood and applied, the written rule must take precedence.

Chapter 8 contains explanations of terms and abbreviations.

If the content of the English version of The Industry Regulations 'Säker Vatteninstallation' 2026:1 differs from the Swedish version, the Swedish version shall be applied.

2. Authorisation

Säker Vatten authorises HVAC companies and consultancies and checks that authorisation requirements are met and complied with. Säker Vatten is responsible for providing education in The Industry Regulations 'Säker Vatteninstallation' for employees of authorised companies, as well as training and approving teachers for these courses.

2.1 Authorised HVAC company

An authorised HVAC company must:

- Carry out installations in accordance with The Industry Regulations 'Säker Vatteninstallation' with authorised personnel who hold a Säker Vatteninstallation certificate.
- Issue a Säker Vatteninstallation attestation stating that the HVAC installation has been executed in accordance with The Industry Regulations 'Säker Vatteninstallation'
- Have at least one full-time HVAC fitter who holds an HVAC certificate or approved validation. All employed HVAC fitters and HVAC apprentices must hold a valid Säker Vatteninstallation certificate.
- Have at least one employee with documented knowledge of applicable building legislation and a valid certificate of training in Säker Vatteninstallation for HVAC companies.
- Have valid liability insurance.
- Be registered with the Swedish Companies Registration Office, hold a company tax ("F-skatt") card and be registered for VAT.
- Be registered as an employer where applicable.
- In accordance with a written commitment, comply with the Säker Vatteninstallation Industry Regulations and comply with Säker Vatten's code of conduct for authorised companies.

Only authorised HVAC companies are permitted to:

- Market themselves as an authorised HVAC company and use the Säker Vatten trademark.
- Offer work performed in accordance with The Industry Regulations 'Säker Vatteninstallation' and issue Säker Vatteninstallation attestations for the work performed.

Further information on the requirements for authorised HVAC companies is available at www.sakervatten.se

Authorised HVAC companies receive an annual certificate confirming their authorisation. All authorised HVAC companies can be found at www.sakervatten.se.



Authorisation certificate for HVAC company.

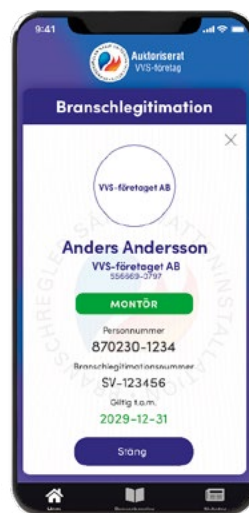
2.1.1 Säker Vatteninstallation certificate for HVAC fitters and HVAC apprentices

All HVAC fitters and apprentices employed at an authorised HVAC company must hold a valid Säker Vatteninstallation certificate. The Säker Vatteninstallation certificate requires documented vocational training or the equivalent, employment in an authorised HVAC company and a valid certificate of training in Säker Vatteninstallation for HVAC companies. The Säker Vatteninstallation certificate is linked to the authorised HVAC company and must be presented digitally through the Säker Vatten app. The Säker Vatteninstallation certificate is valid for five years from the date of the certificate of training in Säker Vatteninstallation for HVAC companies.

A person who holds the Säker Vatteninstallation certificate may only apply or refer to this certificate in assignments carried out by the authorised HVAC company.

Säker Vatten may revoke a Säker Vatteninstallation certificate if the holder no longer meets the requirements for the Säker Vatteninstallation certificate or has otherwise acted in a manner that contravenes the regulations for the Säker Vatteninstallation certificate or the Industry Regulations 'Säker Vatteninstallation'.

The requirements for the Säker Vatteninstallation certificate are listed at www.sakervatten.se.



The Säker Vatteninstallation certificate must be presentable in digital form.

2.1.2 Competency requirements for temporary staff

Authorised HVAC companies that hire an HVAC fitter must ensure that this person has a valid certificate of training in The Industry Regulations 'Säker Vatteninstallation' for HVAC companies and documented HVAC training in accordance with The Industry Regulations 'Säker Vatteninstallation'.

2.1.3 Requirements for subcontractors

Authorised HVAC companies that hire subcontractors for HVAC installations must ensure that the subcontractor is authorised in accordance with Säker Vatten.

2.1.4 Documentation of HVAC installations

A Säker Vatteninstallation attestation is a document of value for the client in a sale or in settlement of any claim. A Säker Vatteninstallation attestation must be issued for all work covered by The Industry Regulations 'Säker Vatteninstallation'.

For work where The Industry Regulations 'Säker Vatteninstallation' cannot be followed, a written agreement on deviation must be made with the client before the work is carried out.

2.1.4.1 Säker Vatteninstallation attestations

An authorised HVAC company must always provide the customer with a Säker Vatteninstallation attestation. The attestation shows that the work carried out by the company is in compliance with The Industry Regulations 'Säker Vatteninstallation'. The attestation must be submitted to the client immediately after completion of the installation work, but no later than four weeks thereafter.

Only the authorised company which carried out the work is allowed to issue the Säker Vatteninstallation attestation.

The attestation must be prepared as specified by Säker Vatten. It must contain information about the authorised HVAC company, the scope of the work, information about the client and which building or part of the building is affected. It must be clear from the attestation which version of The Industry Regulations 'Säker Vatteninstallation' has been applied. A copy of the attestation must be archived by the authorised HVAC company. The HVAC company is obliged to be able to provide a copy of the attestation for 10 years after the contract was signed with the client.

An authorised HVAC company is not permitted to agree with the client that the attestation will not be issued, or to refrain from issuing a certificate for any other reason.

It is not permitted to withhold the attestation pending payment from the customer.

2.1.4.2 Signing attestations

Attestations must be signed by electronic ID by an HVAC fitter or HVAC apprentice who holds a Säker Vatteninstallation certificate and who is employed by the authorised HVAC company.

The Säker Vatteninstallation attestation must indicate the version of the Industry Regulations 'Säker Vatteninstallation' under which the work has been carried out.

The attestation may also be signed by another employee of the authorised HVAC company who is authorised to sign attestations. The authorised company must designate the employee or employees who are authorised to sign attestations. This person must be approved by Säker Vatten. Requirements for authorisation to sign attestations are listed at www.sakervatten.se.

2.1.4.3 Deviations from The Industry Regulations ‘Säker Vatteninstallation’

If installation work cannot be carried out in compliance with The Industry Regulations ‘Säker Vatteninstallation’, a written agreement on deviation must be made with the client before the work is carried out. The client must be informed of the consequences that the deviation may entail.

For work carried out in accordance with the Swedish Consumer Services Act, the HVAC company must advise the client against any deviation from The Industry Regulations ‘Säker Vatteninstallation’ if such a deviation cannot be considered to be of reasonable benefit to the client.

Any agreement must be documented in writing, such as by the method provided by Säker Vatten. A copy of the agreement must be archived by the HVAC company.

Any deviation must be documented on the attestation.

Examples of deviations include work that is not designed in accordance with the Säker Vatteninstallation Industry Regulations or where the client chooses an execution that does not comply with The Industry Regulations ‘Säker Vatteninstallation’. A deviation may have implication, for example, during inspection, upon sale or in the event of damage.

2.1.5 Information about Technical Construction Conditions

The HVAC company must notify its client if it discovers that the Technical Construction Conditions are not complied with.

U2.1.4.1 Exceptions for Säker Vatteninstallation attestations

For work carried out in accordance with the Swedish Consumer Services Act, the authorised HVAC company may wait to issue the attestation pending payment for the work to which the certificate concerns, provided that there is an agreement on advance payment and there is no dispute regarding the execution of the work to which the attestation concerns.

Deviations from The Industry Regulations ‘Säker Vatteninstallation’ must be documented.

If an HVAC installation deviates from The Industry Regulations ‘Säker Vatteninstallation’, this must be documented on the attestation.

2.2 Authorised consultancy



**Auktoriserat
konsultföretag**

An authorised consultancy must:

- Design heating and plumbing installations and prepare descriptions in accordance with The Industry Regulations 'Säker Vatteninstallation', with staff who hold a valid certificate of training in Säker Vatteninstallation for heating and plumbing designers.
- Issue water safety documentation stating that the heating and plumbing installation has been designed in accordance with The Industry Regulations 'Säker Vatteninstallation'.
- Specify in the technical description of the project or equivalent document that it is designed in accordance with The Industry Regulations 'Säker Vatteninstallation'.
- Have at least one employee who is a heating and plumbing designer with a valid certificate of training in Säker Vatteninstallation for heating and plumbing designers. All employed heating and plumbing designers must hold a valid training in Säker Vatteninstallation for heating and plumbing designers.
- Hold consultancy insurance in accordance with the General Conditions of Contract for Consulting Agreements for Architectural and Engineering Assignments (ABK).
- Be registered with the Swedish Companies Registration Office, hold a company tax ("F-skatt") card and be registered for VAT
- Be registered as an employer where applicable.
- In accordance with a written commitment, comply with The Industry Regulations 'Säker Vatteninstallation' and comply with Säker Vatten's code of conduct for authorised companies.

Only authorised consultancies may market themselves as authorised consultancies, use the Säker Vatten trademark and offer design services in accordance with The Industry Regulations 'Säker Vatteninstallation'.

Authorised consultancies receive an annual certificate confirming their authorisation. All authorised consultancies can be found at www.sakervatten.se.



Authorisation certificates for consultancies and heating and plumbing designers.

2.3 Screening of authorised HVAC companies and authorised consultancies

Säker Vatten regularly checks that the staff of authorised companies meet the requirements for the Säker Vatteninstallation certificate and that other authorisation requirements are met and complied with. Inspections can be carried out in various ways, and an authorised company must always be present during inspections and must provide relevant information to Säker Vatten when necessary. A company that does not meet the authorisation requirements may have its authorisation revoked.

→ *Companies whose authorisation has been revoked are listed at www.sakervatten.se.*

2.3.1 Trial period

A six-month trial period applies for companies that apply for authorisation and have their application approved. During this period, the company must ensure that all authorisation requirements are met and complied with. Companies that have violated The Industry Regulations 'Säker Vatteninstallation' during the trial period or that do not meet one or more requirements after the trial period will have their authorisation revoked.

2.3.2 Quarantine

In the event of repeated violations of The Industry Regulations 'Säker Vatteninstallation' or unauthorised use of Säker Vatten's trademark, a quarantine will be applied, meaning that the company cannot have an application for authorisation approved during this period. The period must be calculated from the date on which the infringement or unauthorised use of the trademark ceased. The quarantine period is normally one year, but may be extended to two years or more in the event of repeated violations or particularly serious violations.

A prerequisite for reapplying for authorisation is that, after the quarantine period, the company demonstrates that it intends to act in accordance with the authorisation requirements.

3. Technical Construction Conditions

A condition for an HVAC installation to fulfil the requirements of the building regulations from the Swedish National Board of Housing, Building and Planning (Boverket) and be considered to have been carried out in a workmanlike manner is that certain works that do not belong to the installation have been carried out correctly.

It is important for the client and architect to account for the technical requirements presented in Boverket’s Building Regulations and The Industry Regulations ‘Säker Vatteninstallation’ for the benefit of the overall design of the building. It is of further importance that designated space for installations are implemented into the building during the design process before applying for a building permit, as it can be difficult to make changes to the building layout later on in the process.

Coordination between the various parties involved, such as the client, architect, consultant and contractor, must be carried out in good time to make space for the installations. Coordination on the conditions to be met for Säker Vatteninstallation must take place in the construction stage between the contractors involved in the project.

The Industry Regulations ‘Säker Vatteninstallation’ lay down requirements for HVAC installations. Work that is outside the scope of HVAC installation but is a prerequisite for a satisfactory installation is referred to as *Technical Construction Conditions* and is described in document “*Technical Construction Conditions*”.

→ See www.sakervatten.se.

The works subject to the *Technical Construction Conditions* are normally executed by contractors other than the HVAC company, such as a building or waterproofing contractors. The works are executed at different times, including after the HVAC company has completed its work. Boverket’s Building Regulations contain requirements for spaces where watertight membranes are required. Design examples are given in the *Technical Construction Conditions*.

The *Technical Construction Conditions* are not included in the requirements for Säker Vatteninstallation. The *Technical Construction Conditions* can be documented as information/notification.

Sections in The Industry Regulations ‘Säker Vatteninstallation’ which are dependent on the work of other contractors have been emphasised with the words:

🔗 See *Technical Construction Conditions*.

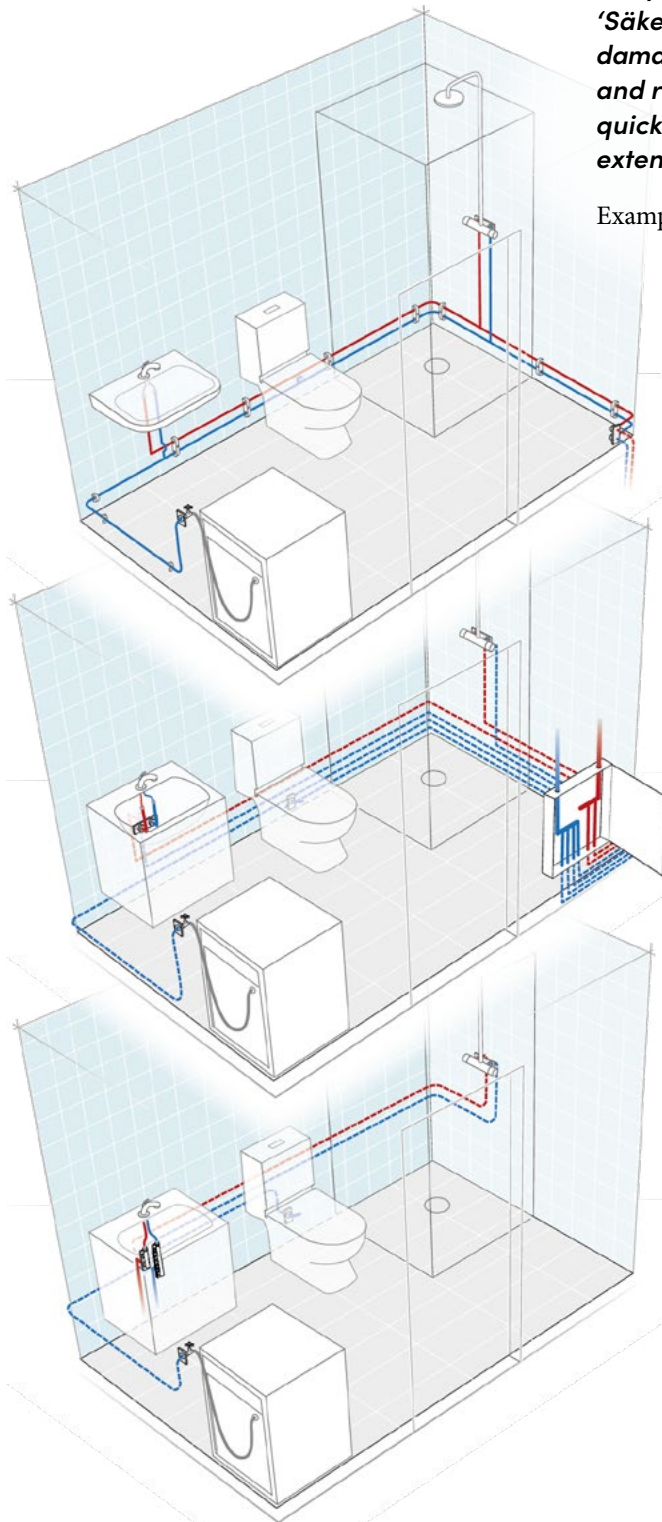


The Technical Construction Conditions can be downloaded from www.sakervatten.se.

4. Execution for protection against water damage

The purpose of Chapter 4 of The Industry Regulations 'Säker Vatteninstallation' is to reduce the risk of water damage. It must be possible to quickly and easily detect and repair leaks. Water damage that is not detected quickly can spread throughout the building and lead to extensive repairs and health risks.

Examples of how pipes can be routed in bathrooms:



Visible pipe routing.

Concealed pipe routing from manifold cabinet.

Concealed pipe routing from wash basin mixer tap.

4.1 Tap water installations

Tap water pipes that are concealed and cannot be inspected must be installed without joints. This applies, for example, to pipes in ducts, walls, floor structures or behind fixed furnishings.

4.1.1 Joints in tap water pipes

Joints in tap water pipes must be placed so that they are replaceable and so that any leaks can be quickly detected and easily repaired.

Joints must be placed in:

- Rooms with watertight flooring, or
- Prefabricated structures, or
- Other verified structures.

