

6.3 Schlüter®-DITRA-SOUND



U N D E R L A Y M E N T

B O N D E D I M P A C T S O U N D I N S U L A T I O N

Application and function

Schlüter®-DITRA-SOUND is a bonded impact sound insulation for tile coverings, made of a heavy polyethylene mat, which has an anchoring fleece laminated on both sides to bond with the tile adhesive. Schlüter®-DITRA-SOUND reduces the impact sound of floor constructions by 13 dB (test values according to DIN EN ISO 140-8).

The substrate must be level and ready to bear weight. Schlüter®-DITRA-SOUND is installed in thin-bed mortar that must be suitable for the substrate. The mortar is applied with a notched trowel (recommended size 3 x 3 mm or 4 x 4 mm). The underside of Schlüter®-DITRA-SOUND (i.e., the printed side) is fully embedded in the mortar, ensuring the mechanical anchoring of the fabric in the adhesive. The curing time of the adhesive must be taken into consideration.

The tiles are installed directly over Schlüter®-DITRA-SOUND in accordance with the applicable regulations, using the thin-bed method. The thin-bed mortar bonds with the fleece fabric on the topside of the mat. This results in the complete bonding of the entire system.

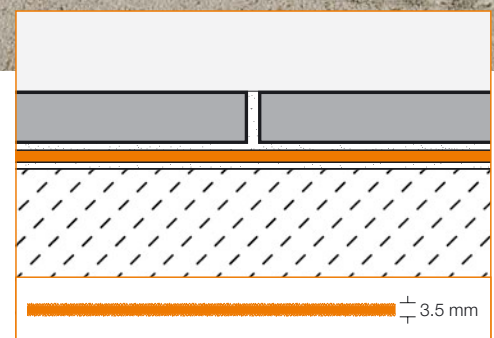
Impact sound

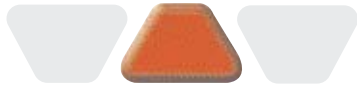
The transmission of noises caused by footsteps or dropped objects to adjoining or underlying rooms is referred to as impact sound transmission. The floor/ceiling structure absorbs the structure-borne noise and transmits the resulting impact sound in the form of airborne noise.



The human ear perceives impact sound that is muffled by 10 dB as airborne noise that is reduced by 50%.

Impact sound (e.g., the noise generated by hard shoes) is also reflected back into the room. This effect is multiplied in the case of light constructions and hard surfaces, leading to the so-called drum-roll effect. It can be completely eliminated by the high density of the heavy mat.





Summary of functions:

a) Impact sound insulation

The heavy-mat material absorbs much of the impact sound created by e.g. walking, and reduces the drum-roll effect. The insulation panel, therefore, is ideally suited for renovation and refurbishment projects in buildings, but also for new construction projects.

b) Crack bridging

Schlüter®-DITRA-SOUND can be used to bridge cracks, which are not expected to widen significantly or show a misalignment of heights. This ensures that cracks in the substrate are not transferred to the tile covering. If applicable, it may be necessary to install a feature to prevent the misalignment of heights.

c) Load distribution (load transfer)

Schlüter®-DITRA-SOUND is a heavy mat that cannot be compressed. Accordingly, tile coverings installed over Schlüter®-DITRA-SOUND are highly durable. If high traffic loads are expected (maximum 5 kN/m²; e.g. in commercial applications), the tiles must be sufficiently thick and pressure-stabilized for the corresponding application area. In Germany, the guidelines of the information sheet “Ceramic floor coverings for high mechanical impact” must be observed. In areas with high traffic loads, it is particularly important that the tiles are fully embedded in the tile adhesive. As a rule, the impact of hard objects must be avoided on all ceramic coverings. Tiles should at least have a dimension of 5 x 5 cm.

Material

Schlüter®-DITRA-SOUND is a heavy polyethylene mat with a thickness of approx. 3.5 mm. A fleece fabric is laminated on both sides of the mat. Polyethylene is not UV-stable in the long term; the product should not be stored in places with prolonged exposure to direct sunlight.

