

TYCROC UHP

INSTALLATION INSTRUCTIONS



APPLICATION CONDITIONS

Tycroc UHP underfloor heating panels are designed for installation on a stable, load-bearing substrate that complies with applicable building standards.

When installing Tycroc UHP underfloor heating panels, the underlying surface must be level, dry, strong, rigid, and stable. It should also be clean, free of dirt, oil, or other lubricants, and must not be frozen. If needed, the surface should be leveled using appropriate products designed for this purpose.

INSTALLING TYCROC UHP ONTO A SURFACE

Tycroc UHP panels can be installed on both wooden structures (e.g., boards, OSB boards, plywood) and concrete surfaces that meet the specified conditions of use. The most reliable method for installing Tycroc UHP panels is gluing, as it provides a stiffer and more stable base for the flooring material while also helping to isolate impact noise, including horizontal noise transfer. To install the panels, use Tycroc Fast FIX acrylic adhesive or an appropriate tile adhesive (selected based on the substrate) and follow the previously prepared heating project.

The general installation requirements for Tycroc UHP panels and the subsequent flooring remain unchanged, regardless of whether the panels are used for installing heating pipes or heating cables.

1.1

First install the perimetral strip Tycroc PES. It acts as a heat and sound insulation, as well as a perimetral joint. Glue Tycroc PES (self-adhesive edge strip on the back) along the entire perimeter of the premises to be heated and around all the elements of the structure (such as pillars, stairs, etc.). Tycroc PES perimetral strip has a thickness of 6 mm and a height of 140 mm, which is cut to size before or after the finishing material is applied. In addition, there is 300 mm PE flap to cover the edges, which must be prevented from getting under the panels or finishing materials to be glued.

a)

Using Tycroc Fast FIX Acrylic Adhesive:

Apply Tycroc Fast FIX acrylic adhesive to the substrate using trowel with B3 notching. Refer to the detailed conditions of use and instructions provided on page 2.

b)

Using a Suitable Tile Adhesive:

Apply a suitable tile adhesive to the substrate. If the adhesive manufacturer recommends it in their instructions, pre-treat the surface with an appropriate adhesive dispersion to enhance the bonding of the tile adhesive. For tested tile adhesives, refer to page 7.

1.2

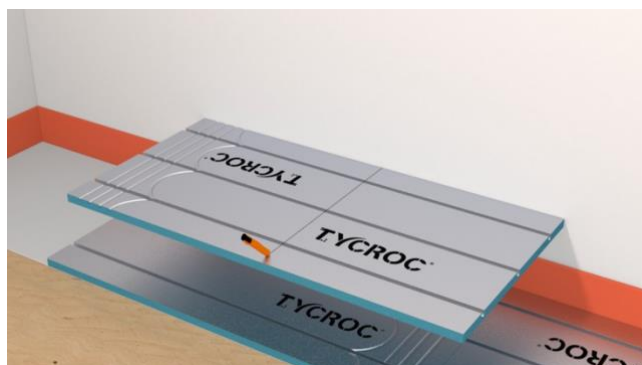
Place the Tycroc UHP panel onto the adhesive or mixture and press it firmly to ensure it adheres to the substrate. Check that the panels are level on the floor. Use a hammer and a wooden support board or block to gently tap the panel into place for leveling.

Recommendation! If needed, place additional weight on top of the panels while the adhesive or mixture dries. Examples of suitable weights include a bucket or bag of adhesive. To speed up the installation process and eliminate the need for additional weight, you can use 2-3 extra Tycroc fixing screws and washers per panel (for wooden substrates) or Tycroc metal dowels (for concrete subfloors) to secure the panels while the adhesive or mixture sets.

CUTTING AND STORAGE

Tycroc UHP panels are easy to cut using a carpet knife, gypsum knife, or an electric circular saw. For creating new groove, the best tools include a hot knife/ EPS foam cutter, or a milling cutter with a suitable shape.

While there are no strict storage requirements, it is recommended not to store the panels on their sides to prevent potential damage, such as broken corners or edges.