🔗 *Joints placed above suspended ceilings in spaces with watertight flooring. See Technical Construction Conditions B4.1.1.*

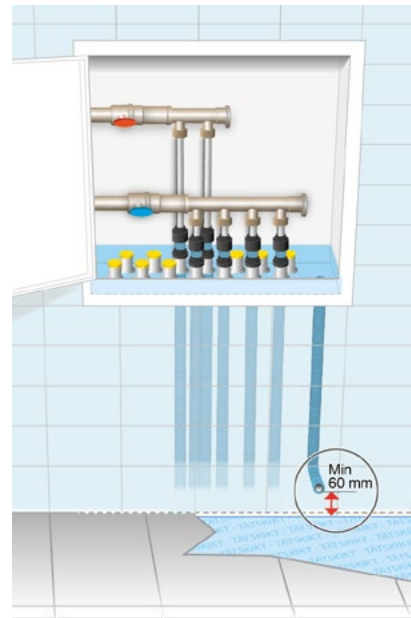
4.1.2 Prefabricated structures

A prefabricated structure must have a watertight base with a sealed connection to the sides of the cabinet or structure, at least 50 mm up. Pipe penetrations through bases must be fixed perpendicular and watertight. Manifold cabinets or their equivalent must be tested and approved.

Any leaking water must be discharged at the base of the structure. Water shall not be able to enter protective sleeves or any insulation.

→ See Figure 4.1.2a–c.

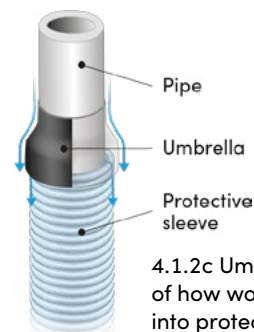
🔗 See Technical Construction Conditions B4.1.2.



4.1.2a Prefabricated structure, manifold cabinet.



4.1.2b Prefabricated structure, shaft base.



4.1.2c Umbrella, example of how water cannot flow into protective sleeves.

4.1.3 Other verified structure

Pipe shafts or similar structures must have a watertight base. The watertight base is a *Technical Construction Condition* and must have a design that has been proven or verified through testing and approval.

Pipe penetrations through bases must be fixed and perpendicular. Any leaking water must be discharged at the base of the structure. Water shall not be able to enter protective sleeves or insulation.

➤ See *Technical Construction Conditions B4.1.3*.

4.1.4 Service opening

Where there are recessed joints on pipes, an easily accessible service opening must be installed to allow for repairs, replacing all joints, and to reach valves. A service opening shall not be located in a space for bath or shower.

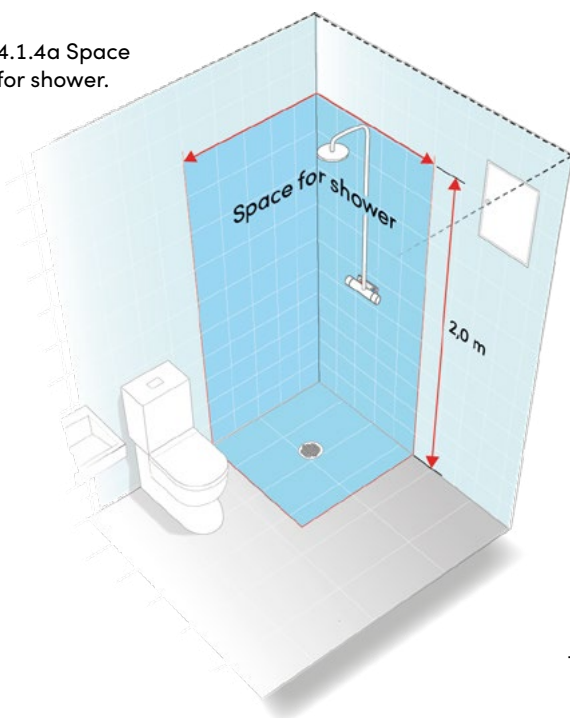
→ See *Figures 4.1.4a and 4.1.4b*.

In rooms with waterproofing on the walls, a service opening sealed against the wall's waterproofing must have a connection that has been tested and approved in accordance with industry standard, see 7.2.3.

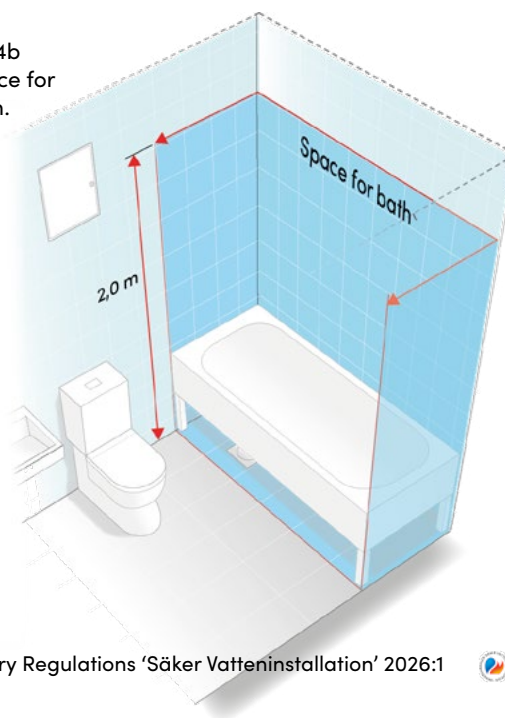
➤ *Placement of service openings, see Technical Construction Conditions B4.1.4.*

➤ *If manifold cabinets are not connected to the wall's waterproofing, the service opening must be fitted with a watertight door and frame. The frame and watertight door are structural requirements, see Technical Construction Conditions B4.1.4.*

4.1.4a Space for shower.



4.1.4b Space for bath.

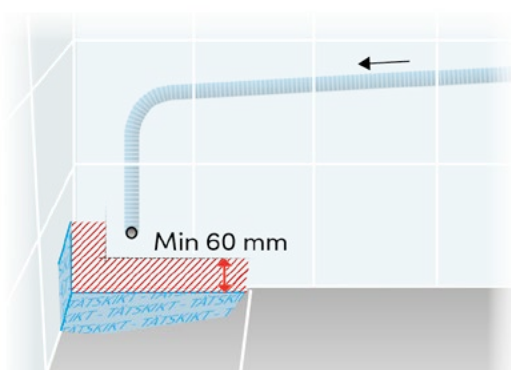


4.1.5 Leak detection drains

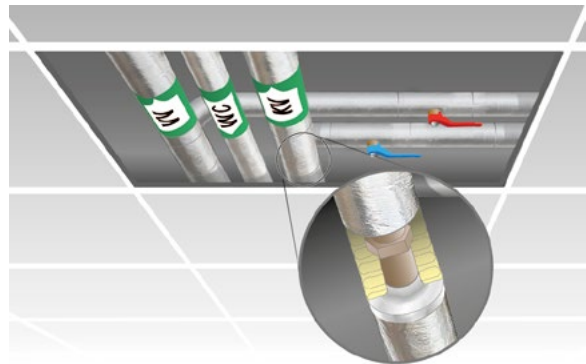
Spaces with concealed joints must have leak detection drains from their base. The outlets from leak detection drains must be in rooms with watertight flooring, and the outlet shall not be placed in a space for bath or shower. Spaces with concealed joints and pipes or openings for leak detection drains must be cleaned so that any leaking water is not prevented from draining away. If the leak detection drain is implemented with a pipe, this must be routed with a gradient along its entire length. The inside diameter of pipes for leak detection drains must be at least 20 mm. The outlet from a leak detection drain pipe that penetrates the wall's waterproofing shall not be placed closer than 60 mm from the waterproofing of the floor or adjoining wall.

→ See Figures 4.1.5a and 4.1.5b.

🔗 See Technical Construction Conditions B4.1.5.



4.1.5a Leak detection drain implemented with pipe.



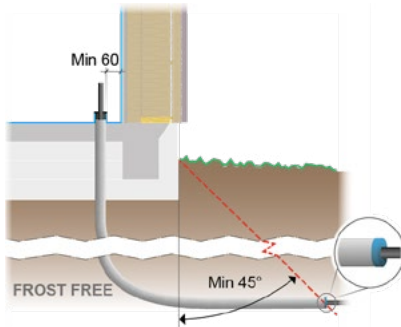
4.1.5b Leak detection drain with insulation terminations from joints placed above suspended ceilings.

4.1.6 Tap water service lines in single-family houses

Tap water service pipes must be located where they are replaceable, such as in protective sleeves. The dimension and design of the protective sleeve must be adapted to enable replacement of the service pipe. The protective sleeve must be sealed so that water from the ground cannot penetrate the protective sleeve. The length of the protective sleeve must extend further out than a 45° angle from the foundation wall.

→ See Figure 4.1.6a.

🔗 See *Technical Construction Conditions B4.1.6*.



4.1.6a Tap water service pipe in protective sleeve.

4.1.7 Shut-off valves for flats or premises

Tap water pipes to an apartment or premises must be provided with shut-off valves so that the water to each apartment or premises can be shut off separately.

Shut-off valves must be located so that they are easily accessible.

4.1.8 Frost-proof routing of tap water-installations

Pipes shall not be installed in unheated spaces or other spaces where there is a risk of freezing, such as crawl spaces or attics or the insulation of the building in floors, exterior walls or attic floor structures.

Pipes can be routed in a special frost-proof installation space on the warm side of the structure on the inside of the plastic sheet or vapour barrier or in a frost-proof space in insulation beneath a slab on soil.

- Example of pipe routing on the “warm side”; see Figures 4.1.8a and 4.1.8b.
- Example of pipe routing of cold and hot water in insulation at slab on ground, see Figure 4.1.8c.

A prefabricated structure such as a manifold cabinet must be in a frost-free location on the warm side of the structure on the inside of a plastic sheet or vapour barrier.

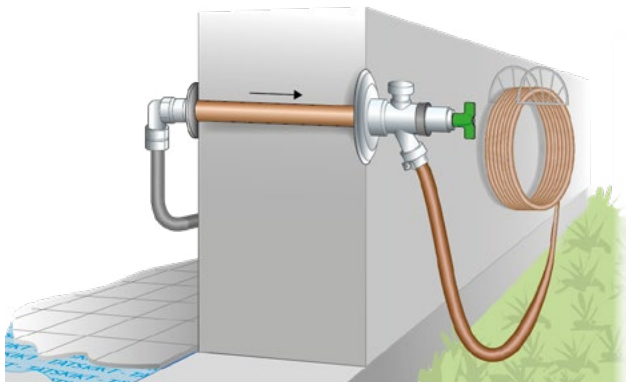
Tap water service pipes in crawl spaces or other unheated spaces must be protected against freezing.

🔗 See *Technical Construction Conditions B4.1.8*.

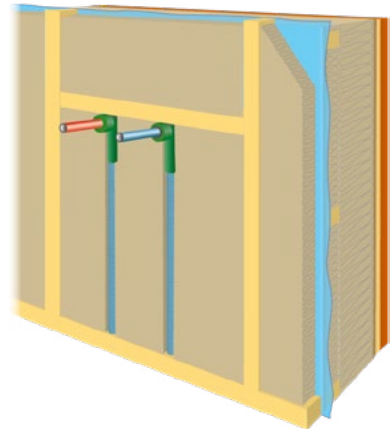
4.1.8.1 Frost-proof bib taps

Bib taps must be provided with drainage that empties it of water when it is turned off, even if a hose is connected.

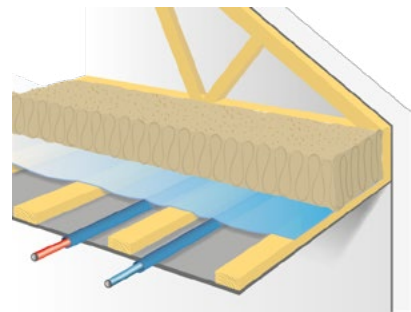
- See Figure 4.1.8.1a.



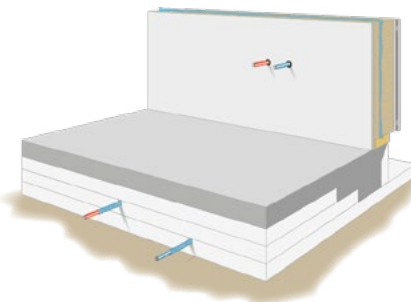
4.1.8.1a Hose-connected bib tap with drain.



4.1.8.a Example of pipe routing on the “warm side” of insulation in exterior wall.



4.1.8.b Example of pipe routing on “warm side” of attic floor structure.



4.1.8.c Example of pipe routing of cold and hot water in insulation with slab on ground.

U4.1 Exception to requirement for placement of joints in tap water pipes

The purpose is to enable certain joints to be placed in areas without watertight flooring.

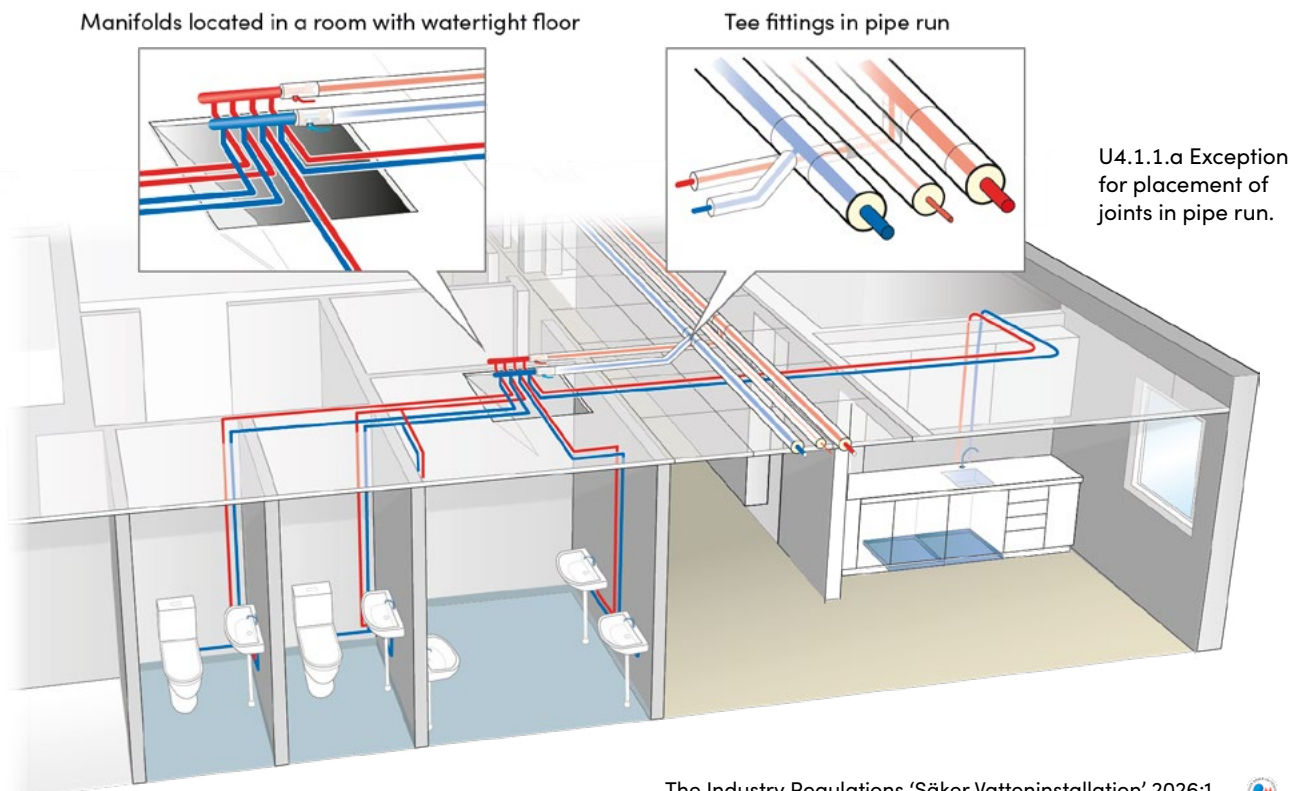
U4.1.1 Exception for placement of joints in pipe runs

In pipe runs in areas without watertight flooring, individual joints can be installed on visible pipes or on concealed pipes, such as behind a draining ceiling access panel that covers all joints, removable cladding or a removable suspended ceiling, so that a leak is easy to detect in:

- public spaces such as basement corridors or garages,
- corridors in buildings such as offices, schools, healthcare facilities or student accommodation, or
- commercial premises.

The exception does not apply to residential rooms, offices or manifolds.

→ See Figure U4.1.1a.



U4.1.1.1 Exceptions for placement of joints in rooms with concrete floors

Joints, manifolds and leak detection drains can be placed in laundry rooms or utility rooms with concrete floors located on the lowest level of a building if:

- the floor is water-resistant, and
- the space is equipped with a floor drain, and
- the floor design does not allow moisture to be transported to walls, rooms or other structural elements that cannot tolerate moisture.

→ See Figure U4.1.1.1a.

🔗 See Technical Construction Conditions B4.1.1.

U4.1.5 Exceptions in stairwells

Manifolds and joints can be placed in stairwells with water-resistant flooring. The outlets from leak detection drains from spaces with manifolds and joints in stairwells can be on a water-resistant floor in the stairwell. The exemption does not apply to single-family houses.

→ See Figure U4.1.5a.

