

# TYCROC UHP

## INSTALLATION INSTRUCTIONS



### APPLICATION CONDITIONS

Installing the Tycroc UHP under panel for the floor heating the underlying surface has to be level, dry, strong, rigid and stable. It also has to be free from dirt, oil or other lubricants and it cannot be frozen. If necessary, the underlying surface has to be levelled using products for intended use.

### INSTALLING TYCROC UHP ONTO A SURFACE

The Tycroc UHP is suitable for installing onto a bearing surface, both onto a wooden structure (for example boarding, OSB board, plywood, etc.) as well as onto a concrete surface. Glued Tycroc UHP ensures stiffer and more stable surface underneath the flooring. Using a Tycroc Fast FIX acrylic adhesive or proper adhesive for tiles (chosen according to the underlying surface), install the panels by full spread gluing in compliance with the previously prepared project.

The conditions for the installation of the Tycroc UHP panels and the conditions for the subsequent installation of the floor covering remain the same regardless of whether the panels are used for the installation of a heating pipe or heating cable.

#### 1.1

The underlying surface has to be free from dirt, oil or other lubricants and it cannot be frozen. Apply Tycroc Fast FIX acrylic adhesive or a suitable tile compound to the substrate using a B3 adhesive comb (if necessary, apply a suitable dispersion of adhesive in advance to achieve better adhesion with the tile compound).

#### 1.2

Place the panels onto the mixture and press down lightly. Check that the panels are levelled on the floor (as a good tool for levelling, a hammer and a wooden support board or block can be used – level the panel to its place by tapping).

Recommendation! If you use an additional 2-3 Tycroc fastening screws and washers or metal dowels for each board, you do not need to use additional weight while the adhesive dries and the installation process is faster.

### CUTTING AND STORAGE

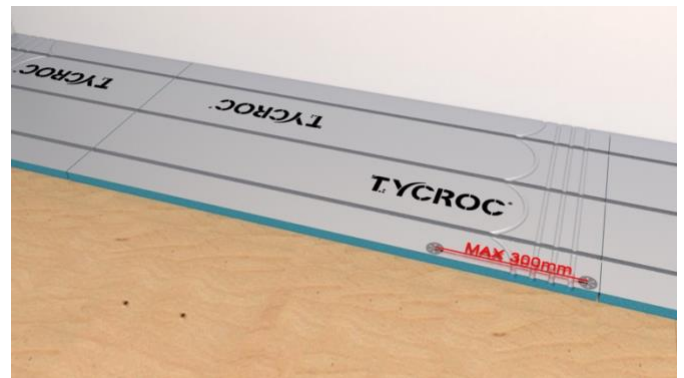
The cutting of the Tycroc UHP under panel for the floor heating is easy, using carpet/gypsum knife, also certainly an electric circular saw, compass saw or handsaw. There are no special requirements for storage, but it is advisable not to store the panels edgewise to avoid possible damage (broken corners and edges, etc).



### 1.3

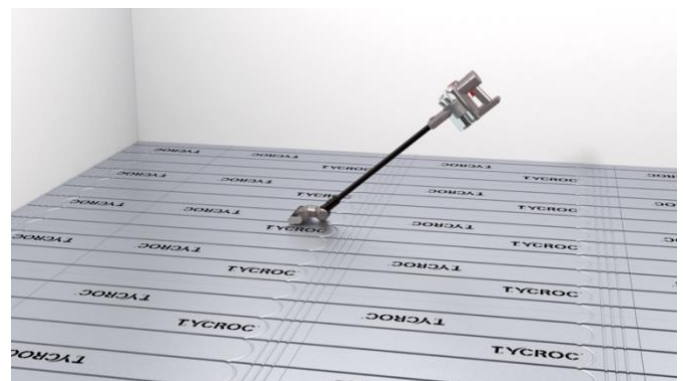
For the later floating flooring, it is possible to fasten the Tycroc UHP panels to the floor using Tycroc screws and washers. Max distance between screws and washers can be 300mm.

Rate of consumption: 15 fastenings per one 1200x600 mm Tycroc UHP panel.



### 1.4

Before the installation of the heating pipe make sure that the grooves are clean of dirt. Avoid too many steps on the empty grooves to not broke the edges of the grooves.



