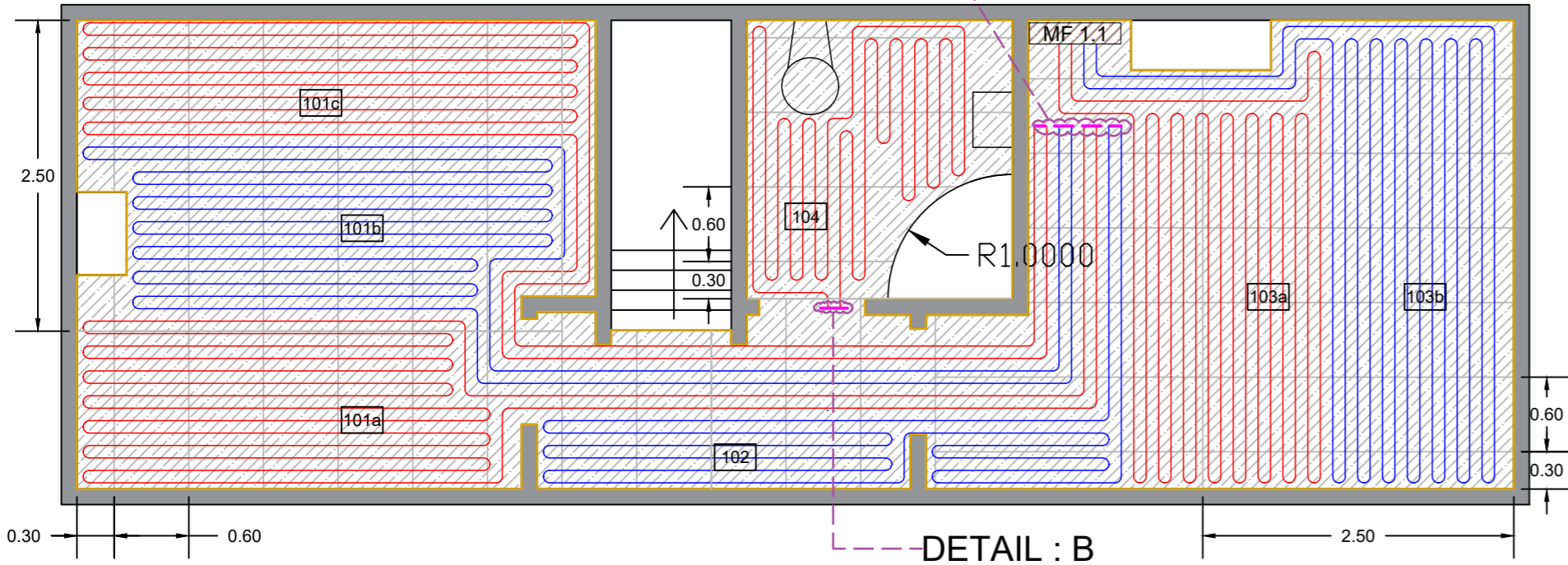
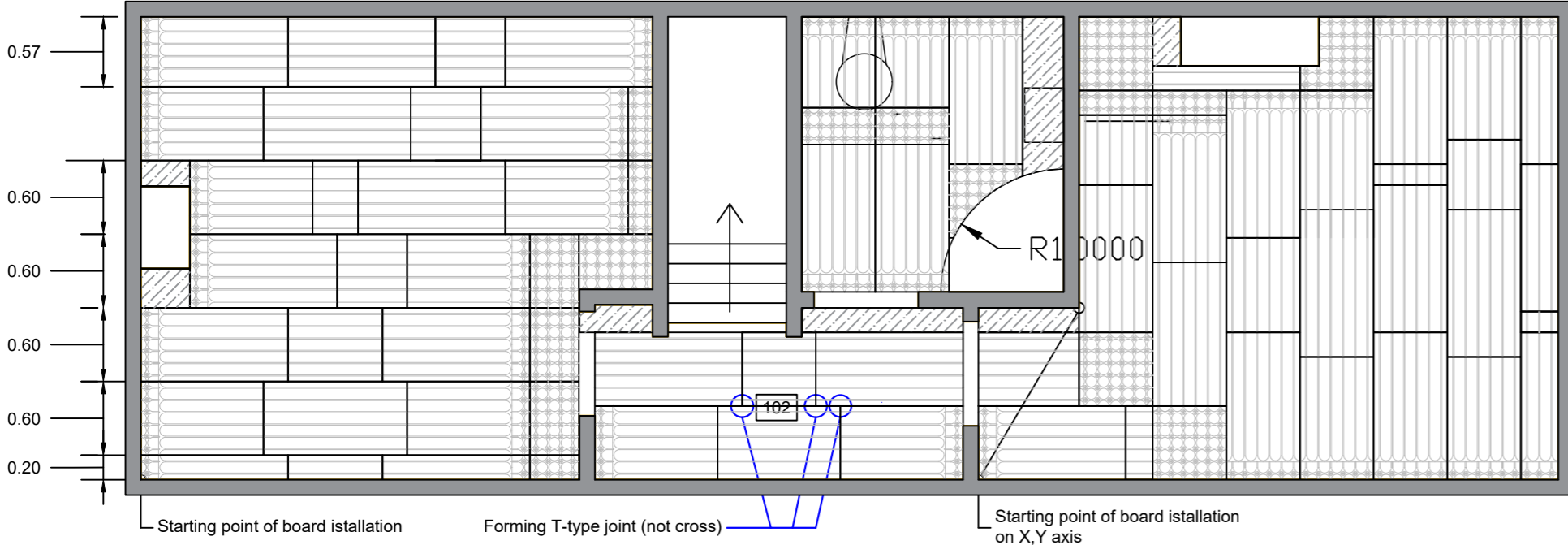