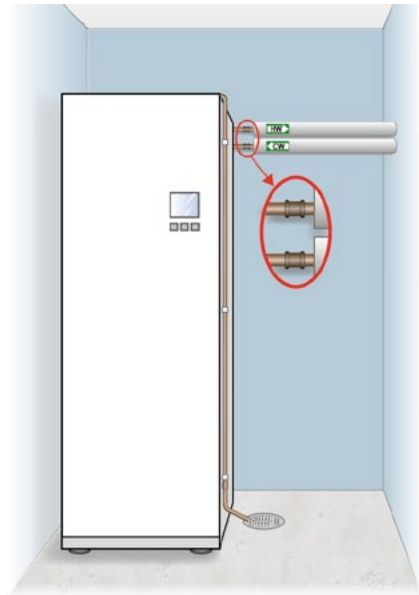
U4.1.5.1 Exceptions for bib tap cabinets

Bib tap cabinets must have a watertight base, watertight pipe penetrations and a leak detection drain to a space:

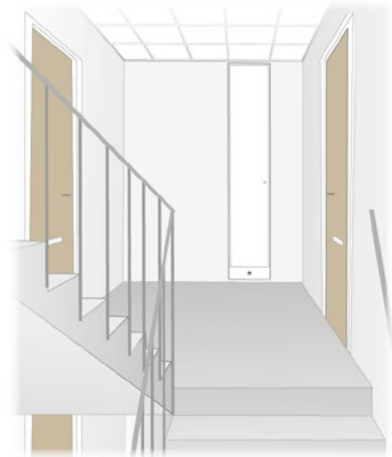
- with watertight flooring, or
- a kitchen sink cabinet, or
- to prefabricated structures, or
- Other verified structures.

Bib tap cabinets must be in a frost-free location on the warm side of the structure inside the plastic sheet or vapour barrier.

The leak detection drain can be implemented with a separate pipe with an inside diameter of at least 20 mm or via the protective sleeve for the media pipe. The bottom edge of the bib tap cabinet must be positioned higher than the outlet of the leak detection drain.



U4.1.1.1a Exception for placement of joints in utility rooms.



U4.1.5a Exception in stairwell with water-resistant floor.



4.2.1a Equipment connected to water.

4.2 Water-supplied equipment and HVAC products

The purpose is to reduce the risk of water damage from equipment connected to tapwater.

4.2.1 Equipment with water connections in rooms without watertight flooring

Equipment with water connections without drains, such as coffee machines, bottle filling stations or ice machines and their joints, must be placed over a drip tray. Drip trays must be tested and approved and are a *Technical Construction Condition*. The equipment connected to water must be equipped with a shut-off valve with an easily accessible operating element. The drip tray must have a moisture sensor connected to a leakage breaker or a water fault circuit breaker.

The connecting pipe must be tested and approved for its intended use.

→ See Figure 4.2.1a.

🔗 See *Technical Construction Conditions B4.2.1*.



4.2.2a Washing machine.

4.2.2 Washing machine

Washing machine must be placed in an area with a watertight floor and floor drain.

The water connection to the washing machine must have a shut-off valve with an operating element that is located so as to be clearly visible and easily accessible.

To prevent bacterial growth, the tap water connecting pipe for future installation of a washing machine must be fitted with a shut-off valve or be plugged at the start of the connecting pipe so that the pipe can remain empty until the washing machine is connected.

The washing machine water connecting pipe must be tested and approved for its intended use.

→ See Figure 4.2.2a.

4.2.3 Toilet with recessed flushing cistern

A recessed flushing cistern with flush pipe must be located in a watertight enclosure. The enclosure must be provided with leak detection drain to a watertight floor. Leak detection drains shall not be placed in a space for bath or shower. The outlet from a leak detection drain pipe that penetrates the wall's waterproofing shall not be placed closer than 60 mm to the waterproofing of the floor or adjoining wall.

The leak detection drain pipe or opening must be cleaned to ensure that any leaking water will drain away without hindrance.

The water connection to a recessed flushing cistern must be provided with an easily accessible shut-off valve.

The watertight enclosure for a flushing cistern with flushing pipe must be in a frost-free location on the warm side of the structure inside a plastic sheet or vapour barrier.

Fixtures for toilet units with recessed flushing cistern shall not be screwed in a floor with waterproofing.

→ See Figures 4.2.3a and 4.2.3b.

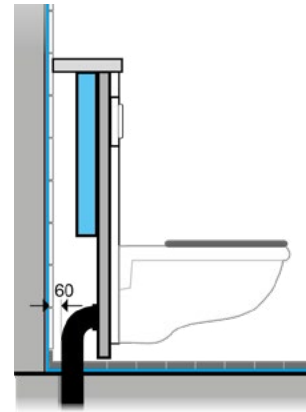
🔗 See Technical Construction Conditions B4.2.3.

4.2.3.1 Prefabricated structure for flushing cistern and flushing pipe

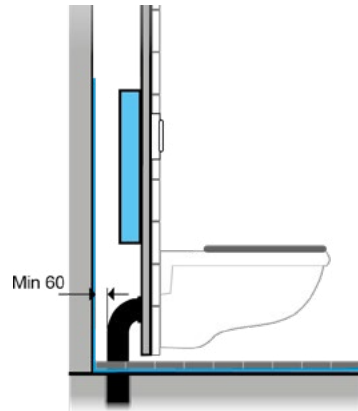
If the flushing cistern and flushing pipe are to be placed in a prefabricated waterproofing structure, this must be tested and approved to be sealed against the wall's waterproofing, in accordance with applicable industry standard. It should be apparent from the supplier's installation instructions.

→ See Figure 4.2.3.1a.

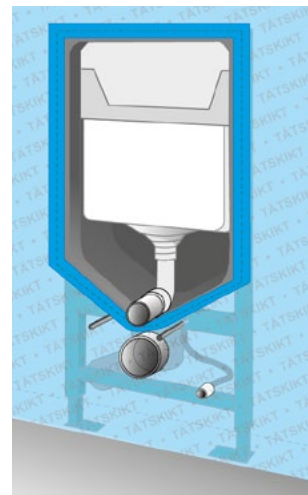
→ See 7.2.3 and www.sakervatten.se.



4.2.3a Waterproofing behind toilet with recessed flushing cistern in wetroom. Leak detection drain with opening towards watertight floor.



4.2.3b Waterproofing behind toilet with recessed flushing cistern in toilet room. Leak detection drain with opening towards watertight floor.



4.2.3.1a Prefabricated waterproofing structure for recessed flushing cistern.

4.2.4 Water meters

The rules apply to water meters from water and sewage authorities, such as for municipal water.

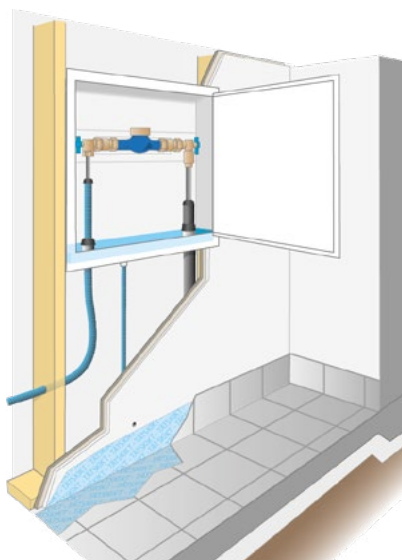
Water meters must be placed in a room with a watertight floor or in a water meter cabinet. Water meters must be placed where they can be read and replaced.

Water meter cabinets must be tested and approved.

Water meter cabinets must have a leak detection drain from their base. The outlets from leak detection drains must be in rooms with watertight flooring, and the outlet shall not be placed in a space for bath or shower. Water meter cabinets and pipes for leak detection drains must be cleaned so that any leaking water is not prevented from draining away. Pipes for leak detection drains must be routed with a gradient along their entire length and must discharge into a room with a watertight floor. The inside diameter of pipes for leak detection drains must be at least 20 mm. The outlet from a leak detection drain pipe that penetrates the wall's waterproofing shall not be placed closer than 60 mm to the waterproofing of the floor or adjoining wall.

A water meter cabinet must be located in a frost-free location on the warm side of the structure on the inside of the plastic sheet or vapour barrier.

- See also instructions for placing water meters in P125 from Svenskt Vatten and "Branschens krav på prefabricerade vattenmätarskåp" (Industry requirements for prefabricated water meter cabinets) at www.sakervatten.se.
- See Figure 4.2.4a.



4.2.4a Water meter cabinet.

4.2.5 Mounting boxes for tap water fittings

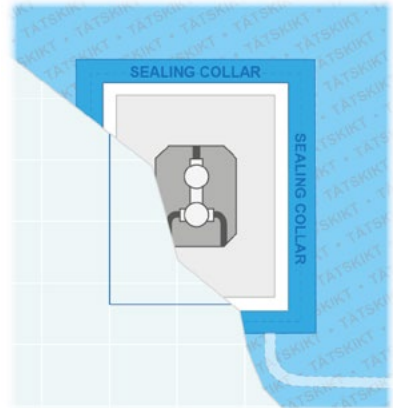
Wall-recessed fittings such as mixer taps or shower units must have all their connections located in a mounting box with leak detection drain from the base. The mounting box must be tested and approved.

If the mounting box is to be installed in a wall with waterproofing, it must be tested and approved for connection to the wall's waterproofing in accordance with industry standard; see Section 7.2.3, and must be designed to enable replacement of the fitting and its joints without damaging the wall's waterproofing. It should be clear from the manufacturer's instruction manual.

→ See Figure 4.2.5a.

The outlets from leak detection drains must be in rooms with watertight flooring, and the outlet shall not be placed in a space for bath or shower. The mounting box and leak detection drain pipe must be cleaned so that any leaking water is not prevented from draining away. The leak detection drain pipe must be routed with a gradient along its entire length. The inside diameter of pipes for leak detection drains must be at least 20 mm. The outlet from a leak detection drain pipe that penetrates the wall's waterproofing shall not be placed closer than 60 mm to the waterproofing of the floor or adjoining wall.

A mounting box must be located in a frost-free location on the warm side of the structure on the inside of the plastic sheet or vapour barrier.



4.2.5a Mounting box.

U4.2.2 Exception for kitchen-installed washing machine

A washing machine can be installed in a kitchen if it is placed on a drip tray. Drip trays must be tested and approved and are a *Technical Construction Condition*. The washing machine must be equipped with a shut-off valve with an easily accessible operating element.

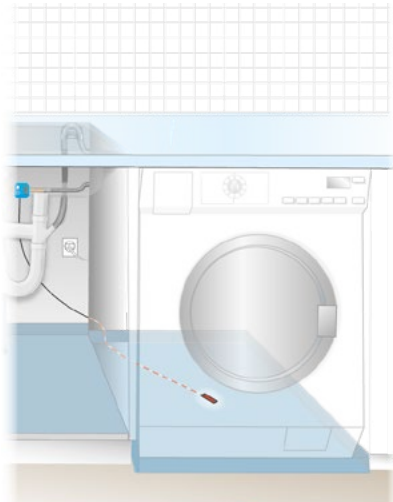
The drip tray must have:

- moisture sensor connected to a leakage breaker or
- moisture sensor connected to a water fault circuit breaker or
- overflow protection and a water alarm.

The exception applies only to kitchens.

→ See Figure U4.2.2a.

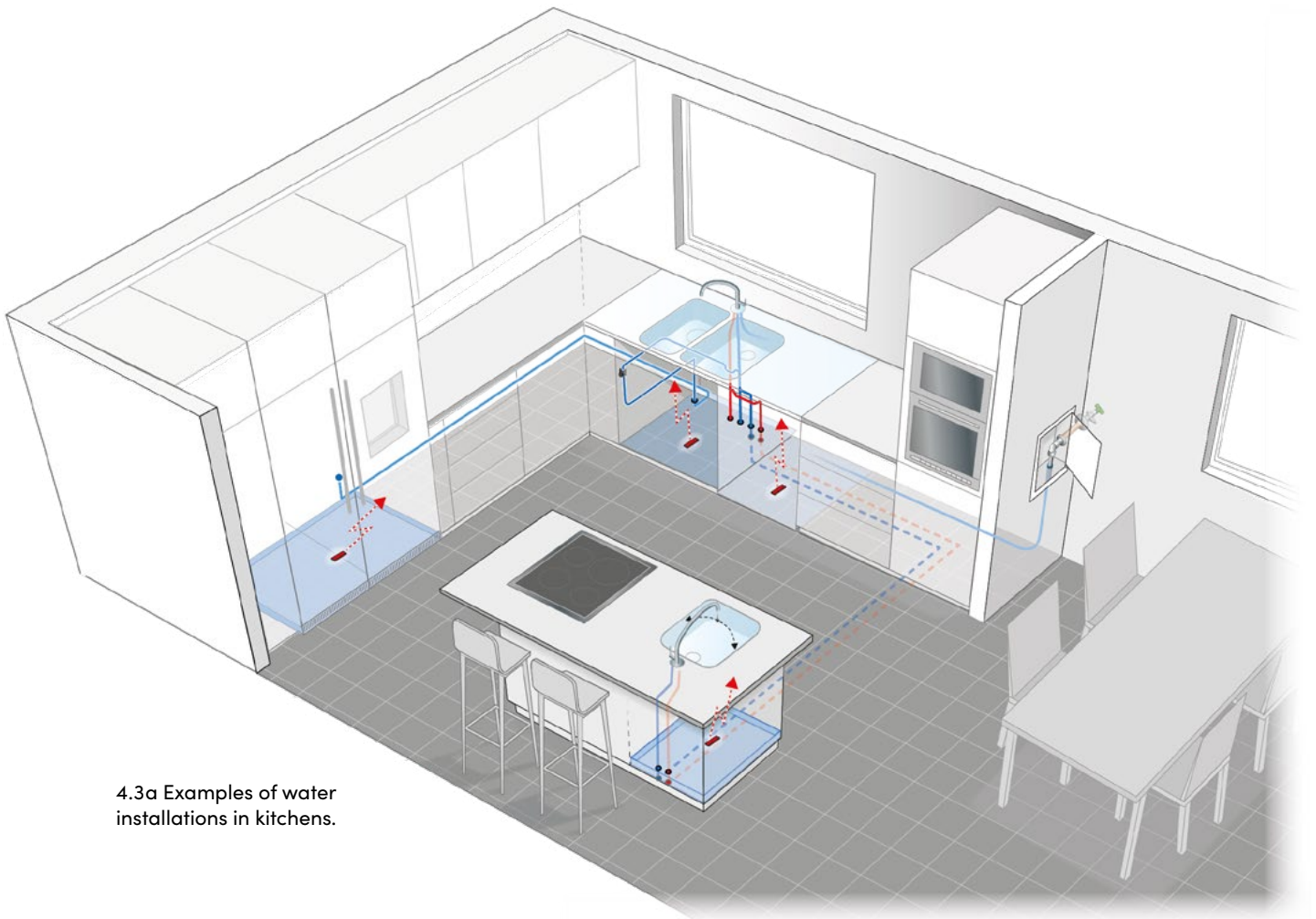
➔ See *Technical Construction Conditions B4.2.2*.



U4.2.2a Washing machine in kitchen.

4.3 Water installations in kitchens

The purpose is to reduce the risk of water damage from water installations in kitchens. The Industry Regulations 'Säker Vatteninstallation' specify requirements for the placement of joints in water pipes and assume waterproof substrates in or under sink cabinets and under equipment connected to water.



4.3a Examples of water installations in kitchens.

Installations serving kitchens

Kitchens shall only contain installations intended for use in the kitchen. Tap water pipes to kitchens must be installed without joints up to the sink cabinet or equipment connected to water. Water shall not be able to enter protective sleeves or any insulation. Leaks from joints must discharge to:

- Watertight flooring, or
- A waterproof sink cabinet insert, or
- A drip tray in or under the sink cabinet.

Inserts and drip trays must be tested and approved and are a *Technical Construction Condition*.

Waterproof inserts or drip trays must have a moisture sensor connected to a leakage breaker, water fault circuit breaker or water alarm that shuts off the tap water supply or issues an alarm in the event of a leak.

→ See Figures 4.3b and 4.3c.

Connections for fittings, joints for mixer taps or equipment must be placed in sink cabinets. Connecting pipes to dishwashers or other equipment connected to water must be installed without joints.

🔗 See *Technical Construction Conditions B4.3*.

4.3.1 Dishwasher

Dishwasher and joints in water and drain connections must be placed over a drip tray. Drip trays must be tested and approved and are a *Technical Construction Condition*. Dishwasher must be equipped with a shut-off valve with an easily accessible operating element. The water connecting pipe must be tested and approved for its intended use.