TYCROC FAST FIX ACRYLIC ADHESIVE APPLICATION CONDITIONS

Usage temperature between +18 °C and +25 °C. Relative humidity in the room should not exceed 65%. Prior to gluing, the adhesive and the material to be glued should achieve the same temperature as the floor (+18 °C to +25 °C). Relative humidity of the substrate should be 85–90% RH at the maximum, depending on the material. Protect from moisture, if needed. The product is not suitable for use between two waterproof layers where drying is difficult or not possible. Concrete floors and floors made from a levelling compound are recommended to be primed. When installing floor or wall coverings, instructions by the manufacturer should always be followed. With regard to floor heating, the precautions according to the manufacturer of the flooring should always be followed.



TYCROC FAST FIX ACRYLIC ADHESIVE APPLICATION INSTRUCTIONS

Preparation: The substrate should be ready for installation, i.e. strong, clean, dry, and free of oil, dust and fat. Usage conditions should be checked in accordance with effective construction requirements and DIN 18356. Grind cement, concrete and self-levelling substrates and uneven, older and unstable substrates, until a strong, adherent surface is achieved. After grinding, remove dust from the floor.

Application: Prior to application, the adhesive should be well stirred. Apply the adhesive to the substrate, by using a trowel. Do not use more adhesive than is needed for gluing the flooring. Install the flooring immediately or after a short waiting period. Spread the adhesive well in order to remove excess air and ensure a good contact between the adhesive and the flooring. Best results are achieved by using a flooring roller. Make sure that the whole flooring surface has a good contact with the adhesive.

Wet gluing: Apply the adhesive by using a trowel. Place the material to be glued on a wet adhesive. The latest time for wet gluing is up to 20 minutes after applying adhesive to the substrate. The glued material should be well rubbed by using a suitable tool.

Double-sided gluing: Apply the glue with a trowel. Place the material to be glued on a wet adhesive, separate the surfaces and let the adhesive dry for 5–10 minutes before connecting the glued surfaces again. When using double-sided contact gluing, it is very important that the cover is pressed strongly against the surface. In wet rooms, all joints of the flooring should be sealed.

1.3

For subsequent floating surface coverings, Tycroc UHP panels can be secured as follows:

- wooden floors - use Tycroc fixing screws and washers;
- concrete subfloors - use Tycroc metal dowels.

The maximum allowable distance between fixing points is 300 mm.

Fixing Consumption Rate:

15 fixings are required for each 1200 x 600 mm Tycroc UHP panel.

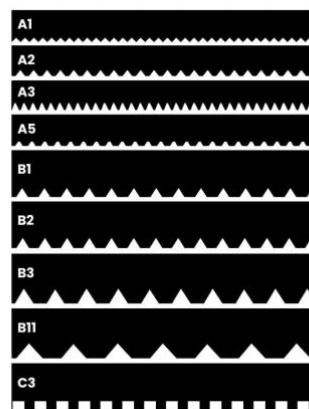
1.4

Before installing the heating pipes, ensure that the grooves are thoroughly cleaned of dirt and debris. Avoid excessive stepping on the empty grooves to prevent damage, such as breaking or crushing the edges.

Rate of Consumption for Tycroc UHP:

Approximately 0.6 kg per square meter, which equates to one 15 kg bucket covering 25 square meters or approximately 35 panels (using trowel with B3 notching).

Attention! The Tycroc Fast FIX safety data sheet and technical data sheet can be found at www.tycroc.com.



INSTALLING THE HEATING PIPE

Tycroc UHP panels are available for heating pipes with diameters of Ø16 mm and Ø17 mm (UHP16) as well as Ø20 mm (UHP20). Install Tycroc PERT floor heating pipes of the appropriate thickness and length according to the previously prepared heating project (Pipe Consumption Rate: 1 sqm requires approximately 5 meters of pipe). The heating water temperature in the pipes should be maintained between 35–40°C.

Attention! Before installing Tycroc PERT floor heating pipes, refer to the product processing and installation instructions available at www.tycroc.com.