## 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. 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.

**Rate of consumption for Tycroc UHP:**  
ca 0,6 kg per sqm - that is one 15 kg bucket per 25 sqm or ca 35 panels (panel measures 1200x600 mm).



## INSTALLING THE HEATING PIPE

Tycroc UHP panel UHP16 is made for Ø16 mm and Ø17 mm heating pipes and UHP20 is made for Ø20 mm heating pipes. According to the previously prepared project, install the Tycroc PERT underfloor heating pipe of the appropriate thickness and length (consumption standard: 1m<sup>2</sup> = 5m pipe). The recommended temperature of the heating water in the pipes is 35 - 40 °C.

### 2.1

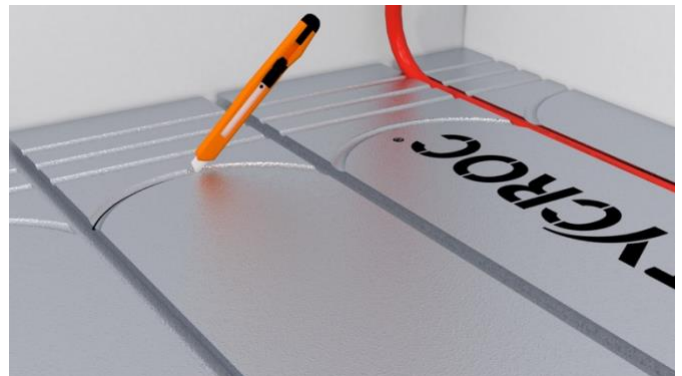
Press the floor heating pipe by hand or foot into the Tycroc UHP grooves. Ensure that the pipe reaches connection point and adding 1m.

Recommendation! To ensure the rigidity of the groove and the stability of the pipe, it is not advisable to remove a pipe from the groove once it has been installed.



### 2.2

For a U-turn or crossing grooves near the walls, cut the aluminium foil with a knife first to "open" the grooves, and press the foil into the channel, using e.g. a knife handle.



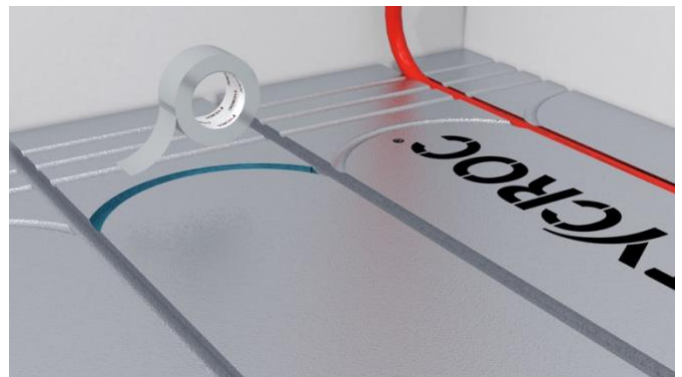
### 2.3

Before the installation of the heating pipe use aluminium tape bottom of the grooves.

It is important the pipe and the blue xps-foam do not come into contact with each other to avoid any subsequent clicking etc. that may be caused by the natural expansion and contraction of the pipe as it heats up and cools down.

Consumption rate of the tape: 1 roll for approx. 50 tiles.

Recommendation! To simplify the installation of the tape, it is recommended to apply the tape first on one inner side of the groove and then on the other inner side. If necessary, tape can also be used to fix the top of the pipe so that it remains firmly in the groove at the return points. Aluminium tape can also be used to cover larger cracks between the panels.

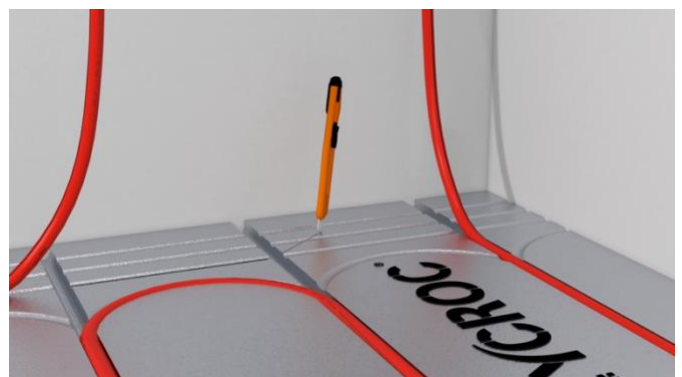


### 2.4

Cutting a new groove - using carpet/gypsum knife or electric tool cut the new groove, again the aluminium tape to the bottom of the groove (ensure that the radius is not less than 90mm).