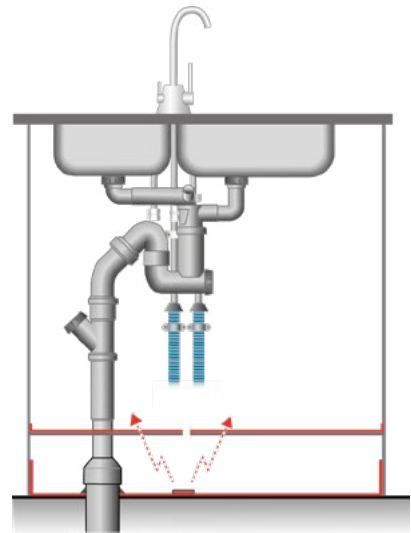
The drip tray must have a moisture sensor connected to:

- leakage breaker or
- water fault circuit breaker or
- water alarm

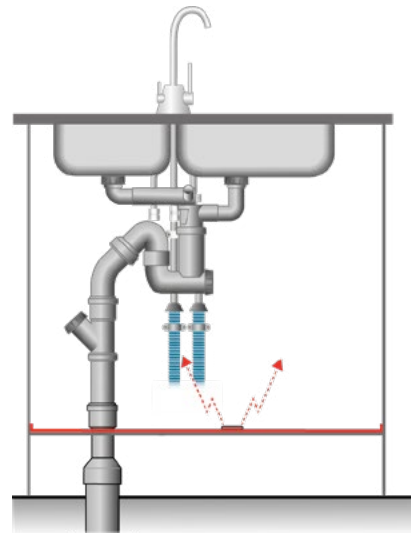
that cut off the tap water supply or issue an alarm in the event of a leak.

→ See Figure 4.3.1a.

🔗 See *Technical Construction Conditions B4.3*.



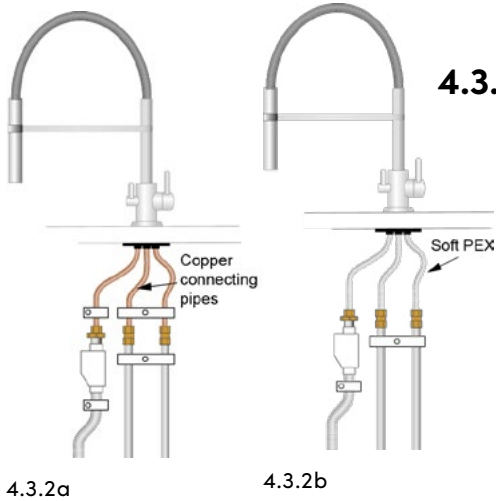
4.3b Example of a sink cabinet.



4.3c Example of a sink cabinet.



4.3.1a Example of a dishwasher with a leakage breaker and easily accessible operating element.



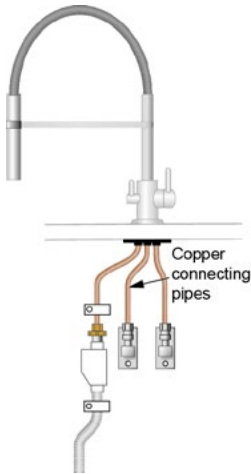
4.3.2 Kitchen mixer taps

To reduce the risk of scalding or water spilling onto the floor, the swivel radius of a kitchen mixer tap must be limited so that water from the kitchen mixer tap flows into the sink unit basins.

- Copper connecting pipes must be clamped both above and below the connectors to the mixer tap, *see Figure 4.3.2a.*
- Flexible connecting tubes such as PEX, must be clamped under the connectors to the mixer tap, *see Figure 4.3.2b.*
- A connection from a wall socket or connecting plate where the pipe is fixed can be connected to the mixer tap's connecting pipe without clamps, *see Figure 4.3.2c.*

→ *See also Figure 4.3.2d, Restricted tap movement.*

🔗 *See Technical Construction Conditions B4.3.2.*



4.3.2c

4.3.2.1 Boiling water taps

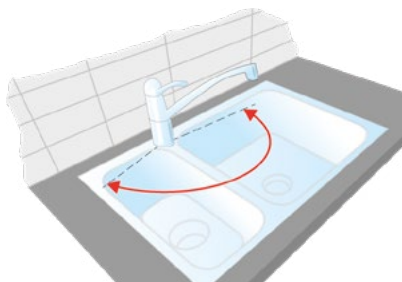
The fitting for the boiling water tap and its joints must be placed over a drip tray in an enclosure with sufficient room for servicing. Drip trays must be tested and approved and are a *Technical Construction Condition*. The equipment must be equipped with a shut-off valve with an easily accessible operating element. The drip tray must have a moisture sensor connected to:

- leakage breaker or
- water fault circuit breaker or
- water alarm

that cut off the tap water supply or issue an alarm in the event of a leak.

→ *See temperatures requirements in Chapter 5.2. 1.*

🔗 *See Technical Construction Conditions B4.3.*



4.3.2d Restricted tap movement.

U4.3 Exception for bib taps in kitchens

Bib taps or the supply to a bib tap cabinet may be connected in a sink cabinet. The installation must be arranged so that condensation water does not cause damage.

🔗 *See Technical Construction Conditions B4.3.*

4.4 Wastewater installations

The purpose is for wastewater installations to be designed such that they can remove the waste for which they are intended without the risk of unpleasant odours, blockages or water damage. The Industry Regulations 'Säker Vatteninstallation' apply to gravity-fed wastewater installations.

4.4.1 Installation of wastewater pipe

A wastewater pipe must be routed with a gradient along its entire length.

Wastewater pipe installation must account for the movements that can be expected during construction and operation. The fastening devices for the pipes must be installed and placed in accordance with the supplier's installation instructions. A fastening device must be placed no more than 200 mm from the floor drain.

On pipes that are to be embedded, fastenings must be placed in accordance with the supplier's installation instructions or, alternatively, to a sufficient extent, at all branch pipes, muffs, bends, openings and on straight sections to prevent the position of the pipe from changing.

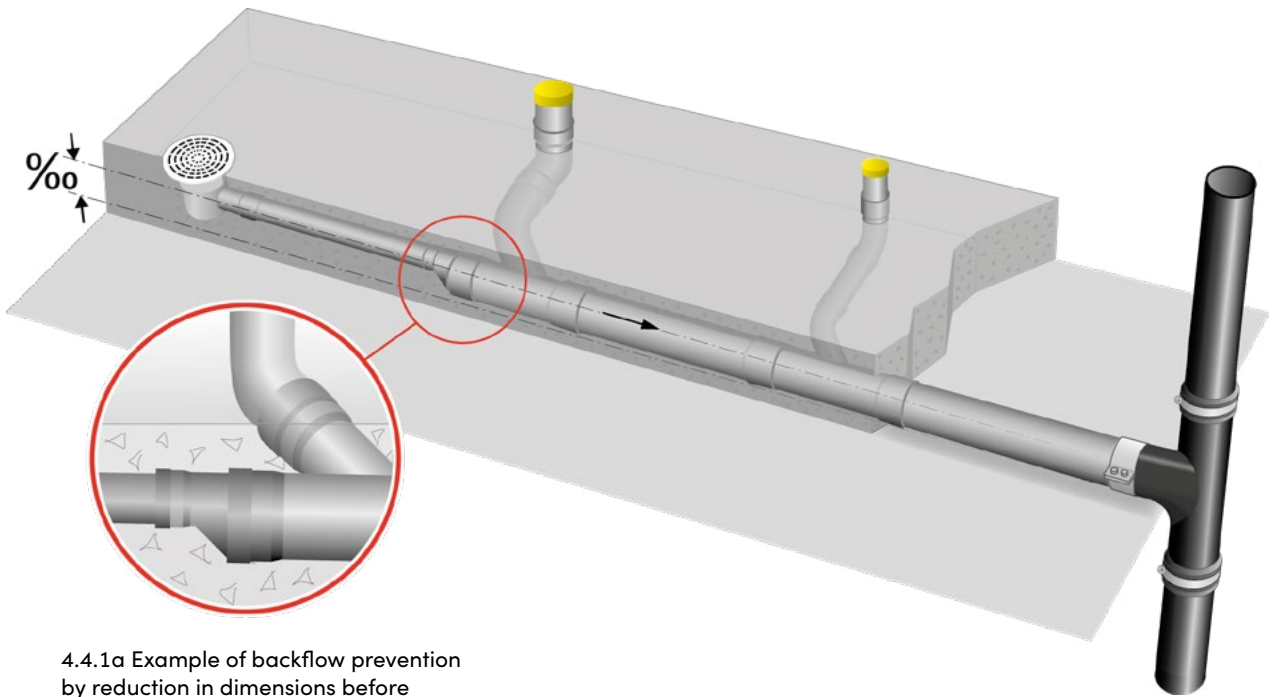
Wastewater pipes under piled slabs must have fastenings designed so that the pipe does not change position in the event of movements in the ground.

A lateral wastewater pipe must be implemented so as to prevent toilet backflow.

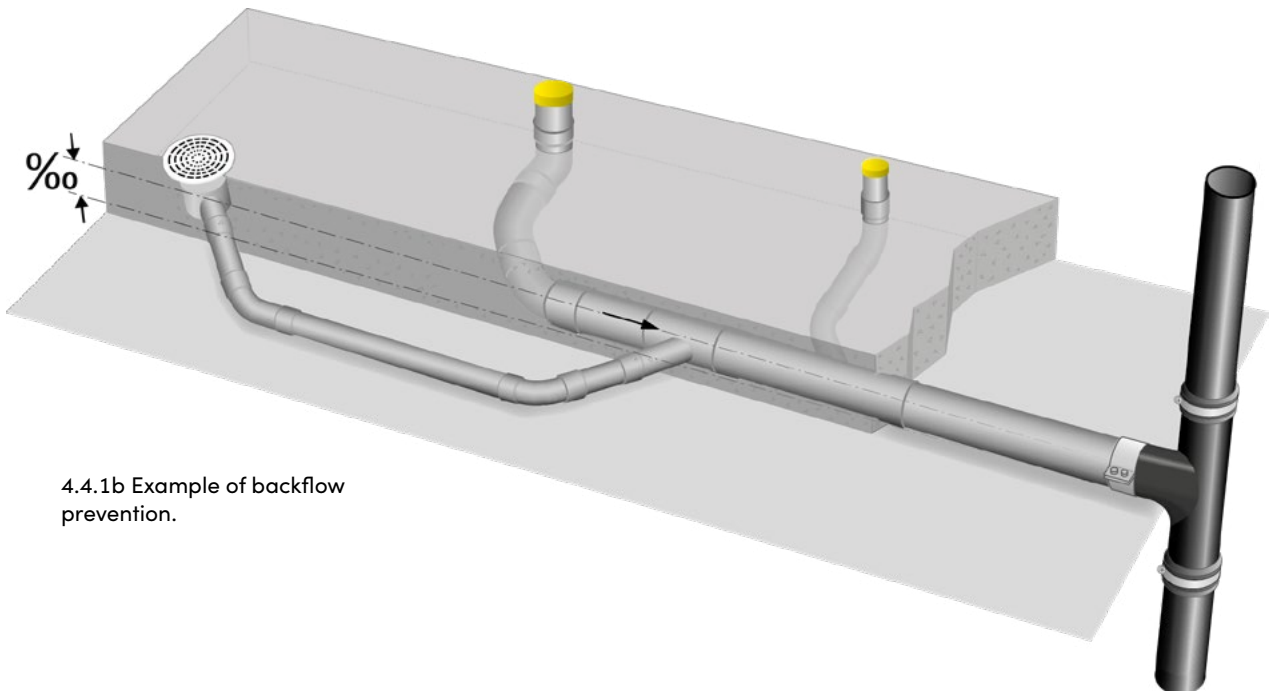
Example:

- Reduction in dimensions of waste water pipe before connecting toilet unit.
→ See Figure 4.4.1a.
- Wastewater pipes with drains from toilets can be designed so that the pipe goes directly to a vertical main drain. Other wastewater pipes are connected downstream with branch pipes $\leq 45^\circ$.
→ See Figure 4.4.1b.

🔗 See Technical Construction Conditions B4.4.1.



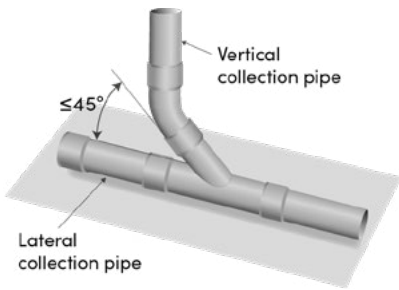
4.4.1a Example of backflow prevention by reduction in dimensions before connection to toilet.



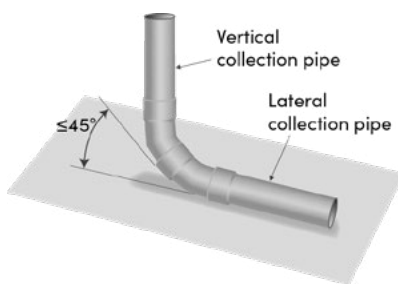
4.4.1b Example of backflow prevention.

4.4.2 Change of direction of wastewater pipe

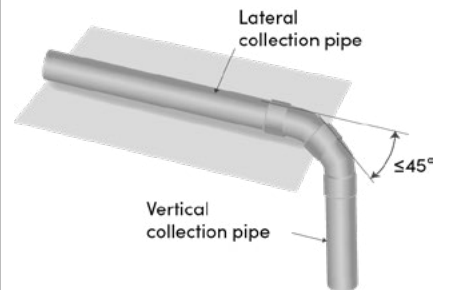
- a. A vertical collection pipe (S) must be connected to a lateral collection pipe (L) by a branch pipe at an angle of $\alpha \leq 45^\circ$.
See Figure 4.4.2a.
- b. A vertical collection pipe (S) that changes to a lateral collection pipe (L) must be carried out with two bends, each at a maximum angle of $\leq 45^\circ$ or with what is known as a long bend of max. 90° .
See Figure 4.4.2b.
- c. A lateral collection pipe (L) that changes to a vertical collection pipe (S) must be carried out with two bends, each at a maximum angle of $\leq 45^\circ$ or with what is known as a long bend of max. 90° .
See Figure 4.4.2c.
- d. A vertical connecting pipe (S) that changes to a lateral connecting pipe (L) can be carried out at an angle of $\leq 90^\circ$.
See Figure 4.4.2d.
- e. A lateral pipe (L) must be connected to a vertical pipe (S) with a branch pipe at an angle of $\leq 90^\circ$.
See Figure 4.4.2e.
- f. Lateral pipes (L) are to be connected from opposite directions to the same vertical pipe (S) with a double branch pipe must be connected at an angle of $\leq 70^\circ$.
See Figure 4.4.2f.
- g. A lateral pipe (L) must be connected to a lateral pipe by a branch pipe at an angle of $\leq 45^\circ$.
See Figure 4.4.2g.
- h. A change of direction in a lateral pipe (L) must be carried out with one or more bends at a maximum angle of $\leq 45^\circ$.
See figure 4.4.2h.
- i. Wastewater pipes from toilet units must be connected to a lateral collection pipe (L) with a branch pipe at $\leq 45^\circ$.
See Figure 4.4.2i.



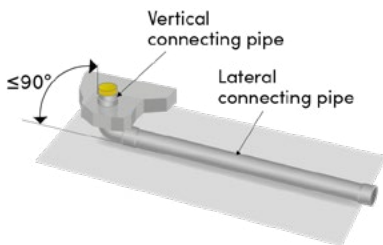
4.4.2a



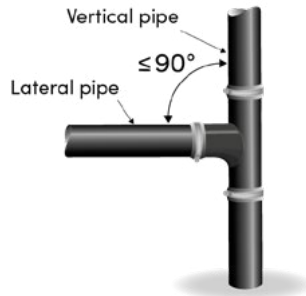
4.4.2b



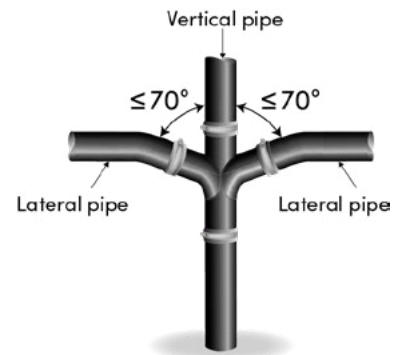
4.4.2c



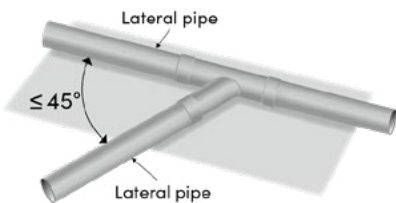
4.4.2d



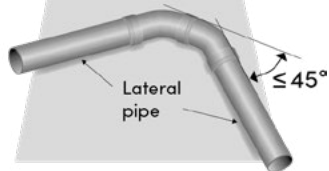
4.4.2e



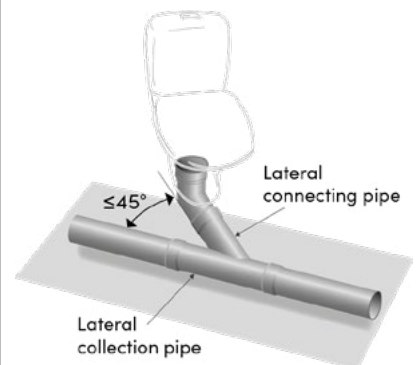
4.4.2f



4.4.2g



4.4.2h



4.4.2i

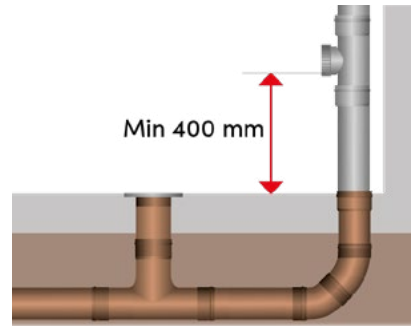
4.4.3 Wastewater pipe cleaning access

The cleaning access for lateral collection pipes must be implemented with an inspection chamber.

