Technical Construction Conditions

for The Industry Regulations ‘Säker Vatteninstallation’ 2026:1

www.sakervatten.se

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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 workingmanlike manner is that work performed by other contractors outside the scope for the installation have been carried out correctly.
The Technical Construction Conditions for The Industry Regulations ‘Säker Vatteninstallation’ 2026:1 provide recommendations for such causes and are effective from 1 January 2026.

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Introduction and reading instructions

The Industry regulations Säker Vatteninstallation ('safe water installation') describe how the HVAC installations in a building must be implemented in order to be workmanlike and fulfil the requirements of the building regulations from the Swedish National Board of Housing, Building and Planning (Boverket). The Industry Regulations 'Säker Vatteninstallation' are intended for authorised HVAC companies, while the Technical Construction Conditions are recommendations for how related works can be carried out.

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 form part of the actual installation have been carried out workmanlike. These works, called Technical Construction Conditions, are often crucial for the installation to function as intended, and fulfil the applicable regulations.

A building must be designed for workmanlike implementation so that the finished building fulfils the requirements for protection with regard to hygiene, health, the environment and efficient water management. The design must also account for the operation and maintenance of the building's installations.

It is therefore important that the client and architect, at an early stage, account for the technical performance standards in the building regulations from the Swedish National Board of Housing, Building and Planning and The Industry Regulations 'Säker Vatteninstallation'. Space for installations must be planned before application for the building permit, as it may be difficult to make changes to the building layout later in the process.

Ensuring a workmanlike installation requires good coordination between everyone involved in the project: the client, architect, consultants and contractors. In the construction stage, the contractors must coordinate on the necessary conditions for compliance with the Säker Vatteninstallation regulations. Many construction errors stem from a lack of communication and information sharing. Clear and open communication is therefore crucial. If a potential error is discovered, it is of utmost importance that it is reported immediately to prevent it from getting worse and to take proper measures to solve it. The longer you wait, the more costly and complicated it will be to correct.

The Industry Regulations 'Säker Vatteninstallation' specify requirements for work carried out by authorised HVAC companies, but also provide guidelines for other contractors. Those works not included in HVAC installations but which are needed for the installation to fulfil the requirements of The Industry Regulations 'Säker Vatteninstallation' are known as Technical Construction Conditions. Such works are normally carried out by other trades, such as builders or waterproofing contractors, and often at different times – sometimes even after the HVAC work has been completed.

For example, the building regulations from the Swedish National Board of Housing, Building and Planning require that indoor surfaces that can be expected to be exposed to water leakage must have a watertight membrane. Recommendations for how these can be designed are presented in the Technical Construction Conditions and are not included in the requirements for The Industry Regulations 'Säker Vatteninstallation', as these works are not normally carried out by the HVAC company.

Reading instructions

The Technical Construction Conditions are organized similarly to The Industry Regulations 'Säker Vatteninstallation'.

The letter code B preceding a chapter number indicates that the text is repeated in the Technical Construction Conditions. The number combination after the letter B indicates which industry rule the condition is linked to.

The Säker Vatten logo before a text means that the text comes from The Industry Regulations 'Säker Vatteninstallation'.

Text following another symbol may be taken in part from The Industry Regulations 'Säker Vatteninstallation' and may consist wholly or partly of recommendations for the implementation, design or coordination of works in the vicinity of the HVAC installation.

There is sometimes an **accepted exception** in The Industry Regulations 'Säker Vatteninstallation', in which case the text of the Industry Regulations is preceded by the letter **U**. If such an exception is supported by Technical Construction Conditions, this is indicated with the letter code **BU**.

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

See Technical Construction Conditions.

Symbols

Requirements of The Industry Regulations 'Säker Vatten-installation'

Rules for works normally carried out by an authorised HVAC company and providing guidance for other contractors.

Works outside the scope of The Industry Regulations 'Säker Vatteninstallation'

Suggestions for implementations that are needed for the works on the HVAC installation to fulfil the requirements of the building regulations from the Swedish National Board of Housing, Building and Planning, but that are normally carried out by a party other than an HVAC fitter.

To be taken into account in design

This symbol highlights information that architects or technical designers may need to take into account in their design work.

Coordination point

The symbol appears in contexts that may require coordination between two or more parties.

Planning and design

A safe water installation (Säker Vatteninstallation) already begins at the idea and planning stage. Installations that work well and are space-efficient can be created through early cooperation between the parties involved in the construction process, to the benefit of the end-user.

The client

To ensure that a building is designed and executed in accordance with the applicable rules, the client should consider, at an early stage, the need for operators with relevant skills for the tasks they are going to perform.

Applicable rules may cover technical construction requirements as well as occupational safety regulations.

Planning of a building

A building project often begins with the client having an idea about the new building or how an existing building must be modernised. The client considers their intentions and requirements for the building, but may not be aware of the features that need to be present for the completed building to fulfil the applicable provisions.

The architect's guidance

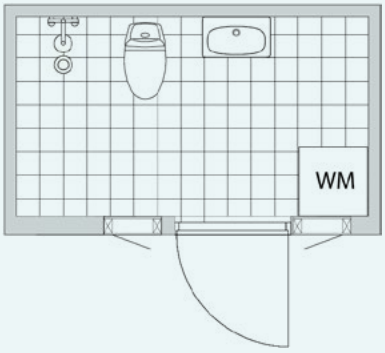
The role of the architect is to implement the client's intentions and requirements into documents that yield a building with the desired function and appearance.

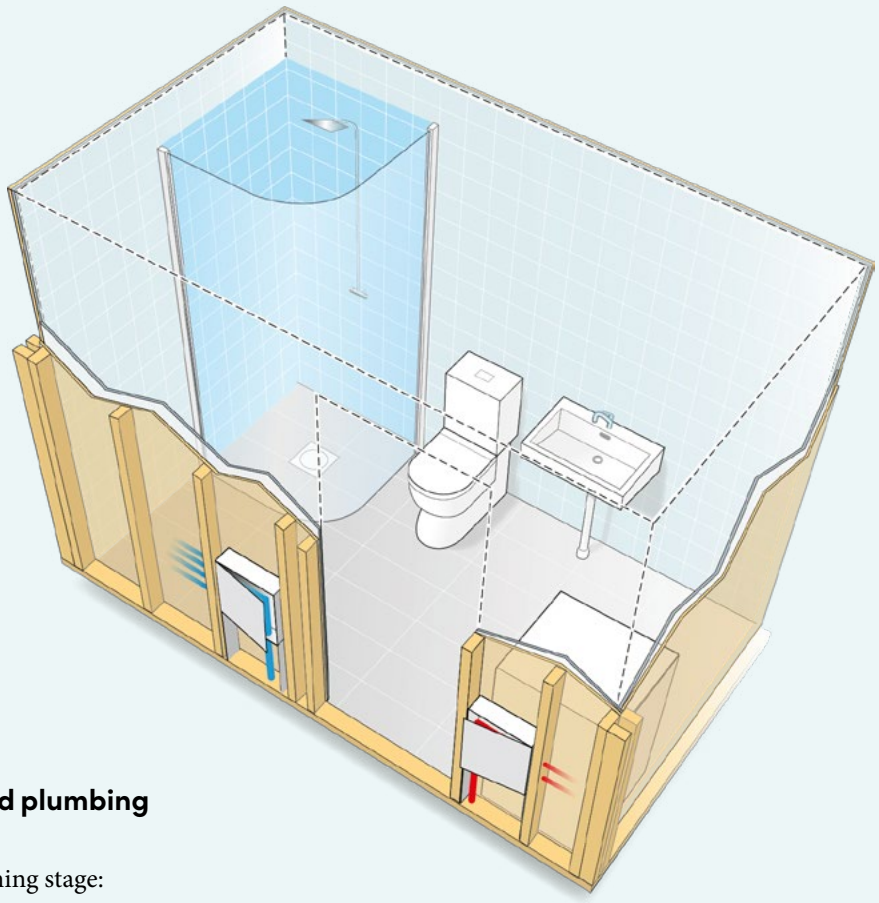
This is a process where the architect's expertise meets the client's ideas.

The need for the installation spaces and how efficient they can be made is important to the client's financial costing and the actual usable space the building will have.

The architect should account for the space requirements for HVAC installations starting from the planning stage. This establishes the best conditions for a safe and well-functioning installation.

Examples for the design of tap water shafts, tap water installations in walls, building tolerances, prefab modules and standard bathrooms are given in ***Bygga rätt*** ('Building the right way') at www.sakervatten.se. Information is compiled here that the architect may need in their work in order to provide the right conditions for workmanlike executed installations in accordance with the applicable building and industry regulations.





Planning for heating and plumbing installations

Important factors in the planning stage:

- Combine the room functions requiring heating and plumbing installations.
- Place shafts accounting for wet areas and kitchens.
- Place shafts accounting for pipe runs.
- Placement of utility rooms.
- Perform calculations affecting shaft sizes and utility rooms.
- Coordinate review of draft plans between architect and heating and plumbing designer.

Plan for operating areas

It is important to account for the following already in the planning stage:

- Location and design of operating areas so as to limit the risk of accidents in the use, monitoring and maintenance of the spaces and their installations.
- Ensure sufficient space for access and transport of materials and equipment to installations and for operating and maintenance work.

THE WORK ENVIRONMENT ACT

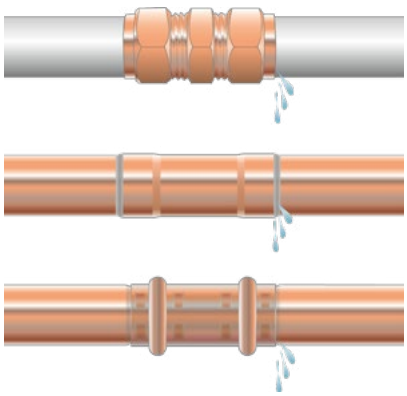
During each stage in the planning and design of building or construction work, architects, engineers and others who contribute must ensure, within the limits of their remits, that working environment aspects are accounted for with regard to both the stage of construction and future use.

READ MORE

→ For more information, refer to the publication *Bra arbetsmiljö för montörer och driftpersonal* ('Good work environment for fitters and operating personnel') from the Swedish Installation Federation, www.in.se.

B4. Execution for protection against water damage

The purpose of The Industry Regulations 'Säker Vatteninstallation' in Chapter 4 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.



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

B4.1 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.

B4.1.1 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.

Above suspended ceilings

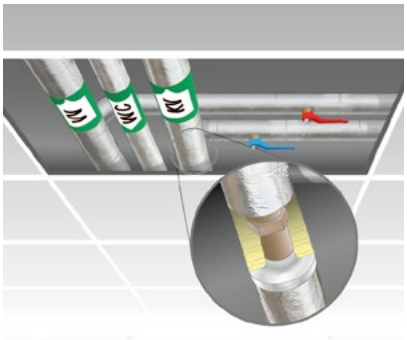
In rooms with watertight flooring, joints in tap water pipes can be placed:

- Above removable suspended ceilings, or
- in a drained manifold cabinet in the ceiling, or
- above a draining ceiling access panel that covers all joints.

If joints are placed above a removable suspended ceiling, it is essential that any water leakage cannot migrate via the pipes to an area where moisture damage may occur. This can be prevented by measures such as installing so-called umbrellas and/or taping pipes and insulation.

→ *See Figure B4.1.1a*

B4.1.1a Taping pipes and insulation.



B4.1.1b Taping pipes and insulation.

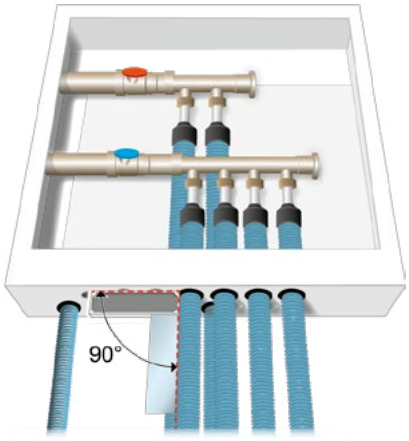
For fixed suspended ceilings, joints can be placed above a draining access panel. In such a case it is important to ensure that the size and placement of the access panel allow any water that leaks out to reach the draining access panel door and be indicated by it. Leakage water shall not be able to migrate via the pipes to an area where moisture damage can occur. This can be prevented by measures such as taping pipes and insulation.

→ *See Figure B4.1.1b*

B4.1.2 Prefabricated structures

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

→ *See Figure B4.1.2a.*



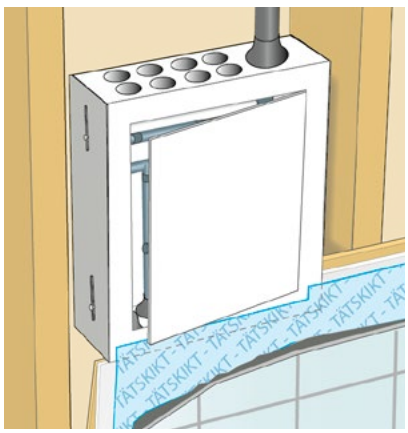
B4.1.2a Prefabricated structure – manifold cabinet.

A prefabricated structure is a pre-manufactured technical solution with accompanying installation instructions that clearly show how the installation must be carried out in order for the supplier to assume warranty responsibility following installation. Examples of a prefabricated structure may be a manifold cabinet or a shaft base. It is common for the HVAC company to be responsible for the delivery and installation of prefabricated structures.

Wall-recessed manifold cabinet

If a manifold cabinet is to be located recessed inside a wall, the structure and thickness of the wall must be adapted to provide space for the intended cabinet in the wall. Alignment for fastening must account for planned pipe routing and pipe insulation.

→ *See Figure B4.1.2b.*



B4.1.2b Wall-recessed manifold cabinet

Coordinate with an HVAC installer or heating and plumbing designer on the dimensions of the cabinet.

When designing installations in walls, it is important to ensure sufficient space for any manifold cabinets and pipe insulation.

Manifold cabinets or shafts with joints on tap water pipes must be placed adjacent to a room with a watertight floor.

In rooms with waterproofing on the walls, it must be ensured that moisture from the room cannot migrate into unprotected building structures. The waterproofing can be implemented directly to the manifold cabinet, or the cabinet can be provided with a separate watertight door with a frame that is connected to the waterproofing.

The connection must be tested and approved to industry standard.

Wall thickness examples to provide space for manifold cabinet or main cabinet:

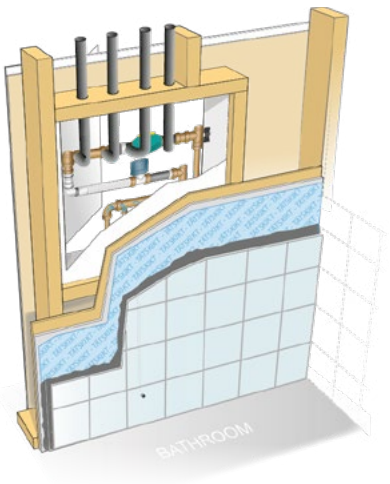
→ *See www.sakervatten.se, Tap water installations in walls.*

Location of wall

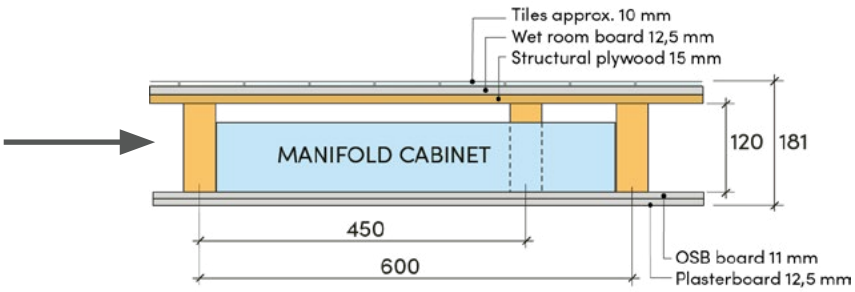
The placement of a wall that is to be built where there are already existing pipe outlets to a manifold cabinet must account for the pipes.

