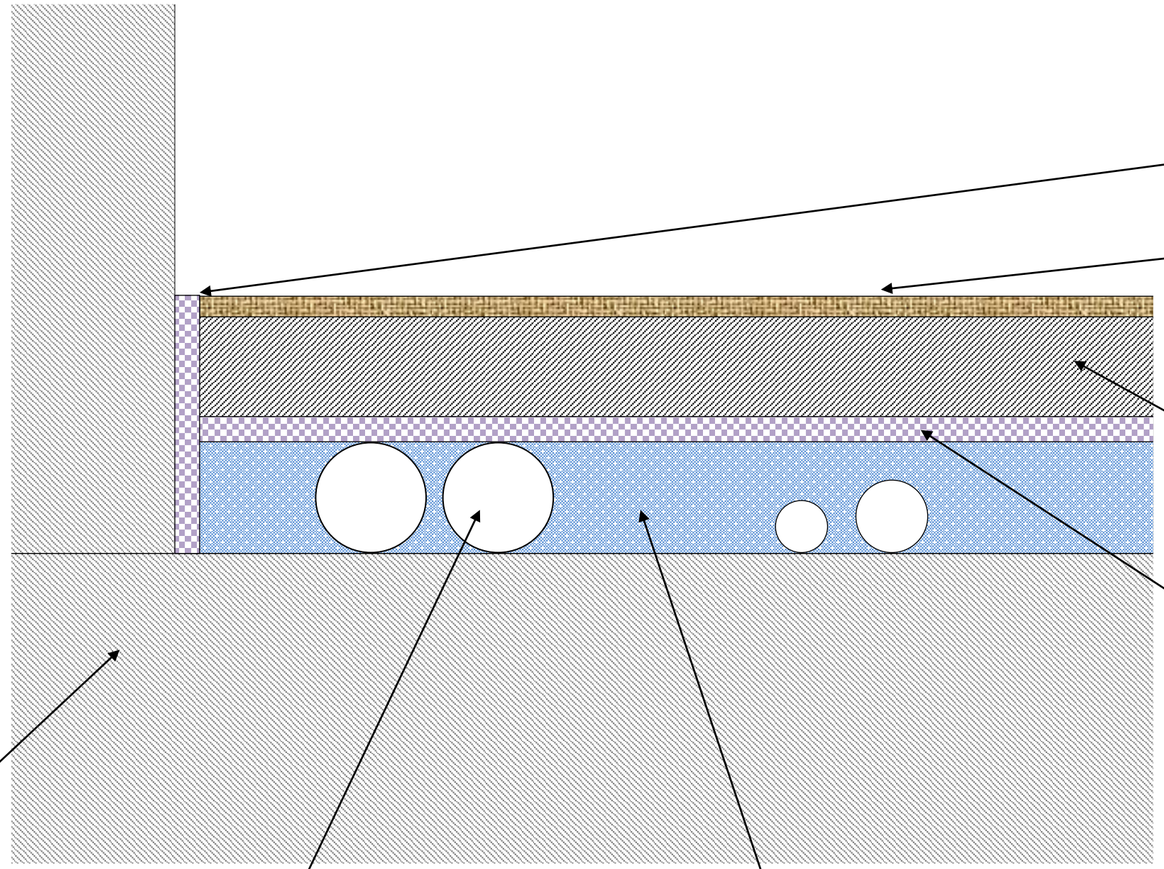
Overview of Floor Structures

Trencin, December 2020

Sections

- Acoustic floors
- Floors without acoustic insulation
- Floor above unheated area or ground
- Main benefits of Foamed Concrete levelling layer

Acoustic SIRCONTEC Floor



Peripheral flexible strip

Wear layer:
- attached: ceramic floor, PVC, carpet
- floating: parquets and other types