It is important the pipe and the blue xps-foam do not come into contact with each other to avoid any subsequent clicking etc. that may be caused by the natural expansion and contraction of the pipe as it heats up and cools down.

Attention! If the floor covering will be not installed immediately, the walkways should be covered with a more rigid board material (e.g. OSB, plywood, etc.) to protect the surface until the floor covering is installed.



**COMPLETE SOLUTION OF TYCROC  
UNDERFLOOR HEATING AND COOLING**

In addition to the Tycroc UHP underfloor heating panels, we also offer PE-RT 5-layer heating pipes, modular manifolds and accessories.

**Tycroc PERT pipe**

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



**Tycroc TSL manifold underfloor heating / cooling**

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



**Tycroc TSL valves with handles**

PRODUCTS	DIMENSIONS
TSL-VA1	1 1/4"-1", L=60mm, (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 TCA compression adapter**

PRODUCTS	DIMENSIONS
TCA16	16x2mm 3/4" Euro
TCA17	17x2mm 3/4" Euro
TCA20	20x2mm 3/4" Euro



**Tycroc PBS 90° plastic bend support**

PRODUCTS	DIMENSIONS
PBS16	for 16-18mm pipe
PBS20	for 20-22mm pipe



### INSTALLING THE HEATING CABLE

In Tycroc UHP panel (UHP05), it is optimal to use Ø 5 mm to Ø 7 mm heating cables with a power of 10 W/m. The heating cable should be installed according to the previously prepared project and the installation instructions of the heating cable manufacturer. When using the heating cable, the floor temperature must be set to max. 28 °C (requirement of parquet manufacturers).

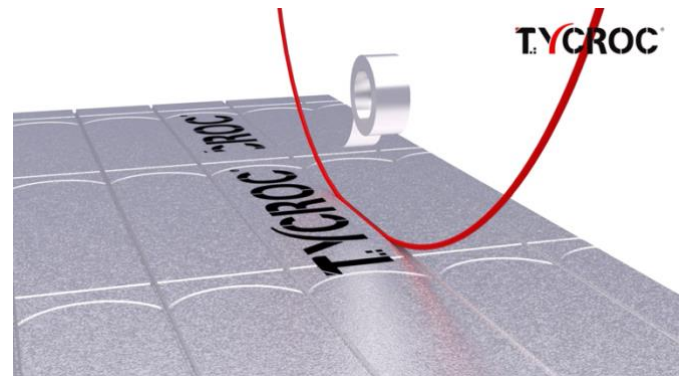
In the event of any inconsistency with the heating cable manufacturer's installation instructions, refer to the relevant manufacturer's instructions. This is the case even if the cable manufacturer allows the use of cables with a power rating greater than 10 W/m in Tycroc UHP panels.

#### 3.1

Insert the cable into the Tycroc UHP ducts. If necessary, push the cable into the bottom of the grooves with your hand or foot. If necessary, fix the cable occasionally with a small strip of aluminium tape.

Recommendation! In order to ensure the rigidity of the groove and to keep the cable firmly in place, it is not advisable to remove an already installed cable from the groove.

The conditions for the installation of Tycroc UHP panels and the conditions for the subsequent installation of the floor covering remain the same, regardless of whether you use a panel for the installation of a heating pipe (UHP16 and UHP20) or a heating cable (UHP05).



#### 3.2

For U-turns or perpendicular grooves, cut the aluminium foil with a knife so that the groove can be used as a "U". To open the aluminium foil and push the foil edges into the groove, for example using a knife handle. If necessary, use a knife to cut an additional space for the thermostat sensor and the end or continuation of the cable.

Cutting a new groove - use a knife or hand-held router, cut the desired new groove.