The wall must be placed so that the pipes can be routed into the cabinet at right angles. For such cases, dimensional tolerances given in AMA Hus are not guaranteed to be applicable. The wall placement must be coordinated with an HVAC installer and designer.

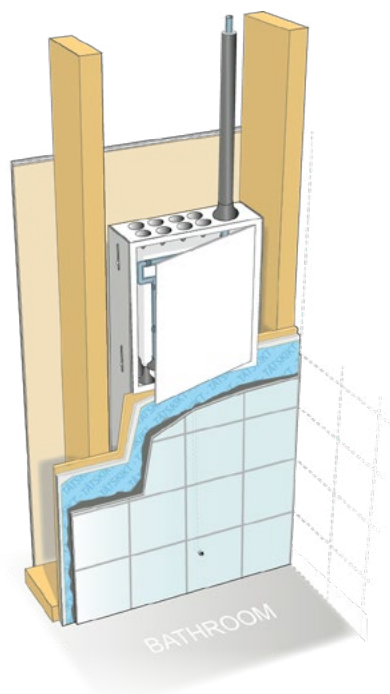
→ *See also "B4.6.1 Pipe penetrations in floors with waterproofing" on page 42.*



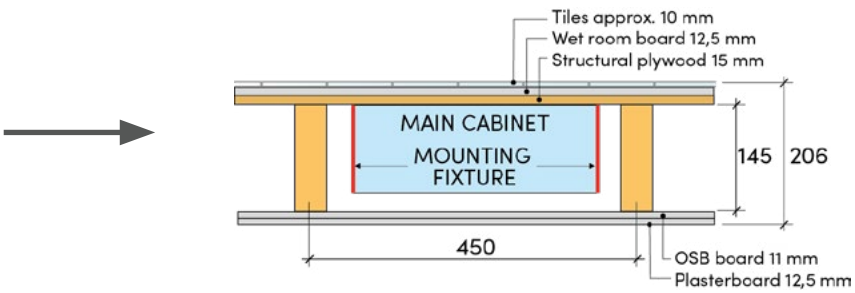
B4.1.2c Manifold cabinet.



B4.1.2d Manifold cabinet.



B4.1.2e Main cabinet.



B4.1.2f Main cabinet.

B4.1.3 Other verified structures

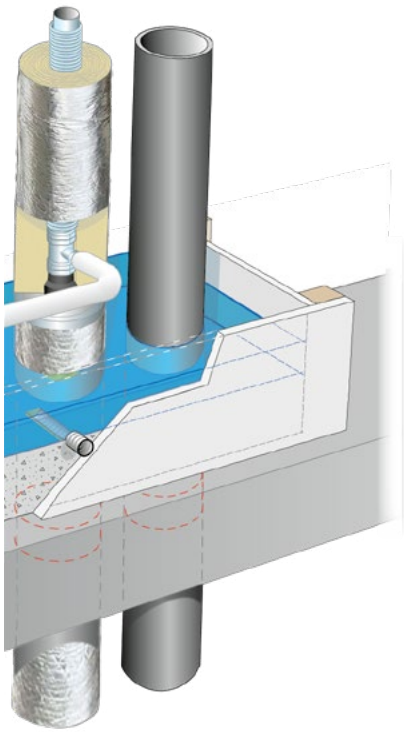
Pipe shafts or similar structures must have a watertight base. The watertight base is a Technical Construction Condition and must have a design that has been proven or verified through testing and approval. Pipe penetrations through bases must be fixed and perpendicular. Any leaking water must be discharged at the base of the structure. Water shall not be able to enter protective sleeves or insulation.

Other verified structure is normally carried out by a construction company or a waterproofing contractor and may include an enclosure with a waterproof base that enables any leaking water to be collected and indicates leaks.

An example of other verified structure may be a shaft built on site with a structure that is proven and fulfils the specified requirements for water safety.
→ *See Figure B4.1.3a.*

Other verified structure must have a watertight base with a sealed connection to the sides of the structure, at least 50 mm up. Pipe penetrations through the base must be watertight.

Any leakage from a joint must be drained to the base of the structure. Leakage water shall not be able to migrate via insulated pipes to areas where moisture damage can occur. This can be prevented by measures such as installing so-called umbrellas and/or taping pipes and insulation. Taping should be done floor by floor for open shafts as well.
→ *See Figure B4.1.3b.*



B4.1.3a Pipe shaft.

B4.1.3b Leak detection with tape.

Size of the structure

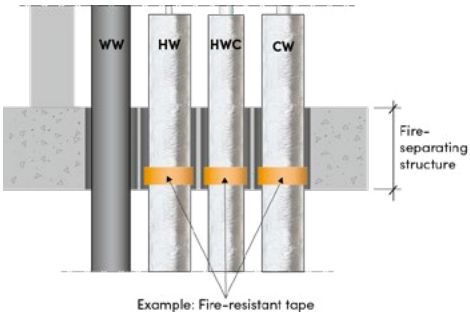
The size and dimensions of the structure is determined by:

- Pipe dimensions.
- Insulation thickness on pipes.
- Size requirement for holes in floor structures.
- Work space requirements for installation of insulation.

The size is determined in consultation with designers or installers of pipes and pipe insulation.

Coordination points:

- Order of assembly.
- Who is to carry out which activities.
- How the waterproof base must be constructed.



B4.1.3c Fireproofing through floor structure.

Fire

A shaft passing between different fire compartments is normally designed to be enclosed/embedded on each floor.

Special fireproofing may be required for pipe penetrations between different fire compartments, such as in floor structures separating flats. Tested and approved fire resistance solutions must be used. This normally means that a seal also provides protection against sound and odour.
→ *See Figure B4.1.3c.*

In concrete floor structures, chasing must normally permit space for movement around pipes and insulation.

The instructions from the fireproofing manufacturer must always be complied with.

In concrete floors where encasement is carried out against pipes or pipe insulation, the pipes or insulation must be tested and approved for the specified fire classification, in which case special fireproofing is not usually required.

Fire safety requirements imposed by authorities must always be complied with, such as by establishing and following a fire safety plan for the project.

Coordination points:

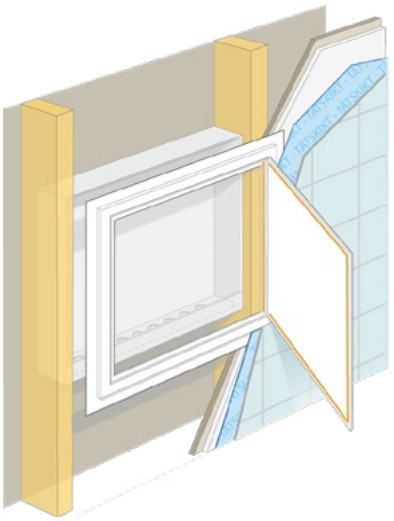
- What instructions must be followed.
- Who is responsible for what.
- Pipe dimensions.
- Insulation thickness, insulation material and implementation.
- Chasing.
- Fire protection during construction.

B4.1.4 Service openings

Where there are joints on recessed pipes, an easily accessible service opening must be installed making it possible to repair or replace all joints and to reach valves or other equipment for operation or servicing. A service opening shall not be located in a space for bath or shower.

If a service opening faces a room with waterproofing on the wall, it must be ensured that moisture cannot migrate from the room to the building structure. This can be done by connecting the waterproofing directly to a manifold cabinet. If this is not done, or if the installations are placed in a so-called *other verified structure*, the waterproofing must be sealed against the access panel's frame and its door must be watertight against the frame. The products must be tested and approved in accordance with industry standard to ensure a watertight connection between the product and the selected waterproofing.

→ *See Figure B4.1.4a.*



B4.1.4a Example of service opening: water-tight access panel door and frame.

The frame and the watertight door are Technical Construction Conditions and are often installed by a construction company.

→ *See Section 7.2.3 of The Industry Regulations 'Säker Vatteninstallation', HVAC products that must be sealed against waterproofing.*

A service opening to a manifold cabinet in a bathroom wall can be located so that its access panel door opens to a room without waterproofing.

Joints located above suspended ceilings in areas with watertight flooring must be positioned so that any leaks can be detected quickly and easily. For example, above a removable suspended ceiling, in a drained manifold cabinet in the ceiling or above a draining ceiling access panel that covers all joints.

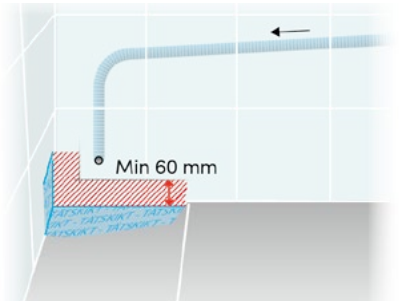
→ *See Figure B4.1.4b.*

B4.1.4b Service opening in ceiling.

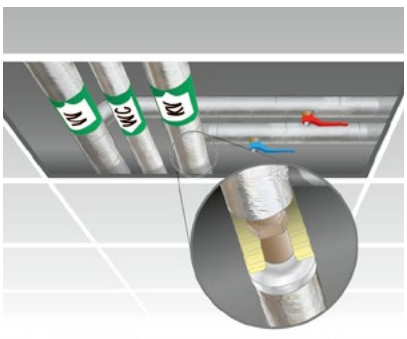
Leakage water shall not be able to migrate via insulated pipes to areas where moisture damage can occur. This can be prevented by measures such as installing so-called umbrellas and/or taping pipes and insulation.

Coordination points:

- Placement.
- Product selection.
- Size.



B4.1.5a Leak detection drain implemented with pipe.



B4.1.5b Leak detection from joints in suspended ceilings.

B4.1.5 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 water-tight flooring, and the outlet shall not be placed in a space for bath or shower.

→ *See "Space for bath or shower" on page 40.*

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.

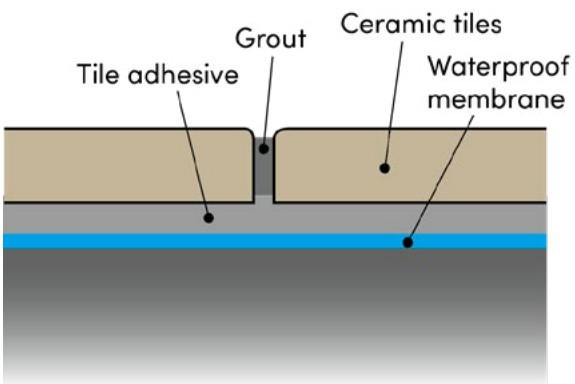
The outlet from a leak detection drain pipe that penetrates the wall's waterproofing shall not be placed closer than 60 mm from the water-proofing of the floor or adjoining wall.

→ *See Figures B4.1.5a and B4.1.5b.*

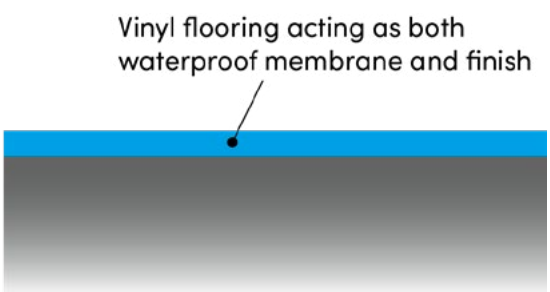
Note that the measurement refers to the waterproofing of the floor or wall.

→ *See Figures B4.1.5c and B4.1.5d.*

Sealing against a leak detection drain pipe is carried out in the same way as against other pipes.



B4.1.5c Example of ceramic tiles.



B4.1.5d Example of vinyl flooring.

B4.1.6 Tap water service lines in single-family houses

Tap water service pipes must be located where they are replaceable, such as in protective sleeves.

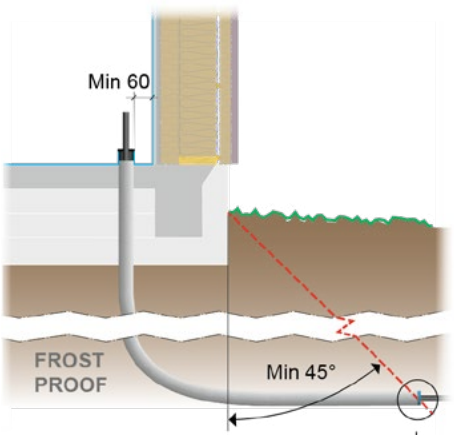
Protective sleeves:

- Dimensions and design must be adapted to enable replacement of the service pipe.
- Penetrations must be placed at least 60 mm from the floor or adjacent wall waterproofing and must be made using pipes with a smooth surface and adapted to the floor waterproofing.
- The service pipe must be sealed so that water from outside cannot penetrate the protective sleeve.
- Length must extend further out than a 45° angle from the foundation wall.

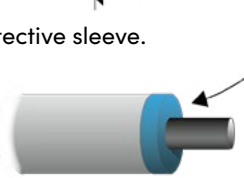
→ *See Figures B4.1.7a and B4.1.7b.*

Account for:

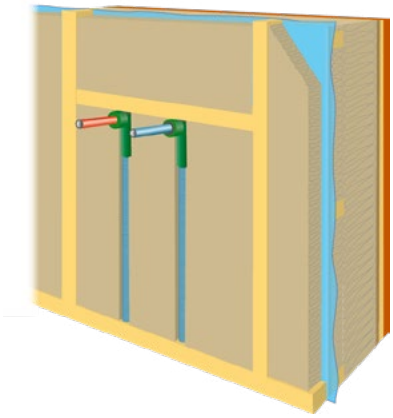
- Installation depth in pipe trenches.
- Specified *frost-free depth* for the location.



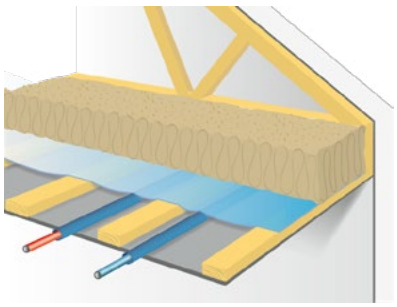
B4.1.7a Protective sleeve.



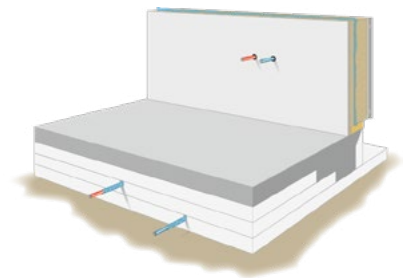
B4.1.7b Sealing protective sleeves in the ground.



B4.1.8.a Pipe routing on the 'warm side' of insulation in an exterior wall.



B4.1.8b Pipe routing on the 'warm side' of insulation in an attic structure.



B4.1.8c Pipe routing of cold and hot water in insulation with slab on ground.

B4.1.8 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 inside 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 placed in a frost-free location on the warm side of the structure on the inside of the plastic sheet or vapour barrier.

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

Coordinate the placement and space needs of installations with the HVAC fitter or heating and plumbing designer

The figures show placement examples: *Pipe installation on the "warm side"*.

→ *See Figure B4.1.8a–c.*

If tap water installations are to be placed in a special installation space, in the floor, outer wall or attic floor, these must be designed so that the installations can be securely fastened. It must be possible to protect pipe penetrations against water damage without risking damage to the building's airtightness and causing leaks.

BU4.1 Exceptions 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.