### Pipes Plan View

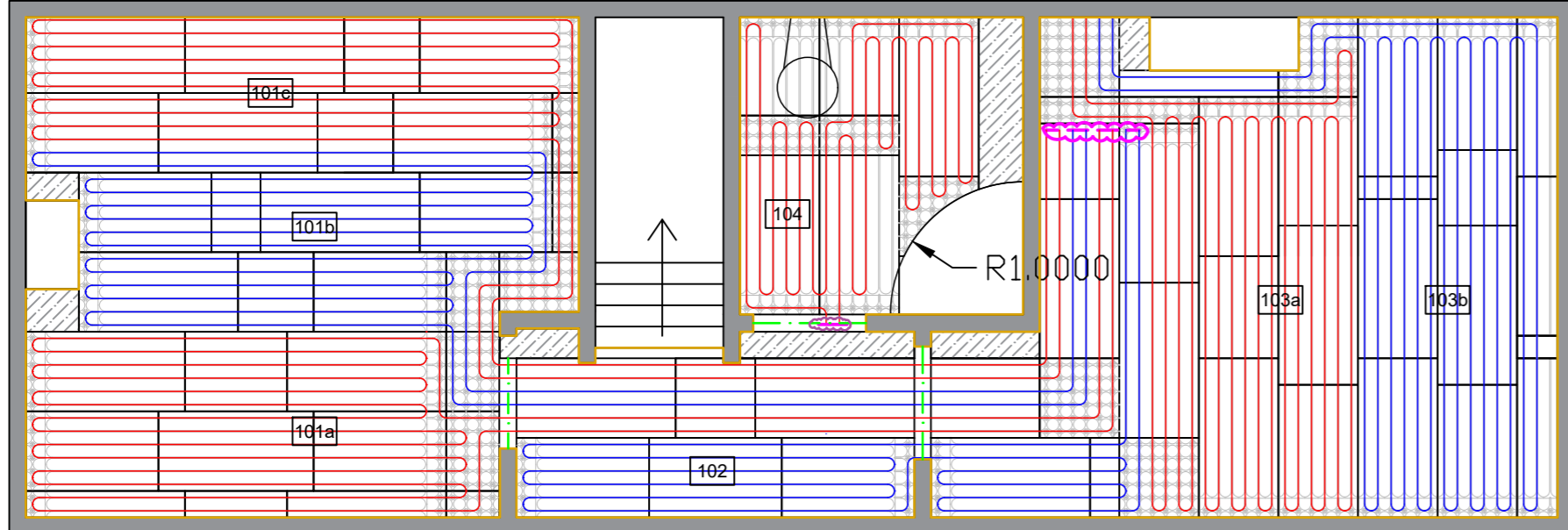


### DETAIL : B

### Boards Plan View

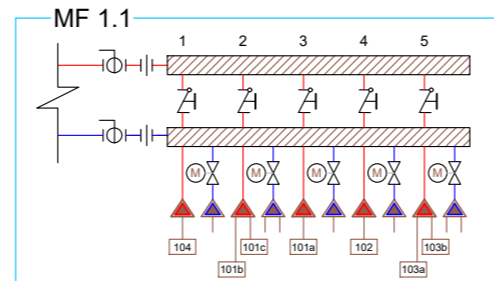
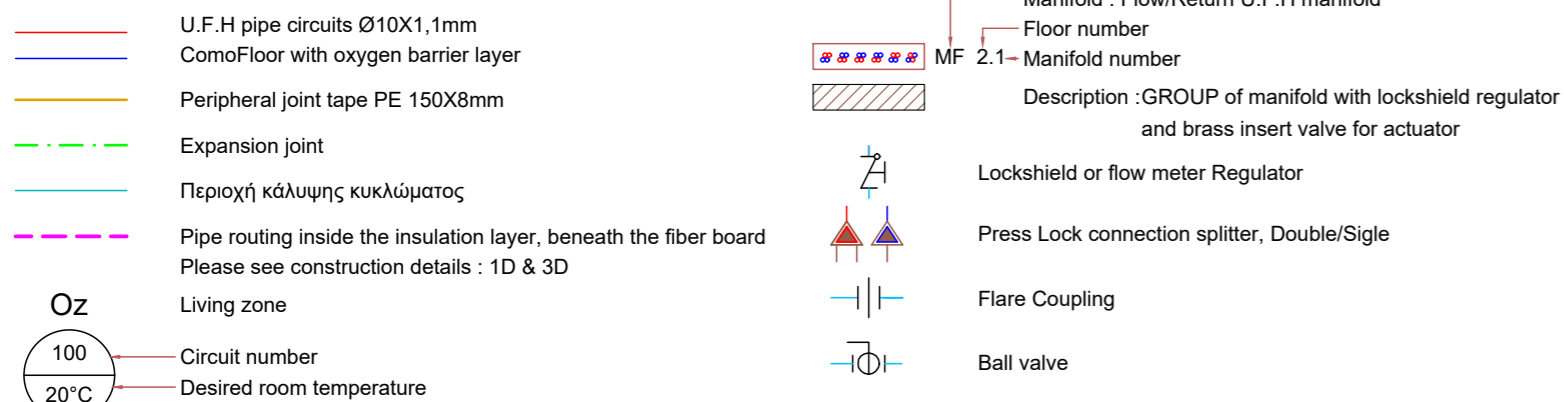


### System Plan View



Zone	Room	Pipe distance	Zone type	Heat. area	Pipe length	Valve Setting (Turns)	Residual power (Short)
101a	Bedroom 1	100 mm	OZ	5.6 m <sup>2</sup>	63.0 m	4.0 T	- W
101b	Bedroom 1	100 mm	OZ	4.7 m <sup>2</sup>	64.5 m	4.0 T	- W
101c	Bedroom 1	100 mm	OZ	10.1 m <sup>2</sup>	61.0 m	4.0 T	- W
102	Hall	100 mm	OZ	- m <sup>2</sup>	35.5 m	2.0 T	- W
104	Bathroom - W.C	100 mm	OZ	- m <sup>2</sup>	39.0 m	2.0 T	- W
103a	Bedroom 2	100 mm	OZ	10.1 m <sup>2</sup>	55.0 m	3.0 T	- W
103b	Bedroom 2	100 mm	OZ	5.1 m <sup>2</sup>	59.0 m	3.0 T	- W

