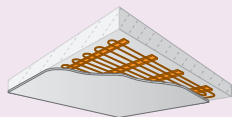
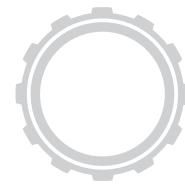


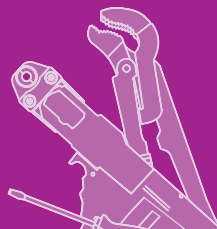
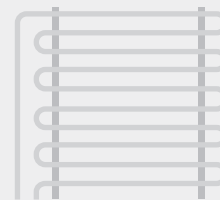
EWHC

INSTALLATION

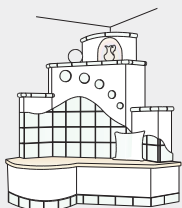
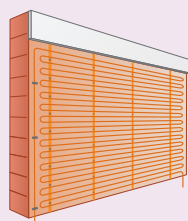
PLASTER WALL. HEATING AND COOLING.



EasyFlexCeiling.



EasyFlexWall.



PDF

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1.1 General

These installation instructions are intended for authorised specialist personnel.
Observe the applicable local regulations and standards for electrical and heating installations.

1.2 Guarantee conditions

If the heating system is installed or commissioned incorrectly, all claims on the basis of the manufacturer's warranty and guarantee become void. Our relevant current applicable installation instructions are an integral part of our guarantee.

1.3 Variotherm pipes storage

The VarioProFile pipe 11.6x2 Laser and the pre-insulated Variomodular pipe 16x2 Laser as a supply pipe to the EasyFlexWall are multi-layer aluminium composite pipes (100 % oxygen diffusion-tight). They are only weather-resistant to a limited extent, must be shielded from direct sunlight and must not be stored outdoors.

Damage (e.g. denting and scratching) is to be avoided during storage, transport, unloading, unwinding and laying. This type of damage has a detrimental effect on the creep behaviour.

In order to prevent damage to the pipe during the construction phase, high-visibility warning signs should be placed at appropriate locations.

The interaction of the air's oxygen with UV rays damages the pipes. Normal temporary storage on the construction site for a few days is permissible.

1.4 Standards

The validity of the standards listed in these installation instructions was last checked on 26/07/2017!
If applicable, changes in standards must be reviewed!

1.5 Information about EasyFlexCeiling

The installation instructions are based on the EasyFlexWall system. The system can also be mounted on ceilings. This is why all notes in these installation instructions also apply to the EasyFlexCeiling system.

EWHK77 \triangleq EDKH77, EWHK115 \triangleq EDKH115

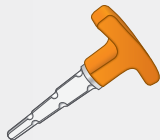


2.1 Tools

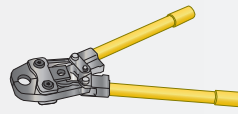
The following Variotherm tools are required/recommended for installation work:



Pipe cutting pliers



Calibration and chamfering tool

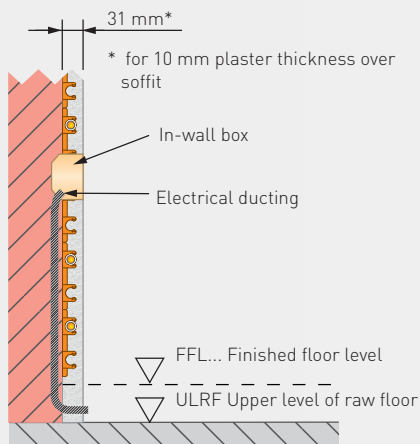


EcoPress or AkkuPress Mini pressing tool, incl. press-fitting jaws



Bending model 11.6/77 & 11.6/115

2.2 Domestic electrical installation



Before installing the EasyFlexWall/Ceiling, electrical ducting must be carried out. When installing the in-wall boxes, pay attention to the respective height level of the plaster.