BU4.1.1 Exceptions for placement of joints in pipe runs

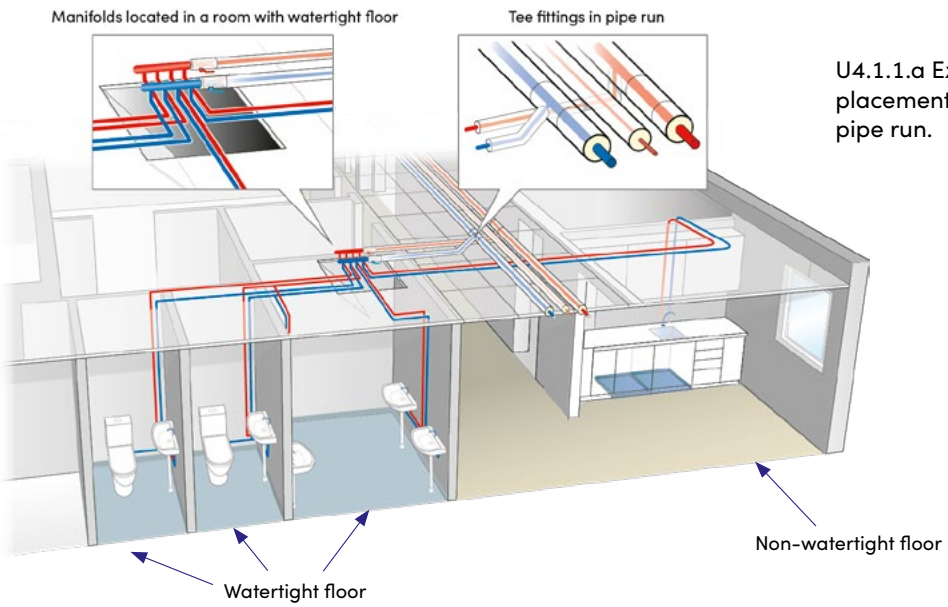
In pipe runs in areas without watertight flooring, individual joints can be installed on visible pipes or on pipes that are concealed, such as behind a draining ceiling access panel that covers all joints, removable cladding or a removable suspended ceiling, so that a leak is easy to detect in:

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

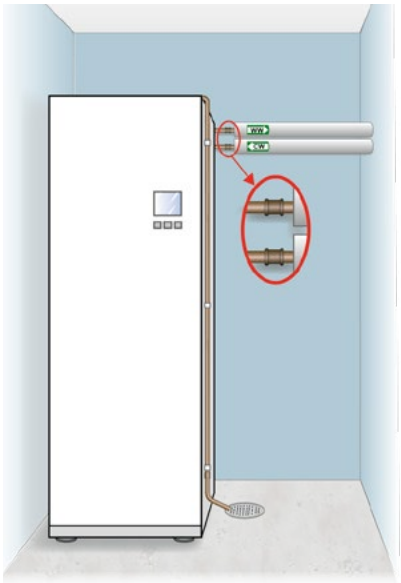
The exception does not apply to residential rooms, offices or manifolds.
→ *See Figure U4.1.1a.*

Any leaks must be easy to detect. It can be done for concealed joints by installing:

- draining ceiling access panel that covers all joints.
- removable lining.
- removable suspended ceiling directly beneath these joints.



U4.1.1.a Exception for placement of joints in pipe run.



BU4.1.1.1 Joints in utility rooms with concrete floors.

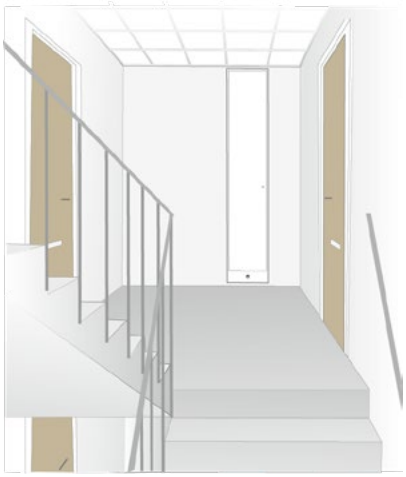
BU4.1.1.1 Exceptions for placement of joints in rooms with concrete floors

Joints, manifolds and leak detection drains can be placed in laundry rooms or utility rooms with concrete floors located on the lowest floor 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 BU4.1.1.1.*

The requirement that the floor design shall not allow moisture to be transferred to walls, rooms or other structural elements that cannot tolerate moisture can be met with measures such as placing a board wall on a brick or concrete base. It must also be ensured that moisture transfer from the base to the wall is prevented.



BU4.1.5 Stairwell with water-resistant flooring.

BU4.1.5 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 BU4.1.5.*

A water-resistant floor is a floor that is not damaged by water from a leak detection drain. An example is a tiled floor on a concrete structure.

B4.2 Water-supplied equipment and HVAC products

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

B4.2.1 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.

Installation and chasing for connecting pipes for water to appliances must be implemented so that no damage occurs on movements such as surges or expansion.

A drip tray is a watertight membrane that collects water. A sensor placed on the membrane can use technical equipment to identify a leak and shut off the water supply. Penetrations in the tray must be implemented in accordance with the manufacturer's installation instructions. The watertight membrane must be tested and approved and is usually installed by a construction company.

B4.2.2 Washing machines

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

Installation and chasing for connecting pipes for water and wastewater hoses must be implemented so that no damage occurs on movements of pipes such as surges or expansion.

B4.2.3 Toilets with recessed flushing cisterns

A recessed flushing cistern with flush pipe must be located in a watertight enclosure.

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 Section 7.2.3 of The Industry Regulations 'Säker Vatteninstallation', HVAC products that must be sealed against waterproofing.*

Some examples of equipment connected to water:

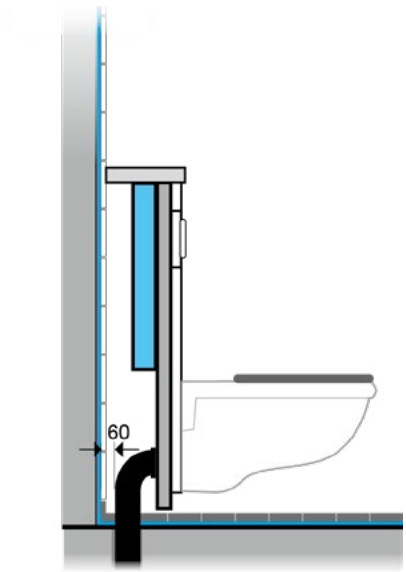
Coffee machine

Water dispenser

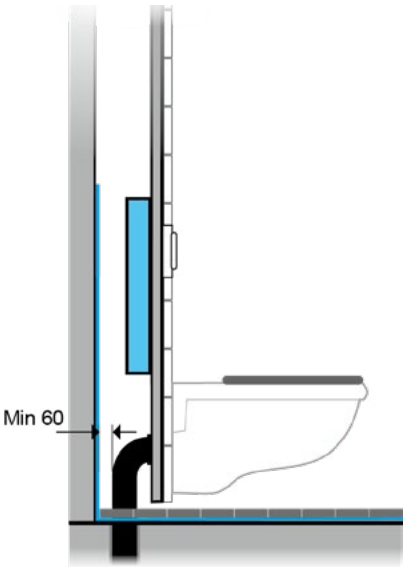
DRIP TRAY

Drip trays must be tested in accordance with method 5779 and type-approved in accordance with CR057.

Washing machine



B4.2.3a Waterproofing behind toilet with recessed flushing cistern in wetroom.



B4.2.3b Waterproofing behind toilet with recessed flushing cistern in toilet room.

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.

The same requirements apply in wetrooms to waterproofing in a recess for the flushing cistern as for walls and floors in the wetroom in general.

→ *See Figure 4.2.3a.*

In rooms such as toilet rooms that are not wetrooms, the installation space for the flushing cistern must have waterproofing on the floor as well as on the wall behind and to the sides of the cistern up to the top edge of the flushing cistern.

→ *See Figure 4.2.3b.*

A floor in a recess for the flushing cistern must be at least at the level of the floor outside.

Leak detection drains

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 from the waterproofing of the floor or adjoining wall.

Leak detection drains can be implemented as an opening at floor level if the cladding is installed on the bathroom side of the waterproofing. The opening must then have an area that corresponds to at least an internal pipe dimension of 20 mm.

Cleaning

Spaces with concealed joints and pipes or openings for leak detection drains must be cleaned. This is to ensure that any leaking water is not prevented from draining away.

Fixture

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

B4.2.4 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.

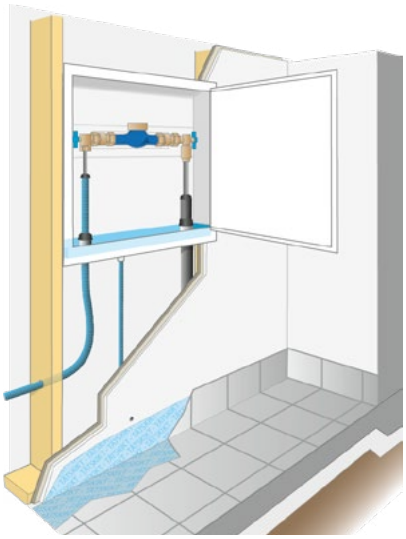
Water meter cabinets must have a leak detection drain from their base. The outlets from leak detection drains must be in rooms with watertight flooring, and the outlet shall not be placed in a space for bath or shower. Water meter cabinets and pipes for leak detection drains must be cleaned so that any 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 from the waterproofing of the floor or adjoining wall.

A water meter cabinet must be 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.*

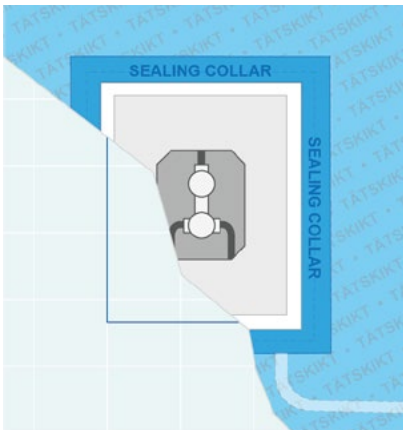


B4.2.4a Water meter cabinet.

Walls in which water meter cabinets are to be placed must be designed with sufficient space for installation. A water meter cabinet normally has a greater depth than a standard manifold cabinet.

Coordination points:

- Wall thickness.
- Placement of cabinets.
- Watertight floor for leak detection drains.



B4.2.5 Mounting boxes.

B4.2.5 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 drains from the base. The mounting box must be tested and approved.

→ *See Figure B4.2.5.*

If the mounting box is to be installed inside 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 of The Industry Regulations 'Säker Vatteninstallation', and must be designed to enable replacement of the fixture and its joints without damaging the wall's waterproofing. It should be apparent from the supplier's installation instructions.

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 from the waterproofing of the floor or adjoining wall.

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

BU4.2.2 Exception for kitchen-installed washing machine

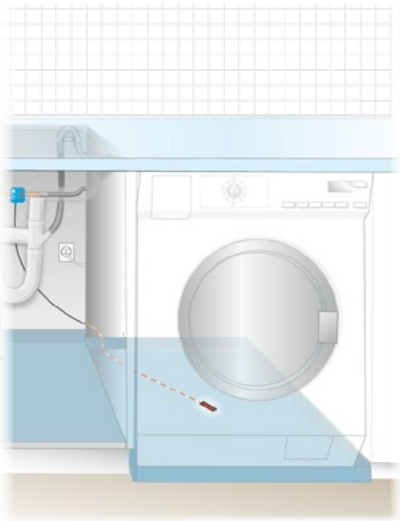
A washing machine can be installed in a kitchen if it is placed on a drip tray. Drip trays must be tested and approved and are a Technical Construction Condition. The washing machine must be equipped with a shut-off valve with an easily accessible operating element.

The drip tray must have:

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

The exception applies only to kitchens.
→ *See Figure BU4.2.2a*

A drip tray is a watertight membrane that collects water. A sensor placed on the membrane can use technical equipment to identify a leak and shut off the water supply or issue an alarm. Penetrations in the tray must be implemented in accordance with the manufacturer's installation instructions. The watertight membrane must be tested and approved and is usually installed by a construction company.



BU4.2.2a Washing machine in kitchen.

DRIP TRAY

Drip trays must be tested in accordance with method 5779 and type-approved in accordance with CR057.

B4.3 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.

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.

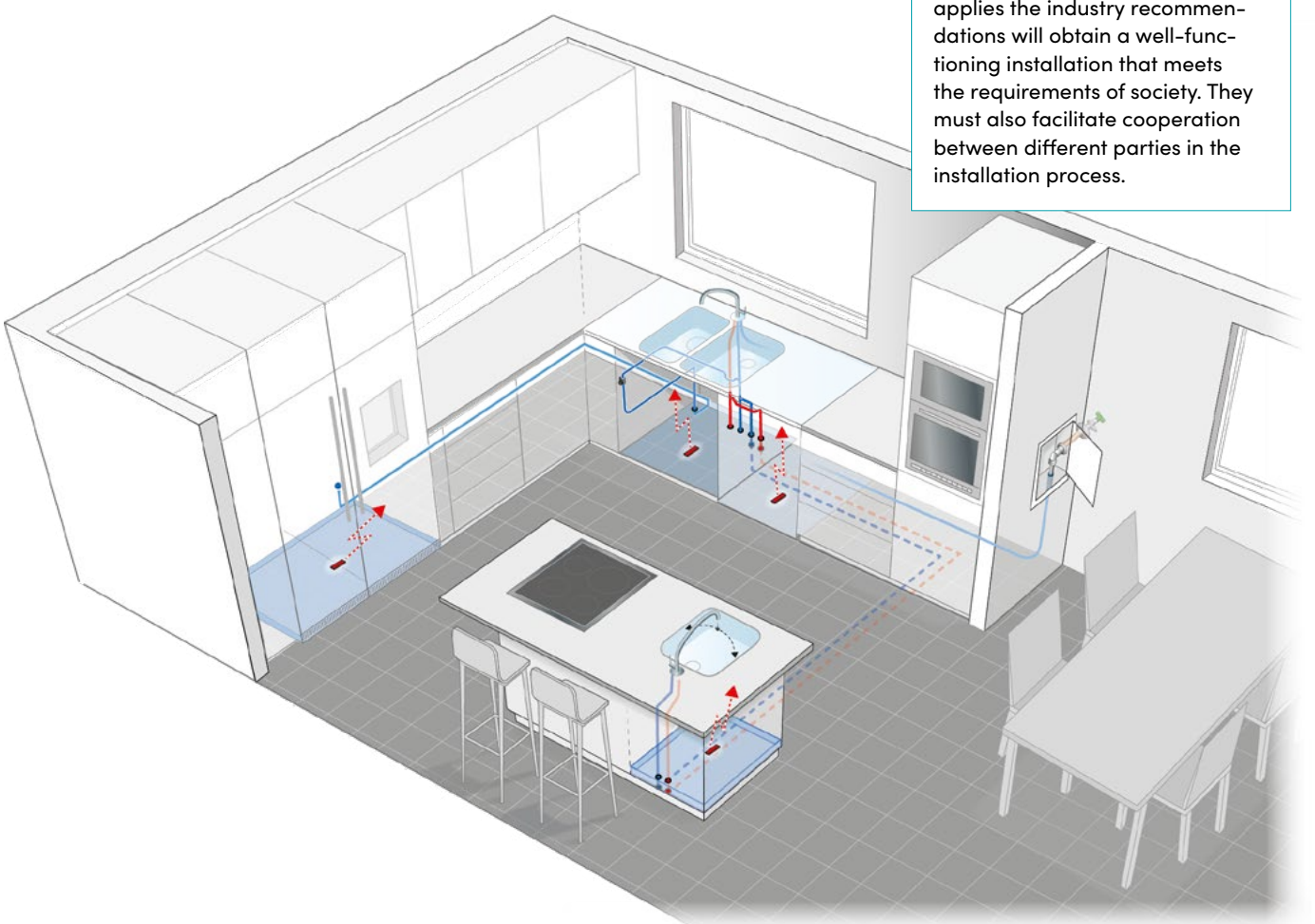
INDUSTRY RECOMMENDATION

Protection against water damage in kitchens

For the application of the new building regulations from the Swedish National Board of Housing, Building and Planning that apply from 1 July 2025.

Industry recommendations are a way to verify the functional requirements in building regulations and describe professional workmanship.

The intention is that a client who applies the industry recommendations will obtain a well-functioning installation that meets the requirements of society. They must also facilitate cooperation between different parties in the installation process.