Screed:
- cast, self-levelling
- conventional

Acoustic insulation
prevents impact noise penetration

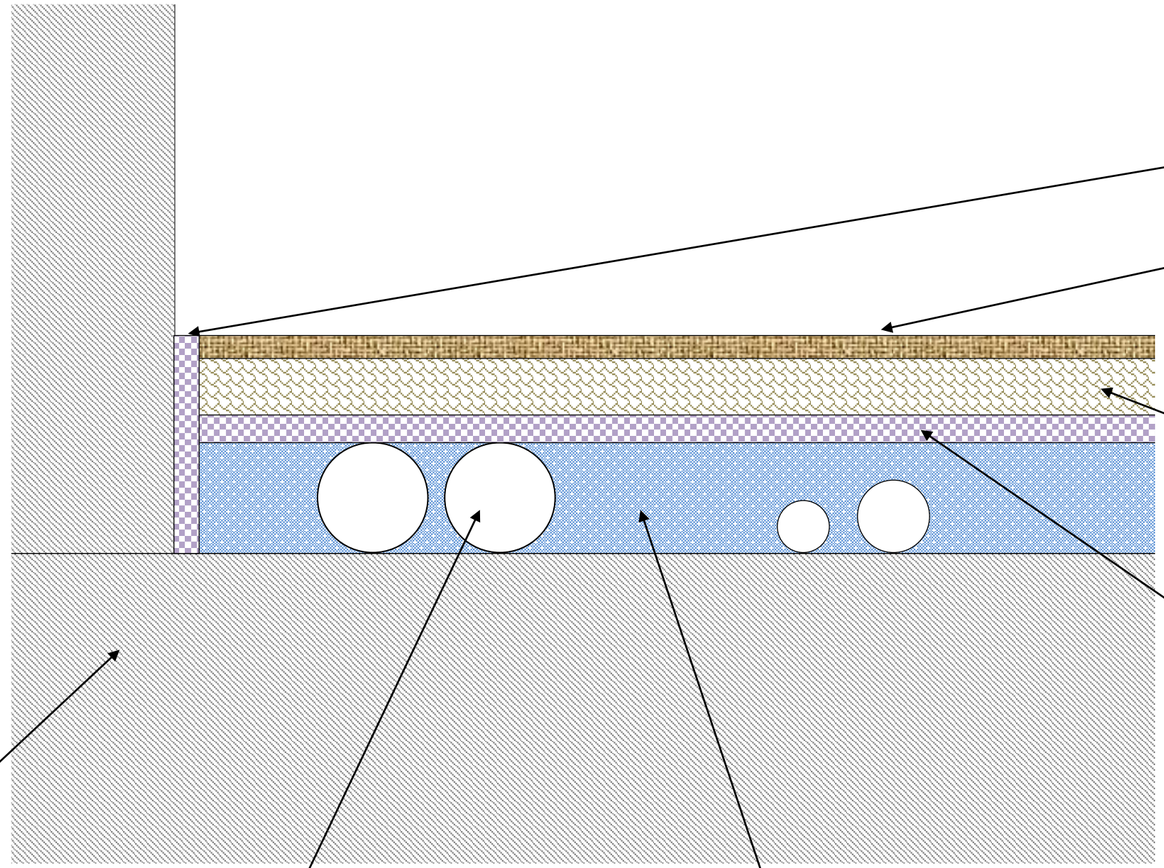
Ceiling structure

Installation pipes

Foamed Concrete perfectly levels out unevenness of floor base

Without acoustic bridges

Acoustic Floor with OSB board



Peripheral flexible strip

Wear layer:
- attached: ceramic floor, PVC, carpet
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Structural wood – chip OSB board
-bearing layer made in a dry process