Pipes maximum circuit:

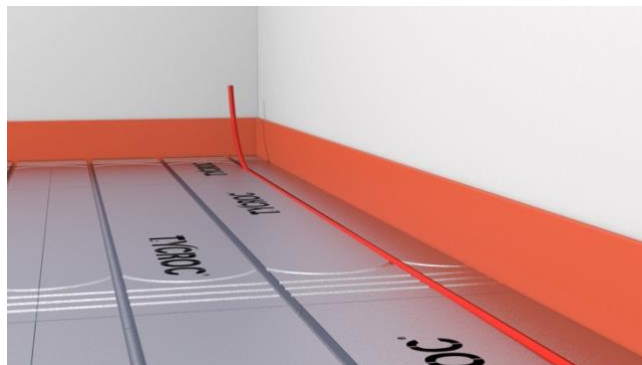
Ø16 mm – max 80 m
Ø17 mm – max 90 m
Ø20 mm – max 120 m

(based on standard EVS 941-1:2024 "General quality requirements for construction works. Part 1: Heating and cooling systems")

2.1

Push the heating pipe into the grooves using your foot or hand, ensuring it is properly seated. Confirm that the pipe extends to the connection point and leave an additional 1 meter of extra length for adjustments.

Recommendation! To maintain the rigidity of the grooves and ensure the pipe remains stable, do not remove the installed pipe from the grooves once it is in place.



2.2

Creating U-Turns or cross Grooves, use a knife to cut the aluminum foil along the grooves in advance to "open" the channels.

Press the edges of the foil firmly into the channel. For this step, you can use the handle of a knife or a similar tool for precision and smooth application.



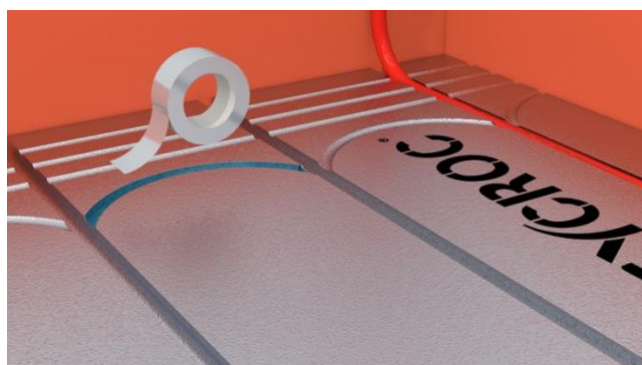
2.3

Apply aluminum tape, before heating pipe installation. Stick Tycroc aluminum tape to the bottom of the groove. This helps transfer the heat energy from the heating pipe to the aluminum surface of the panel.

Tape Consumption Rate: approximately 1 roll for 50 panels.

Ensure the heating pipe does not come into contact with the blue XPS foam to avoid potential cracks caused by the natural expansion and contraction of the pipe as it heats and cools.

Recommendation! To simplify tape installation, first apply the tape to one inside side of the groove, then to the other inside side. If needed, secure the pipe within the groove by taping it from above for extra stability. Use aluminum tape to cover any larger cracks or gaps between the panels for a seamless installation.

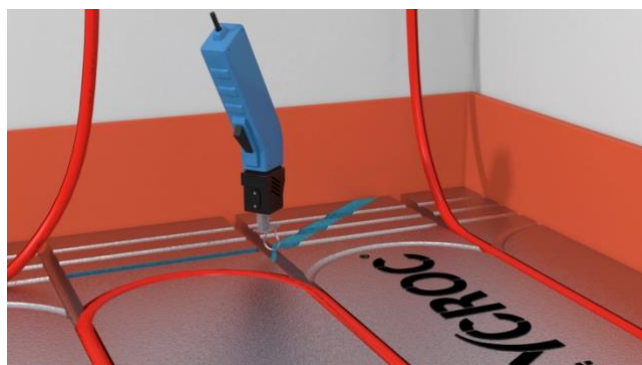


2.4

Cutting a new groove, follow existing groove specifications. Ensure the new groove matches the size, depth, and shape of the existing grooves, resembling an upside-down omega (Ω). The edges of the new groove should be designed to hold the pipe securely in place.

Use a carpet/gypsum knife to make two cuts along the planned new route on the aluminum foil and remove the cut portion to expose the blue XPS foam beneath.

Use a hot knife (EPS foam cutter), or a milling cutter shaped appropriately to carve the new groove along the marked route. Ensure the bending radius of the groove is at least 90 mm, allowing the pipe to fit without strain. After cutting the groove, apply aluminum tape to its bottom to maintain effective heat transfer.