Material properties and areas of application:

Schlüter®-DITRA-SOUND is non-rotting, waterproof, and crack bridging. Furthermore, it is largely resistant to the effects of watery solutions, salts, acids, and alkalis, many organic solvents, alcohols, and oils. The suitability of the material must be verified based on the specific chemical stresses, including the anticipated concentration, temperature, and length of exposure. The water vapour permeability of the material is relatively low. The material is physiologically harmless. Schlüter®-DITRA-SOUND can be used in a wide range of different applications. In special cases, the suitability of the material must be verified based on the anticipated chemical and mechanical stresses. The information provided below is intended as a general guideline.

Note

The thin-bed mortar and covering materials used in conjunction with Schlüter®-DITRA-SOUND must be suitable for their respective applications and meet the relevant requirements. The use of quick setting thin-bed mortars may be an advantage for specific projects. It is recommended to use walking boards or other protective coverings if material must be transported over areas where Schlüter®-DITRA-SOUND has already been installed.



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Notes regarding movement joints:

Schlüter®-DITRA-SOUND must be separated above the existing movement joints in the substrate. In accordance with the applicable construction standards, movement joints must be continued in the tile covering. The same standards specify that coverings made of large-scale pavers over Schlüter®-DITRA-SOUND must be divided into fields with movement joints. Please refer to the installation information for the various profile types in the Schlüter®-DILEX product range. Depending on the anticipated movements, profiles such as Schlüter®-DILEX-BT or Schlüter®-DILEX-KSBT should be installed over structural movement joints.

Notes regarding edge joints:

The buildup of tensions must be ruled out at the edge of coverings; e.g. at upright construction elements or floor/wall transitions. The edge joints and connection joints must meet the applicable professional regulations. Their dimensions must be sufficient to rule out the buildup of tensions. In this case, Schlüter®-DITRA-SOUND-RSK 630 should be installed as an edge strip. Please refer to the installation information for the various profile types in the Schlüter®-DILEX product range for instructions on creating edge or connection joints at transitions to walls or skirtings.

Substrates for Schlüter®-DITRA-SOUND:

Always check the substrates on which Schlüter®-DITRA-SOUND is to be installed to make sure they are level, load bearing, clean, and compatible with the materials to be used. Remove all surface components that may weaken the bond. Uneven or sloping areas must be levelled prior to the installation of Schlüter®-DITRA-SOUND.

Concrete

Concrete is subject to long term dimensional changes due to curing processes. If Schlüter®-DITRA-SOUND is used, tiles may be installed after 3 months.

Cementitious screeds

If Schlüter®-DITRA-SOUND is used, tiles may be installed over cementitious screeds after 28 days without the need to measure residual moisture.

Calcium sulfate screeds

According to the applicable rules, the residual moisture level of calcium sulfate screeds (anhydrite screeds) may not exceed 0.5 CM% when the tiles are installed. When Schlüter®-DITRA-SOUND is used, the tile covering is ready to be installed as soon as the residual moisture level drops below 1 CM%. Calcium sulfate screeds are sensitive to moisture, making it necessary to protect the screed from further moisture ingress.

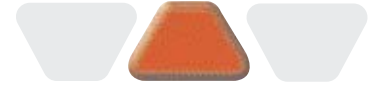
Heated screeds

Schlüter®-DITRA-SOUND may be installed over heated screeds. For this type of construction, the general regulations for conventional heated screeds with tile coverings must be observed.

Plywood panels

These materials are heavily affected by moisture (or large fluctuations in humidity). It is, therefore, recommended to use plywood materials that are specially treated to prevent the absorption of moisture. The thickness of the panel should be selected to ensure sufficient impact resistance in conjunction with a suitable support structure. The panels must be sufficiently secured with screw connections. All joints should either be tongue and groove connections or covered with adhesive. Edge joints of approx. 10 mm must be kept open at the connections with adjoining construction elements. Schlüter®-DITRA-SOUND will neutralise the minor tensions occurring within the substrate.

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Hardwood floors

Schlüter®-DITRA-SOUND is generally suitable for the direct installation of ceramic coverings over hardwood floors, provided the floorboards have tongue and groove connections, are sufficiently load bearing, and are securely screwed down. The wooden substrate should have reached a balanced moisture level prior to the installation of Schlüter®-DITRA-SOUND. Experts recommend the installation of an additional layer of plywood. Uneven floors must be levelled before the installation of other materials.