The cleaning access for a vertical wastewater pipe must be installed with its bottom edge no lower than 400 mm above floor level.

→ See Figure 4.4.3a.

🔗 See *Technical Construction Conditions B4.4.3.*



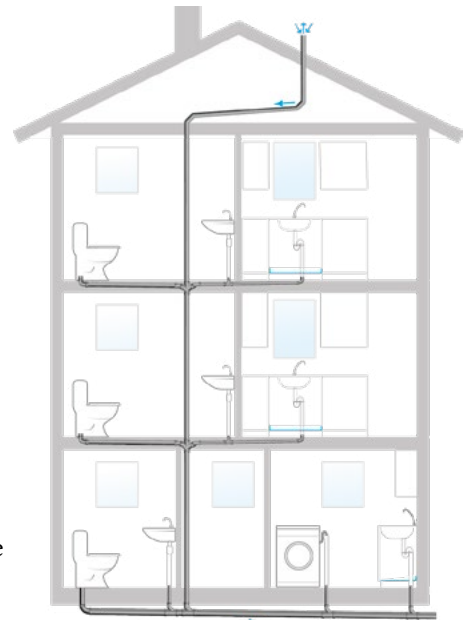
4.4.3a Cleaning access.

4.4.4 Venting of wastewater installation

A wastewater installation must be implemented with at least one vent through the outer roof. The vent pipe must be routed with a gradient along its entire length.

→ See Figure 4.4.4a.

🔗 See *Technical Construction Conditions B4.4.4.*



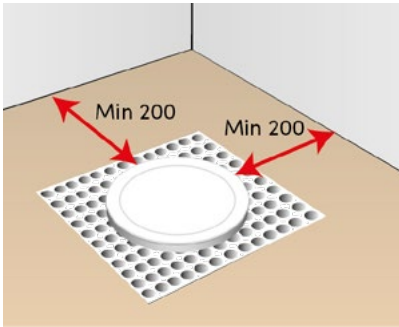
4.4.4a Venting of multi-family dwelling.

4.4.5 Floor drain

Spaces with the following installations must be equipped with floor drains:

- bathtubs, shower units or shower enclosures,
- shower units at bidets, toilets or washbasins,
- washing machines,
- connected wastewater units that lack an overflow outlet,
- equipment designed to be drained, such as water heaters, heat pumps, boilers or other technical equipment with a volume of 5 litres or more, or
- spaces intended to be cleaned by rinsing if the space is heated.

An elevating ring must be type approved for use together with the floor drain concerned.



4.4.5.1a Placement of floor drain.

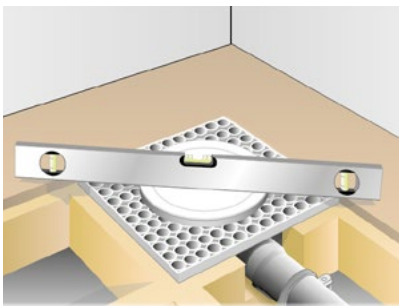
4.4.5.1 Placement

Floor drain must be placed so that it can be cleaned and so that a removable water trap can be lifted out.

Floor drains in floors with waterproofing must be installed so that the minimum distance between the outer flange of the floor drain and the wall's waterproofing, waste water pipe or pipe sleeve is 200 mm.

The distance between the outer flange of the floor drain and pipe penetrations other than wastewater pipes or pipe penetration sleeves must be coordinated with the waterproofing contractor.

→ See Figure 4.4.5.1a.



4.4.5.2a Floor drain installed level with mounting plate.

4.4.5.2 Installation

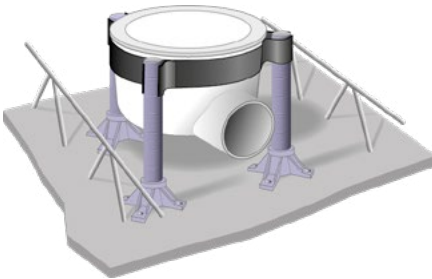
Floor drains must be installed and fixed in the floor structure with the fasteners specified in the manufacturer's installation instructions or with fasteners that have been tested and approved for this purpose.

A floor drain must be fitted flush with and at the correct level against adjacent waterproofing, with a horizontal tolerance of ± 2 mm from the centre of the drain to the outer edge of the flange.

A floor drain or any elevating ring must be provided with a protective cover during the construction period.

→ See Figures 4.4.5.2a and 4.4.5.2b.

🔗 See *Technical Construction Conditions B.4.4.5.*



4.4.5.2b Floor drain fixed with floor drain fixture.

4.4.5.3 Floor drain replacement

Floor drains manufactured before 1990 and floor drains that are damaged or incorrectly installed in the floor structure must be replaced if renovation work is performed.

4.4.6 Wastewater connection from dishwasher, washing machine or other equipment

Drain hoses from dishwashers, washing machines or other equipment connected to water in kitchens must be installed without joints between the appliance and the wastewater installation. The drain hose must be positioned and clamped in accordance with the supplier's installation instructions. Drain hoses from dishwashers and washing machines must be attached to the underside of the worktop or at a corresponding height, unless otherwise specified in the supplier's installation instructions.

4.4.7 Wastewater pipes from safety valves

A drain pipe from a safety valve must be connected to a drainage unit.

→ See Figure 4.4.7a.

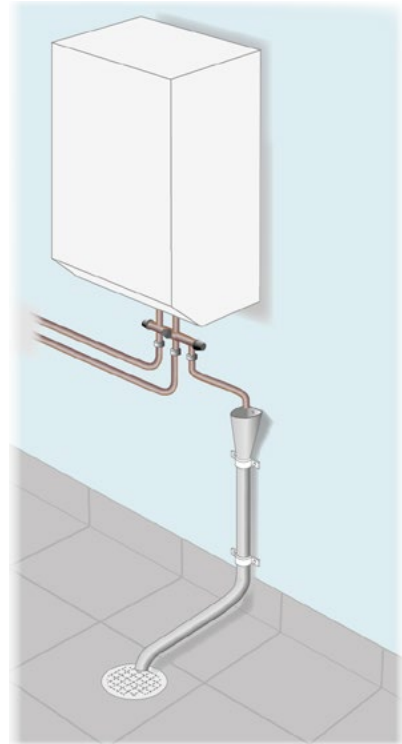
U4.4.5.1 Exception for placement of floor drains close to walls

A floor drain mounted close to a wall can be placed closer than 200 mm to the wall if it has been tested and approved for mounting close to a wall in accordance with industry standard.

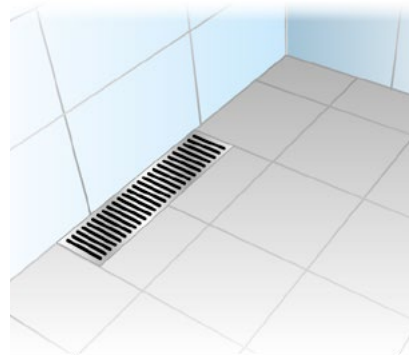
→ See Figure U4.4.5.1a.

→ See www.sakervatten.se.

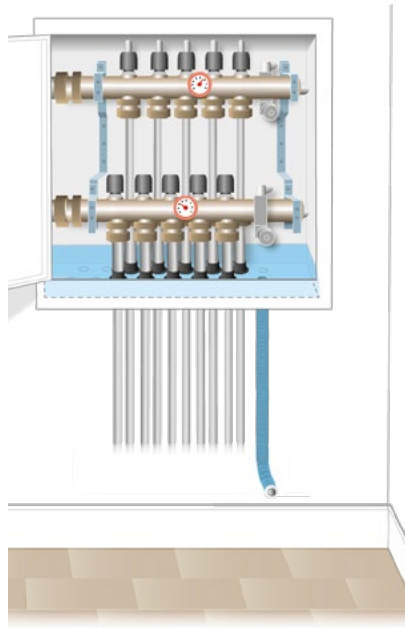
🔗 See *Technical Construction Conditions B4.4.5.1*.



4.4.7a Drain pipe line from safety valve.



U4.4.5.1a Floor drain close to wall.



4.5.2a Heating manifold cabinet.

4.5 Heating installations

The Industry Regulations 'Säker Vatteninstallation' specify requirements for the placement of manifolds with equipment. There are no requirements for the placement of joints.

4.5.1 Manifolds with equipment

Manifolds for heating provided with equipment such as vents, valves with actuators or pumps must be placed as follows:

- in a prefabricated structure such as a manifold cabinet
- or
- above lining in a ceiling.

The equipment must be replaceable and operable.

Manifolds with equipment above cladding in ceilings, such as above removable suspended ceilings, in drained manifold cabinets in ceilings or above a drained ceiling access panel, must be positioned so that leaks are routed to a room that is normally occupied and leaks therefore can be easily detected.

➤ See *Technical Construction Conditions B4.5*.

4.5.2 Prefabricated structures

A prefabricated structure must have a watertight base with a sealed connection to the sides of the cabinet or structure, at least 50 mm up. Pipe penetrations through bases must be fixed perpendicular and watertight. Manifold cabinets or their equivalent must be tested and approved. Any leaking water must be discharged at the base of the structure. Water shall not be able to enter protective sleeves or any insulation.

→ See *Figure 4.5.2a*.

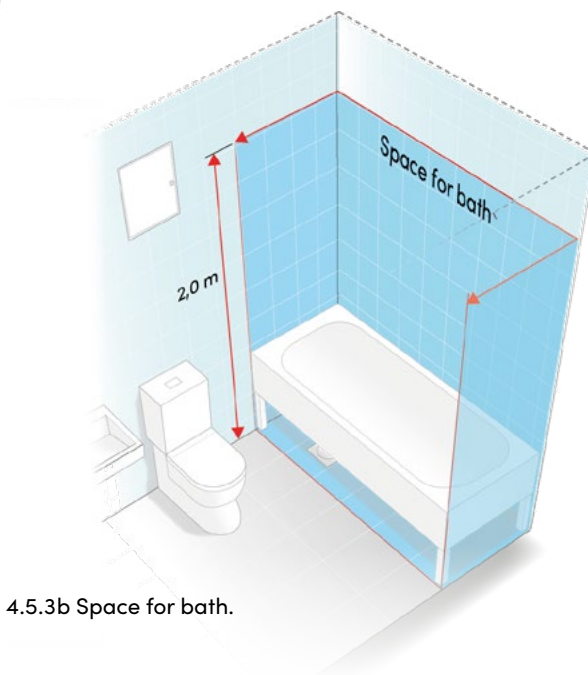
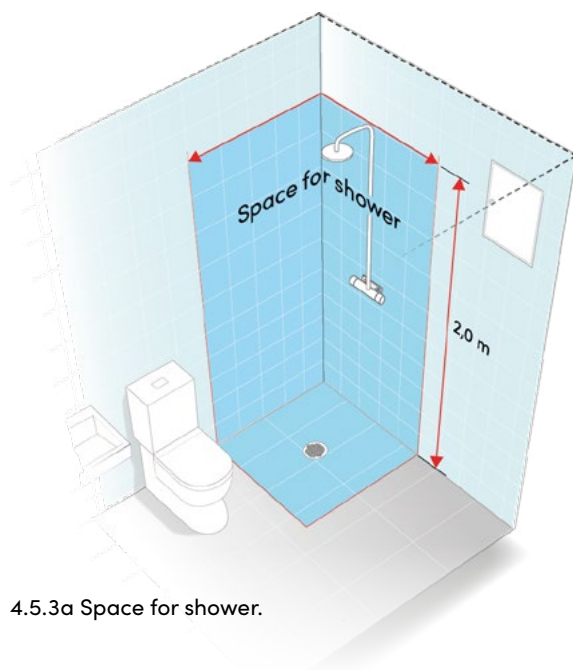
4.5.3 Service opening

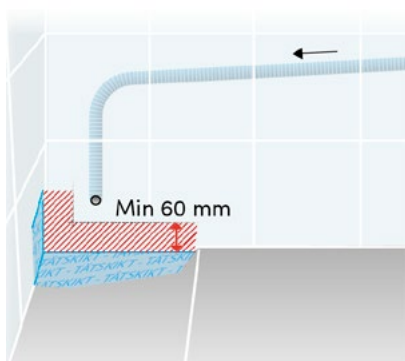
A space with concealed equipment must have an easily accessible service opening to enable access to valves or other equipment for operation or servicing. A service opening shall not be located in a space for bath or shower.

→ See Figures 4.5.3a and 4.5.3b.

In rooms with waterproofing on the walls, a service opening connected to the wall's waterproofing must have a connection that has been tested and approved in accordance with industry standard, see 7.2.3.

🔗 See *Technical Construction Conditions B4.5.3*.





4.5.4a Leak detection drain implemented with pipe.

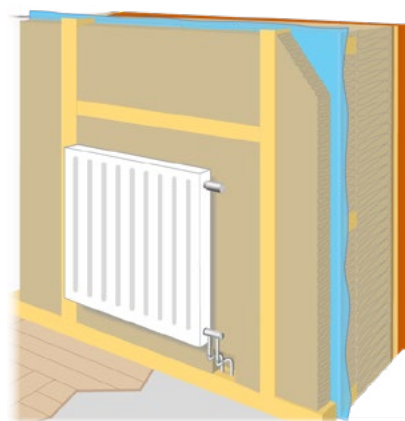
4.5.4 Leak detection drains

Spaces with concealed equipment must have leak detection drains from their base. The outlet from a leak detection drain must be in a room that is normally occupied and any leaks therefore can be easily detected. The space and pipes or openings for leak detection drains must be cleaned so that any leaking water is not prevented from draining away.

Leak detection drains implemented with a pipe must be routed with a gradient along their entire length. The inside diameter of pipes for leak detection drains must be at least 20 mm. The outlet shall not be placed in a space for bath or shower. The outlet from a leak detection drain pipe that penetrates the wall's waterproofing shall not be placed closer than 60 mm to the waterproofing of the floor or adjoining wall.

→ See Figure 4.5.4a.

🔗 See Technical Construction Conditions B4.1.5, *Leak detection drains*.



4.5.5a Example of pipe routing on "warm side".

4.5.5 Frost-proof installation of heating systems

Pipes shall not be installed in unheated spaces such as crawl spaces or attics or in the insulation of the building in floors, exterior walls or attic floor structures.

Pipes can be routed in a special frost-proof installation space on the warm side of the structure on the inside of a plastic sheet or vapour barrier or in a frost-proof space in insulation beneath a slab on soil.

A prefabricated structure such as a manifold cabinet must be in a frost-free location on the warm side of the structure on the inside of a plastic sheet or vapour barrier.

→ Example of pipe routing on the "warm side"; see Figure 4.5.5a.

🔗 See Technical Construction Conditions B4.5.5.

4.6 Pipe penetrations in building components with waterproofing

The purpose is to ensure that pipe penetrations in a building component with waterproofing are watertight. The requirements are defined so that the waterproofing contractor can perform work in a workmanlike manner in accordance with Byggheramikrådet (BKR)'s trade rules for wetrooms, Golvbranschens Våtrumskontroll (GVK) Industry Regulations for safe wetrooms, or the Industry Regulations of Måleribranschens Våtrumskontroll (MVK). The waterproofing contractor is responsible for connecting the waterproofing of the building component to the pipe installation.

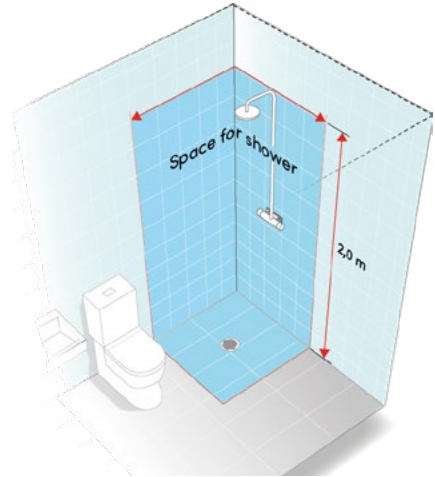
Special requirements apply to spaces for baths or showers. The space for bath or shower is the floor below and walls up to 2.0 m above the finished floor behind the space for the bath tub or the shower.

→ See Figures 4.6a and 4.6b.