Acoustic insulation
prevents impact noise penetration

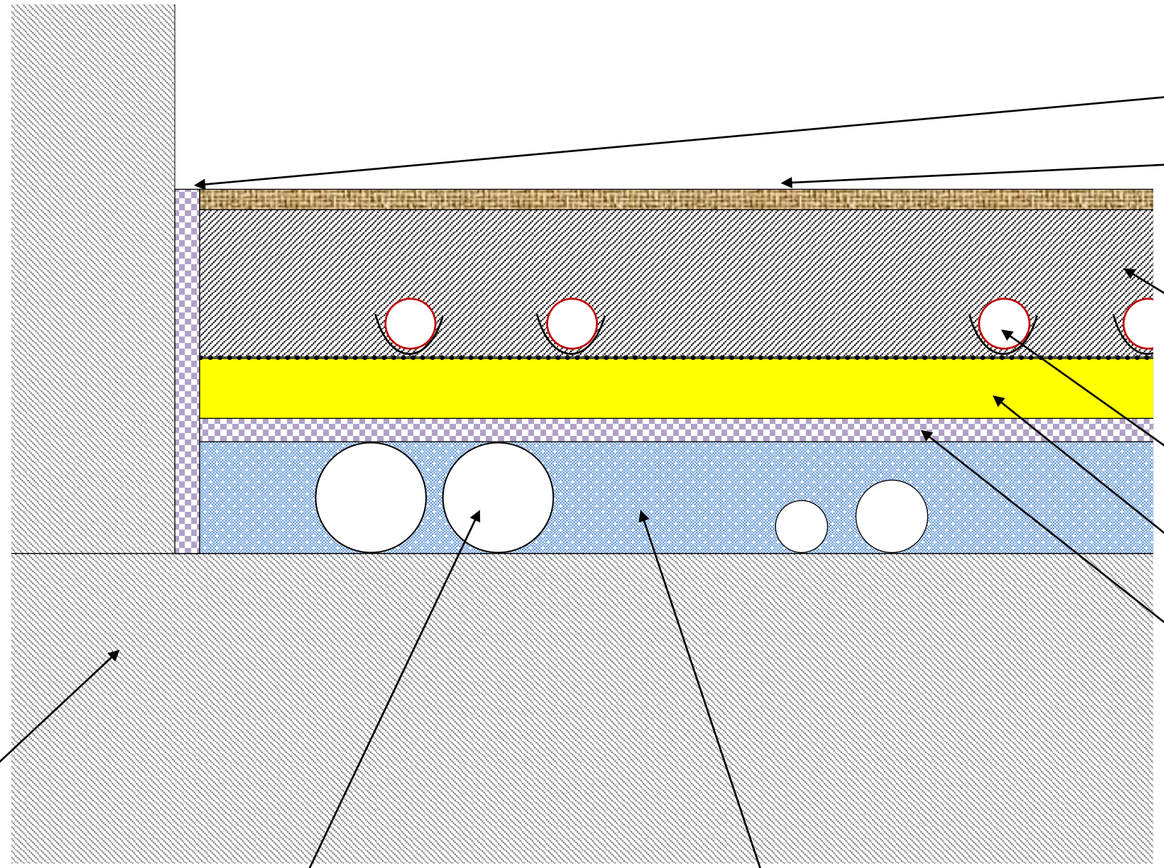
Ceiling structure

Installation pipes

Foamed Concrete (FC) perfectly levels out unevenness of floor base

Designed for impact noise reduction

Acoustic Floor
with floor heating – conventional structure



Peripheral flexible strip

Wear layer:
- attached: ceramic floor, PVC, carpet
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Heating screed:
- cast, self-levelling
- conventional