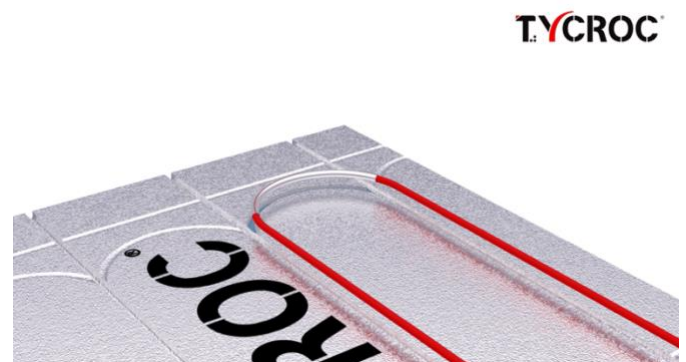


#### 3.3

Before placing the cable in a cut-out U-turn or an additional groove, the cable itself must be insulated with Tycroc aluminium tape of the appropriate length to transfer the cable's thermal energy to the aluminium surface and to prevent possible overheating of the cable inside the insulation material. The thermostat sensor and the termination or continuation of the cable should also be insulated with aluminium tape.

It is important that the heating cable and the blue xps-foam do not come into contact with each other to prevent local overheating of the cable.

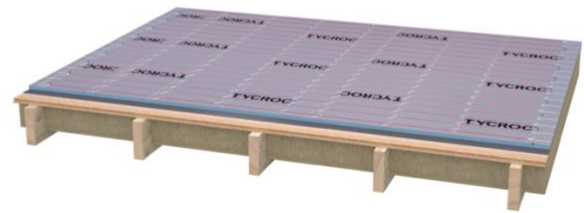
Tape consumption rate: 1 roll for approx. 50 panels.



### 3.4

Such a surface is immediately ready for flooring, but test the performance of the cable before proceeding to the next stage.

Attention! If the floor covering will be not installed immediately, the walkways should be covered with a more rigid board material (e.g. OSB, plywood, etc.) to protect the surface until the floor covering is installed.



### INSTALLING THE FLOORING ONTO TYCROC UHP

Once the heating system has been connected and the pressure test has been carried out, the surface is ready for the floor covering. The heating system must be switched off and the heating pipes cooled down before the floor covering is installed. Tycroc UHP can be used under all common floorings, including parquet, wood, ceramic tiles, and natural stone. If necessary, the Tycroc UHP panel can be covered with concrete or gypsum casting and different ready-made dry floor covering materials, such as gypsum baseboard, cement fibre boards, or gypsum plasterboards.

#### 4.1

- Parquet:
- install the parquet in compliance with the producer's installation instructions;
- install an impact sound insulation or step sound insulation first (ask it from parquet dealer);
- install a parquet floatingly (gluing the parquet blocks together or using locking blocks) and crosswise comparing the panel grooves;
- in the case of glued parquet, use either a levelling compound or a floating (if necessary, it may also be screwed in place) additional insulating and stiffening layer (cement fibre board, gypsum plasterboard, osb-board; plywood, etc.) to glue the parquet on top.

#### 4.2

LVT, LVP, PVC:

- install the LVT, LVP or PVC in compliance with the producer's installation instructions;
- install a LVT, LVP or PVC floatingly (gluing the parquet blocks together or using locking blocks) and crosswise comparing the panel grooves;
- in the case of glued LVT, LVP or PVC, use either a levelling compound or a floating (if necessary, it may also be screwed in place) additional insulating and stiffening layer (cement fibre board, gypsum plasterboard, osb-board; plywood, etc.) to glue the parquet on top.

#### 4.4

Ceramic tiles and natural stones in dry area

- install the ceramic tiles or natural stones in compliance with the chemical producer's installation instructions;
- the underlying surface has to be level, dry, strong, rigid and stable;
- to achieve better bonding, cover the surface prior to the gluing with adhesive dispersion/primer;
- ceramic tiles and natural stone should be glued with an adhesive for tiles, which has great adhesive strength and elasticity;
- directly onto the Tycroc UHP tiles from 15x15cm are suitable, for smaller tiles cover the UHP surface by suitable floor levelling compound.



#### 4.3

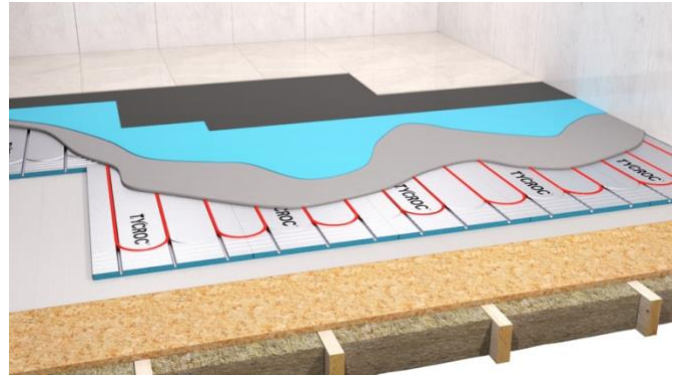
Wooden floor:

- install the wooden floor in compliance with the producer's installation instructions;
- it is imperative to avoid direct contact between board flooring and Tycroc UHP, i.e. an air gap must be created between the board flooring and Tycroc UHP using trowelling, or either a levelling compound or a floating (if necessary, it may also be screwed in place) additional insulating and stiffening layer (cement fibre board, gypsum plasterboard, osb-board; plywood, etc.) to glue the parquet on top.

4.5

Ceramic tiles and natural stones in wet area:

- install the ceramic tiles or natural stones in compliance with the chemical producer's installation instructions;
- the underlying surface has to be level, dry, strong, rigid and stable;
- to achieve better bonding, cover the surface prior to the gluing with adhesive dispersion/primer;
- cover the UHP surface by suitable floor levelling compound, also waterproofing is required;
- ceramic tiles and natural stone should be glued with an adhesive for tiles, which has great adhesive strength and elasticity;
- as the surface is reinforced with a levelling compound, there are no specific conditions regarding the tile dimensions.



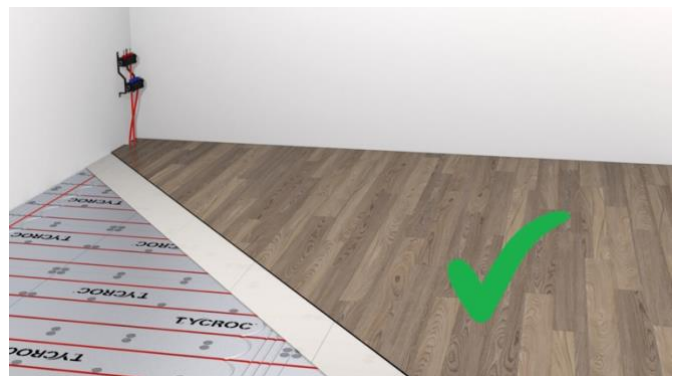
**IT IS PROHIBITED** to use ceramic tiles or natural stones if Tycroc UHP panels themselves have been installed using the screwing method!



**IT IS PERMITTED** to use ceramic tiles or natural stones if Tycroc UHP panels themselves have been installed using bonding method!



**IT IS PERMITTED** to install Tycroc UHP panels by the screwing method if the subsequent coating material will be installed floatingly!



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 to concrete - Ceresit CM17, CM29, CM49, CM90.
- For cleaning aluminium surface - acetone.
- Primers on Tycroc UHP - Ceresit CT19.
- Levelling compounds on Tycroc UHP - Ceresit CN75 or CN76 + reinforcement mesh.
- Waterproofing on top of levelling compound - Ceresit CL50 or CL51
- Tile adhesives on Tycroc UHP - Ceresit CM49
- Tile adhesives on Ceresit waterproofing and levelling mixes - 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 Naked Dispersion, 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 waterproofing compound to waterproof the levelling compound. For reinforcing expansion joints, corners and penetrations, use Ceresit waterproofing fabrics/reinforcing strips;
- For more information see Ceresit product Technical Data Sheets (TDS), consult Ceresit Technical Support if necessary.