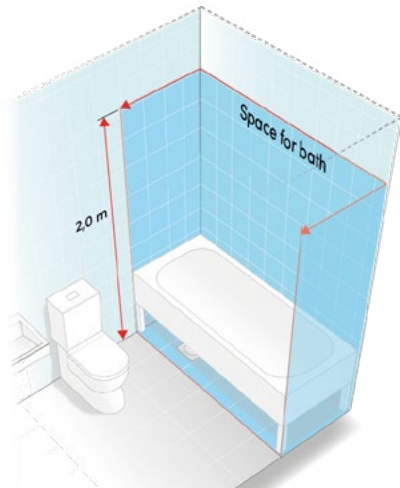
To enable installation of waterproofing, holes for pipe penetrations in a building component must be implemented with a maximum of 2 mm between the building component and the pipe, protective sleeve, pipe penetration sleeve or other penetration detail.

→ See Figure 4.6c.

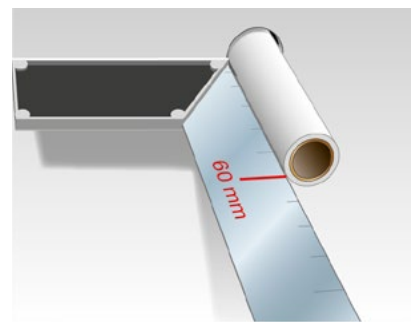
Pipes, protective sleeves, pipe penetration sleeves or other penetration details must be installed before the waterproofing is installed and must be fixed perpendicular to the substrate so that no movement can occur between them and the waterproofing. Any connectors shall not affect the installation of vinyl flooring.



4.6a Space for shower.



4.6b Space for bath.



4.6c Pipe at right angles through wall with waterproofing.

4.6.1 Pipe penetrations in floors with waterproofing

There shall be no floor penetrations, except for wastewater pipes and floor drains, in bathrooms or shower rooms, laundry rooms or utility rooms.

In a *space for bath or shower*, the only permitted floor penetrations are floor drains..

Implementation of pipe penetration for wastewater

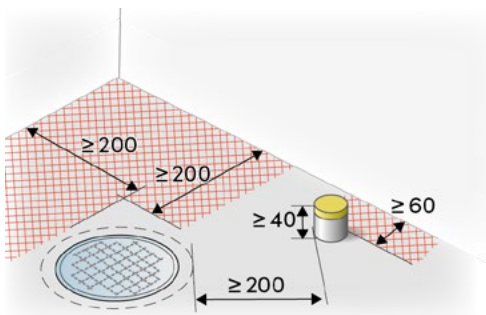
Where pipes pass through floors, the distance between the waterproofing on the adjacent wall and the wastewater pipe must be at least 60 mm. The distance between the wastewater opening and the outer flange of the floor drain must be at least 200 mm. In floors with vinyl flooring, the distance between the outer flange of the floor drain and the wastewater opening must be at least 500 mm.

The distance between the substrate for the floor waterproofing and the top edge of the wastewater pipe shall not be less than 40 mm when installing the waterproofing. Wastewater pipes or connection sleeves for a toilet unit must have a smooth surface and must be adapted for sealing against the floor's waterproofing.

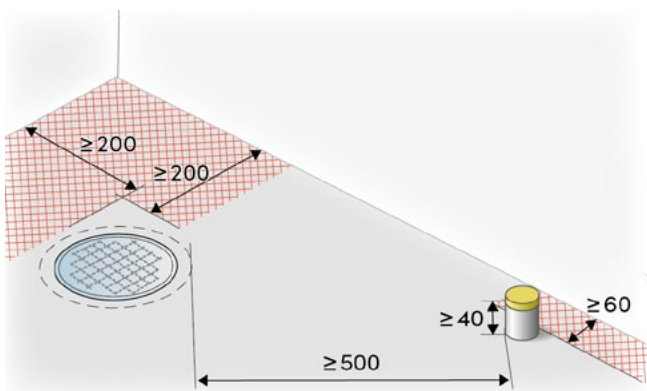
→ See Figures 4.6.1a and 4.6.1b.

When the surface layer and waterproofing have been installed, wastewater pipes can be cut but damage to the waterproofing must be prevented.

Openings for wastewater must be covered with protective lids during construction.



4.6.1a Positioning dimensions for wastewater pipes and floor drains.



4.6.1b Positioning dimensions for wastewater pipes and floor drains with vinyl flooring as waterproofing.

4.6.2 Pipe penetrations in toilet room floors

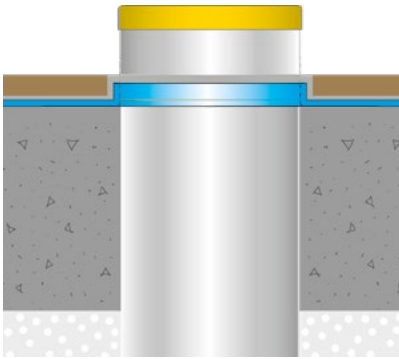
The distance between penetrations in the floor for tap water or heating pipes with a diameter that is less than or equal to 32 mm must be at least 60 mm between the centres of the pipes. For pipes with a diameter exceeding 32 mm, the distance between pipes or pipe penetration sleeves must be at least 60 mm. Where pipes pass through floors, the distance between the waterproofing on the adjacent wall and pipes or pipe penetration sleeves must be at least 60 mm. A pipe penetration must have a smooth surface for connection to waterproofing.

→ See Figure 4.6.2a.

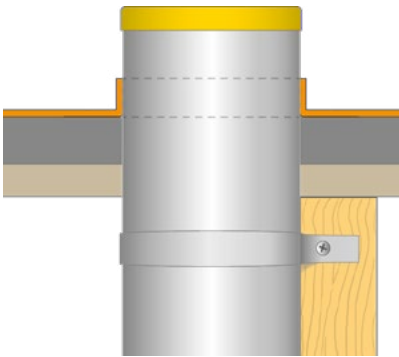
🔗 See Technical Construction Conditions.



4.6.2a Pipe penetration in toilet room floor.



U4.6.1b Example of fixing wastewater pipes or pipe penetration sleeves in concrete floor structures.



U4.6.1c Example of fixing wastewater pipes or pipe penetration sleeves in timber floor structures.

U4.6.1 Exceptions for pipe penetrations in floors in bathrooms or shower rooms, laundry rooms and utility rooms

In bathrooms or shower rooms, laundry rooms or utility rooms with water heaters, heat pumps, water meters or similar devices, pipe penetrations to or from such devices must be implemented with pipe penetration sleeves.

Pipe penetration sleeves shall not be placed in a *space for bath or shower*.

Implementation of pipe penetrations in floors with waterproofing

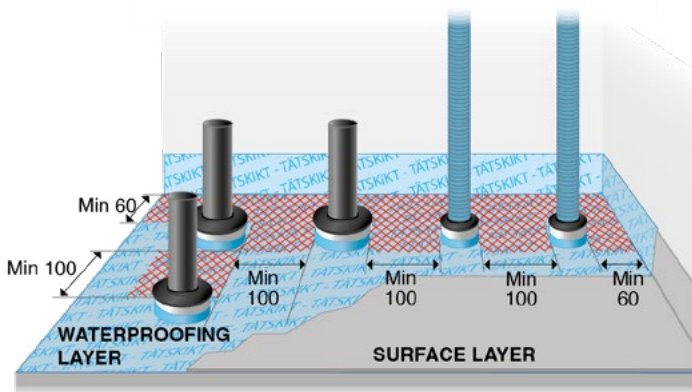
Where pipes pass through floors, the distance between the waterproofing on the adjacent wall and pipes or pipe penetration sleeves must be at least 60 mm. The distance between the pipe penetration sleeve and the wastewater pipe or between two pipe penetration sleeves must be at least 100 mm. The distance between the pipe penetration sleeve and the outer flange of the floor drain must be at least 200 mm. In floors with vinyl flooring, the distance between the outer flange of the floor drain and the pipe penetration sleeve must be at least 500 mm.

→ See Figure U4.6.1a.

The distance between the substrate for the floor waterproofing and the top edge of the pipe penetration sleeve shall not be less than 40 mm when installing the waterproofing. Pipes or pipe penetration sleeves must have a smooth surface and must be adapted for sealing against the floor's waterproofing. Water shall not be able to enter protective sleeves or any insulation. The seal between service pipes or protective sleeves and pipe penetration sleeves must be implemented in accordance with the pipe supplier's installation instructions.

→ See Figures U4.6.1b and U4.6.1c.

Coordinate placement of culvert pipes and the connection between the waterproofing and culvert pipe with the waterproofing contractor.



U4.6.1a Example of a pipe penetration sleeve.

4.6.3 Pipe penetrations in walls with waterproofing

Pipes or protective sleeves must protrude by approx. 60 mm from a wall before waterproofing is installed. For appliances requiring longer protrusion, account must be taken for pipe connections.

There shall be no pipe penetrations or service openings in *spaces for baths or shower* except for the direct connection of a mixer tap for a bathtub or shower and shower unit.

Implementation of pipe penetrations

Where pipes pass through walls, the distance between the waterproofing on the adjacent floor or wall, and pipes or protective sleeves, must be at least 60 mm and at least 60 mm from the ceiling.

The distance between pipe penetrations in walls with a diameter that is less than or equal to 32 mm must be at least 60 mm between the **centres** of the pipes. For pipes, protective sleeves or wall sockets with a diameter exceeding 32 mm, the distance **between** pipes must be at least 60 mm.

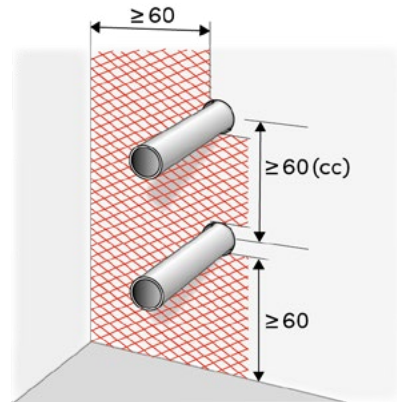
When the surface layer and waterproofing have been installed, wastewater pipes can be cut, but damage to the waterproofing must be prevented. Openings for wastewater must be covered with protective lids during construction.

→ See Figures 4.6.3a–c.

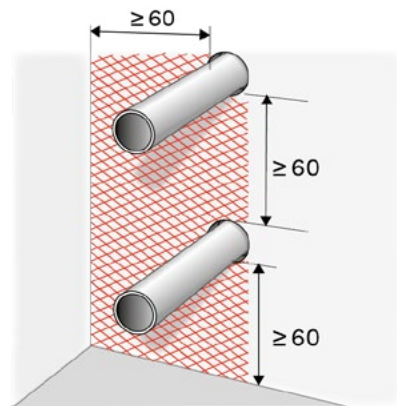
Protective sleeves, penetration details or plastic covers on pipes are cut 6–9 mm outside the finished wall.

→ See Figures 4.6.3d–k for examples of pipe penetrations.

🔗 See *Technical Construction Conditions B4.6.3*.

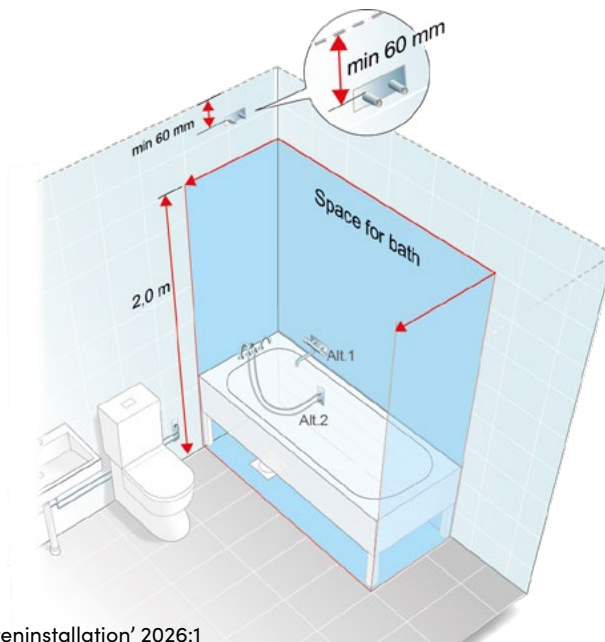


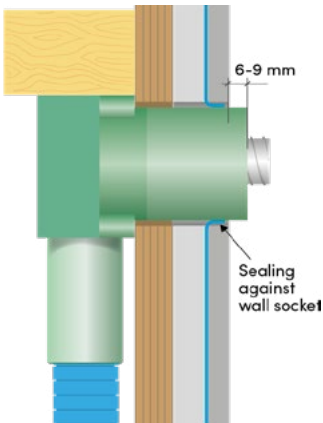
4.6.3a Pipe penetration in wall with waterproofing for pipes up to 32 mm.



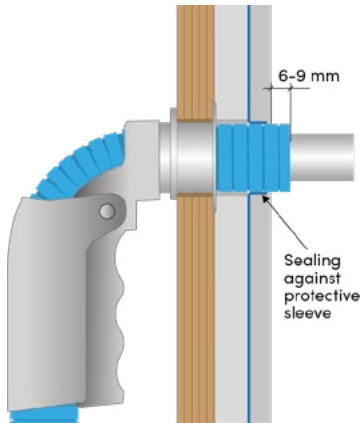
4.6.3b Pipe penetration in wall with waterproofing for pipes over 32 mm.

4.6.3c Pipe penetration in wall with waterproofing.

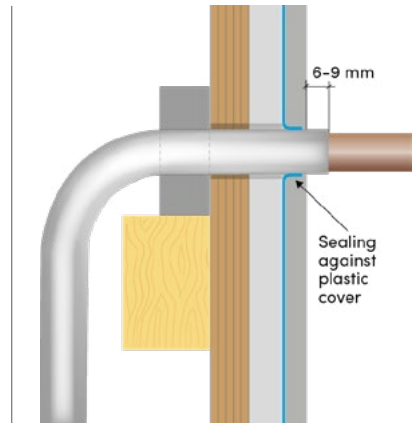




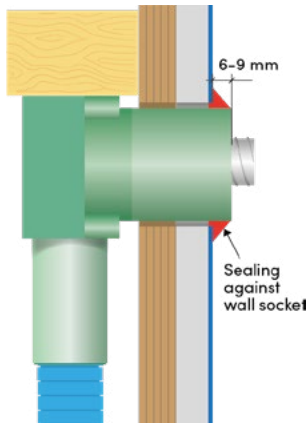
4.6.3d Sealing against wall socket with ceramic surface layer.



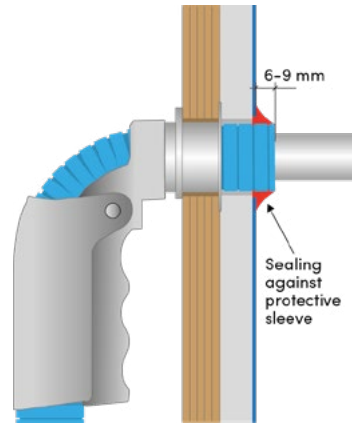
4.6.3e Sealing against protective sleeve with ceramic surface layer.



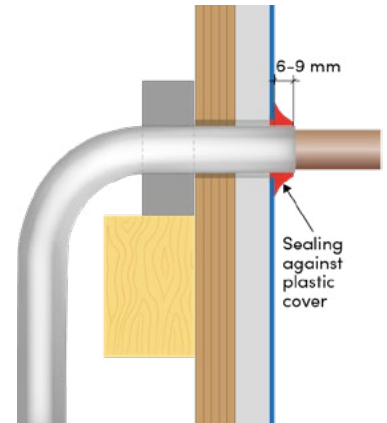
4.6.3f Sealing against plastic cover with ceramic surface layer.



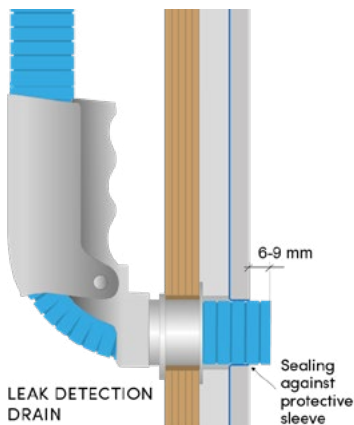
4.6.3g Sealing against wall socket with vinyl flooring as a watertight membrane and surface layer.



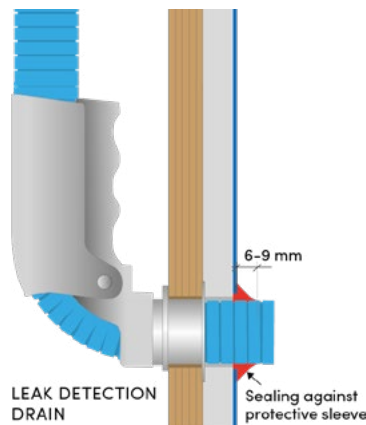
4.6.3h Sealing against protective sleeve with vinyl flooring as a watertight membrane and surface layer.



4.6.3i Sealing against plastic covers with vinyl flooring as a watertight membrane and surface layer.



4.6.3j Sealing against leak detection drain with ceramic surface layer.



4.6.3k Sealing against leak detection drain with vinyl flooring as a watertight membrane and surface layer.