<< Image: Cross-section through EasyFlexWall with ducting for electrical installation

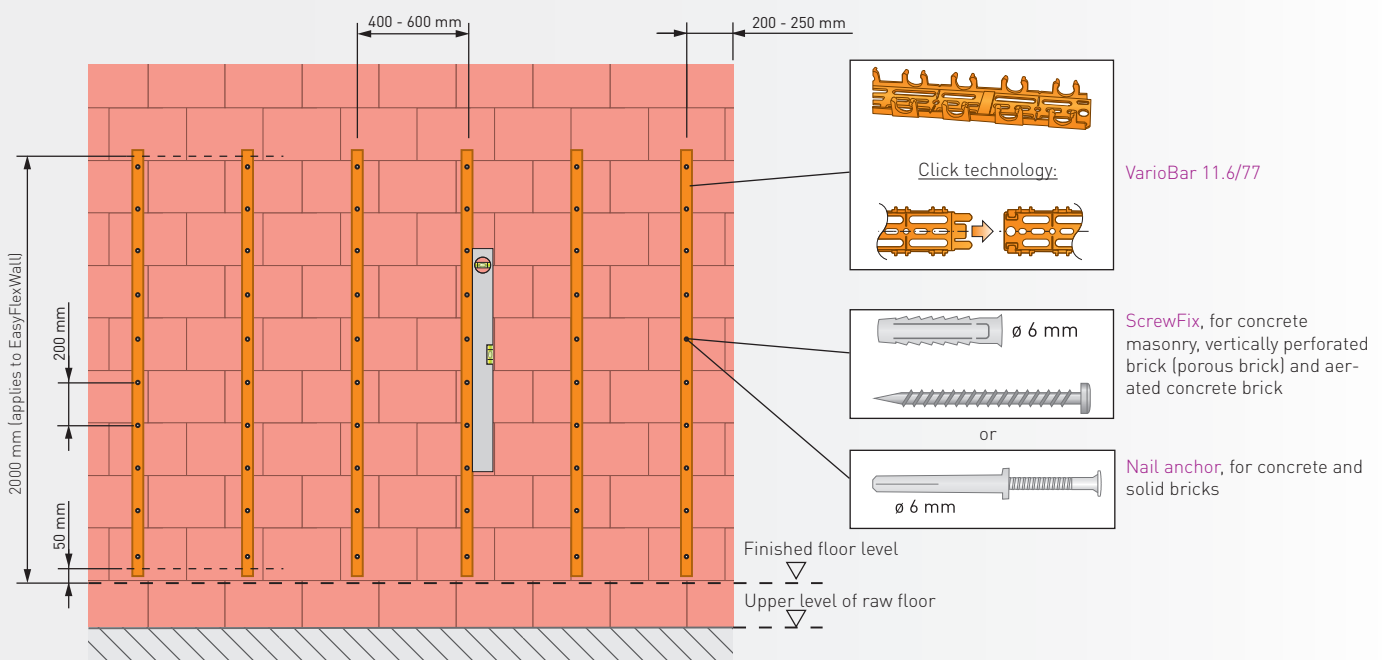
2.3 Specific requirements for the brickwork

Areas in which the EasyFlexWall/Ceiling systems are to be installed must be even and dry. Their evenness must lie within the permissible range. Any uneven areas must be chipped off or evened out with an undercoat.

As a standard, the EasyFlexWall is installed up to a height of 2 m above the finished floor level (FFL).

Further information on the plaster base inspection can be found in Section 4.2.