#### Symbols and abbreviations

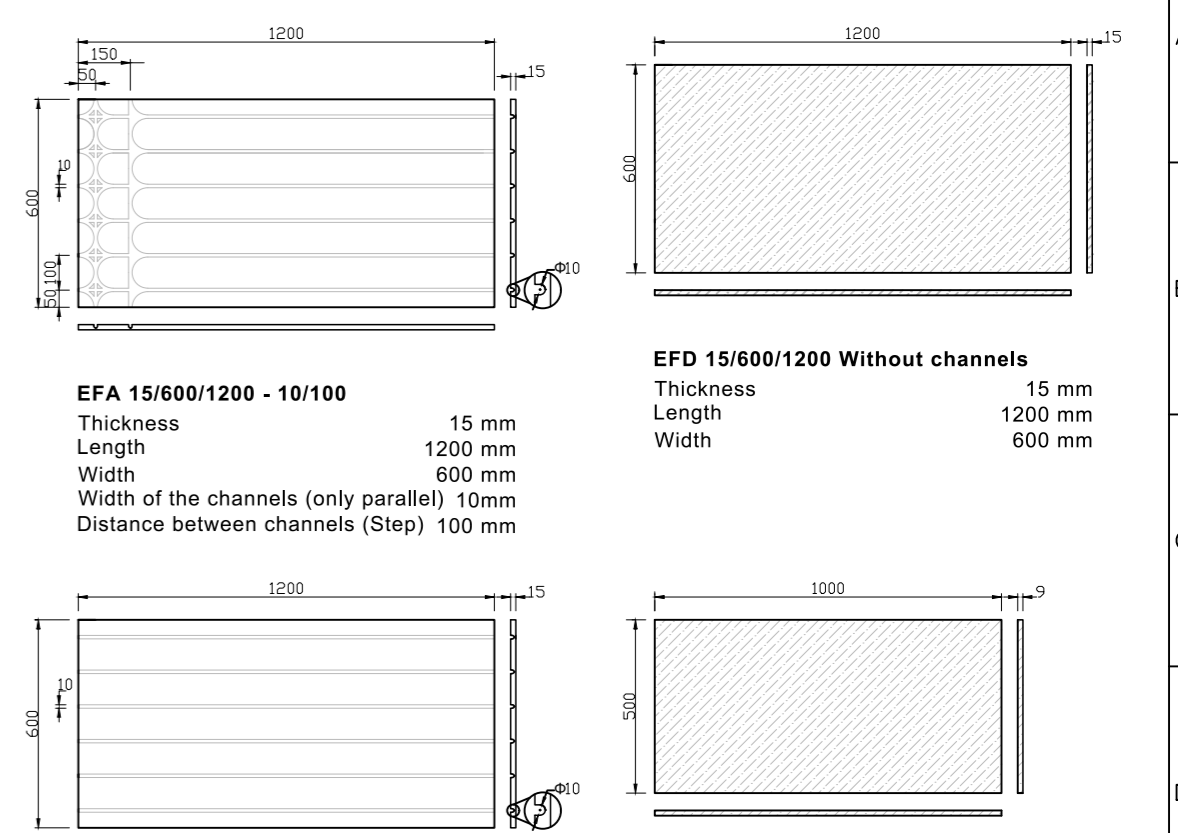


#### Installations steps

1. Wipe the floor thoroughly.
2. Check the floor surface for any irregularities. The foundation on which the elements will be laid must be absolutely flat and even so that they can fit tightly over their entire surface. If this requirement is not fulfilled the application of leveling layers (dry fill, correcting ground coat) is required acc. to DIN18202.
3. Place the peripheral joint in all structural element, as shown in the plan. Insulation tape is mounted between the walls and the floor elements to compensate on horizontal extensions.
4. Place the insulating board long side in the opposite direction of the fiber board long side (Cross). See the example of mounting insulation plates (0,6x2,5m) shown in Pipe Plan View drawing.
5. In each room separately, is important to align the board from the start point to X and Y axis of room (walls). This procedure helps to mount easy the plates in a string without coming across obstacles. Make check with a long cord.
6. Start laying fiber boards that do not need to be cut. Make sure that fiber board joints form a T-type layout (not cross type) see the example shown in Table 102.
7. Cut some pipes Ø10 15 cm long. When installing sequential fiber, place these tubes as a alignment guide inside the grinding channels, in each direction. After placing four fiber boards on a string, remove the pipe aligner and re-use it again on the next boards.
8. It is recommended to use glue between fibers boards. The glue placed in the 15mm face, before placing it in the final position. Estimated amount of glue: 40g / m<sup>2</sup>. The use of glue increases the bearing capacity of the system. The adhesive joint of the glue is completed in 2 hour, so if it needs to be detached for this period of time, it is possible.