Synthetic coverings and coatings

All surfaces must be load bearing and, if necessary, pre-treated to allow for bonding with a suitable adhesive for permanent attachment of the anchoring fleece of Schlüter®-DITRA-SOUND. The suitability of the adhesive for the substrate and Schlüter®-DITRA-SOUND must be verified in advance.

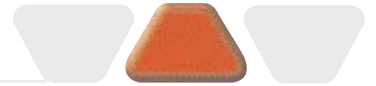
Stairs

Schlüter®-DITRA-SOUND allows for the installation of sound impact insulation on stairs. The material can be used on the substrate types described above.

Installation

1. The substrate must be level, ready to bear weight, and free of all substances that may inhibit the bond. Any levelling must be completed prior to installing Schlüter®-DITRA-SOUND.
2. The self-adhesive edge strip Schlüter®-DITRA-SOUND-RSK should be used in places where the covering adjoins walls and other upright construction elements to avoid the buildup of tensions or the formation of sound bridges.
3. The thin-bed mortar used for bonding Schlüter®-DITRA-SOUND must be selected to suit the substrate type. The adhesive must bond well with the substrate and mechanically set and cure in the anchoring fleece of Schlüter®-DITRA-SOUND. Standard dry-bed mortars are suitable for most substrates. Check for any incompatibilities of materials.
4. Apply the thin-bed mortar over the substrate with a notched trowel (recommended size 3 x 3 mm or 4 x 4 mm).
5. Cut panels of Schlüter®-DITRA-SOUND to size and fully embed the anchoring fleece in the applied adhesive. Immediately press the material into the mortar with a float or a roller, working in a single direction. Observe the curing times of all materials. It is best to precisely align the Schlüter®-DITRA-SOUND panels to ensure a tight fit. The individual panels are set tightly next to one another. Scrape away any excess mortar.
6. To avoid sound bridges, cover all joints with the self-adhesive joint covering Schlüter®-DITRA-SOUND-KB.
7. It is recommended to use walking boards (especially in the centre of the assembly for material transport) to protect the installed Schlüter®-DITRA-SOUND mat from damage or to prevent it from peeling off the substrate.
8. The tiles can be installed immediately after adhering the Schlüter®-DITRA-SOUND mats, using a thin-bed mortar that meets the requirements of the covering. Use a notched trowel to prepare the thin-bed mortar for the corresponding tile format. The tiles are fully embedded in this layer. Fully embedded tiles in accordance with the applicable professional standards is particularly important if high mechanical impacts are expected. The curing times of the thin-bed mortar are to be observed. The adhesive must be able to cure hydraulically or through another chemical reaction in an airtight space without water evaporation.
9. Observe the instructions regarding movement joint positions for intermediate, edges, and connections in this data sheet and other professional standards.

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Product overview:

Schlüter®-DITRA-SOUND

Bonded impact sound insulation

Material	Heavy polyethylene mat
Delivery format	550 x 750 mm = 0.41 m ² / unit
Material thickness	approx. 3.5 mm
Weight	approx. 5.5 kg/m ²
Thermal conductivity	0.40 W/(m•K)
Area thermal insulation	0.007 m ² •K/W
Water vapour diffusion resistance rating	μ = 86000
Equivalent air layer thickness	s _d = 250 m
Fire category	B2 acc. to DIN 4102
Packaging	10 units/ package 40 packages/ pallet



Ⓐ Schlüter®-DITRA-SOUND-KB

Adhesive tape to cover joints

Roll	Width
50 m	38 mm



Ⓑ Schlüter®-DITRA-SOUND-RSK

Self-adhesive edge insulation strip

Roll	Height	Thickness
10 m	30 mm	6 mm



Text template for tenders:

_____m² Schlüter®-DITRA-SOUND as a bonded sound insulation mat made of heavy polyethylene mat with anchoring fleece laminated on both sides to bond with the tile adhesive, to be supplied and professionally installed on a level and load bearing substrate, while observing the manufacturer's instructions, to be fully embedded in

■ Tile adhesive selected by installer

■ Tile adhesive type _____

including all required joint coverings and edge strips.

Material: _____/m²

Labour: _____/m²

Total: _____/m²

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