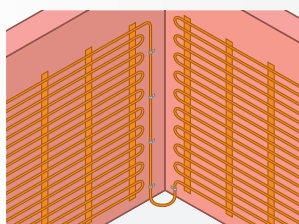
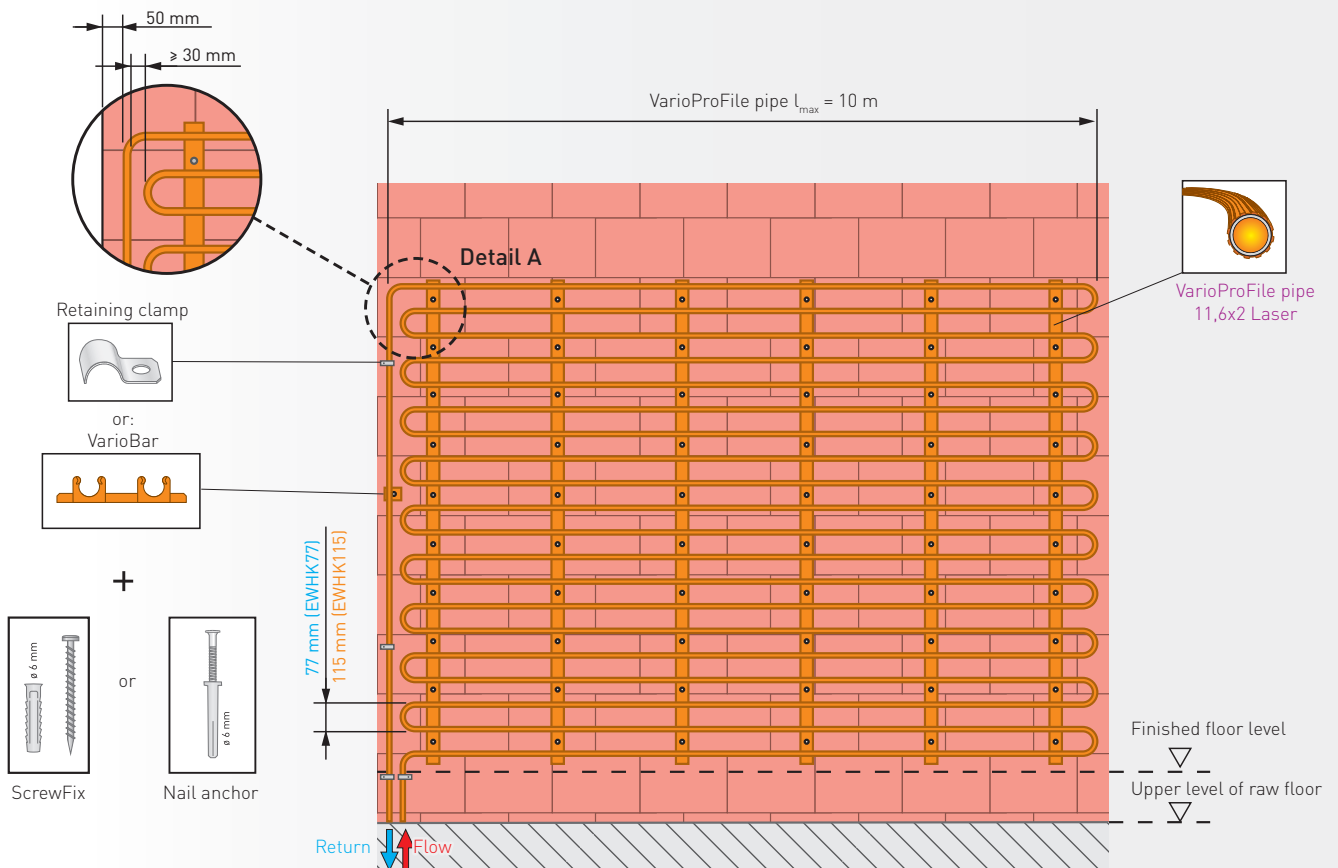
2.4 Installation of VarioBar 11.6/77