Attention! If flooring is not installed immediately, protect the surface by covering it with a stiff board material (e.g., OSB board, plywood, etc.) to prevent damage or wear from foot traffic.

INSTALLING THE HEATING CABLE

In Tycroc UHP Panels (UHP05) use heating cables with a diameter of 5 mm to 7 mm and a power of 10 W/m. Install the heating cable following the pre-prepared project and the installation instructions provided by the heating cable manufacturer. Adjust the floor temperature using a thermostat, ensuring it does not exceed 28°C, in accordance with the requirements of parquet manufacturers.

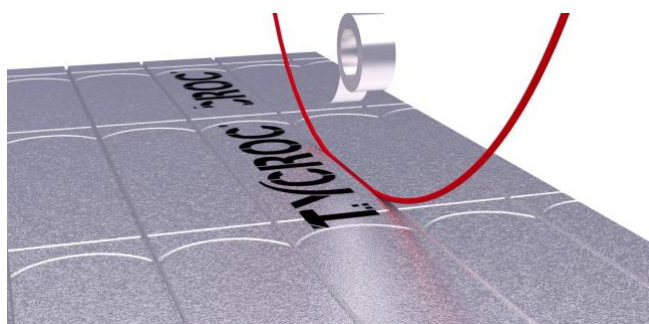
In case of a conflict between Tycroc's recommendations and the heating cable manufacturer's instructions, always follow the cable manufacturer's guidelines. If the cable manufacturer allows the use of cables with a power greater than 10 W/m in Tycroc UHP panels, those instructions take precedence.

The general installation requirements for Tycroc UHP panels and the subsequent flooring remain unchanged, regardless of whether the panels are used for installing heating pipes or heating cables.

3.1

Lay the heating cable into the grooves of the Tycroc UHP (UHP05) panels along the planned route. If necessary, press the cable into the bottom of the grooves using your hand or foot to ensure it is properly seated. Fix the cable at intervals using small strips of aluminum tape for added stability.

Recommendation! To maintain the rigidity of the grooves and ensure the cable stays securely in place, do not remove the installed cable from the grooves once it is placed.



3.2

To create U-turns or wall-mounted cross grooves, use a knife to cut the aluminum foil and open the grooves. Press the edges of the foil into the grooves, for instance, using the end of the knife handle. If needed, cut additional space for the thermostat sensor or cable extensions.

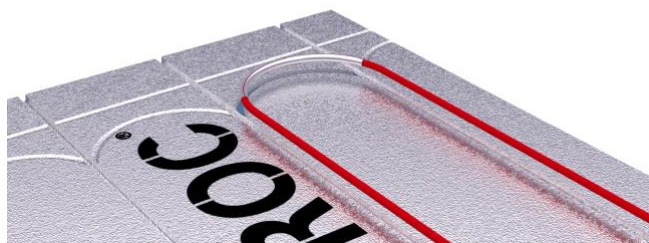
When cutting a new groove for the heating cable, use the knife to carve a triangular groove by making diagonal cuts on both sides. Ensure the new groove matches the size and depth of the existing ones to accommodate the heating cable. If necessary, secure the cable periodically with small strips of aluminum tape.



3.3

Before placing the cable into the cut-out U-turn or additional groove, ensure the cable is insulated with Tycroc aluminum tape of the appropriate length. This allows the cable's thermal energy to transfer effectively to the aluminum surface of the board and prevents overheating within the insulation material. Additionally, insulate the thermostat sensor and the cable's end or extension using aluminum tape.

It is crucial to avoid direct contact between the heating cable and the blue XPS foam to prevent localized overheating of the cable.

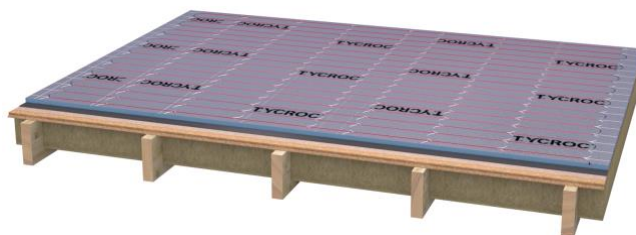


Tape Consumption Rate: approximately 1 roll per 50 panels.