9. The circuits installation sequence is important. When a circuit must immerse inside the insulation, from a specific point up to the manifold, has a high priority and we have to start with that first. Make sure that no fiber boards are placed in the path to manifold. This path is last covered. In order to achieve this a foam milling groover tool is needed (Fig.1). Also, 10cm through cut of milled channel, from the edge of the board must be made in order for the pipe to start smooth immerse and the following fiber board to be applied to the previous one (See detail 1D, 3D & Fig.4).
10. After completing the installation, fill the system with clean water and make pressure test for leakage acc. to BS EN 1264 PT.4. Complete and submit the test record.
11. Apply to the surface Füllmasse GF filler material. Use a clean mixing vessel. Mix 1 bag (25 kg) of Füllmasse GF into approx. 12.5 l of clear water with an agitator, avoiding air inclusion as far as possible, until a lump-free, uniform and flowing consistency is achieved.
12. Expansions joints shown in Fig. 5.
13. Detail A and B shown at Fig. 5, 7 & 8.



#### Fiber Board Dimensions



#### EFA 15/600/1200 - 10/100

Thickness	15 mm
Length	1200 mm
Width	600 mm
Width of the channels (only parallel)	10mm
Distance between channels (Step)	100 mm

#### EFD 15/600/1200 Without channels

Thickness	15 mm
Length	1200 mm
Width	600 mm

#### EFB 15/600/1200 - 10/100

Thickness	15 mm
Length	1200 mm
Width	600 mm
Width of the channels (only parallel)	10mm
Distance between channels (Step)	100 mm

#### EFE 9/500/1000 Without channels

Thickness	9 mm
Length	1000 mm
Width	500 mm

#### EFC 15/600/600 - 10/100

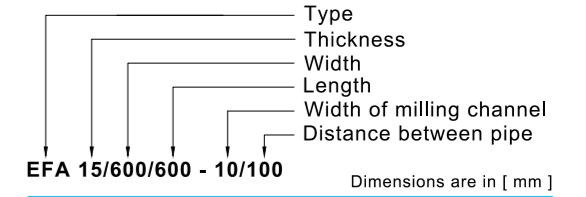
Thickness	15 mm
Length	600 mm
Width	600 mm
Width of the channels (only parallel)	10mm
Distance between channels (Step)	100 mm