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

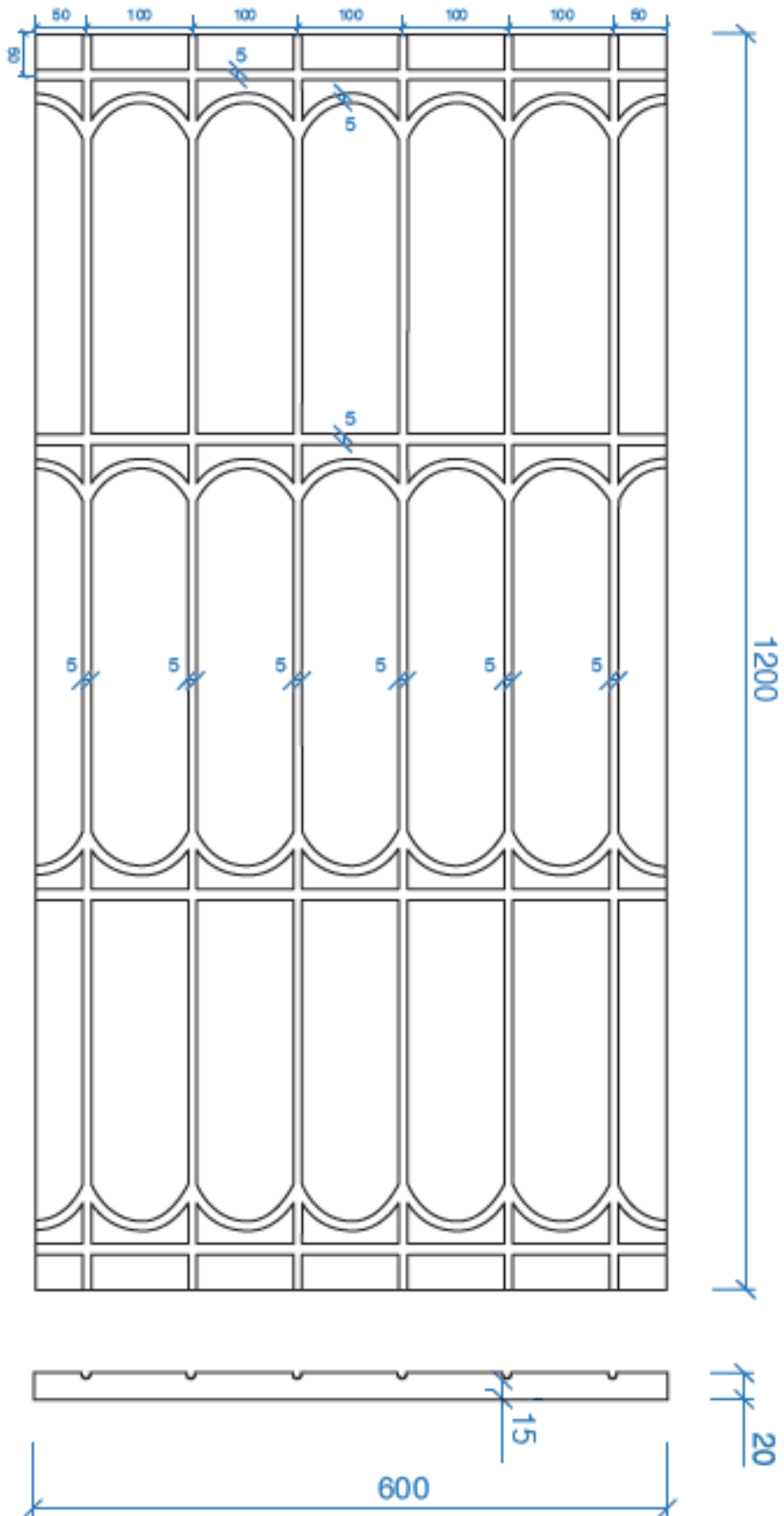
- Tycroc UHP panels bonding to concrete - Kiilto Ultra Fix, Super W, Superfix DF, FlexFix, Floorfix DF, Kerapid DF.
- Tile adhesives for Tycroc UHP bonding to building slabs - Kiilto Highflex S2 DF.
- Levelling compounds on Tycroc UHP:
  - Cleaning with acetone
  - Kiilto Fix Primer
  - Fibre reinforced levelling compound: Kiilto Kestonit Termo, Plan Rapid, TM Rotavjämning, min layer thickness 12 mm.
- Waterproofing on top of levelling compound - Kiilto Fibergum Primer or Keraprimer as concentrate and Kiilto Fibergum, Keramix A+X, Kerasafe+
- Tile adhesives on Tycroc UHP or levelling compound - Ultra Fix, Flexfix, Floorfix DF, Kerapid DF

- If UHP panels will be fixed by tile adhesive, the back of the panel must be roughened/sanded. Alternatively, a double-sided coating method can be used to ensure adequate adhesion by applying the compound to both the substrate and the back of the panel.
- Prior to tiling, the aluminium surface must be cleaned with acetone and primed with Kiilto Fix Primer Nacquer. When tiled directly on the primed UHP panel (dry rooms), the floor tile must be at least 15 x 15 cm.
- However, for floors subjected to heavier than normal loads (e.g. under a washing machine), we recommend that UHP panels are first levelled with a fibre-reinforced levelling compound. A layer of levelling compound adds rigidity to the floor and uniforms the heat distribution.