3.4

After connecting the heating cable and confirming its performance, the surface is ready for flooring installation.

Attention! If flooring is not installed immediately, protect the surface by covering it with a stiff board material (e.g., OSB board, plywood, etc.) to prevent damage or wear from foot traffic.



INSTALLATION OF FLOOR COVERING MATERIAL

After connecting the heating system and successfully completing the pressure / heat tests, the surface is ready for the installation of the floor covering material. Before proceeding, ensure the heating system is turned off and that the heating pipes or cables have cooled down completely.

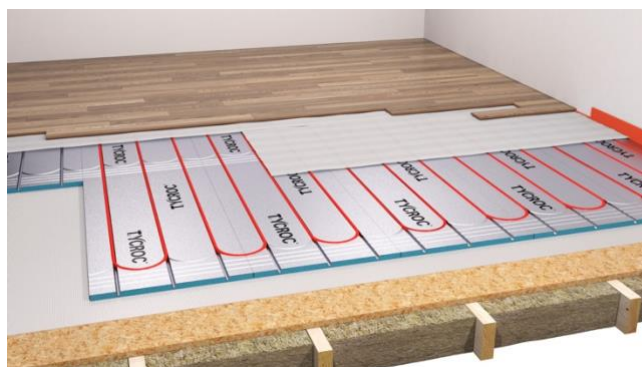
Tycroc UHP panels are compatible with a wide range of floor coverings, including parquet, vinyl parquet, wood, ceramic floor tiles, natural stone.

If required, Tycroc UHP panels can also be covered with concrete or plaster casting, as well as various ready-made dry floor elements, construction board (e.g., plasterboard, OSB board, plywood, or cement fiberboard).

4.1

Laminate parquet and natural parquet Installation:

- follow the installation instructions provided by the manufacturer of the respective parquet;
- begin by installing impact sound insulation or a parquet underlay;
- lay the parquet as a floating floor and position it perpendicular to the grooves of the Tycroc UHP panel;
- for glued parquet use an additional intermediate layer, such as a leveling compound (refer to tested leveling compounds on page 7), or add an insulating and stiffening building board (e.g., plasterboard, OSB board, plywood, or cement fiberboard) to create a stable surface for gluing the parquet;
- when using a construction board as an intermediate layer, install it by gluing, follow the installation instructions provided by the specific construction board manufacturer and use suitable adhesives or tiling mixtures compatible with Tycroc UHP (refer to tested tiling mixtures on page 7);
- after installing the parquet, trim and remove any excess from the Tycroc PES perimetral strip before installing the skirting boards.



4.2

Vinyl parquet (LVT, LVP) and PVC Installation:

- follow the installation instructions provided by the manufacturer of the respective vinyl parquet (LVT, LVP) or PVC;
- install the flooring directly onto the Tycroc UHP panels as a floating floor and position it perpendicular to the board channels, provided the flooring material is sufficiently rigid;
- if the flooring material lacks adequate rigidity or if it will be glued down, use an additional intermediate layer, such as a leveling compound (refer to tested leveling compounds on page 7), or add an insulating and stiffening building board (e.g., plasterboard, OSB board, plywood, or cement fiberboard) to create a stable surface for installation;
- when using a building board as an intermediate layer, install it by gluing. Follow the installation guidelines provided by the specific building board manufacturer and use suitable adhesives or tiling mixtures compatible with Tycroc UHP (refer to tested tiling mixtures on page 7);
- after installing the finishing material, trim and remove any excess from the Tycroc PES perimetral strip before installing the skirting boards.

4.3

Wooden floor / wooden planks:

- install the wooden planks in accordance with the manufacturer's installation instructions or the general installation standards for wooden planks;
- to ensure proper installation, we recommend avoiding direct contact between the wooden board and Tycroc UHP panels. Instead, create an air gap by using battens or similar materials;
- after installing the wooden planks, trim and remove any excess from the Tycroc PES perimetral strip before installing the skirting boards.