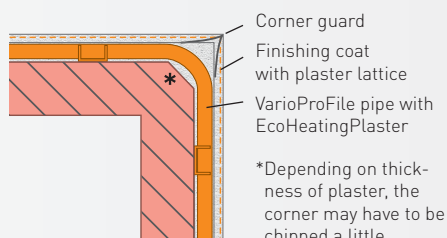
3.1 Pipe installation



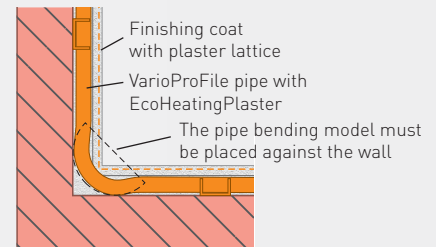
- 1 m² EWHK77 \triangleq 13 m VarioProFile pipe
- 1 m² EWHK115 \triangleq 8.7 m VarioProFile pipe
- **Maximum pipe length per heating circuit: 80 m**
(e.g. EWHK77, 5 m² heating/cooling surface area + 15 m supply pipe)
- Starting below, insert VarioProFile pipe into VarioBar
- Distance between pipes: 100 mm
(exceptions: windows, ... – see Section 3.5)
- Leave approx. 50 mm distance to adjacent walls



Example inner corner



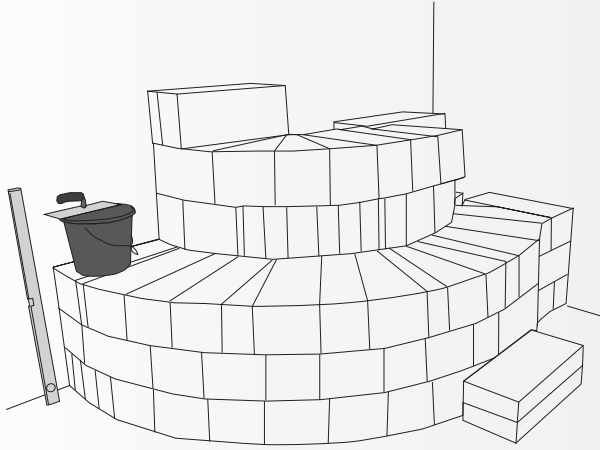
Special case outside corner



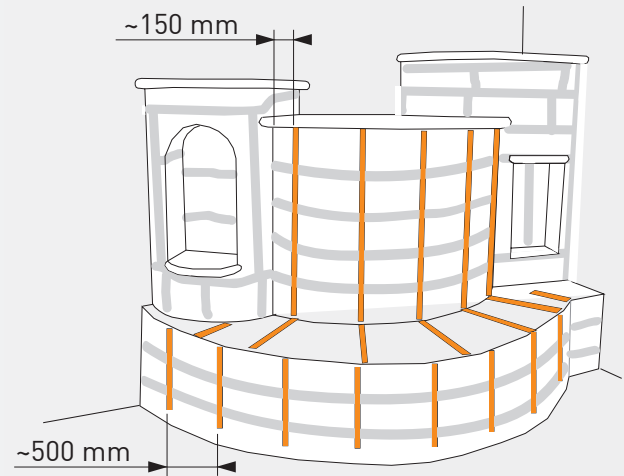
Special case inner corner

3.5 EasyFlexWall as 'designer heating'

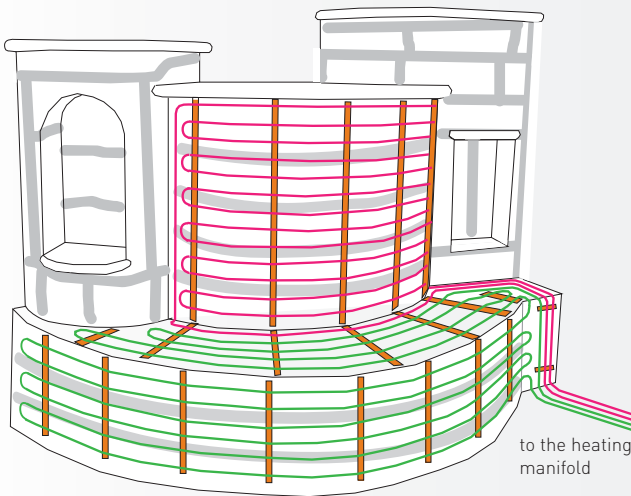
The EasyFlexWall can also be used to heat centrally heated tiled stoves.