Heating pipes

Structure of floor heating

Acoustic insulation
prevents impact noise penetration

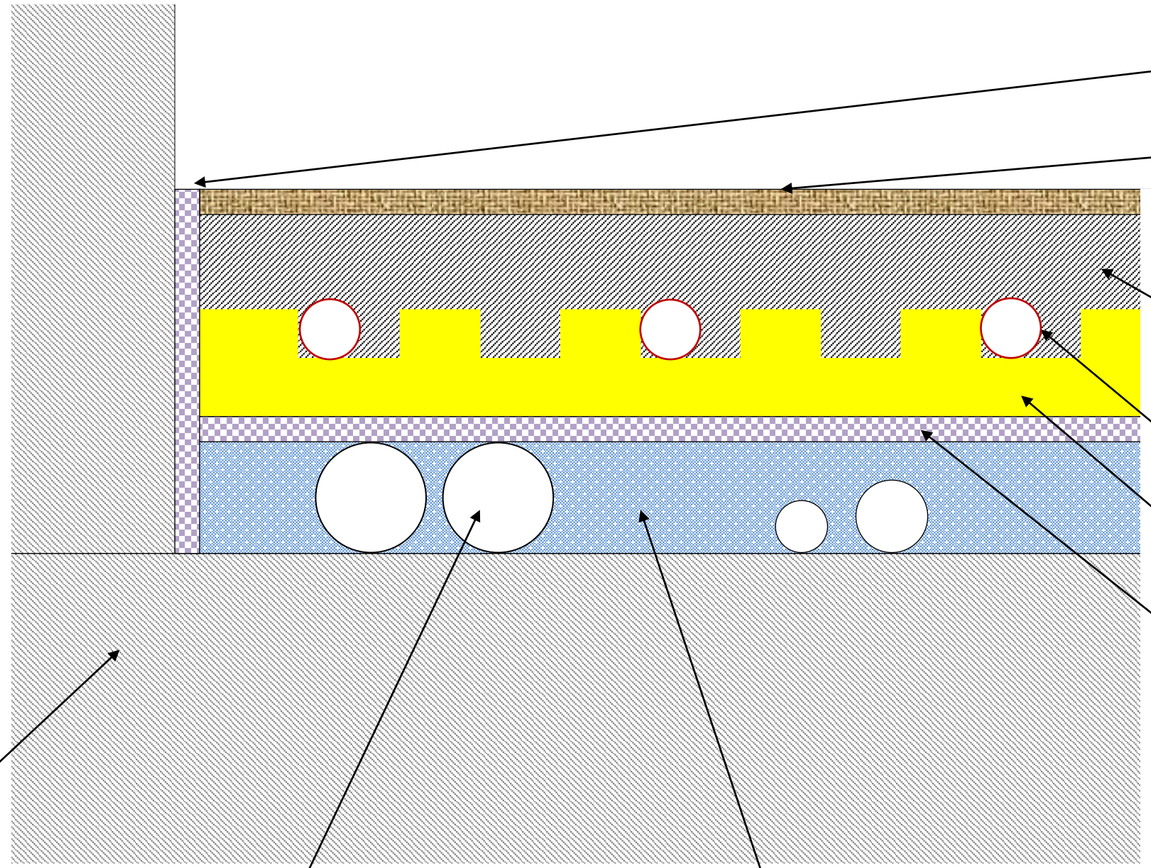
Ceiling structure

Installation pipes

Foamed Concrete (FC) perfectly levels out unevenness of floor base

Warm floor with acoustic insulation

Acoustic Floor with floor heating



Peripheral flexible strip

Wear layer:
- attached: ceramic floor, PVC, carpet
- floating: parquets and other types