Leaks from joints must discharge to:

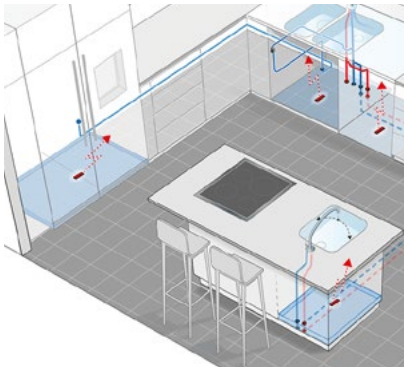
- watertight flooring, or
- a waterproof sink cabinet insert, or
- a drip tray in or under the sink cabinet.

There must be a watertight membrane in or under the sink cabinet.

→ *See Figure 4.3a.*

The watertight membrane may be a waterproof insert or a drip tray that must be tested and approved.

When replacing kitchen fittings, the drip tray should be installed on the floor if possible.



4.3a Watertight membrane.

Installation enclosure

A sink cabinet or equivalent must have an installation enclosure with room for connecting water and drains, such as joints and fittings, as well as water traps and connections for equipment. Installations must be placed so that movable drawers or similar items do not risk coming into contact with them.

The cabinet or the wall behind the cabinet must be designed so that it is possible to make screw fastenings of pipe clips, valves and other accessories for the installations.

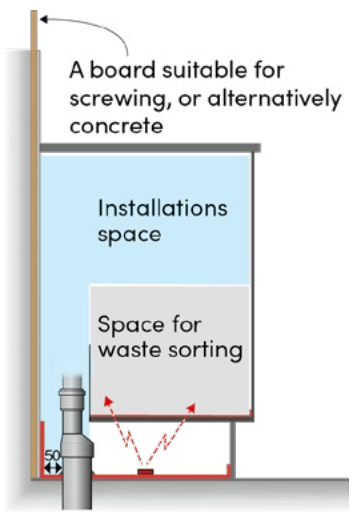
The cabinet should be without a back, or alternatively it must be possible for the back to be used for securing in transport and be easy to dismantle.

The base of sink units may be recessed with sufficient space for connecting water and drain. Sufficient space means an installation opening at least 120 mm deep via a recessed cabinet base.

To facilitate workmanlike sealing around the pipes there should be at least 50 mm between the rear edge of the pipes and the wall. There should be at least 60 mm between pipes coming up through a watertight membrane unless the supplier's installation instructions specify otherwise.

→ *See Figure 4.3b.*

There must be a drip tray or insert in or under a sink cabinet to collect water. A sensor placed in the tray or on the insert can use technical equipment to identify a leak and shut off the water supply or issue an alarm. Penetrations in the tray must be implemented in accordance with the manufacturer's installation instructions. The watertight membrane must be tested and approved and is usually installed by the construction company.



4.3b Installation enclosure.

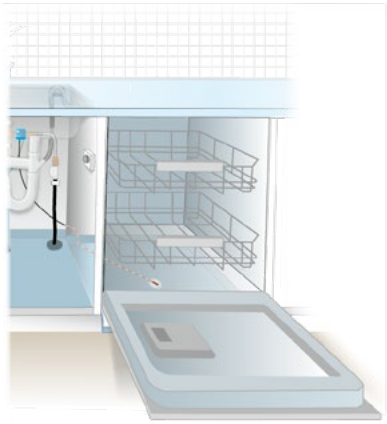
DRIP TRAY

Drip trays must be tested in accordance with method 5779 and type-approved in accordance with CR057.

Chasing in kitchen frames for connecting pipes and wastewater hoses must be implemented so that no damage occurs on movements such as surges or expansion.

Provide space for an electrical outlet and waste sorting.

B4.3.1 Dishwasher



B4.3.1a Dishwasher.

Dishwasher and joints in water and drain connections must be placed over a drip tray.

→ *See Figure 4.3.1a.*

Drip trays must be tested and approved and are usually installed by the construction company.

The drip tray must have a moisture sensor connected to:

- leakage breaker, or
- water fault circuit breaker, or
- water alarms

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

Location of water-supplied appliances

Hoses and pipes for connection of a dishwasher and other appliances must be executed without joints. Such appliances therefore cannot be located too far from the sink unit.

Check the length of connecting hoses to dishwasher and other water-supplied appliances.

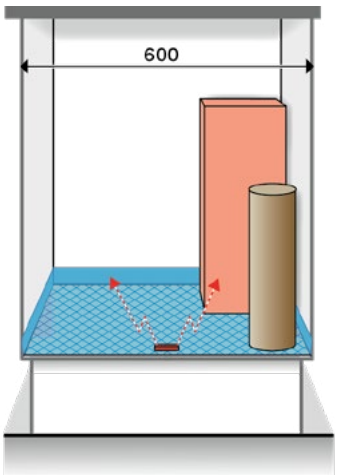
B4.3.2 Kitchen mixer taps

In wooden worktops, chasing such as for mixer taps must be sealed to prevent moisture damage to the worktop. The wall or back panel of sink cabinets should be designed to enable sturdy screw fastenings for installations.

B4.3.2.1 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.
→ *See Figure B4.3.2.1*

A drip tray is a watertight membrane that collects water. A sensor placed on the membrane can use technical equipment to identify a leak and shut off the water supply or issue an alarm. Penetrations in the tray must be implemented in accordance with the manufacturer's installation instructions. The watertight membrane must be tested and approved and is usually installed by the construction company.



B4.3.2.1 Enclosure.

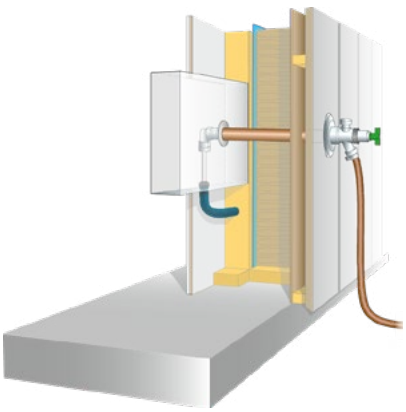
BU4.3 Exception for bib tap connection in kitchen

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.

Bib taps can also be placed in a special installation cabinet that is placed in a frost-free location.
→ *See Figure BU4.3.*

The cabinet must have a watertight base, watertight pipe penetrations and a leak detection drain to the sink unit or to a space with a watertight floor. 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. The installation must be arranged so that condensation water does not cause damage.

The size and design of the wall where the cabinet is to be located must be such that the cabinet has space and can be installed in a frost-proof space on the warm side of the structure inside plastic sheet or vapour barrier. The cabinet must be positioned so that its service opening is easily accessible.



BU4.3 Bib tap in special installation cabinet.

DRIP TRAY

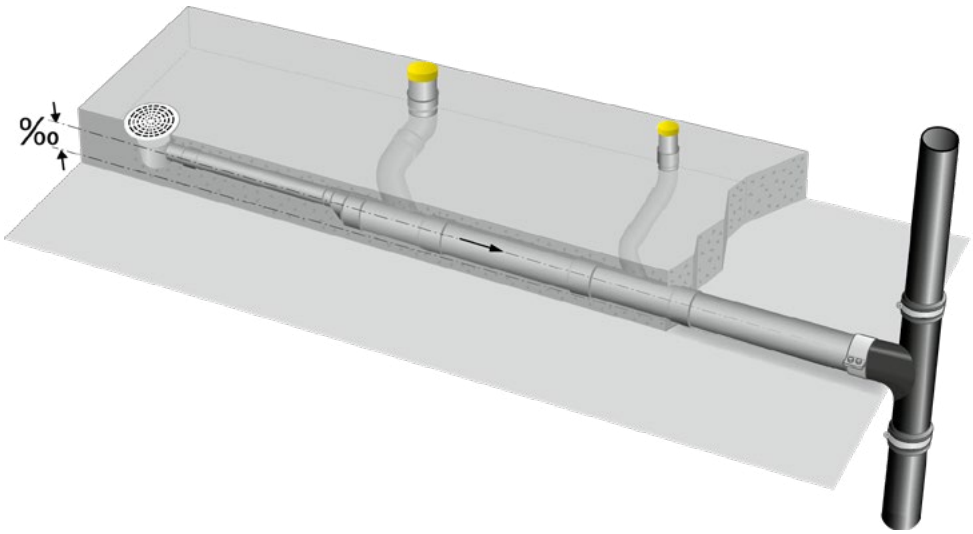
Drip trays must be tested in accordance with method 5779 and type-approved in accordance with CR057.

Coordination points:

- Placement of tap water pipes in cabinets.
- Frost damage protection in and under kitchen fittings.

B4.4 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 Vatten-installation' apply to gravity-fed wastewater installations.



B4.4.1 Installation of wastewater pipe

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

If a wastewater pipe is routed in an intermediate floor, the thickness of the floor limits the length of the pipe.

The gradient, together with the maximum sleeve diameter for the wastewater pipe, can affect the length of the pipe or the thickness of the floor structure and determines the possible location of waste-water openings.

A pipe in a building is normally routed with a gradient of 10–17‰, depending on the flow rate and dimensions.

Coordination points:

- Pipe dimensions.
- Gradient.
- Space requirements.

Distance between openings and main wastewater drain

A main wastewater drain shall not be located more than 3.5 metres from a toilet opening or 5 m from other wastewater openings if the thickness of the floor structure is 200 mm.

The dimensions are based on ideal conditions. In practice the maximum lengths can be shorter. If a longer pipe routing is required, installation beneath a floor structure may be an alternative.

Backflow

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

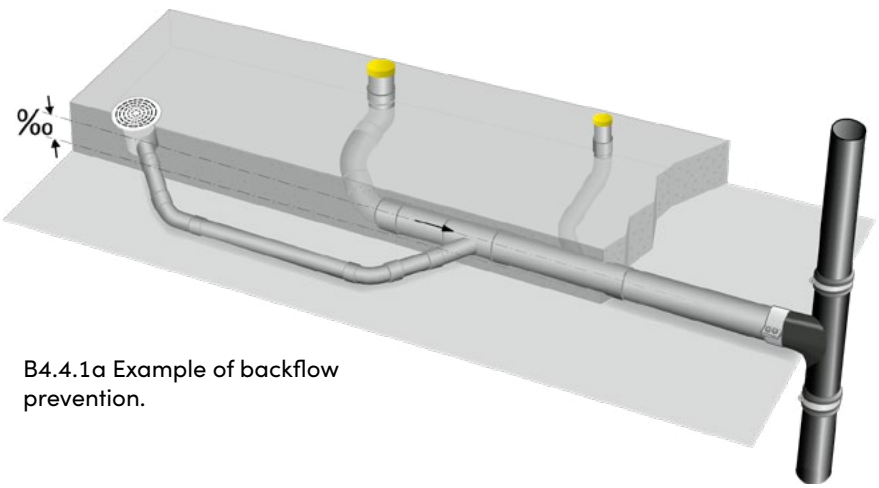
Wastewater pipes with drains from toilets can be designed so that the pipe goes directly to a vertical main drain.

Other wastewater pipes are connected downstream with branch pipes ≤ 45°.
→ *See Figure B4.4.1a.*

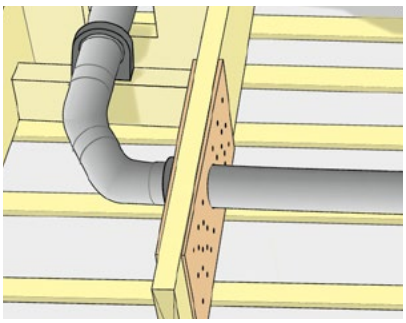
Especially in renovation work, it is common for previous installations to have been designed so that a drainage unit is connected directly downwards to a lateral drain in the floor structure. In order to meet current requirements, such a lateral pipe must therefore be moved so that all connections can be made with a maximum connection angle of 45 degrees. Any adjustments to reduce the risk of backflow from toilets must be planned before concrete sawing or chasing in the floor structure.

Coordination points:

- Placement of main wastewater drains.
- Pipe routing.
- Gradient.
- Chasing/sawing/carving.



B4.4.1a Example of backflow prevention.



B4.4.1b Example of floor reinforcement.

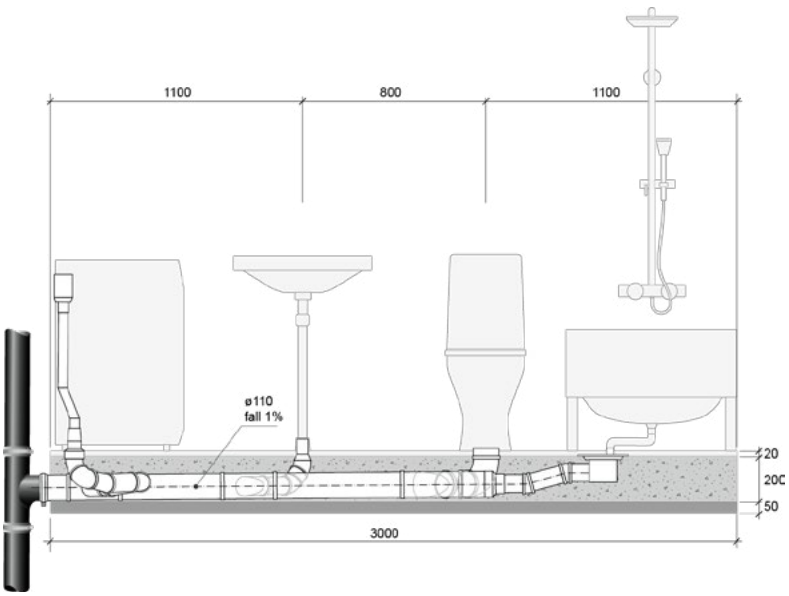
Recessing and chasing

Recessing and chasing in concrete, supporting structure and structural components must be carried out in accordance with a design document.

If the wastewater pipe necessitates installation through supporting beams, the designer must be contacted with regard to chasing and possible reinforcement of the floor structure.

→ *See Figure B.4.4.1b.*

Example of space requirement in a floor structure for wastewater pipes with gradient:



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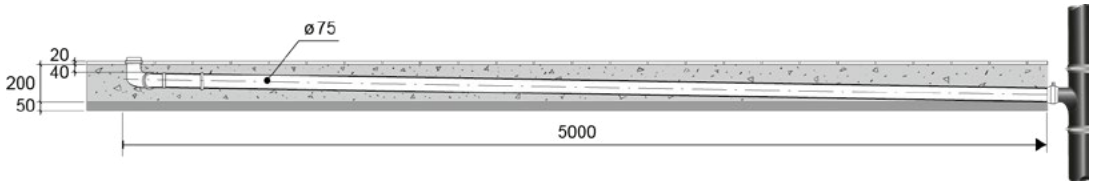
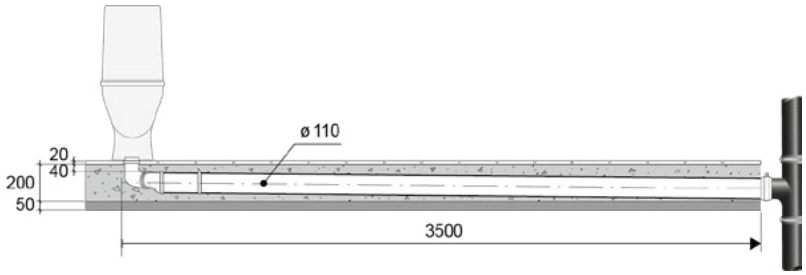
→ See also the Säker Vatten publication *Bjälklagets uppbyggnad i våtrumskonstruktioner (Floor structure design in wetrooms).*



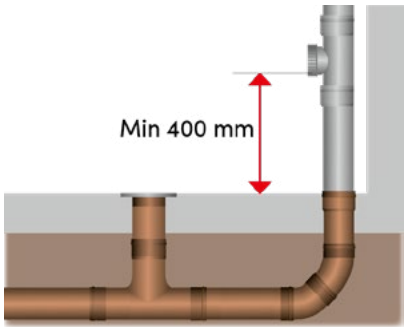


B4.4.3 Wastewater pipe cleaning access

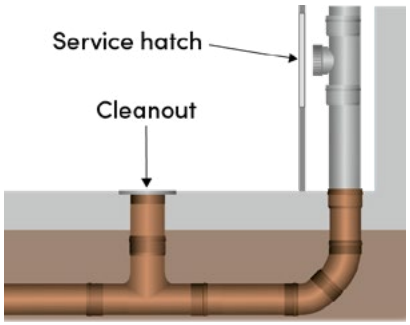
The cleaning access for a lateral collection pipe must be implemented with an inspection chamber.