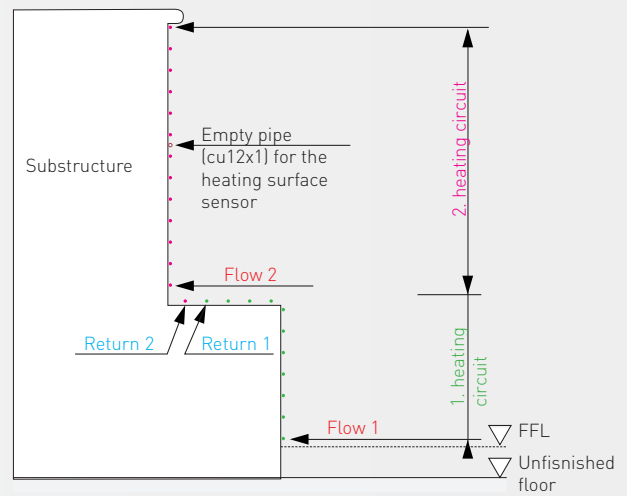
First, build the substructure (e.g. with porous concrete)



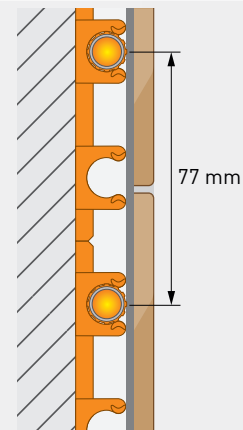
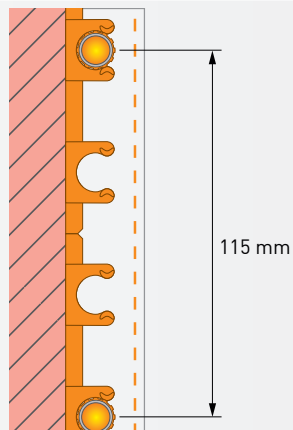
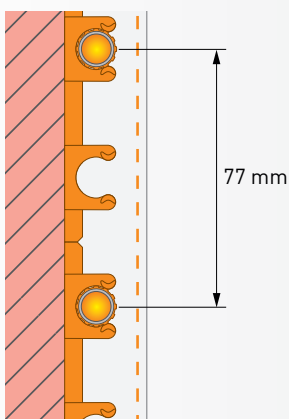
Then install the VarioBars



Now install the VarioProFile pipe 11.6x1.5 Laser



Cross-section view



3.6 Trimming and connecting the Variotherm pipes (press-connection)

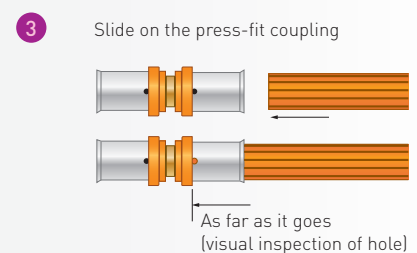
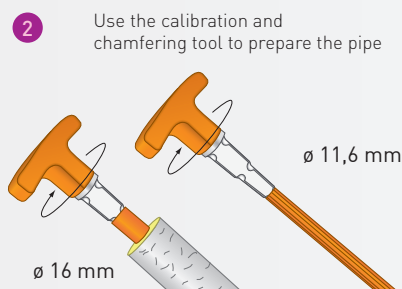
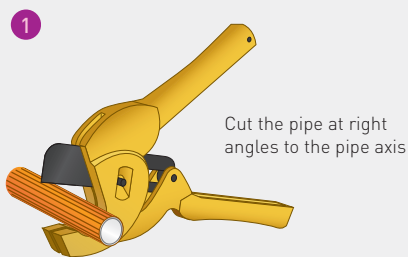
Caution! A permanent, tight connection is only guaranteed if original Variotherm system components are used:

- VarioProFile pipe 11,6x1,5 Laser
- Variotherm calibration and chamfering tool
- Variotherm press-fit couplings and Variotherm pressing tool

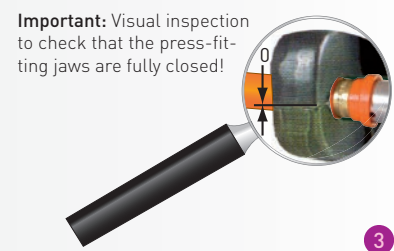
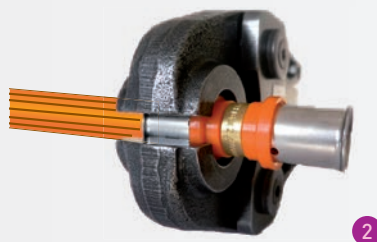
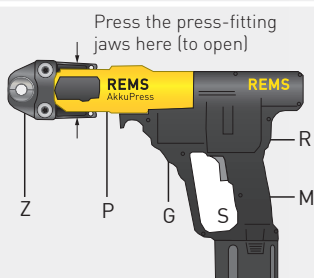
Maintenance

The press-fitting jaws and pressing tool must be checked at least once a year for correct operation by REMS or an authorised REMS customer service workshop.

Preparing the pipe:

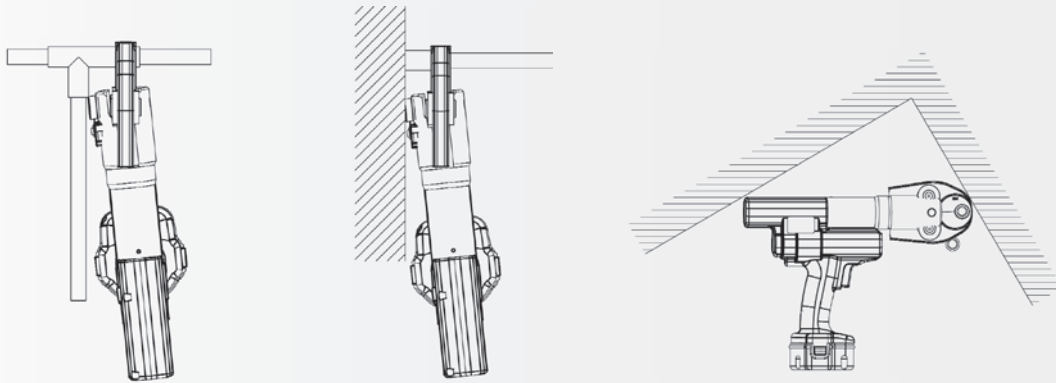


Pressing procedure for AkkuPress:

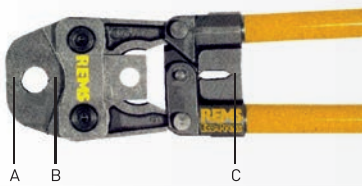


- Push the press-fitting jaws [Z] together by hand (causing the press-fitting jaws to open) far enough so that the press-fitting jaws can be placed over the press-fit coupling 2. Place the pressing tool with press-fitting jaws on the press-fit coupling at a right angle to the pipe axis.
- Release the press-fitting jaws so that they close around the press-fit coupling 3.
- Hold the pressing tool at the housing grip [G] and at the motor grip [M]. When using a REMS AkkuPress, hold the switch [S] pressed until the press-fitting jaws are fully closed. This is made apparent by an audible click.
- Press the reset lever [R] until the pressing rollers [P] have retracted completely. Press the press-fitting jaws [Z] together by hand so that the jaws can be removed from the press-fit coupling (see also the REMS AkkuPress operating manual).