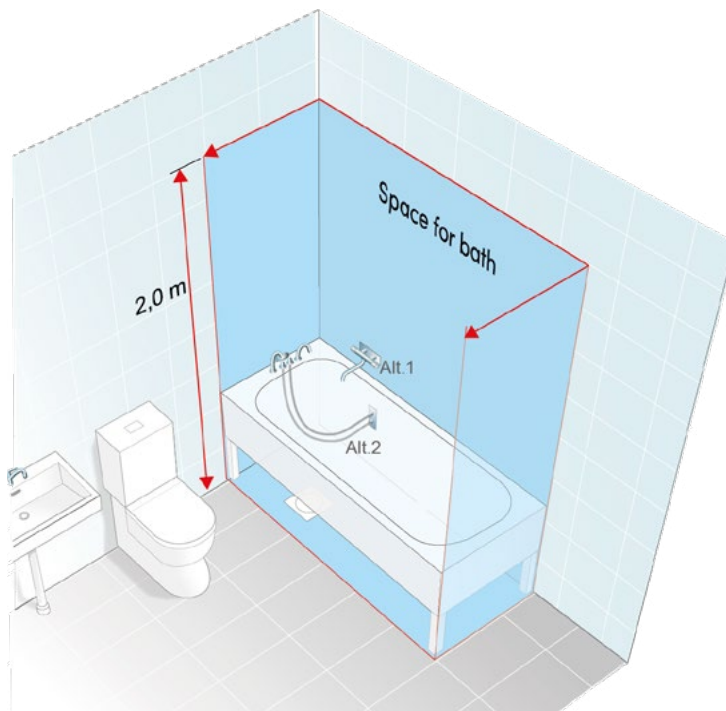
U4.6.3 Exceptions for pipe penetrations in spaces for bath or shower

Spaces for baths or shower shall only have pipe penetrations for the following:

- Shower unit.
- Connecting plate for hose connection to shower enclosure.
- Connecting plate for hose connection to mixer tap on bathtub rim.

→ See Figure U4.6.3a.

🔗 See Technical Construction Conditions B4.6.3.



U4.6.3a Pipe penetrations in space for bath or shower.

4.7 Mounting of products in bathrooms and shower rooms

The purpose is for all attachments to be watertight and secure. The structure of the wall and the floor determine where and how attachments can be made.

Attachments must be sealed against the waterproofing of the wall or floor. Sealing compound must attach to the substrate, and be resistant to water, mould and ageing.

➤ See *Technical Construction Conditions B4.7.*

4.7.1 Screw fastenings in walls

Wall reinforcement may be required to attach products.

Screw fastenings must be made in concrete or other solid structures, wooden studs, wooden noggings or in structures that are tested and approved for such fastening, such as a board structure.

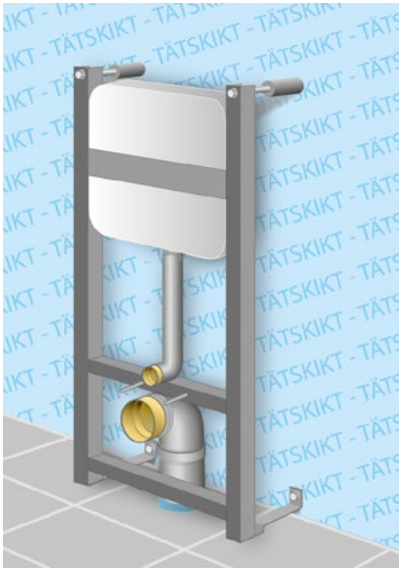
→ See *examples of design at www.sakervatten.se*

→ See *Figures 4.7.1a and 4.7.1b.*

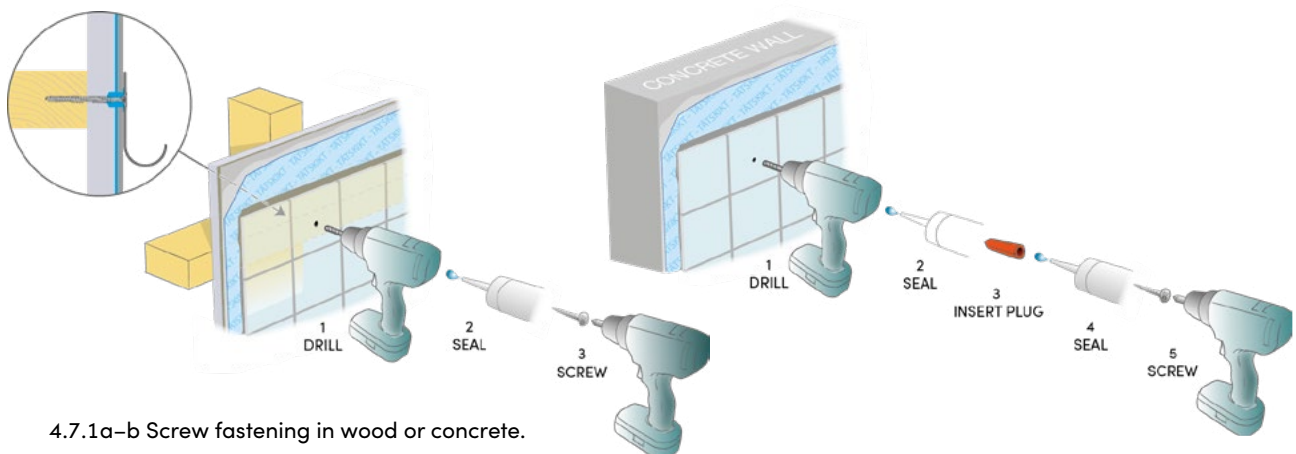
Screw fastening of fixture for toilet unit with recessed flushing cistern located in a space with waterproofing must be done only in a wall.

→ See *Figure 4.7.1c.*

➤ See *Technical Construction Conditions B4.7.1.*



4.7.1c Screw fastening of fixture for toilet unit in wall.



4.7.1a–b Screw fastening in wood or concrete.

4.7.2 Screw fastenings in floors

The floor beneath a toilet or other floor-mounted fixture must permit a drilling and screwing depth of 60 mm. Pipes and electric cables may be routed beneath the mounting surface provided the depth at which they are laid is greater than 60 mm. Screw fastening must be done in concrete or other solid structures, wooden studs or wooden noggings.

→ See Figure 4.7.2a.

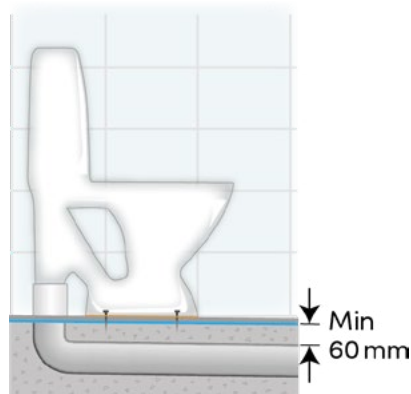
🔗 See *Technical Construction Conditions B4.7.2.*

4.7.3 Attaching products with adhesive

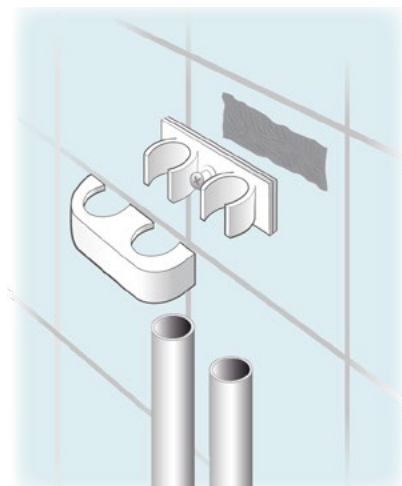
Fastening with adhesive must be carried out with materials and methods in accordance with the installation instructions from the supplier of the product.

→ See Figure 4.7.3a.

🔗 See *Technical Construction Conditions B4.7.3.*



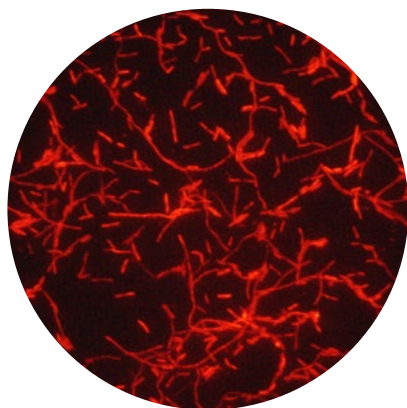
4.7.2a Screw fastening in floor.



4.7.3a Fastening with adhesive.

5. Execution for protection against personal injury

The purpose is to reduce the risk of personal injury that may arise from microbial growth, contaminated water due to backflow, or scalding.



Microscopic image of *Legionella pneumophila*. Image is magnified 400 times.

Photography: Swedish Public Health Agency press archive

5.1 Protection against legionella growth in tap water installations

Legionella bacteria occur naturally in the environment, including in our water sources. Legionella bacteria can enter a building's tap water system through drinking water. Under unfavourable conditions, especially if the water is at the wrong temperature, the number of bacteria can multiply substantially. Inhaling water aerosols containing Legionella bacteria, such as in the shower, puts you at risk of becoming infected with the bacteria, which can cause Legionnaires' disease or Pontiac fever. Legionnaires' disease is a form of pneumonia that can be life-threatening.

→ For more information, see www.stoppalegionella.se.

5.1.1 Temperatures to reduce the risk of microbial growth

The temperature in the hot tap water and hot water circulation installation must be between 50 °C and 60 °C. The temperature of outgoing tap water from the water heater or equivalent shall be at least 55 °C. The temperature in the water heater or storage tank with coil must be at least 60 °C.

5.1.2 Tap water installation design

Installations for cold tap water must be designed so that the cold water is not heated unintentionally.

To reduce the risk of the bacterial growth of Legionella in cold tap water, the cold tap water installation shall not be placed in locations where the temperature is higher than room temperature. If tap water pipes are placed in areas such as shafts, manifold cabinets or floor structures with heating pipes or underfloor heating where the temperature can exceed room temperature, the installation must be designed so that the **calculated temperature** of stationary cold water does not exceed 24 °C during an 8 hour period.

An example of tap water shaft design and calculation of cold water temperatures is available at www.sakervatten.se.

→ See Figure 5.1.2a.

Cold and hot water pipes must be installed such a way that they do not come into contact with each other to prevent heat transfer between them.

This also applies to pipes with protective sleeves.

Towel dryers or other heaters shall not be connected to the hot tap water circulation system.

Unused pipes for cold water, hot water or hot water circulation shall not be longer than 200 mm, measured from the water-carrying pipe where they are connected. To prevent bacterial growth, the tap water pipe for future installations must be fitted with a shut-off valve or plugged at the start of the pipe so that the pipe can remain empty until the equipment is connected.

→ See www.stoppalegionella.se.

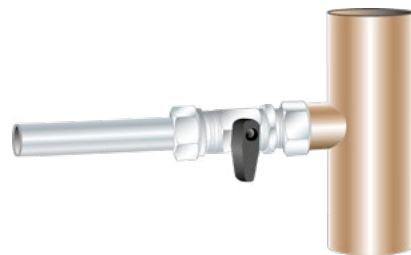
→ See Figure 5.1.2b.

A pipe from a central mixer, i.e. a mixer tap that supplies one or more shower units with tap water, shall be no more than five metres from the shower area that is furthest away.

→ See Figure 5.1.2c.



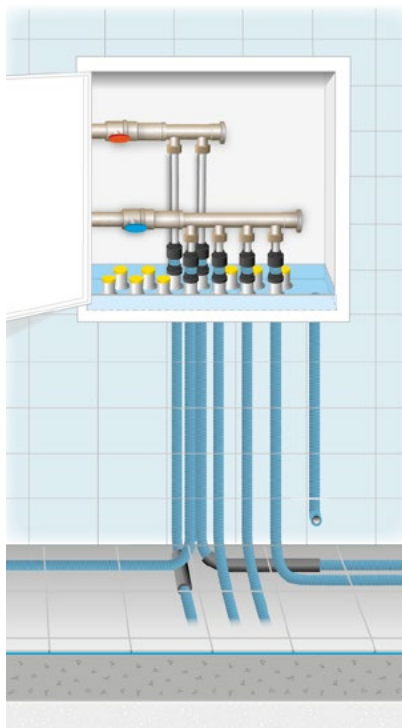
5.1.2a Example of placement of tap water pipes in shafts.



5.1.2b Shut-off valve for future installation.



5.1.2c Central mixer tap.



U5.1.2a Installation of tap water-pipes in floor structures.

5.1.3 Initial operation after pressure and leak testing

After pressure and leak testing with water, the tap water system must be put into operation within seven days or be drained of water to reduce the risk of bacterial growth.

U5.1.1 Exceptions for heat pumps in single-family houses

In single-family houses with tap water heated by a heat pump, the outlet temperature may be lower than 55 °C. At least once a week, the temperature in the heat pump's boiler must be heated to at least 60 °C.

U5.1.2 Exception from tap water installation design

If there is a risk of heat transfer between tap water pipes at junctions and risers to elements such as manifold cabinets, the pipes must be insulated at the contact surface.

→ See Figure U5.1.2a.

🔗 See Technical Construction Conditions B5.1.2.

5.2 Protection against scalding

High hot water temperatures from taps or showers can quickly cause burns. It only takes a few seconds if the water is 60 °C or hotter.

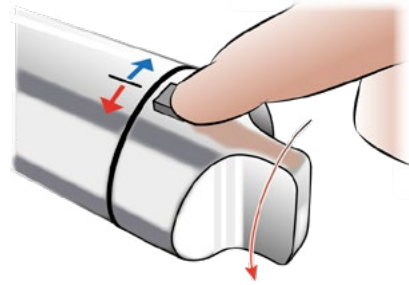
5.2.1 Temperatures for protection against burns

The temperature of hot water leaving the water heater shall not exceed 60 °C.

A special tap for food preparation, known as a boiling water tap, may have an outlet temperature higher than 60 °C. The boiling water tap must be connected to the tap water installation. The boiling water tap must have a special safety feature and must be type-approved.

Where there is a particular risk of accidents, for example in nurseries or care homes, the temperature of the hot water from a mixer tap shall not exceed 38 °C. The mixer tap must be equipped with a temperature limiter in showers for people who cannot be expected to regulate the temperature themselves, or in fixed showers that cannot be regulated without the person being in the shower area. The limit shall be set at no higher than 38 °C, and it shall not be possible to change this without a special operation.

→ See Figure 5.2.1a.



5.2.1a Temperature limitation with special temperature safety stop on shower mixer tap.

5.3 Protection against backflow

Backflow occurs when contaminated water is sucked or forced into the tap water system by accident, posing a risk of contamination and poisoning.

Installations in homes, offices, public premises or similar premises must be implemented with backflow protection, in accordance with the tables shown below. The tables are an industry interpretation of SS-EN 1717 and apply to installations in areas with a low risk of handling toxic or hazardous substances.

→ See www.sakervatten.se for industry interpretation.

5.3.1 Tap points without hose screw connections and hoses

Installation	Examples of backflow protection
Flush toilet	Built-in air gap
Washbasin mixer tap	Air gap
Bath mixer tap without hand shower	Air gap
Mixer tap with fixed shower	Air gap
Kitchen mixer taps	Air gap
Mixer tap for backflow check device	Air gap
Domestic washing machine	Built-in air gap
Domestic dishwasher	Built-in air gap

The air gap must be at least 20 mm.

5.3.2 Tap points with shower hose

Installation	Examples of backflow protection
Washbasin mixer tap with hand shower	Check valve
Bath mixer tap with hand shower	Air gap and check valve or automatic reversing valve
Shower mixer tap with hand shower	Check valve
Shower mixer tap or washbasin mixer tap with hand shower that reaches below the water level in the bidet or toilet seat	Check valve and vacuum valve or two check valves or shower handle with ejector function and automatic shut-off and check valve
Kitchen mixer tap with hand shower	Check valve and vacuum valve or two check valves or shower handle with ejector function and automatic shut-off and check valve

5.3.3 Tap points with hose screw connection

This table applies for taps in gardens and areas where hazardous substances are not handled. Examples of substances that are harmful to health include antifreeze, fertilisers, pesticides, oils and fuels.

Installation	Examples of backflow protection
Tap valve or bib taps with only cold water or hot water	Check valve and vacuum valve
Flush mixer tap or bib tap with both cold and hot water	Check valves and vacuum valves

5.3.4 Fixed connections to installations

Installation	Examples of backflow protection
Equipment connected to water in kitchens or kitchenettes*	Check valve
Incoming water pipe directly after the water meter	Built-in or separately controllable check valve
Tap water heater	Built-in check valve in safety group
Heating or cooling systems without additives	Controllable check valve
Heating or cooling systems with additives	Minimum air gap 100 mm

* See 5.3.1 for dishwashers and washing machines.

6. Testing

The purpose is for the HVAC company to check that the completed HVAC installation is leak tight and maintains the correct temperature.

6.1 Pressure and leak testing of tap water and heating installations

Pressure and leak testing must be carried out before the installations are put into service. The tests must be documented.