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 B4.4.3a.*

Built-in cleaning access must be equipped with a service opening that enables cleaning or pipe inspection via the cleaning access.
→ *See Figure B4.4.3b.*



B4.4.3a Cleaning access on wastewater pipe.



B4.4.3b Sewer cleanout or cleaning access cover.

B4.4.4 Wastewater pipe venting

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 B4.4.4a.*

Vent pipes through roofs must be sealed against the roof's waterproofing.

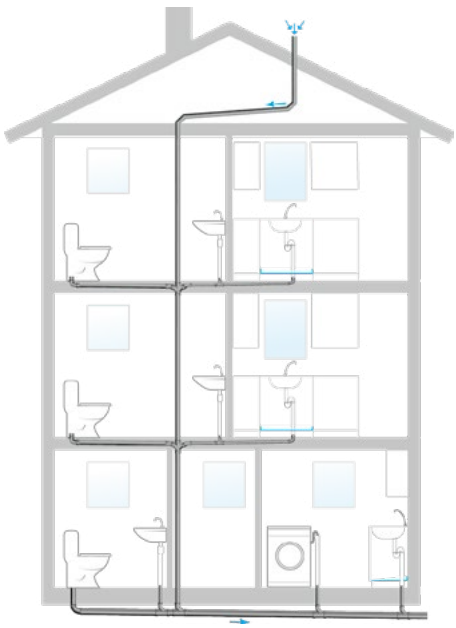
Any cowls on vent pipes above a roof are installed together with a penetration kit for the affected roofing material.

The following must be accounted for:

- Risk of odour transfer between vent pipe and outdoor air intake, dormers and windows.
- The side drain of a vent pipe must be routed with a gradient along the entire length of the pipe, cf. *"B4.4.1 Installation of wastewater pipe" on page 29.*
- UV protection for plastic pipes if they are installed outdoors.

Coordination points

- Placement of vent pipe through outer roof.
- Possible attic connection.
- Pipe-lead-through method.



B4.4.4a Vent pipe.

B4.4.5a Floor drain.

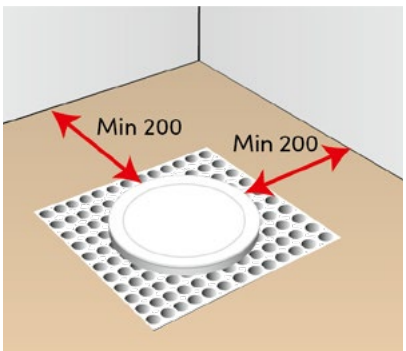
B4.4.5 Floor drains

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

- bathtubs, shower areas 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.

→ *See Figure B4.4.5a.*

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



B4.4.5.1a Placement of floor drain.

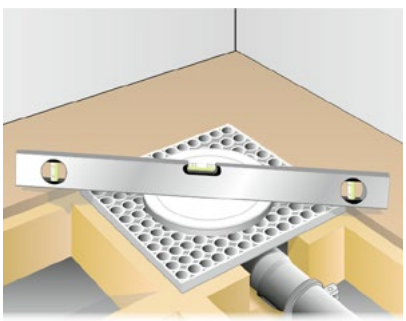
B4.4.5.1 Placement

Floor drains must be placed so that they 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, wastewater pipe or pipe sleeve is 200 mm.

→ *See Figure B4.4.5.1a.*

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.



B4.4.5.2a Floor drain installed level with mounting plate.

B4.4.5.2 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.

→ *See Figure B4.4.5.2a.*

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

Floor structure with floor drain

A floor structure must be designed so that the floor drain can be installed in accordance with the floor drain supplier's instructions.

For a floor drain that is to be installed in a timber floor structure with a mounting plate, floor structure joists and noggings must be implemented to support the mounting plate on all four sides.

Noggings must have the same dimension as other floor structure joists.

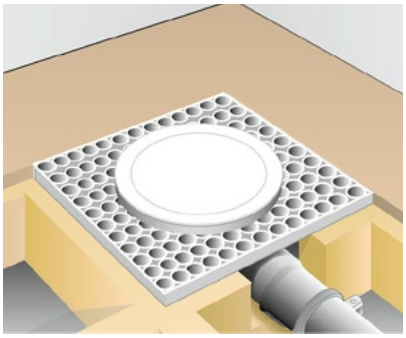
A recess for pipe connection must be done in a nogging.
→ *See Figure B4.4.5.2b.*

Before a concrete floor structure is cast, the floor drain and connecting pipe must be anchored.

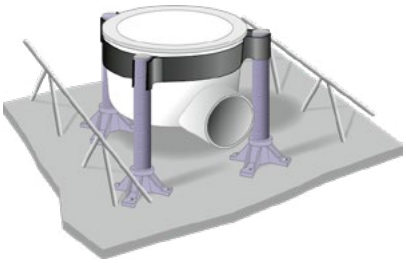
In casting a floor structure, make sure that vibration does not affect the location of the floor drain and the wastewater pipes.
→ *See Figure B4.4.5.2c.*

Floors in spaces with floor drains must usually be watertight and the waterproofing must be sealed against the floor drain.

The floor must have a gradient towards a floor drain constructed in accordance with The Industry Regulations for waterproofing.



B4.4.5.2b Floor structure with floor drain.



B4.4.5.2c Floor drain fixed with floor drain fixture.

Coordination points

The HVAC fitter and building contractor should consult together on the following before a floor drain is installed in a floor structure:

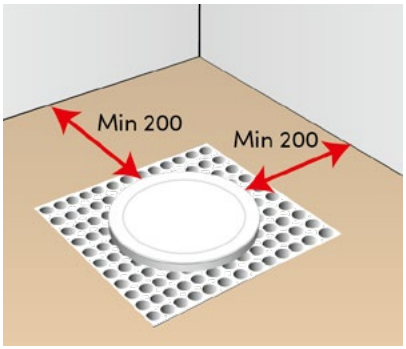
- How a floor drain must be fixed in ground concrete slabs, cast floor structures and in timber floor structures.
- How floor levelling and gradient structure must be implemented in a concrete floor structure which is to be constructed with filling or topping.
- How floor reinforcement and gradient structure must be implemented in a timber floor structure which is to be constructed with filling, for example.
- At what height a floor drain is to be installed.
- Distance from finished wall to outer flange of floor drain.

→ *See Figure B4.4.5.2d.*

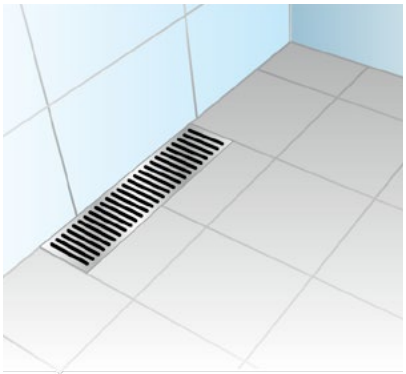
READ MORE

→ See also Industry Regulations issued by the Swedish Ceramic Tile Council (BKR) and the Swedish Flooring Trade Association Wetroom Control (GVK)

- Swedish Ceramic Tile Council BBV 2026, www.bkr.se
- GVK Safe Wetrooms 2026, www.gvk.se



B4.4.5.2d Floor drain installation.



BU4.4.5.1 Floor drain close to wall.

INDUSTRY STANDARD

A documented agreement between HVAC manufacturers and industry organisations to ensure that HVAC products covered by various regulations can be installed workmanlike and meet applicable requirements.

BU4.4.5.1 Exception for placement of floor drains close to walls

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

→ *See Figure BU4.4.5.1*

The suppliers' documented installation instructions may differ in terms of how the installation is to be carried out and what preparations may be necessary prior to installation.

Coordination points

- Choice of drain.
- Any recesses on casting.
- Fixing before casting.
- Support for fixing in timber floor structure.
- Choice of waterproofing.

B4.5 Heating installations

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

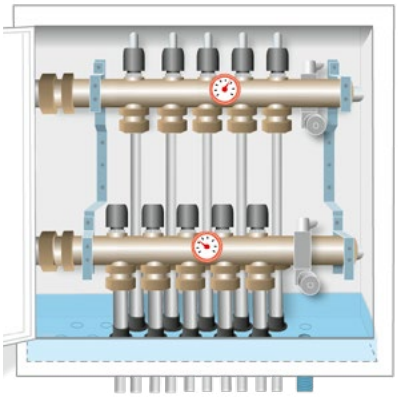
B4.5.1 Manifolds with equipment

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 possible to operate.

→ *See Figure B4.5.1a*



B4.5.1a Heating manifold cabinet.

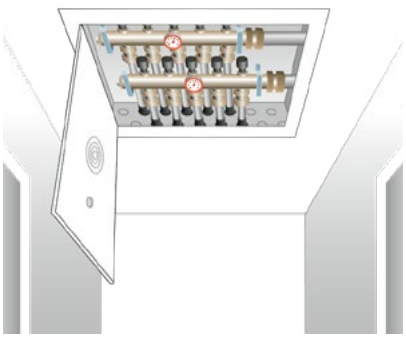
Placement above lining in ceiling

Manifolds with equipment above lining in ceiling, for example:

- above removable suspended ceilings,
- in a drained manifold cabinet in the ceiling, or
- above a draining ceiling access panel.

They must be placed so that any leaks discharge into a room that is normally occupied and where any leaks therefore can be easily detected.

→ *See Figure B4.5.1b.*



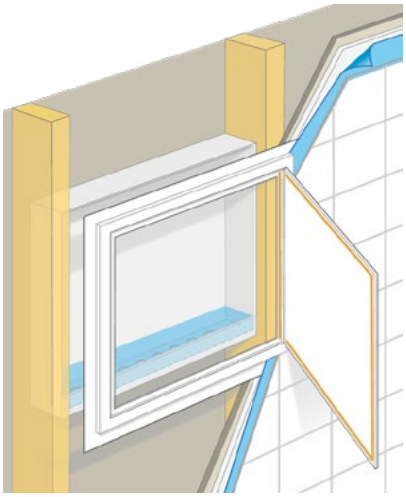
B4.5.1b Drained manifold cabinet in ceiling.

B4.5.2 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 this base 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 B4.5.2a.*

The wall design must follow the same principle as for manifold cabinets for tap water, see *"B4.1.2 Prefabricated structures" on page 10.*



B4.5.3a Example of service opening: manifold cabinet with water-tight access door and frame.

B4.5.3 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.

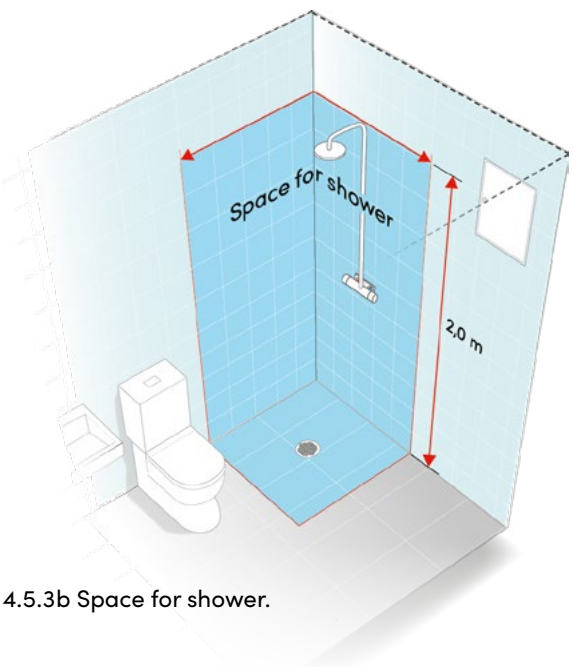
A service opening shall not be located in a space for bath or shower.

A service opening to a manifold cabinet in a bathroom wall can be placed so that its door opens to a room without waterproofing, such as a storage room.

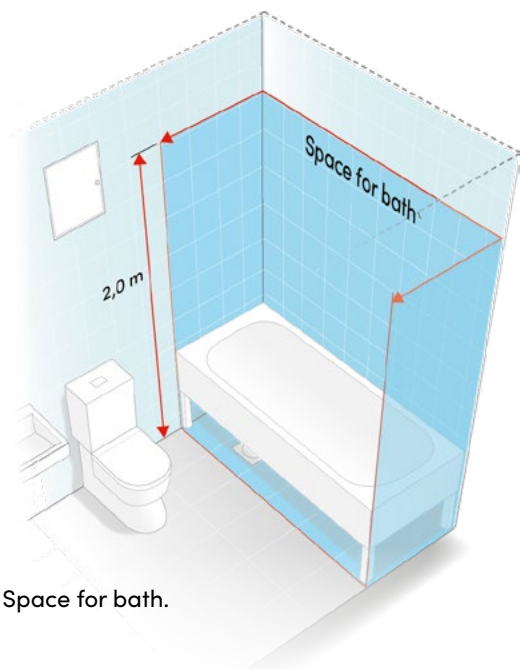
In rooms with waterproofing on the walls, a service opening connected to the wall's waterproofing must have a connection that has been tested and approved in accordance with industry standard.

→ *See Section "B4.1.4 Service openings" on page 14.*

→ *See Figure B4.5.3a–c.*



4.5.3b Space for shower.



4.5.3c Space for bath.

B4.5.4 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 where any leaks therefore can be easily detected.

These spaces are not required to be a room with a watertight or water-resistant floor.

→ *See Figure B4.5.4a.*

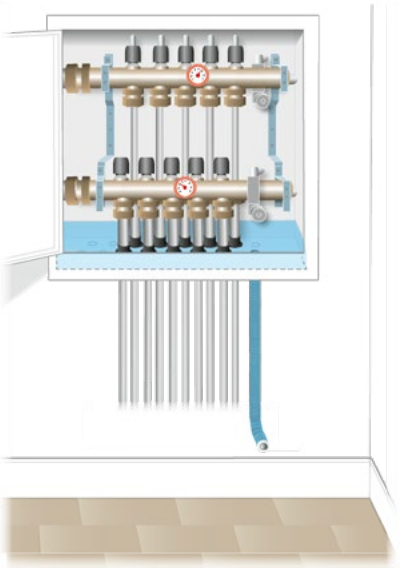
The drain shall not be placed in a space for bath or shower.

Leak detection drain implemented with pipe:

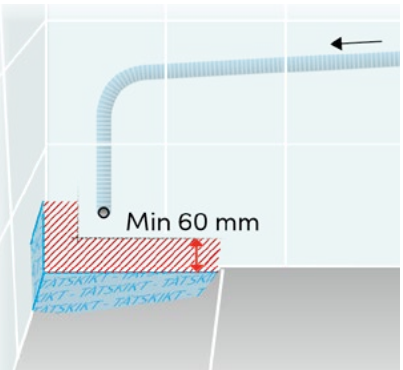
- The pipe must be routed with a gradient along its entire length.
- The pipe inside diameter must be at least 20 mm.
- The outlet from a pipe that penetrates the wall's waterproofing shall not be placed closer than 60 mm to the waterproofing of the floor or adjoining wall.

→ *See Figure B4.5.4b.*

Note that the dimension refers to the waterproofing of the floor or wall.

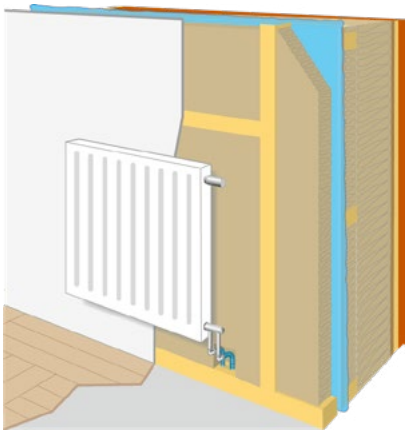


B4.5.4a Prefabricated structure: manifold cabinet.