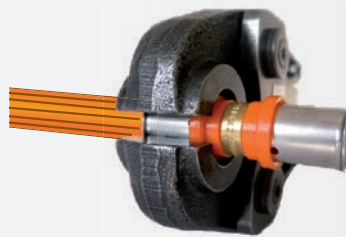
The following situations must be avoided (danger of gearbox breakage!):



Pressing procedure for Eco-Press:

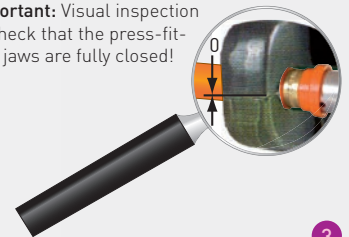


1



2

Important: Visual inspection to check that the press-fitting jaws are fully closed!



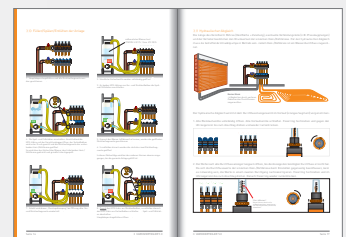
3

- The pressing tool's lever length can be adjusted to suit the pressing force and the available space on site. Use the provided pipe arms with sleeve sockets for extension. Always screw pipe arms tight before use (danger of accidents!). Secure the selected press-fitting jaws with plug-in bolts.
- Pull the pipe arms far enough apart (press-fitting jaws open) so that the press-fitting jaws can be slid over the press-fit coupling ②. Place the press-fitting jaws on the press-fit coupling at a right angle to the pipe axis.
- Push pipe arms together until they reach the stop position (C) (a click is heard when they reach the stop). Only if the press-fitting jaws are fully closed at (A) and at (B) has a correct press connection been carried out. → Visual inspection ③.
- Re-open the pipe arms so that the jaws can be removed from the press-fit coupling (see also the REMS Eco-Press operating manual).

3.7 Control and pressure test

Once all circuits have been connected to the heating/cooling distribution manifold, the system can be filled downstream of the manifold and pressurised. The pipes are to be kept under water pressure prior to or during plastering so that any damage becomes immediately visible.

Details regarding the system and heating circuit pipes and the room temperature control are provided in the DISTRIBUTION and CONTROL planning and installation instructions >>



4.1 General information

Plaster work is carried out as a multi-layer plaster (base coat and finishing coat) or a single-layer plaster. Observe the following standards:

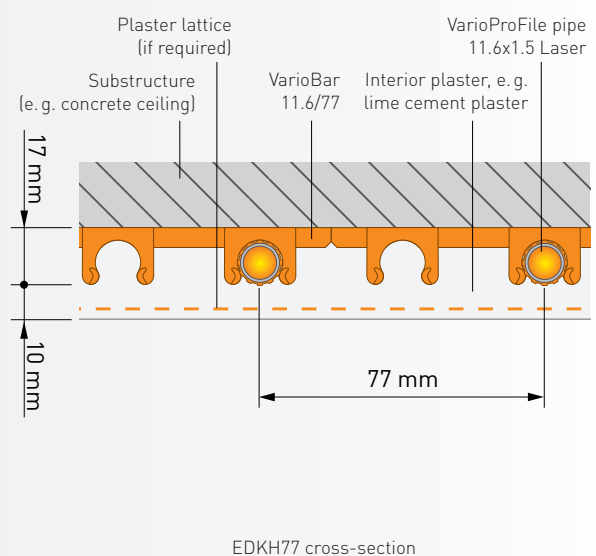
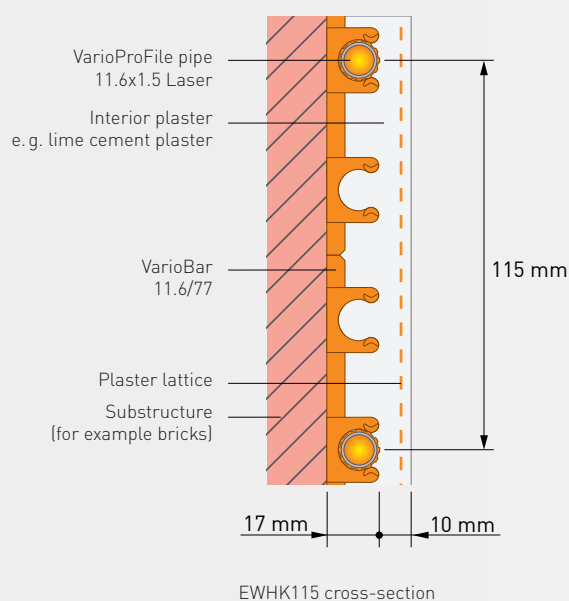
- **ÖNORM B 2210** Work contract standard for plaster work
- **ÖNORM B 2206** Work contract standard for brickwork and fixing work
- **EN 13914-2** Design, preparation and application of external rendering and internal plastering - Part 2: Design considerations and essential principles for internal plastering
- **ÖNORM B 3346** Rendering and plastering mortar - Rules for use and processing - Complementary provisions to ÖNORM EN 13914-1 and -2
- **EN 998-1** Specification for mortar for masonry - Part 1: Rendering and plastering mortar
- **EN 1996-1** Eurocode 6: Design and construction of masonry structures - Part 1-1: General rules for reinforced and unreinforced masonry structures - National regulations for ÖNORM EN 1996-1-1
- **ÖAP guidelines WHS 06/2004**