4.4

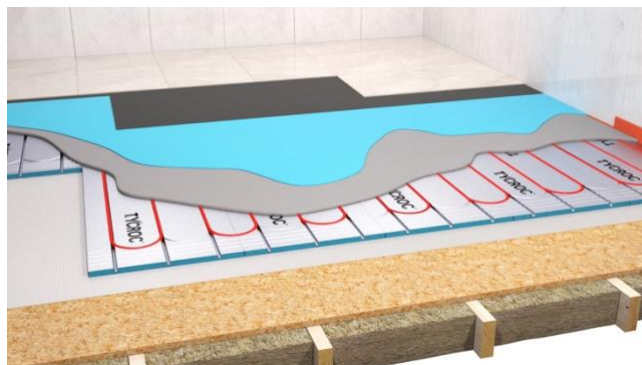
Ceramic floor tiles and natural stones in dry rooms:

- before tiling trim and remove any excess from the Tycroc PES perimetral strip;
- follow the installation instructions provided by the tiling solution manufacturer and adhere to the specific requirements of the chosen flooring material;
- for ceramic floor tiles and natural stone measuring 15 x 15 cm or larger, use a high-adhesion, elastic tiling compound to glue them directly onto Tycroc UHP panels. If the compound manufacturer recommends it, apply an adhesion dispersion suitable for aluminum surfaces beforehand to enhance adhesion;
- for smaller tiles, first reinforce the top surface of the Tycroc UHP panels with a leveling compound or putty designed for use on aluminum surfaces before proceeding with the installation.

4.5

Ceramic floor tiles and natural stones in wet rooms:

- before tiling trim and remove any excess from the Tycroc PES perimetral strip;
- follow the installation instructions provided by the tiling solution manufacturer and adhere to the specific requirements of the chosen flooring material;
- in wet or damp rooms apply a leveling compound over the Tycroc UHP panels. If needed, create a slope towards the drain during this process. Ensure the leveling compound is suitable for use on aluminum surfaces. After the leveling compound has set, apply a waterproofing mastic to ensure proper moisture protection;
- use a high-adhesion, elastic tiling compound to glue ceramic floor tiles or natural stone onto the prepared surface;
- as the surface is reinforced with the leveling compound, there are no specific size restrictions for the tiles.



It is **STRICTLY PROHIBITED** to use ceramic tiles or natural stone if the Tycroc UHP panels have been installed using the screwing method.



The use of ceramic tiles and natural stone is **ALLOWED ONLY** if the Tycroc UHP panels have been installed using the gluing method.



Attention! Before using tile adhesives and other chemicals on aluminium surfaces, it is important to ensure that the product used is suitable for the purpose and will not cause a reaction.

Ceresit

In cooperation with Henkel Balti OÜ, we have tested the compatibility of Tycroc UHP panels and the following Ceresit products:

- Tycroc UHP panels bonding cement based subfloor - Ceresit CM17, CM29, CM49, CM90.
- For cleaning aluminium surface - acetone.
- Primers on Tycroc UHP - Ceresit CT19.
- Levellings on top of Tycroc UHP panels - Ceresit CN75 or CN76 + reinforcement mesh.
- Membranes on levellings:
 - Primers: Ceresit CT19.
 - Membranes: Ceresit CL50 or CL51
- Tiling on Tycroc UHP - Ceresit CM49.
- Tiling Ceresit membranes and levellings - Ceresit CM17, CM29, CM49, CM90.

Henkel Balti OÜ attention to the use of Tycroc UHP and Ceresit products:

- When installing Tycroc UHP with Ceresit products, the Ceresit installation instructions must be followed.
- Carefully wipe over the aluminium layer with acetone before applying the next product.
- When using Ceresit CM90 or CM17 tile adhesive, prime the surfaces with concentrated or diluted Ceresit CN94 or Ceresit R766 primer, depending on absorbency.
- As alkaline mixes (cement or lime) are generally not compatible with aluminium, we cannot recommend pouring Ceresit levelling mixes directly on to the aluminium coating. If it is necessary to pour a levelling compound on UHP panels, the aluminium surface should be cleaned with acetone and primed with Ceresit CT19 primer, then poured with Ceresit CN75 or CN76 levelling compound min. thickness. 12mm thick. It is advisable to apply a large mesh of alkali-resistant fibreglass reinforcement mesh to the mixing layer.
- In wet rooms, use Ceresit CL50 or CL51 membranes to waterproof the levelling compound. For reinforcing expansion joints, corners and penetrations, use Ceresit waterproofing fabrics/reinforcing strips.
- For additional details, refer to the installation instructions, technical data sheets, and safety data sheets of Ceresit products. For further assistance, contact Ceresit technical support.