Pressure and leak testing of piping systems must be carried out in accordance with the instructions in The Industry Regulations 'Säker Vatteninstallation' unless the supplier indicates otherwise in its installation instructions or a different execution is specified in the technical description for the installation.

Pressure and leak testing must be carried out in accordance with the requirements of the *Swedish Work Environment Authority's regulations and general advice on risks associated with certain types of work*, AFS 2023:13.

Note that pressure and leak testing with air or other gases requires special authorisation.



6.2 Pressure and leak testing in accordance with The Industry Regulations ‘Säker Vatteninstallation’

When performing pressure and leak testing with water, the pipe must be filled slowly with water up to the test pressure. The pipes must be completely filled with water and vented. The pipe should be filled from its lowest point to facilitate venting. Tap water systems must be tested with water of drinking water quality. The temperature difference between current room temperature and the water temperature shall not exceed 10 °C.

All joints must be checked for “silent leaks” during leak testing. This test is important, as such leaks are not always visible on the pressure gauge of the testing equipment.

6.2.1 Pressure and leak testing of pipe systems of metal

Pipe systems must be pressurised to a test pressure of 14.3 bar for tap water systems and 8.6 bar for heating systems for at least 120 minutes. The pressure shall not drop during the test period. All joints must be checked.

6.2.2 Pressure and leak testing of plastic pipe systems and mixed plastic and metal pipe systems

Phase 1 – Tap water systems shall be pressurised to a test pressure of 14.3 bar and heating systems to 8.6 bar for at least 30 minutes. The piping system may need to be refilled during the test period.

Phase 2 – After 30 minutes, the test pressure must be rapidly lowered to 7.5 bar for tap water systems and 4.5 bar for heating systems. This pressure must then be maintained for at least 90 minutes. The pressure shall not drop during the test period. All joints must be checked.

6.2.3 Leak testing of press fittings

Special leak testing must be carried out on pipes with press fittings to ensure that the press fittings have been pressed before pressure testing is carried out.

Pressurise the pipeline to a test pressure of 3 bar for at least 30 minutes. The pressure shall not drop during the test period. All joints must be checked.

6.2.4 Leak testing of existing tap water and heating installations

When changes to existing tap water installations are made, leak testing must be performed at the existing water pressure of the tap water installation.

When changes to existing heating installations are made, leak testing must be performed with the existing operating pressure of the heating installation.

→ See www.sakervatten.se.

6.2.5 Leak testing of wastewater pipes

Leak testing of wastewater pipes must be carried out in accordance with the supplier's installation instructions or in accordance with the specifications in the technical description for the installation.

6.2.6 Simplified leak testing with air for certain pipe systems

Leak testing with water is impractical if there is a risk of freezing or bacterial growth before a pipe system is put into operation. Simplified leak test using air can be performed for pipe systems that have been tested for a pressure rating. This applies to systems for tap water, underfloor heating and other conventional heating systems where plastic or metal pipes will be recessed or embedded. Different requirements apply to pipe systems that are processed by methods such as brazing or welding.

→ See brochure "Simplified leak testing with air for certain pipe systems" at www.sakervatten.se.

6.3 Temperature checking of tap water installations

Temperature checking must be done before the tap water system is put into operation. Balancing of the hot water circulation system must be completed before temperature checking is performed. The tests must be documented.

The following temperatures must be checked:

- Minimum 60 °C in water heater or accumulator tank with coil.
- Minimum 55 °C and maximum 60 °C in outgoing hot tap water to the installation.
- Minimum 50 °C in all coils and the return line of the hot water circulation system.
- Maximum 38 °C at tap water outlets where there is a particular risk of personal injury.
- Temperature in the hot water tank for a heat pump where the water is not heated to 60 °C must be heated automatically at least once a week to at least 60 °C.

6.4 Testing of installation tools and measuring instruments

If the supplier specifies that the equipment must be inspected and calibrated, all installation tools, measuring instruments for pressure and leak testing and measuring instruments for temperature checks must have valid attestations of inspection and calibration.

7. HVAC products

The purpose is to ensure that the products to be installed meet the societal standards, which is a prerequisite for workmanlike and sustainable installation.

7.1 Properties

An HVAC product must have documentation showing that it fulfils all the requirements in the building regulations of the Swedish National Board of Housing, Building and Planning. This must be demonstrated with type approval or other approval by a recognised certification body following inspection by an accredited third-party inspection body. Products indicated in The Industry Regulations ‘Säker Vatteninstallation’ must have documentation showing that they fulfil specific industry requirements.

→ See Chapter 7.2.3, *Industry standard*.

CE marking and marking of “products that come into contact with drinking water” means that a product may be placed on the market. This does not automatically mean that the product is in compliance with the building regulations of the Swedish National Board of Housing, Building and Planning.



Type approval mark



CE mark



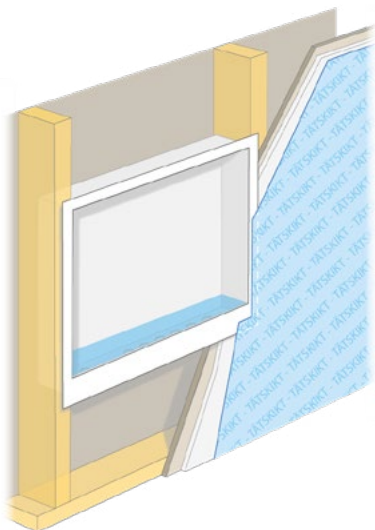
Marking for products that come into contact with drinking water.

7.1.1 Systems and components

Tap water, wastewater and heating installations must consist of pipes, protective sleeves and components that are tested and approved as combined systems. Pipes in tube systems and manifold cabinets must be tested and approved in accordance with the test methods specified in “Pipe in tube systems – Nordic Test method no. 1”.

Other components intended for use with an approved system, such as connectors, mixer brackets, wall plates, water and heat manifolds, must be tested and approved for this purpose. It should be apparent from the supplier’s documented installation instructions what components are approved to be used in combination.

Leakage breaker, water fault circuit breaker and water alarm must be approved in accordance with “CR 139 – Certification rule for type approval of leakage breaker, water fault circuit breaker and water alarm”.



Manifold cabinet connected to waterproofing.



Prefabricated wetroom module.

7.2 Particular industry requirements

Specific industry standard requirements apply to certain systems and products.

→ *Full requirements and approved products or systems are listed at www.sakervatten.se.*

7.2.1 Brass components

Brass parts that come into contact with tap water, such as connectors and valves, must be made of dezincification-resistant material.

7.2.2 Floor drains close to walls

Floor drains close to walls must be tested and approved.

→ *See www.sakervatten.se.*

7.2.3 HVAC products to be sealed against waterproofing

Prefabricated structures, such as manifold cabinets, mounting boxes for mixer taps, prefabricated waterproofing structures for toilets with built-in cisterns, frames for access panels or other products that are to be sealed against waterproofing must be tested and approved in accordance with industry standard.

→ *See www.sakervatten.se.*

7.2.4 Prefabricated volumetric modular houses or prefabricated installation modules

Prefabricated volumetric modular houses or prefabricated installation modules, such as wetrooms, toilet rooms or kitchens, which fulfil specific requirements according to industry standard, can be included in an installation as an HVAC product in accordance with The Industry Regulations 'Säker Vatteninstallation'.

→ *See www.sakervatten.se.*

🔗 *See Technical Construction Conditions B7.2.4.*

7.3 Installation instructions

The installation of HVAC products and HVAC systems must be carried out in accordance with the supplier's installation instructions.

Systems and products must have up-to-date and dated installation instructions in Swedish that show how the requirement for workmanlike installation is to be met. The installation instructions must be either printed or in digital form.

7.3.1 Installation instructions featuring the Säker Vatteninstallation logo

Säker Vatten AB does not evaluate or approve products.

For a product or installation system that meets Säker Vatteninstallation's requirements for installation instructions, a supplier may, by agreement, use Säker Vatteninstallation's special logo for installation instructions if:

- the installation instructions have been reviewed and accepted according to a specific checklist. The installation instructions are assessed for aspects including whether they are clearly presented and defined, and
 - if the product, when installed in accordance with the installation instructions, fulfils the requirements set out in The Industry Regulations 'Säker Vatteninstallation', and
 - if the product is registered in the RSK database and has a current building product declaration or an equivalent document that can be supplied within two weeks.
- *A list of suppliers with products that have approved installation instructions is available at www.sakervatten.se.*



Accepterad
monteringsanvisning
2026:1

8. Explanation of terms and abbreviations

To avoid misunderstandings and miscommunication, it is important that all parties use terms in the same way.

ABK	General Conditions of Contract for Consulting Agreements for Architectural and Engineering Assignments.
AMA VVS & Kyla	General description of materials and works for HVAC and refrigeration works. Industry document for preparing descriptions.
Authorisation to sign attestations	See “2.1.4.2 Signing attestations” on page 9.
Bib tap cabinet	A special installation cabinet for bib taps. The cabinet has been tested and approved.
Commercial premises	Premises such as hotels, offices, shopping centres, shops and restaurants.
Connecting pipes	Pipes for connecting water to mixer taps or appliances. Often supplied together with mixer taps or appliances. Connecting pipes must be tested and approved for their intended use.
Connecting pipe	Water pipe that only connects one appliance or one mixer tap.
Connecting plate	Wall plate with built-in connector that also secures the media pipe.
Drip tray	Watertight underlay with collection function.
Dripping leaks	Small leaks that can take a long time to detect and that over time can cause serious damage to the building.
Easy to detect/ Quickly detectable	The purpose of “easy to detect” is to enable leaks to be detected as quickly as possible. Leak detection drains must therefore be installed in rooms that are normally occupied, rather than in areas such as a wardrobe. The interpretation of “easy to detect” and the implementation to fulfil this rule are determined in consultation between the designer, contractor and client and are based on the conditions in each individual case in order to minimise water damage.
Easily accessible	The purpose of “easily accessible” is that it must be possible to access items such as service access panels, shut-off valves or joints within a reasonable time, with reasonable effort and without destructive intervention. The interpretation of “easily accessible” and the implementation to fulfil this rule are determined in consultation between the designer, contractor and client based on the conditions in each individual case in order to minimise water damage.
Fastening device	Fastening product, such as a device for fixing a wastewater pipe.
Floor drain	Floor drain with odour trap. The floor and its watertight membrane must have a gradient towards the floor drain.
Frost-free installation space	Space on the warm side of the structure on the inside of the plastic sheeting or vapour barrier or in a frost-free space.

Heating manifold	Heating pipe fitting with multiple connections equipped with devices that may leak, such as air vents, valves with actuators or pumps.
HVAC	Heating, ventilation and air conditioning (AC in HVAC, is in the Swedish term VVS replaced with S for “sanitary”)
HVAC apprentice	Trainee This person intends to take the HVAC industry exam and is registered with a training agreement with the HVAC industry’s professional board.
HVAC fitter	Person with an HVAC certificate or approved validation from the HVAC industry’s professional board.
Industry standard	A documented agreement between HVAC manufacturers and industry organisations to ensure that HVAC products covered by various regulations can be installed in a workmanlike manner and meet applicable requirements.
Inspection chamber	Chamber intended primarily for cleaning connecting pipes.
Joint	Connection point for pipes or pipe fittings, e.g. ferrule, compression, threaded, soldered and welded joints.
Kitchen	Space intended for food preparation. A kitchenette is normally considered a small kitchen.
Laundry room	Room with watertight flooring and floor drain containing equipment for washing and drying. HVAC equipment can also be installed in single-family houses.
Leakage breaker	Monitors the tap water installation locally with a moisture sensor to identify leaks and shut off the water.
Leak detection drains	Device that indicates the occurrence of leaks in a built-in installation. Normally implemented with a pipe but can also be implemented with an opening with the same function. <i>See also “easy to detect”.</i>
Long bend	Drain section with a radius equivalent to two 45° pipe sections.
Manifold cabinet	Prefabricated cabinet for mounting manifolds and connections of connecting pipes and manifolds. Manifold cabinets must be type-approved.
Manifold cabinet in ceiling	Manifold cabinet with draining door and watertight pipe penetrations.
Mixer bracket	Wall plate with connector for direct connection of mixer tap on wall, which also secures the media pipe.
Nogging	Noggings are shorter studs placed perpendicular to and between the main studs. Noggings can be used for attaching HVAC products.
Other verified structure	Concealed enclosure with waterproof base that allows any leaked water to be collected and indicates leaks.

Overflow protection	Floor drain with mechanical odour trap to handle inadvertent water spillage.
Pipe gradient	Angle of the pipe in the direction of flow.
Pipe penetration sleeves	A pipe penetration sleeve is usually a PP pipe with dimensions similar to those of a wastewater pipe. The sleeve must have a smooth surface to allow the cuffs to seal against the waterproofing.
Prefabricated structures	A prefabricated structure is a pre-manufactured technical solution for concealed installations that has been tested by an accredited third-party testing body in accordance with industry standard.
Pressure and leak testing	Pressure testing: Testing the ability of the system to retain the intended pressure. Leak testing: Testing the system for leaks. Pressure and leak testing can be performed at different times.
Products that can detect leaks and issue an alarm or shut off the water	<i>See Leakage breaker, water fault circuit breaker and water alarm.</i>
Rooms that are normally occupied	<i>See Easy to detect/Quickly detectable</i>
Service opening	Access to concealed installations that is large enough to enable servicing and replacement of joints and equipment.
Single-family houses	Detached houses, terraced houses, semi-detached houses, or holiday homes.
Sink cabinet	Enclosure intended for purposes including installations. This enclosure is large enough for connecting water and drains with connectors and valves. There must also be adequate electrical outlets.
Space for bath or shower	Floors and walls up to a height of 2 m in areas designated as spaces for showers or bathtubs.
Säker Vatteninstallation certificate	See "2.1.1 Säker Vatteninstallation certificate for HVAC fitters and HVAC apprentices" on page 8.
Temperature safety stop	Changing the temperature above 38 °C requires several steps, such as pressing a button and turning a knob at the same time.
Test pressure	The pressure to be used for pressure testing of piping systems.
Upper edge of floor structure	Measured from the base plate or floor structure before screeding and other superstructures.
Utility rooms	Rooms with watertight flooring containing HVAC equipment such as water heaters, heat exchangers, heat pumps, pumps and valves.
VS	Swedish abbreviation for heating and plumbing
VVC	Swedish abbreviation for hot water circulation used to reduce waiting time for hot water at taps.

Water alarm	Identifies leaks and issues an alarm.
Water fault circuit breaker	Monitors the entire tap water installation by measuring to identify leaks and shut off the water centrally.
Water manifold	Pipe fitting for water with more than three connections.
Water-resistant floor	Floors that cannot be damaged by water from a leak detection drain.
Waterproof access panel door	Door in frame of service opening placed in wall with waterproofing so that water cannot penetrate the wall structure. The access panel door must be tested and approved.
Waterproof base	Enclosure for joints or manifolds with a watertight base that has been tested and approved.
Waterproof insert	Watertight underlay for sink cabinets and integrated appliances.
Wastewater with gravity flow	Wastewater is transported based on a difference in height (gradient). The system must be self-cleaning.
Watertight floor	Floor with waterproofing that has been type-approved or approved by industry organisations such as the Swedish Flooring Trade Association (GBR) and the Swedish Ceramic Tile Council (BKR).
Wetroom	Wet space. A space where the floor and walls can be expected to be exposed to water splashing on a regular basis. Examples of wet spaces are bathrooms, shower rooms and laundry rooms.
Wet zones	Classification of areas on walls and floors in wetrooms, as defined in Industry Regulations from the Swedish Ceramic Tile Council (BKR), the Swedish Flooring Trade Association Wetroom Control (GVK) and the Swedish Painting Trade Association Wetroom Control (MVK).

HVAC installations are an important part of the functions of a building. The installations must provide the user with quality of life and safety.

The Industry Regulations 'Säker Vatteninstallation' comprise a quality system developed by HVAC companies, HVAC consultants, industry organisations, experts from universities, authorities, insurance companies, construction companies and HVAC product suppliers to reduce the risk of water damage, legionella growth, burns and poisoning.

A safe water installation is an installation that:


- is implemented in accordance with The Industry Regulations 'Säker Vatteninstallation'
- is implemented by an authorised HVAC company,
- is implemented by trained HVAC fitters who hold a Säker Vatteninstallation certificate,
- is inspected in accordance with the Industry Regulations,
- has a Säker Vatteninstallation attestation.

Authorised HVAC companies can be found at www.sakervatten.se.



Auktoriserat
VVS-företag

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Verified by RISE

RISE Research Institutes of Sweden AB has verified that The Industry Regulations 'Säker Vatteninstallation' 2026:1 meet the requirements of Swedish building regulations, current knowledge and experience.
The verification applies to chapters 4–6.

The verification has been carried out in accordance with the IEC/ISO 17029:2019 standard. The verification statement is available at Verification – Statement on The Industry Regulations 'Säker Vatteninstallation' (www.ri.se).