4.2 Plaster base inspection

The plaster base inspection has to comply with the ÖNORM B 3346, EN 13914-2 guidelines. The plaster base must be free of dust, frost and efflorescences, it may not be water-repellent, and must be free of loose parts.

4.3 Notes on suitable plaster

- **Single-layer plasters require the manufacturer's approval for use with wall heating/cooling and ceiling cooling/heating systems.**
- Observe the manufacturer's guidelines for plastering
- Oven-dry density (28d): $\geq 1250 \text{ kg/m}^3$
- Pipe covering $\geq 10 \text{ mm}$
- The plaster must be compatible with the planned flow and surface temperature of the EasyFlexWall/Ceiling in the long term!



Construction project: _____

Building owner/Occupant: _____

Client: _____

Heating installation technician: _____

Architect: _____

Other: _____

5.1 Leak-tightness test

The Variotherm EasyFlexWall/Ceiling circuits are to be tested for leak-tightness using a water pressure test after they have been laid and before plaster work is carried out. The test pressure should be min. 4 bar and max. 6 bar. If there is a risk of freezing, appropriate measures should be taken, e.g. use of antifreeze and controlling the building's temperature.

- Installation of pipe connections finished on: _____
- Pressure test started on: _____ with test pressure of ____ bar
- Pressure test completed on: _____ with test pressure of ____ bar
- Plaster work started on: _____
- System pressure during the completion work was ____ bar
- The system water was treated (e.g. per ÖNORM H 5195-1) Yes No
- Antifreeze was added to the system water Yes No
- The system was checked for leak-tightness on _____ and approved

Approval:

Building owner/Occupant/Client

Construction management/Architect

Heating installation technician

5.2 Preheating protocol

The EasyFlex wall heating system and the plaster may not be baked out! Prior to the first heating, a drying period of at least 14 days must be observed after completion of the finishing coat.

Prior to painting, the wall/ceiling must be heated to the max. calculated flow temperature.

Plaster base: Heraklith panels Vertically perforated bricks, bricks Other: _____

Single-layer plaster: _____, or

Multi-layer plaster: Flush-mounting or undercoat: _____ Finishing coat: _____

Preheating the Variotherm EasyFlexWall/Ceiling (also in the summer):

- Completion of plaster work (single-layer plaster) on: _____
- Completion of plaster work (flush mounting or undercoat) on: _____
- Preheating started on: _____
- Set flow temperature to 25 °C and maintain this value for 3 days Completed
- Set to max. permissible flow temperature and maintain for 4 days Completed
- Maximum flow temperature reached: _____ °C
- Preheating finished on: _____

Approval:

Building owner/Occupant/Client

Construction management/Architect

Heating installation technician

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