#### Weight of the boards

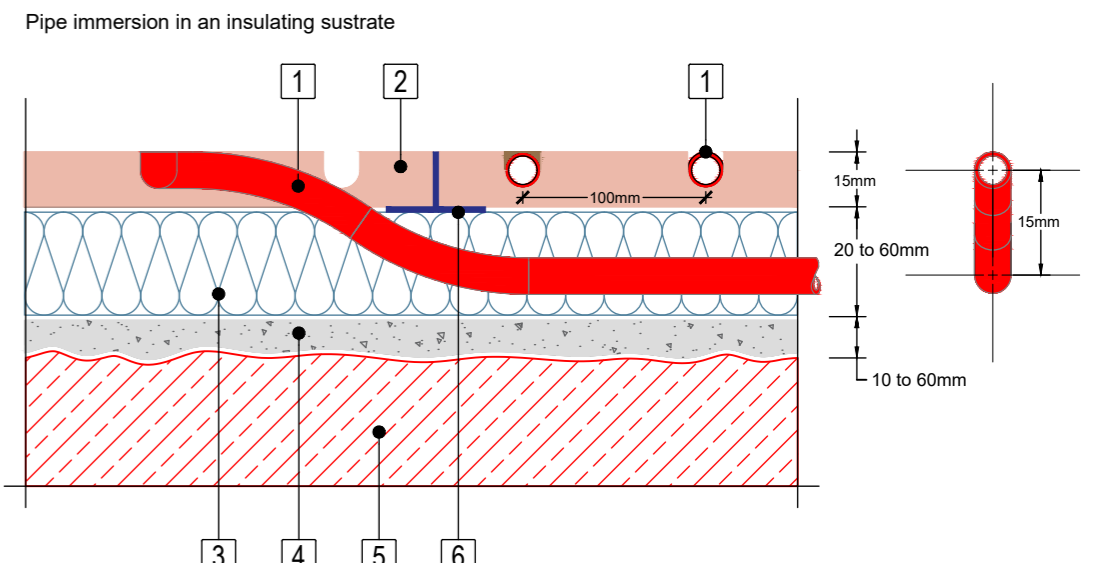
EFA 15/600/1200 - 10/100	16,0 Kg / m <sup>2</sup>
EFB 15/600/1200 - 10/100	16,25 Kg / m <sup>2</sup>
EFC 15/600/600 - 10/100	13,6 Kg / m <sup>2</sup>
EFD 15/600/1200 (Without channels)	17,7 Kg / m <sup>2</sup>
EFE 9/500/1000 (Without channels)	15,3 Kg / m <sup>2</sup>

Tab.2

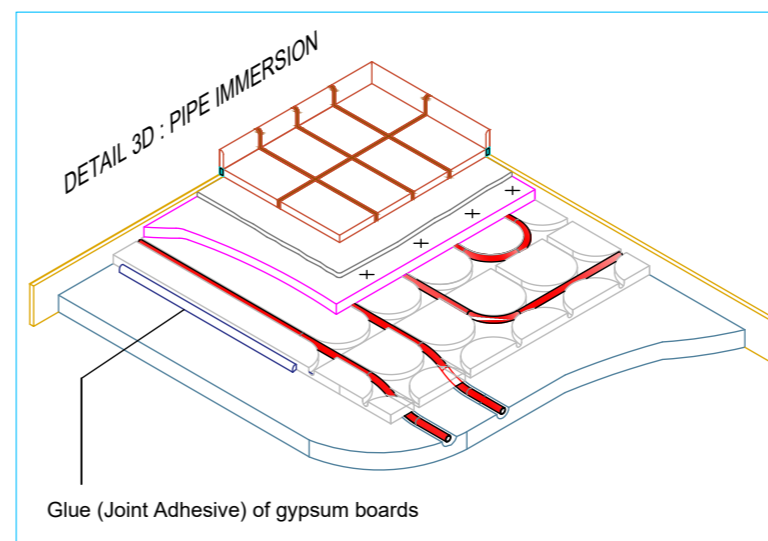
#### Board codification



#### DETAIL 1D: SIDE SECTION



- 1 Pipe PE-Xb Ø 10X1,1mm with oxygen barrier
- 2 Gypsum fiber board [ 15mm ]
- 3 Thermal insulation substrate EPS or XPS 200 (kPa)
- 4 Self leveling material
- 5 Reinforced concrete slab
- 6 Glue (Joint Adhesive) of gypsum boards



DRY TYPE FLOOR HEATING SYSTEM WITH GYPSUM FIBER BOARD					
Designer	Check By	Codification File	Date	Paper Size	Scale
E.Koulountzios	P.Dimitriou	EUR-ECCO-1	29/06/2017	A2 594x420mm	1:50
Owner	Drawing Title				
-	Eco Floor Design Sample				
Place	Drawing No:	Revision	Page No:		
-	01	2	1/3		