B4.5.4b Leak detection drain

B4.5.5 Frost-proof installation of heating systems



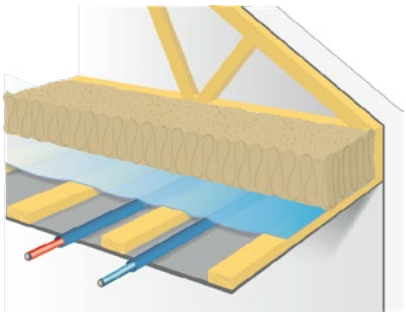
B4.5.5a Example of pipe routing on "warm side".

Pipes shall not be installed in unheated spaces such as crawl spaces or attics, or in the building insulation 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.

→ *See Figure B4.5.5a–c.*

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 the plastic sheet or vapour barrier.

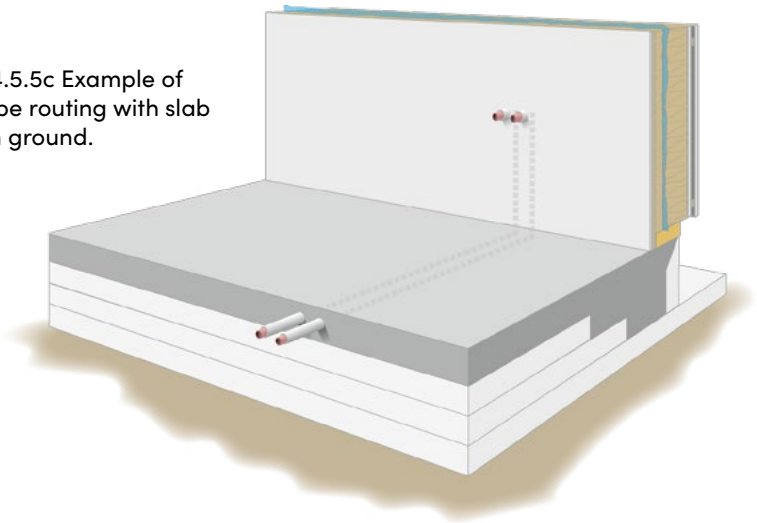


B4.5.5b Example of pipe routing on "warm side" of attic floor structure.

If heating installations are to be in a space dedicated to installations, in floors, exterior walls or attic floor structures, it must be designed to make sure that the installations can be properly attached to the structure and that pipe penetrations can be created which are protected against water damage and do not compromise the building's air seal.

Coordination points:

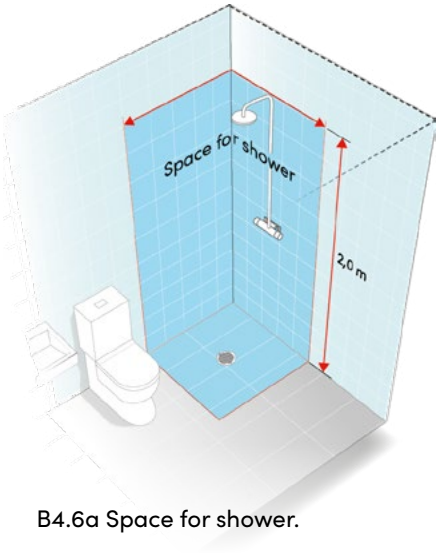
- Placement.
- Space requirements.
- Design for fastenings.



B4.5.5c Example of pipe routing with slab on ground.

B4.6 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 workmanlike work in accordance with the Swedish Ceramic Tile Council's trade rules for wetrooms, the Swedish Flooring Trade Association Wetroom Control (GVK) Industry Regulations for safe wetrooms, or the Industry Regulations of the Swedish Painting Trade Association Wetroom Control (MVK). The waterproofing contractor is responsible for connecting the waterproofing of the building component to the pipe installation.

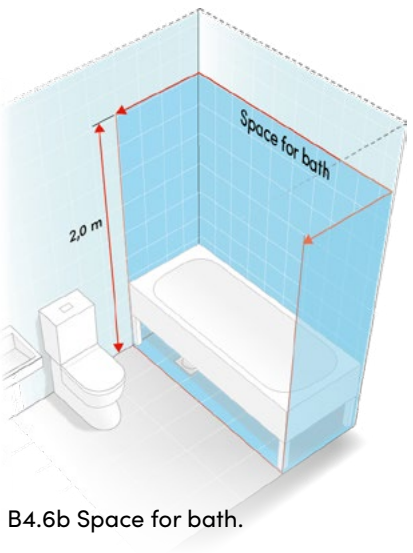


B4.6a Space for shower.

Space for bath or shower

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

→ *See Figures B4.6.a and B4.6.b.*

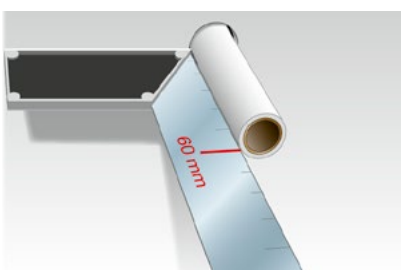


B4.6b Space for bath.

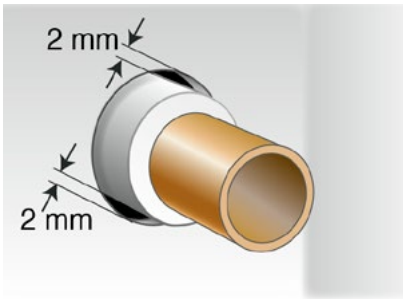
Pipes, protective sleeves, pipe penetration sleeves or other penetration details must be installed before the waterproofing is installed and must be fixed perpendicular to the substrate so that no movement can occur between them and the waterproofing.

→ *See Figure B4.6.c*

Any connectors shall not affect the installation of vinyl flooring.



B4.6c Pipe at right angles through wall with waterproofing.



B4.6d Chasing for pipe penetrations in wall or floor with waterproofing.

Pipe penetration holes

To enable waterproofing to be installed workmanlike, holes for pipe penetrations in a building component must be implemented with a maximum of 2 mm between the building component and pipe, protective sleeve, pipe penetration sleeve or other penetration detail.
→ *See Figure B4.6.d.*

This maximum distance applies when installing the waterproofing. If chasing has been implemented with larger dimensions, repairs may be required before installing the waterproofing.

B4.6.1 Pipe penetrations in floors with waterproofing

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

In a space for bath or shower, a floor drain only is allowed.

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.

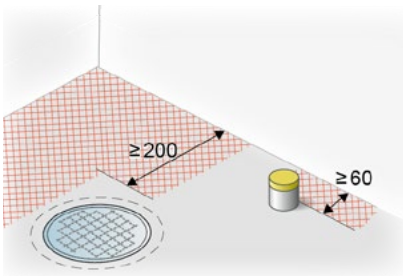
The distance between the outer flange of the floor drain and the waterproofing on the adjacent wall must be at least 200 mm.
→ *See "B4.4.5.1 Placement" on page 33.*

Note the distinction between the wall surface layer and the wall waterproofing.
→ *See Figure B4.6.1a.*

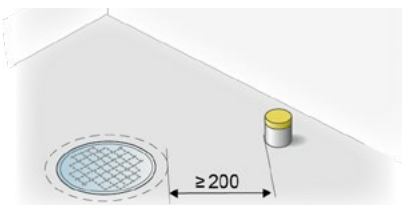
The distance between the wastewater opening and the outer flange of the floor drain must be at least 200 mm.
→ *See Figure B4.6.1b.*

In floors with vinyl flooring, the distance between the wastewater opening and the outer flange of the floor drain must be at least 500 mm.
→ *See Figure B4.6.1c.*

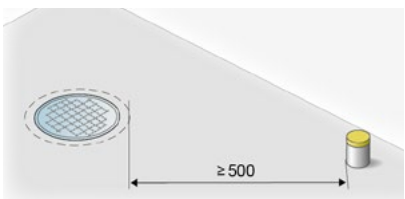
The distance between the substrate for the floor waterproofing and the top edge of the wastewater pipe shall not be less than 40 mm when installing the waterproofing for a wastewater opening.
→ *See Figure B4.6.1d.*



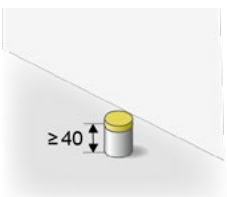
B4.6.1a Distance to adjacent wall waterproofing.



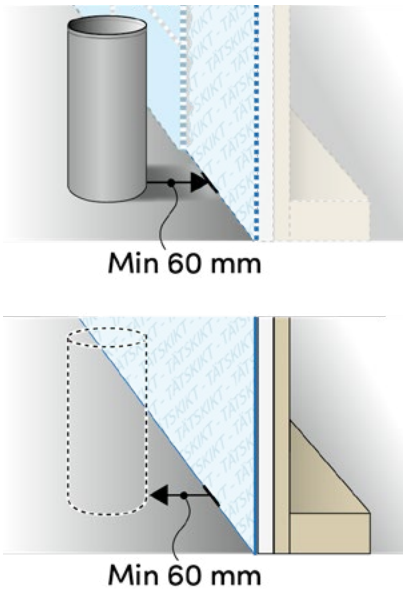
B4.6.1b Distance between wastewater outlet and outer flange of floor drain.



B4.6.1c Distance between wastewater outlet and outer flange of floor drain. Floor with vinyl flooring.



B4.6.1d Distance between substrate for floor waterproofing and top edge of wastewater pipe.



B4.6.1f Distance between substrate for waterproofing and wastewater pipe.

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.

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.

Wall placement

The placement of walls to be built where there are already openings for wastewater pipes must account for the pipes.

Observe a distance of at least 60 mm between the pipe opening and the waterproofing on the adjacent wall.
→ *See Figure B4.6.1f.*

Note that this distance refers to the wall's waterproofing.

The measurement is based on:

- The waterproofing for ceramic tiles or
- The vinyl flooring, if this also serves as the surface layer.

Tolerances

If the wall becomes thicker than intended, wastewater openings may end up too close to the wall, resulting in a deviation from The Industry Regulations 'Säker Vatteninstallation' because the waterproofing contractor cannot perform the work in a workman-like manner.

Dimensional tolerances for example from Hus AMA cannot always be applied in such cases.

Coordination points:

- Distance between wastewater opening, floor drain outer flange and adjacent wall waterproofing.
- Wall placement relative to pipe placement.

B4.6.2 Pipe penetrations in toilet room floors

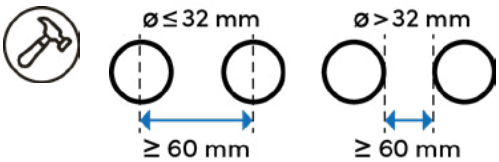
The distance between penetrations in the floor for tap water or heating pipes with a diameter that is less than or equal to 32 mm must be at least 60 mm between the centres of the pipes.

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 Figures B4.6.2a–b.*

B4.6.2a Pipe penetrations in toilet room floors.

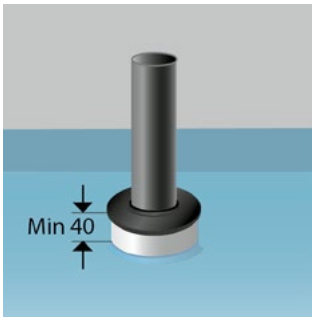


B4.6.2b Minimum distance between pipes.

BU4.6.1 Exceptions for pipe penetrations in floors in bathrooms or shower rooms, laundry rooms and utility rooms

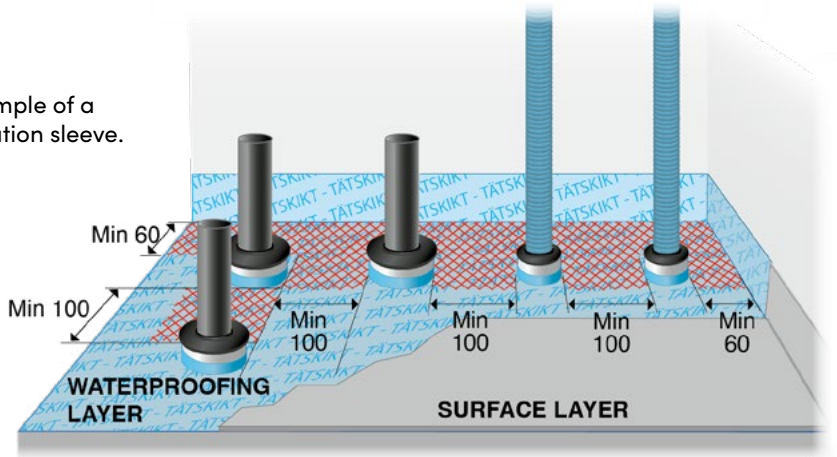
In bathrooms or shower rooms, laundry rooms or utility rooms with water heaters, heat pumps or water meters, pipe penetrations to or from such equipment must be implemented with pipe penetration sleeves.

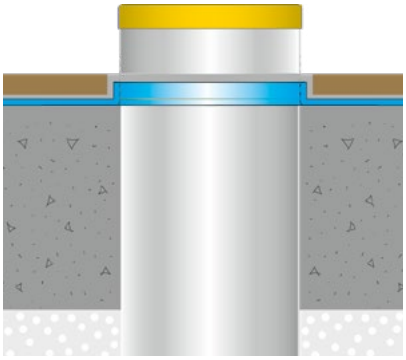
Pipe penetration sleeves shall not be placed in a space for bath or shower.



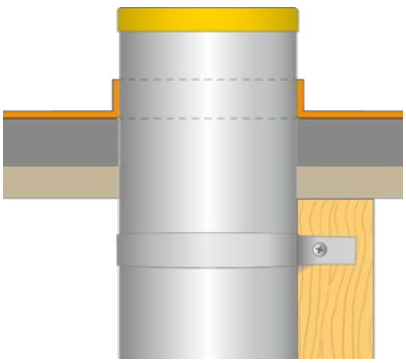
Pipe penetration sleeve in floor with waterproofing.

U4.6.1a Example of a pipe penetration sleeve.

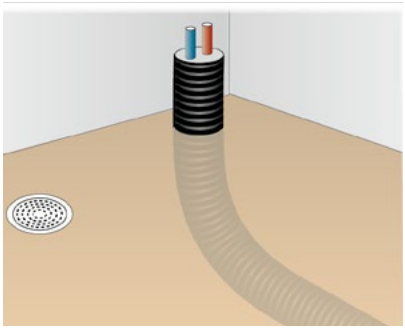




B4.6.1b Fixing wastewater, pipe penetration sleeve in concrete floor structure.



B4.6.1c Fixing wastewater, pipe penetration sleeve in timber floor structure.



B4.6.1d Culvert pipe through floor.

Implementation of pipe penetration sleeves in floors with waterproofing

- 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 waste-water pipe must be at least 100 mm.
- The distance 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.

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.

A pipe or pipe penetration sleeve must have a smooth surface and 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.

Fixing

Wastewater pipe, connecting sleeve for toilet unit or pipe penetration sleeve must be installed and fixed before the waterproofing is installed, so that no movement can arise between pipe, toilet spigot or sleeve and floor.

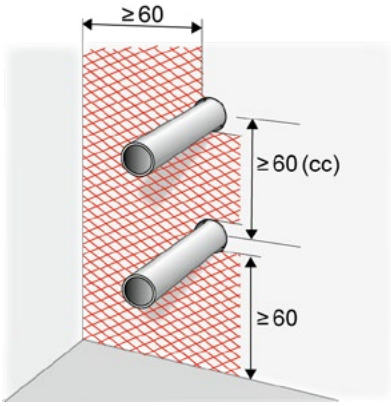
→ *See Figure B4.6.1b.*

Pipe penetrations in timber floor structures must be fixed in a wooden stud or wooden nogging.