In cooperation with Kiilto Oy, we have tested the compatibility of Tycroc UHP panels and the following Kiilto products:

- Tycroc UHP panels bonding to cement based subfloor - Kiilto Ultra Fix, Flexfix, Floorfix DF, Kerapid DF.
- Tycroc UHP panels bonding to construction board subfloor – Kiilto Highflex S2 DF.
- Levellings on top of Tycroc UHP panels:
 - Cleaning with acetone
 - Kiilto Fix Primer
 - Kiilto Kesonit Termo, Rotavjämning, Plan Fiber. Fiber reinforced floor screed. Min layer thickness 12 mm.
- Membranes on levellings:
 - Primers: Fibergum primer or Keraprimer diluted 1:1 with water.
 - Membranes: Kiilto XPU + Kiilto Fibergum, Kiilto Keramix A+X, Kiilto Kerasafe+.
- Tiling on Tycroc UHP or on levellings – Kiilto Ultra Fix, Flexfix, Floorfix DF, Kerapid DF.

Kiilto Oy attention to the use of Tycroc UHP and Kiilto products:

- When installing Tycroc UHP with Kiilto products, the Kiilto installation instructions must be followed.
- If adhering is made with tile adhesive – the back of the UHP panels must be roughened/sanded or double sided application method must be used to achieve sufficient adhesion.
- Before tiling on Tycroc UHP, clean the aluminum surface with acetone and prime it with Fix Primer.
- For tiles directly on Tycroc UHP panels (dry areas), the minimum recommended tile size is 15x15 cm.
- For floors subjected to higher-than-usual loads (e.g., under a washing machine), it is recommended to level panels with fiber reinforced floor screed. The screed layer increases the stiffness and heat distribution of the floor.
- For additional details, refer to the installation instructions, technical data sheets, and safety data sheets of Kiilto products. For further assistance, contact Kiilto technical support.

Attention! The installation instructions provided above are general recommendations and guidelines for constructing various substrates and installing floor covering materials. For detailed installation instructions specific to a particular floor covering material or the use of a building board as an intermediate layer, consult the manufacturer or seller of the respective product.

In case of contradictions, always prioritize and follow the instructions provided by the product manufacturer. Tycroc OÜ assumes no responsibility if relevant building standards are not adhered to, the installation instructions above are not followed, or the instructions of the floor covering material manufacturer are disregarded.

We strongly recommend employing qualified professionals for the installation of all products to ensure proper execution and compliance with applicable standards.

TYCROC PRODUCTS FOR A COMPLETE SOLUTION FOR FLOOR HEATING

Tycroc PERT pipe

PRODUCTS	DIMENSIONS
PERT16-120	16x2,0 mm 120 m
PERT16-240	16x2,0 mm 240 m
PERT16-480	16x2,0 mm 480 m
PERT17-120	17x2,0 mm 120 m
PERT17-240	17x2,0 mm 240 m
PERT17-480	17x2,0 mm 480 m
PERT20-120	20x2,0 mm 120 m
PERT17-240	20x2,0 mm 240 m
PERT17-480	20x2,0 mm 480 m



Tycroc TSL manifold

PRODUCTS	DIMENSIONS
TSL1	1¼" - 1 x 3/4" Euro
TSL2	1¼" - 2 x 3/4" Euro
TSL5	1¼" - 5 x 3/4" Euro



Tycroc TSL valves with handles

PRODUCTS	DIMENSIONS
TSL-VA1	1¼"-1", L=60 mm, (pair)



Tycroc TSA actuator

PRODUCTS	DIMENSIONS
TSA230	230V ~ 50-60Hz 1,8W NC M30x1,5
TSA24	24V ~ 50-60Hz 1,6W NC M30x1,5



Tycroc SmartOne thermostat

PRODUCTS	DIMENSIONS
SMART1	85x85x12 mm (screen: 4" 480x480 24 bit)



Tycroc TCA compression adapter

PRODUCTS	DIMENSIONS
TCA16	16x2 mm 3/4" Euro
TCA17	17x2 mm 3/4" Euro
TCA20	20x2 mm 3/4" Euro



