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GUIDELINES FOR THE CORRECT INSTALLATION OF SOUND INSULATION SYSTEMS

Installation instructions and critical points to achieve on site the acoustic performance calculated at design stage: impact sound insulation of floors and airborne sound insulation of walls with counter-walls.

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Impact sound insulation (horizontal partitions)

To obtain on site the performance calculated at design stage, the correct functioning of the resilient layer (**dBred F**, **Fonotech** etc.) is essential: the warnings below must therefore be observed scrupulously and in full.

The floor slab must be intact and free of hollow blocks with obvious breaks, as they can affect the continuity of the element's mass. Any repairs to the blocks must be carried out using only cement mortar as filler.

The levelling layer covering the services (and in any case the laying surface of the resilient sound-insulating layer) must be clean and free of depressions or ridges. It must also guarantee dimensional stability, to avoid settlement that would compromise the functioning of the resilient layer: cellular or predominantly cellular mortars should therefore be avoided. Subfloors made with **Politerm**[®] and **Isolcap**[®] guarantee dimensional stability.

The perimeter walls must be completely separated from the screed by means of “L”-shaped perimeter strips such as **dBred F5**. The perimeter strips must also cover the internal and external entrance thresholds. Even the slightest interruption or lack of perimeter separation between wall and screed can worsen on-site measurements by **7–10 dB**.

The resilient material must be laid by butting the mats together, without overlapping them (for cutting, use a cutter with a very sharp blade or dBred scissors). Tape the joints between the mats with **R-Stick** or another suitable adhesive tape, to prevent the mat from sliding sideways and/or cement mortar from seeping in while the screed is laid.

The surface thus prepared is ready to receive the traditional underfloor heating panel or directly the pipes, which will be fixed to the substrate with suitable clips.

When laying rubber-based (or otherwise porous) resilient material, it is **mandatory** to lay a polyethylene film on top, separating the resilient layer from the screed above. This layer also protects the resilient material from alkalis and other substances in the mortar and prevents cement mortar or grout from seeping in.

After laying the screed, **do not cut under any circumstances** the part of the perimeter strip projecting above the screed: the strip must protect the walls from rigid contact also during the subsequent laying of the floor finish, adhesives and tile grout.

Lay the floor finish.

Grout and/or point the flooring.

Only at this point, cut the excess perimeter strip flush with the finished floor.

Install the skirting boards, taking care – this is **mandatory** – to keep them completely detached from the flooring and to glue them only to the wall. The joint between skirting board and flooring must then be sealed with polyurethane sealants or with specific profiles with an elastic joint.

Attention: there must be no cement mortar, adhesive or grout in the joint between the skirting board and the finished flooring.

R-Stick adhesive tape

R-Stick adhesive tape for joining the mats

L-shaped perimeter strip separating screed and wall

“L”-shaped perimeter strip separating screed and wall

Airborne sound insulation (walls with counter-wall)

Here too, to obtain on site the performance calculated at design stage, the correct functioning of the sound-insulating layer (**dBred W** etc.) is essential: the warnings below must therefore be observed scrupulously and in full.

The masonry must be decoupled from the floor slabs with specific strips, such as **dBred F5** or **dBred F**, with a density suited to the specific weight of the masonry. The strips must be wider than the block used plus the subsequent plaster. **Bridges of bedding mortar** protruding beyond the thickness of the strip and touching the floor slab must also be avoided.

Partition walls between dwellings should be built under a reinforced concrete beam or, at least, be laid in the same direction as the joists of the floor above. Otherwise, the courses of hollow blocks must be interrupted to avoid airborne sound transmission through the floor above: this is done by removing the part of the block in contact with the wall and filling the cavity with cement mortar. As this work is expensive and complicated, the orientation of the floor slabs should be correctly designed in advance, taking into account the sound insulation needs between dwellings.

Where there are reinforced concrete columns, the contact point with the masonry must be decoupled with strips such as **dBred F5** or **dBred F**, glued to the column beforehand.

The bedding of masonry blocks must be continuous (“sealed”), both horizontally and vertically, except for interlocking blocks. A cementitious scratch coat over the entire surface of the wall that will receive the sound-insulating material is recommended in any case; it becomes **mandatory** if the wall has gaps in the bedding.

The sound-insulating material (fixed with adhesive or with plastic ETICS anchors) must cover **the entire surface** to be insulated. The panels must be perfectly butted together; where they are not, fill the joint completely with silicone sealant.

For cutting, use a cutter with a well-sharpened blade and make perfectly straight cuts, so that the panels can be butted together correctly.

The counter-wall must be built in contact with the sound-insulating material, without leaving an air gap.

Services in partition walls between apartments must not have boxes and/or junctions in symmetrical positions (opposite each other on the two sides of the wall), to avoid sharp local reductions in mass.

Please note

The choice of the insulating material must necessarily be made according to the specific characteristics of the construction site and the intended use of the building, and cannot be separated from a prior design definition.