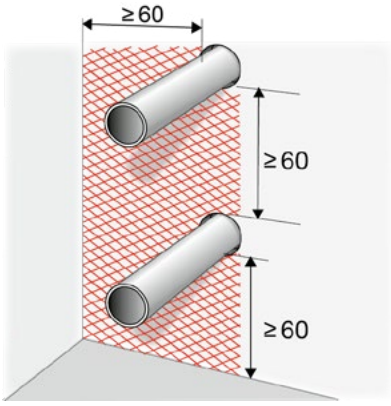
→ *See Figure B4.6.1c.*

The placement of culvert pipes and the connection between the waterproofing and culvert pipe must be co-ordinated with the waterproofing contractor.

→ *See Figure B4.6.1d.*



B4.6.3a Pipe penetration in wall with waterproofing for pipes less than or equal to 32 mm.



B4.6.3b Pipe penetration in wall with waterproofing for pipes over 32 mm.

B4.6.3 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 a space for bath or shower except for the direct connection of a mixer tap for a bathtub or shower and shower unit.

Implementation of pipe penetrations

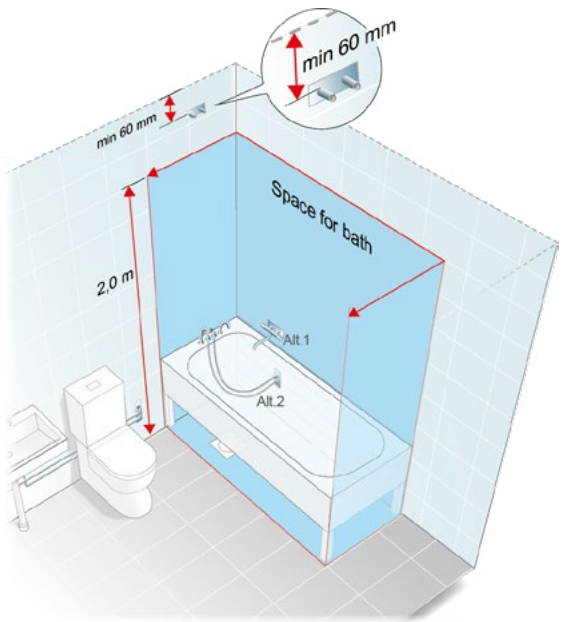
Where pipes pass through walls, the distance between the waterproofing on the adjacent floor or wall, and pipes or protective sleeves must be at least 60 mm and at least 60 mm from the ceiling.

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 Figure B4.6.3a–c.*

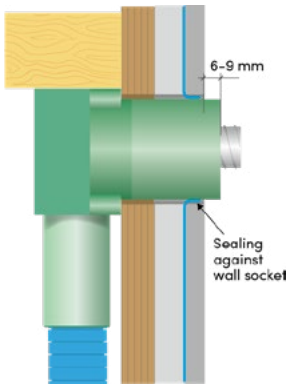
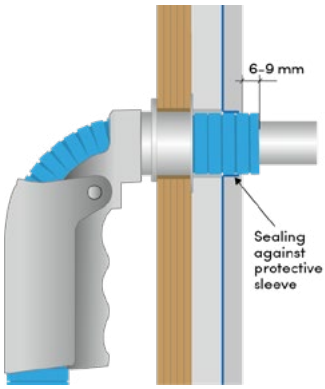
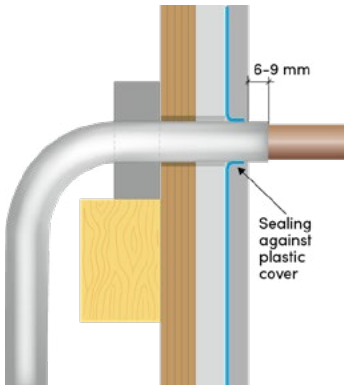
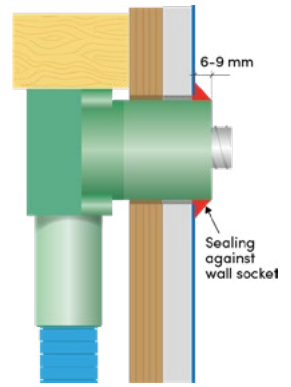
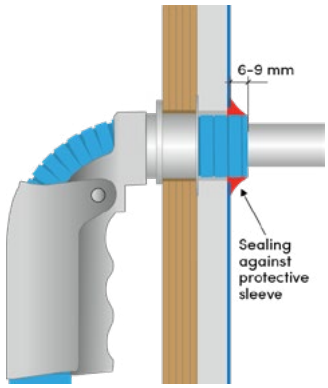
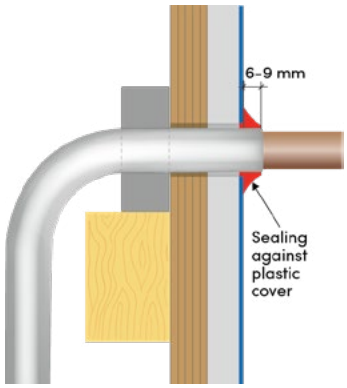
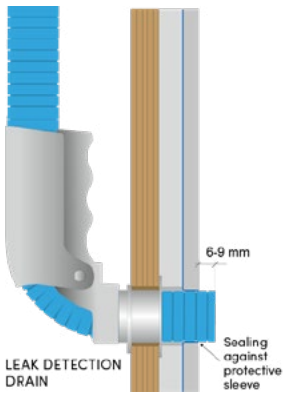
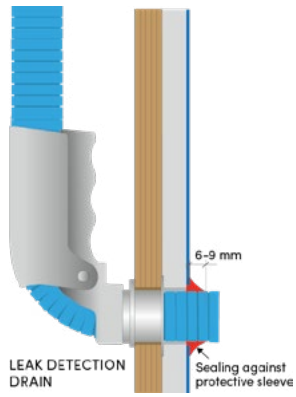
Protective sleeves, penetration details or plastic covers on pipes are cut 6–9 mm outside the finished wall.

Note the distinction between waterproofing and the surface layer.
→ *See Figures B4.6.3d–k for examples of pipe penetrations.*



B4.6.3c Pipe penetration in wall with waterproofing.

Example of pipe penetrations:

	Wall socket	Protective sleeve	Protective cover
Ceramic surface layer	 B4.6.3d Sealing against wall socket with ceramic surface layer.	 B4.6.3e Sealing against protective sleeve with ceramic surface layer.	 B4.6.3f Sealing against plastic cover with ceramic surface layer.
Vinyl flooring as watertight membrane and surface layer	 B4.6.3g Sealing against wall socket with vinyl flooring as a watertight membrane and surface layer.	 B4.6.3h Sealing against protective sleeve with vinyl flooring as a watertight membrane and surface layer.	 B4.6.3i Sealing against plastic cover with vinyl flooring as a watertight membrane and surface layer.
Leak detection drains	 B4.6.3j Sealing against leak detection drain with ceramic surface layer.	 B4.6.3k Sealing against leak detection drain with vinyl flooring as a watertight membrane and surface layer.	

- Sealing on a pipe penetration with plastic-coated metal pipes is implemented against the protective cover.
- On pipe-in-pipe systems with protective pipes sealing must be executed against the protective sleeves.
- On pipe systems with a wall socket sealing must be executed against the wall socket.
- Pipes or protective pipes must protrude by approx. 60 mm from a wall board or equivalent before waterproofing is installed.
- For appliances requiring longer protrusion, account must be taken for pipe connections.
- Service pipes or other penetrations must be sealed with the wall's waterproofing in accordance with the supplier's installation instructions.
- Pipes or other penetrating parts must be sealed against the wall's waterproofing by the waterproofing contractor, using materials installed by the waterproofing contractor.

More information on how to make pipe penetrations in building components with waterproofing can be found on:

- The Swedish Ceramic Tile Council's trade rules for wetrooms, www.bkr.se
- The Swedish Flooring Trade Association Wetroom Control trade regulations, www.gvk.se
- Industry Regulations of the Swedish Painting Trade Association Wetroom Control (MVK). https://www.vatrumsmalning.se/

BU4.6.3 Exceptions for pipe penetrations in spaces for bath or shower

Spaces for bath 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.

→ *For recessed fittings, see "B4.2.5 Mounting boxes for tap water fittings" on page 23.*

B4.7 Attachment 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.

The requirements apply, for example, to attachment of toilet units, washbasins, fixtures for sanitary ware, mixer taps, shower units, shower cubicle walls, support handles and other products.

B4.7.1 Screw fastenings in walls

Wall reinforcement may be required to attach products.

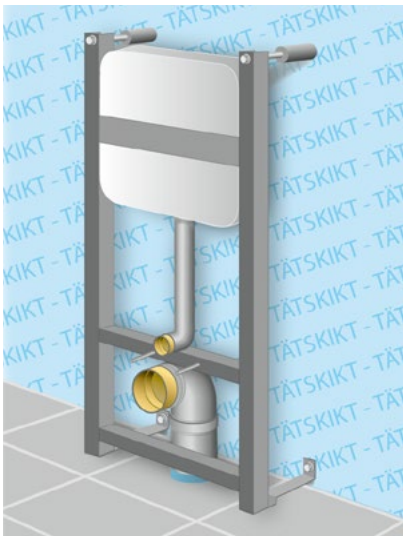
Screw attachments must be made in:

- Concrete or other solid structures,
- Wooden studs, wooden noggings or
- In a structure that is tested and approved for fastening, such as a board structure.

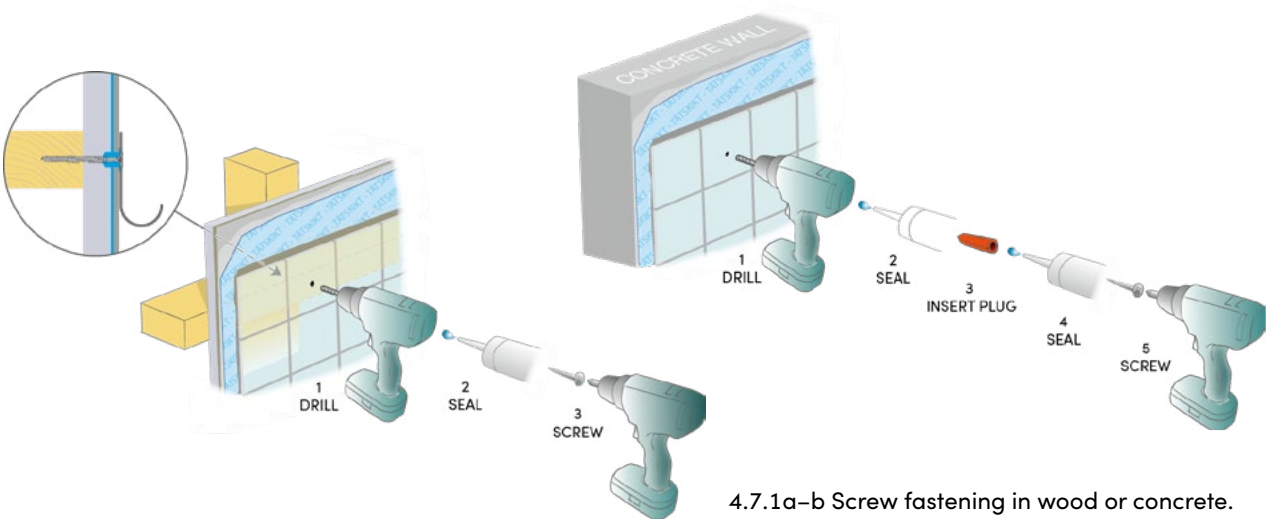
→ *See Figures B4.7.1a–b Screw fastening in wood or concrete.*

Screw attachment of fixture for toilet unit with recessed flushing cistern located in an area with floor waterproofing shall only be done in a wall.

→ *See Figure B4.7.1c.*



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



4.7.1a–b Screw fastening in wood or concrete.

Example design from “How to build a wetroom wall”:

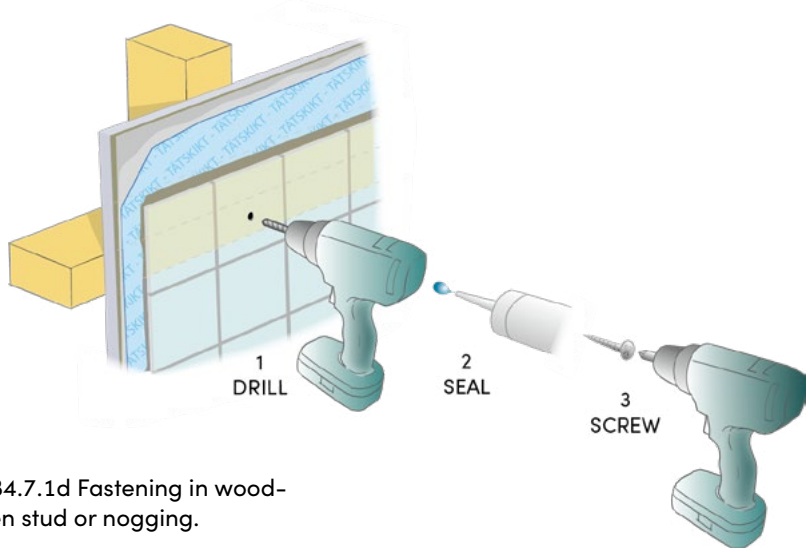
The wetroom wall with 15 mm structural plywood is an effective method of complying with The Industry Regulations ‘Säker Vatten-installation” requirements for fixtures. The wetroom wall is not a requirement, but it makes it possible to attach fixtures and retrofit items such as support handles or shower walls. There are other types of board structures that have been tested and approved as meeting the requirements for fixtures.

→ *See “How to build a wetroom wall” at www.sakervatten.se.*

Fastening in wooden stud or nogging

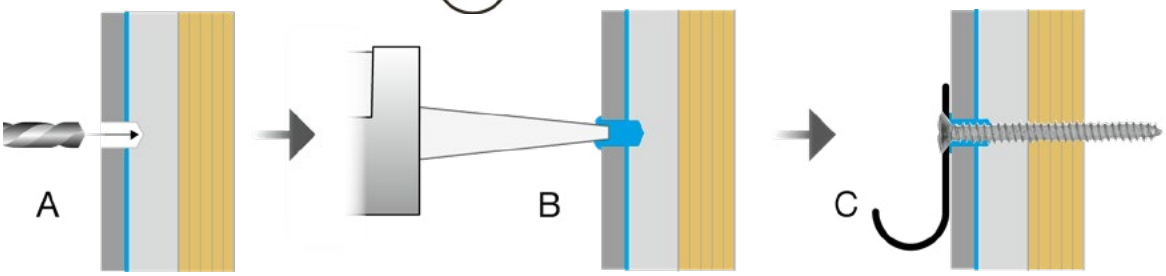
1. Drill holes of suitable diameter through the tiles and water-proofing; do not drill into the stud or nogging.
2. Fill the bottom hole with sealant that is water-resistant, mould-resistant and age-resistant.
3. Screw wetroom accessories into place according to the supplier’s documented assembly instructions.

→ *See Figure B4.7.1d.*



B4.7.1d Fastening in wood-en stud or nogging.

Fastening in board structure with plywood



Drill only through surface layer and waterproofing. NB: Never drill into the plywood.

Fill the entire hole with ageing-resistant sealing compound.