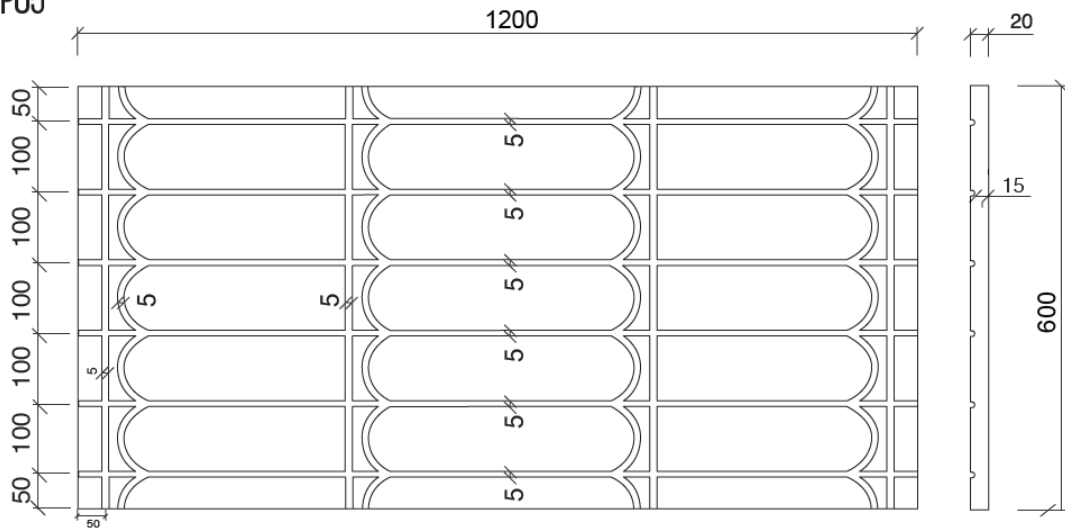
Tycroc PBS 90° plastic bend support

PRODUCTS	DIMENSIONS
PBS16	for 14-18 mm pipe
PBS2	for 20-22 mm pipe

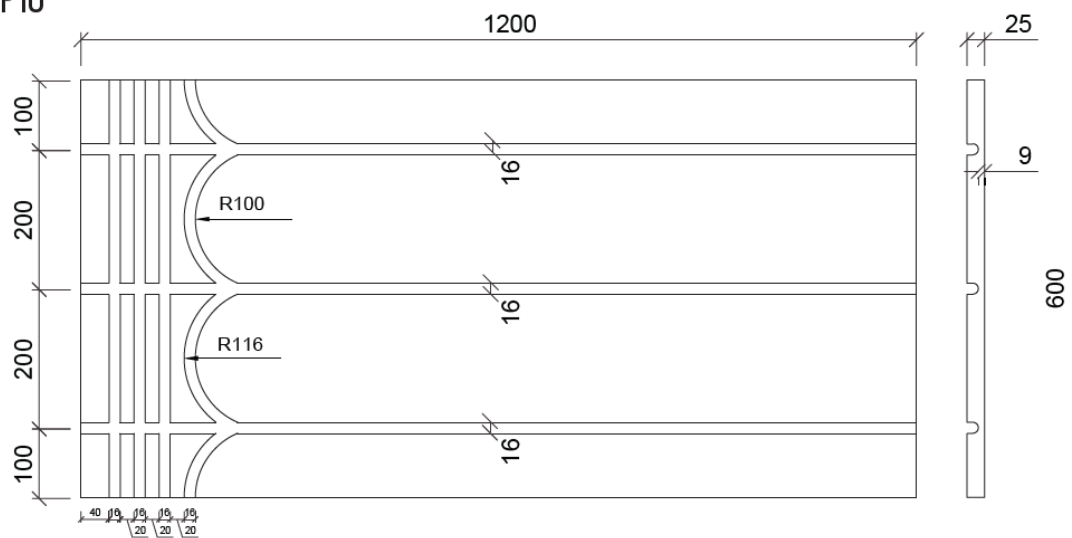


TECHNICAL DRAWINGS

TYCROC UHP05



TYCROC UHP16



TYCROC UHP20