Heating screed:
- cast, self-levelling
- conventional

Heating pipes

System board of floor heating

Acoustic insulation
prevents impact noise penetration

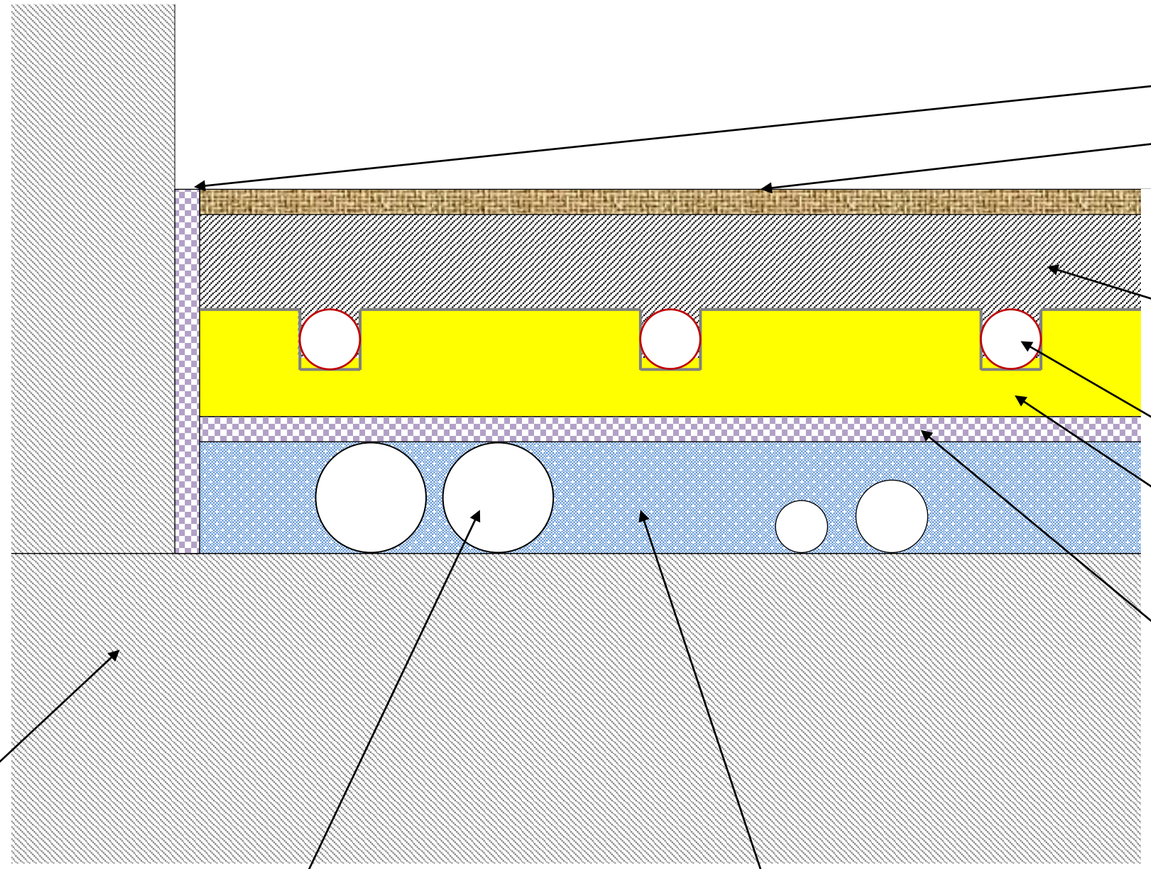
Ceiling structure

Installation pipes

Foamed Concrete (FC) perfectly levels out unevenness of floor base

Warm floor with impact noise reduction

Acoustic Floor with JOCO floor heating



Peripheral flexible strip

Wear layer:
- attached: ceramic floor, PVC, carpet
- floating: parquets and other types

Heating screed:
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- conventional

Heating pipes

JOCO system board with aluminium coating on the entire top side

Acoustic insulation
prevents impact noise penetration

Ceiling structure

Installation pipes

Foamed Concrete (FC) perfectly levels out unevenness of floor base

Warm floor with impact noise reduction

Benefits of SIRCONTEC Acoustic Floor

- ✓ Minimized floor thickness
- ✓ Fast implementation at lowest price per m^2
- ✓ Uniform screed thickness all over the surface
- ✓ Requirements of the strictest standards for impact noise insulation are fulfilled
- ✓ Suitable also for high-rise buildings

Overall comparison of impact noise insulation materials find on: www.sircontec.com/floors

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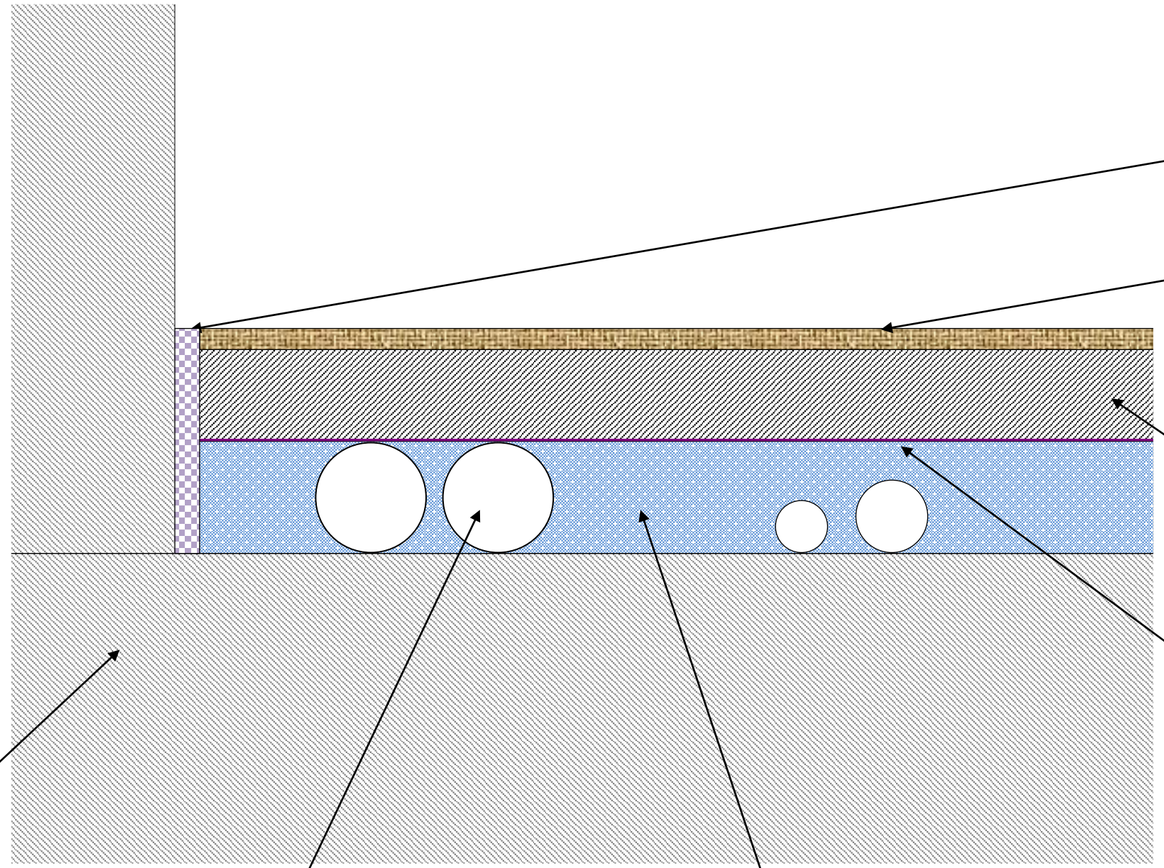
Floor without acoustic insulation