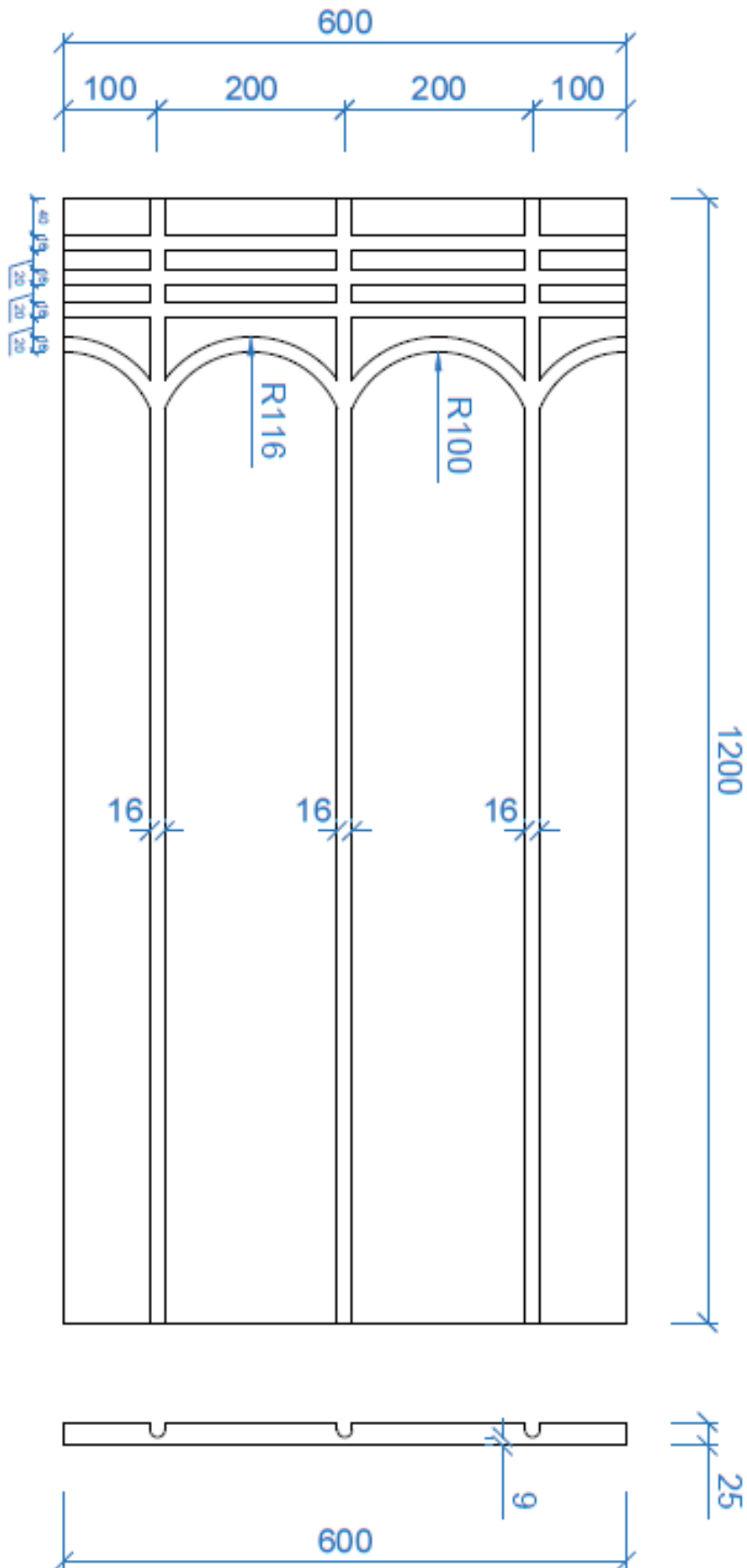
Attention! The installation instructions described above contain only general recommendations for the installation of different types of coatings. For more detailed installation instructions, please contact the manufacturer of the coating material or the manufacturer's representative. In the event of any discrepancy, refer to the relevant manufacturer's instructions.



TYCROC UHP05 TECHNICAL DRAWING



TYCROC UHP16 TECHNICAL DRAWING



TYCROC UHP20 TECHNICAL DRAWING