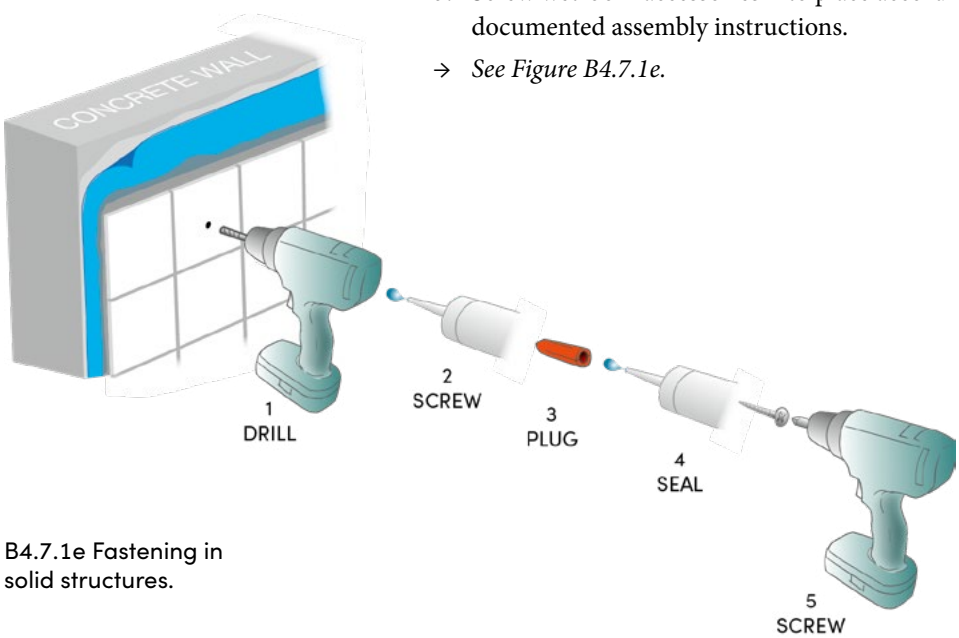
Use HVAC screw. Screw through the plywood board.

Fastening in solid structure

Examples of solid structures may be concrete, brick or lightweight aggregate.

1. Drill holes with suitable diameter and suitable depth, in accordance with the supplier's installation instructions.
2. Fill the bottom hole with sealant that is water-resistant, mould-resistant and age-resistant.
3. Install suitable plug.
4. Fill plug with sealant.
5. Screw wetroom accessories into place according to the supplier's documented assembly instructions.

→ *See Figure B4.7.1e.*

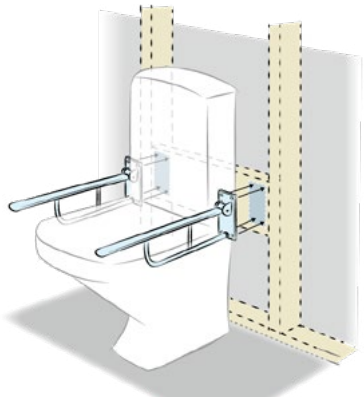


B4.7.1e Fastening in solid structures.

Reinforcement in timber structure

When mounting on a wall with boards on studs, the wall structure must be tested and approved for this purpose, otherwise the wall must be reinforced in some other way, such as with noggings.

For fastening armrests, certain washbasins and heavier furnishings, noggings may need to be added as a complement.
→ *See Figure B4.7.1f.*



B4.7.1f Fastening in wooden noggings.

B4.7.2 Screw fastening in floor

The floor beneath a toilet or other wall-mounted fixture must permit a drilling and screwing depth of 60 mm.

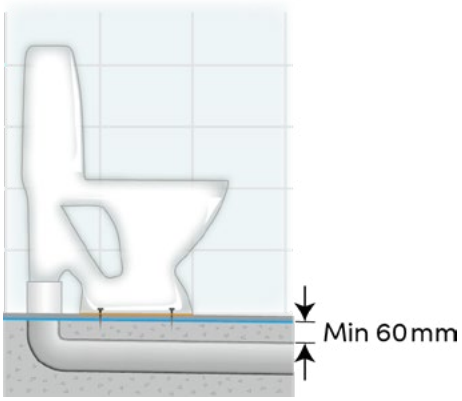
Pipes and electric cables may be routed beneath the mounting surface provided the depth at which they are laid is greater than 60 mm.

Screw fastening must be done in concrete or other solid structures, wooden studs or wooden noggings.
→ *See Figure B4.7.2a.*

The floor beneath a toilet unit or bidet shall not have a gradient exceeding 10 mm/m.

Screw fastening in boards requires reinforcement such as wooden noggings.

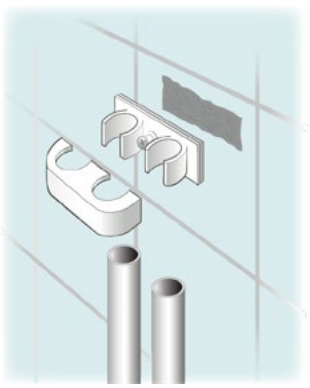
The floor must be designed so that the toilet unit or bidet is stable and accounts for any structure-borne noise.



B4.7.2a Screw fastening in floor.

B4.7.3 Attaching products with adhesive

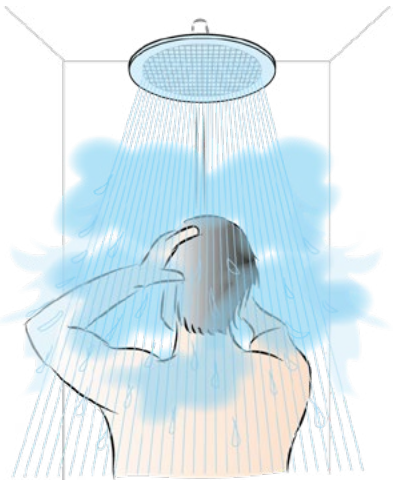
Fastening with adhesive must be carried out with materials and methods in accordance with the installation instructions from the supplier of the product.
→ *See Figure B4.7.3a.*



B4.7.3a Fastening with adhesive.

B5. 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 burns.



B5.1 Aerosol formation in showers.

B5.1 Protection against legionella growth in tap water installations

Brief information on legionella

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 increase significantly. Inhaling Legionella bacteria via water aerosols, such as in the shower, can result in infection with the bacteria, which can cause Legionnaires' disease or Pontiac fever. Legionnaires' disease is a form of pneumonia that can be life-threatening.

→ *See Figure B5.1.*

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

B5.1.2 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 Legionella bacteria growth in cold tap water, the cold tap water installation shall not be placed in locations where the temperature is higher than room temperature.

To prevent heat transfer between the cold and hot water pipe systems, the pipes must be installed in such a way that they do not come into contact with each other.
This also applies to pipes with protective sleeves.

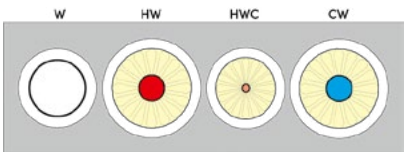
If a cold water tap installation is placed together with pipes for hot water, hot water circulation or heating in shafts or floor structures, there is an increased risk of unintentional heating. Then there is also an increased risk of bacterial growth in the cold water. Therefore, cold water installations in such areas must always be avoided.

If such placement cannot be avoided, a risk assessment and well-founded design of the routing, dimensions and insulation thickness must be carried out.

B5.1.2a Placement of hot and cold pipes in shafts.

Insulation thickness

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 become higher than 24 °C in 8 hours.
→ *See Figure B5.1.2b.*



B5.1.2b Example of hot and cold pipes in shafts.

Space must be provided for both the insulation and the work involved in installing it.
→ *See Figure B5.1.2a.*

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

To gain access to the Säker Vatten calculation program, the company must be authorised in accordance with The Industry Regulations 'Säker Vatteninstallation'.

Coordination points:

- Order of installation.
- Pipe dimensions
- Pipe insulation.
- Shaft size.
- Fixtures.
- Shaft base.

Shaft size

The size of the shaft is determined by:

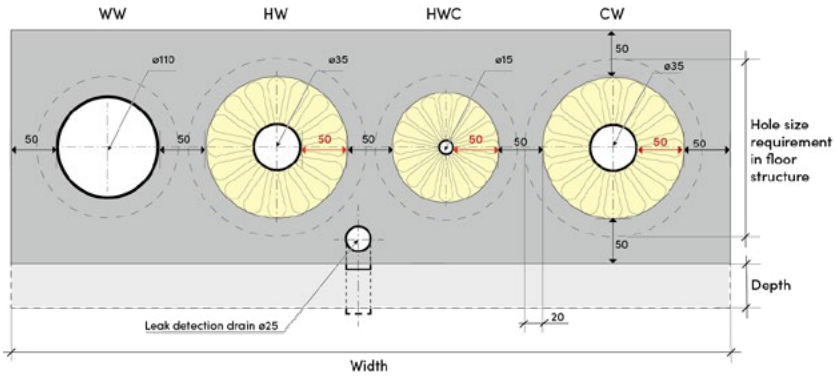
- Pipe dimensions.
- Insulation thickness.
- Size requirement for holes in floor structures.
- Any necessary sealing of pipe penetrations.
- Work space requirements for installation of insulation.

Examples of shaft size

Suggested shaft size showing an insulation thickness of 50 mm, chasing dimensions and work space for installation of insulation.

Note that branches may affect the size of the shaft.

Additional shaft area depends on placement of the branch for cold water and hot water pipes.



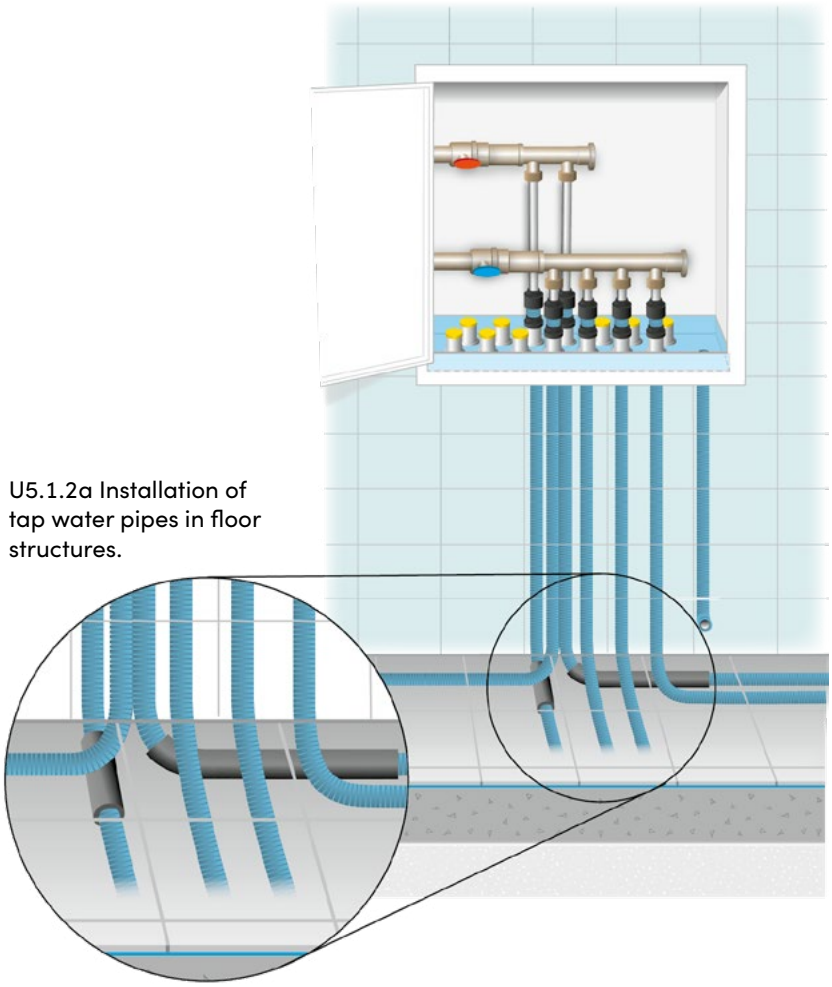
For the design and space requirements for insulation on pipes,

→ *see Technical Insulation Industry Standard from the Association of Insulation Contractors of Sweden, www.tekniskisolering.se.*

BU5.1.2 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.*



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

B7.2.4a Prefabricated wetroom module.

B7. HVAC products

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

B7.2.4 Prefabricated volumetric modular houses or prefabricated installation modules

Prefabricated volumetric modular houses or prefabricated installation modules, for example 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'.

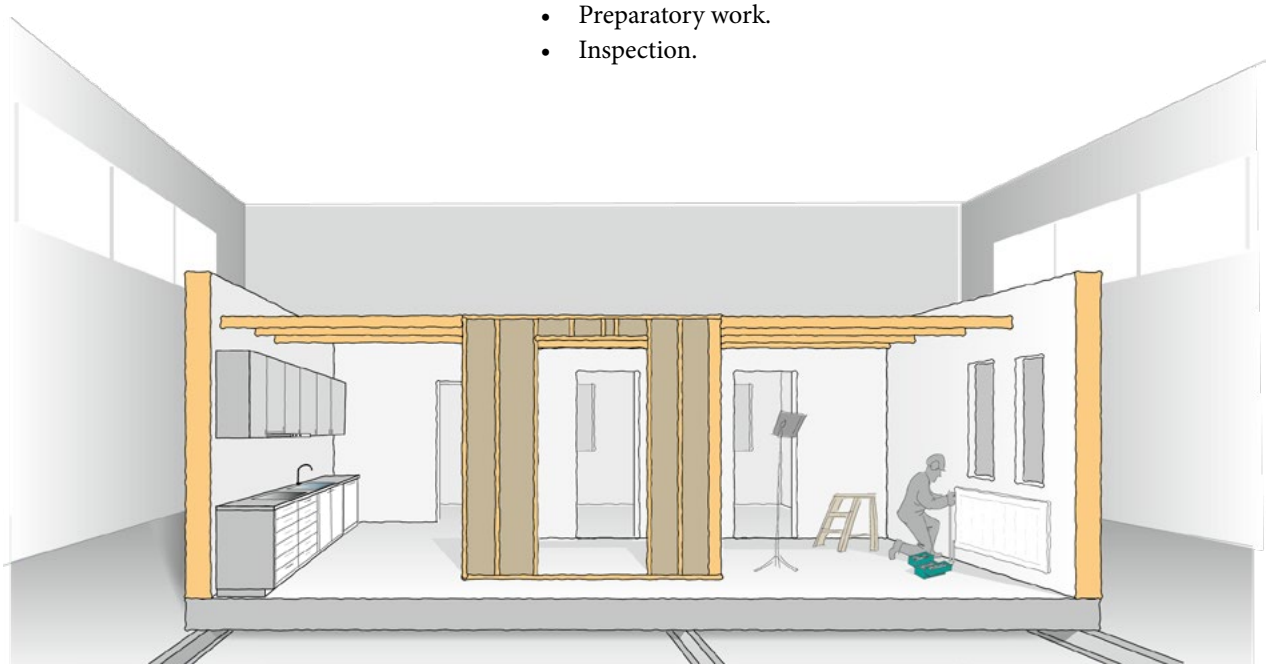
→ *See Figure B7.2.4a–b.*

The volumetric modular house or module must be inspected by a third party and must meet the requirements of the Industry Regulations 'Säker Vatteninstallation', which is verified by Säker Vatteninstallation approved installation instructions.

→ *See www.sakervatten.se.*

Coordination points:

- Choice of module.
- Installation instructions.
- Preparatory work.
- Inspection.



B7.2.4b Prefabricated volumetric modular house.

B8. 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.
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 inside 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.
Hot water circulation	Swedish abbreviation for hot water circulation used to reduce waiting time for hot water at taps.
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 workmanlike 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. In single-family houses, the laundry room can also hold HVAC equipment.
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. *See also "easy to detect".*
Leak detector and shut-off valve	Monitors the tap water installation locally with a moisture sensor to identify leaks and shut off the water.
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 structure	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 supply	*See leak detectors and shut-off valves, water supply safety cut-off devices and water alarms.*
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.
Spaces that are normally occupied	*See easy to detect/quickly detectable*
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 super-structures.
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

Wastewater with gravity flow	Wastewater is transported based on a difference in height (gradient). The system must be self-cleaning.
Water alarm	Identifies leaks and issues an alarm.
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	Access panel door in service opening frame placed in wall with waterproofing so that water cannot penetrate the wall structure. The access panel 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.
Water supply safety cutoff device	Monitors the entire tap water installation by measuring to identify leaks and shutting off the water centrally.
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 Säker Vatteninstallation Industry Regulations 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 'Säker Vatteninstallation', and
- has a Säker Vatteninstallation attestation.

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

Technical Construction Conditions

If adjacent works have been carried out in accordance with the recommendations in this document, the result will be a lasting and robust HVAC installation that meets the requirements for protection against water damage and personal injury.

www.sakervatten.se

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