Peripheral flexible strip

Wear layer:
- attached: ceramic floor, PVC, carpet
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Screed:
- cast, self-levelling
- conventional

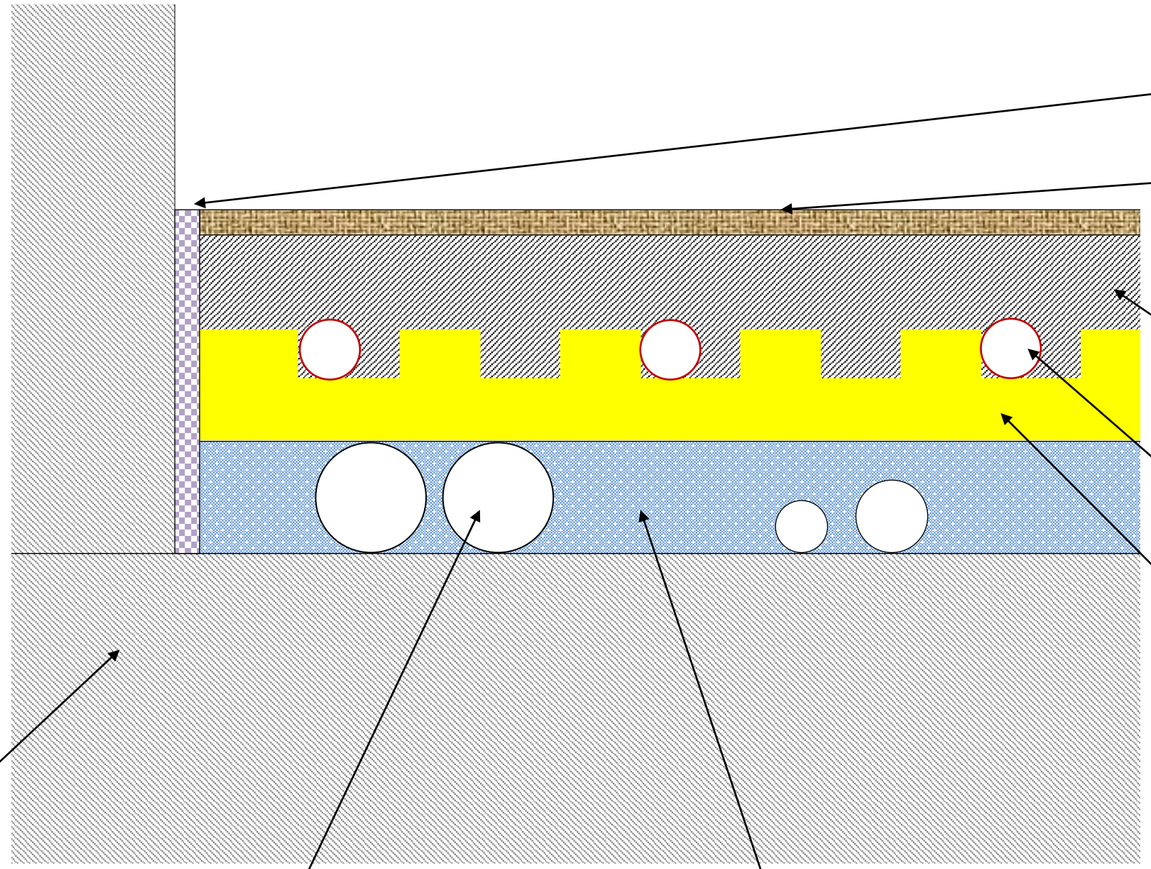
Separating layer

Floor structure

Installation pipes

Foam Concrete (FC) perfectly levels out unevenness of floor base

Floor without acoustic insulation with floor heating



Peripheral flexible strip

Wear layer:
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Heating screed:
- cast, self-levelling
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Heating pipes

System board of floor heating

Floor structure

Installation pipes

Foam Concrete (FC) perfectly levels out unevenness of floor base

Warm floor without thermal bridges

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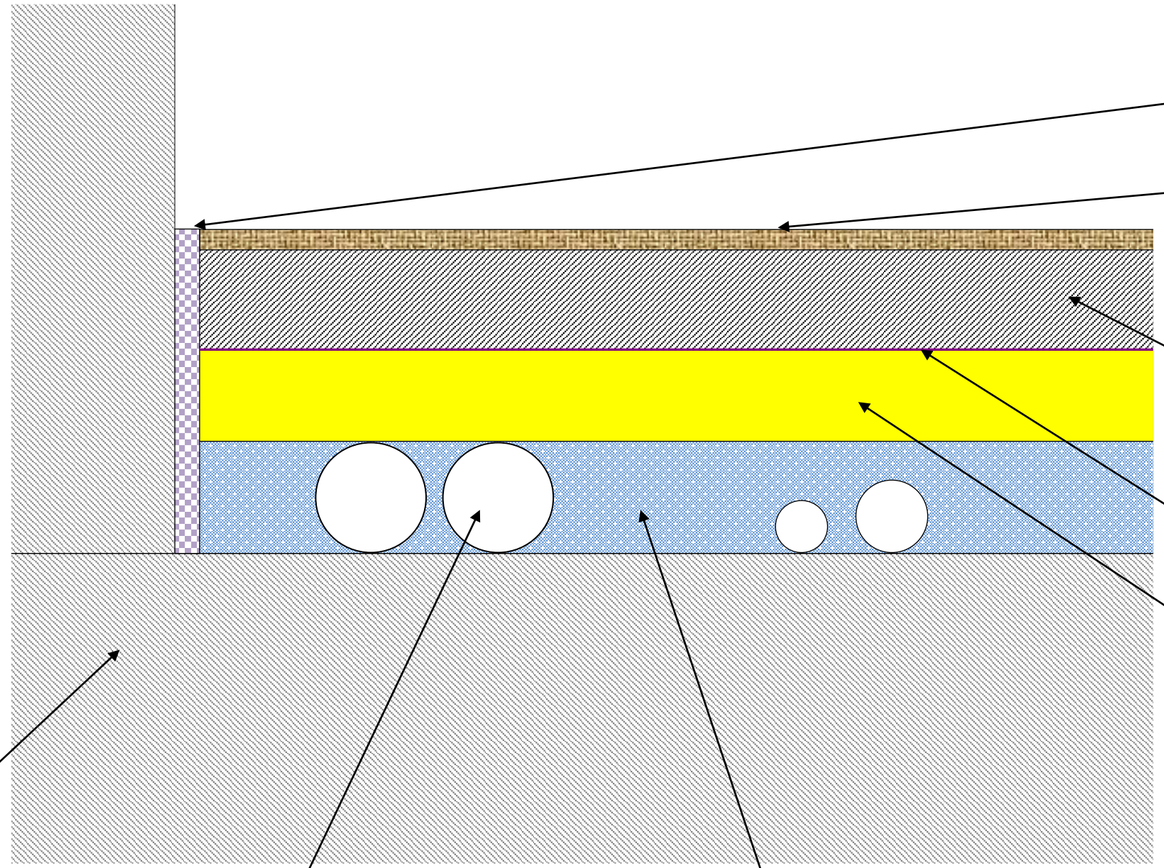
Floor above unheated area or ground



Peripheral flexible strip

Wear layer:
- attached: ceramic floor, PVC, carpet
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Screed:
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Separating layer

Thermal insulating layer
- EPS, XPS
- mineral wool

Ceiling/Floor structure

Installation pipes

Foam Concrete (FC) perfectly levels out unevenness of floor base

Floor without thermal bridges

Sections

- Acoustic floors
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- Floor above unheated area or ground
- Main benefits of Foamed Concrete levelling layer

Properties of FC levelling layer

- Faster and economically more effective application in comparison with board layer applications => saves time and money
- Foamed Concrete (FC) is self-levelling => very good flatness of the layer’s surface
- Excellent floor insulation - removes acoustic and thermal bridges
- Excellent especially for damping low-frequency noise
- Liquid FC fills up space and perfectly evens the base, i.e. minimizes screed thickness and consumption
- High resistance to fire (A1) and to flooding
- High resistance and damage during placement of other floor layers
- Vapour permeable

Floor levelling layers - comparison

	Floor levelling layers	Foamed Concrete	Polystyrene	Mineral wool
Material properties and parameters	**Material**	Liquid Cement, sand, water, foam	Panels Foamed koplen, styropor, etc.	Panels Stone or glass fibre
	Production of the material	On site in mobile equipment	Only in factory	Only in factory
	Impact noise reduction	Excellent especially in low frequency damping	Poor in low frequency damping	Good in low frequency damping
	Ageing	With age it gains strength like conventional concrete	Permanent deformation may occur when loaded	Permanent deformation may occur when loaded
	Size and shape of element [mm]	**Liquid, it perfectly fills up space**	Panel 1000x500xthickness	Panel 1000/1200x500/600xthickness
Application of the material and layer properties	**Application processing**	Self-levelling, only vibration pipe	Placement with cutting to size => high risk of creating acoustic and thermal bridges	Placement with cutting to size => risk of creating acoustic and thermal bridges
	Application labour intensity	Very low	Very high, cutting to fit between pipes	Very high, cutting to fit between pipes
	Application speed	Very high	Low	Low
	Layer surface flatness	Very good	Insufficient, excessive screed production needed	Insufficient, excessive screed production needed
	Resistance of the layer **to fire** **to flooding**	Very high, A1 Very high	Medium, E High, but hardly releases absorbed water	High, A1-A2 Low

FC is the most suitable by all Criteria

SIRcontec

Main benefits of Foam Concrete levelling layers

- ✓ Cost reduction for the whole floor structure
- ✓ Substantial time saving for the investor
- ✓ Minimize risk of floor defects

Comprehensive technical solution

Thanks for watching

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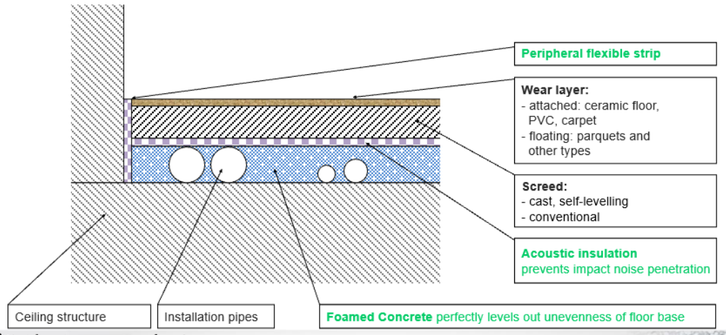
The summary slide
allows you to run the slide show section by section

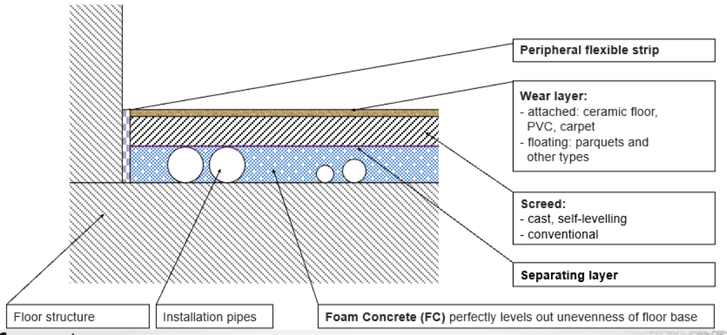
Acoustic SIRCONTEC Floor



Without acoustic bridges

3

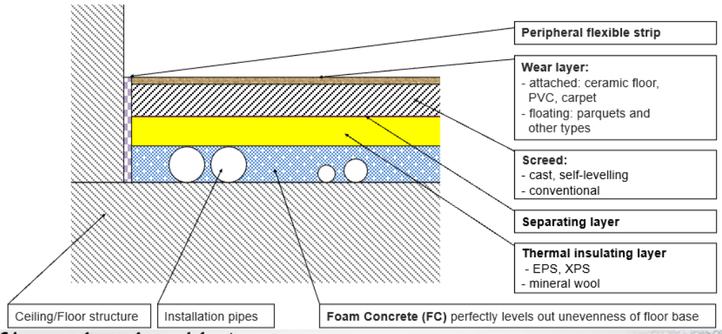
Floor without acoustic insulation



Fast and precise

10

Floor above unheated area or ground



Floor without thermal bridges

13

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15