



INSTALLATION GUIDE

MEDITERRI™ HEMP FLEECE

Version: MARCH 2023

1. Definition and Description - What is Hemp Fleece?

Hemp Fleece or Felt is a non-woven felt made from the fibre of the industrial hemp plant and is a 100% natural product. It has many applications - in construction, but also in the automotive industry and in cultivating food crops. Hemp felt has unprecedented elasticity and impacts sound absorption. The moisture-regulating properties of hemp fibre give this material an exceptionally long service life. Hemp Felt is suitable for multiple purposes: as a sub-floor (levelling and soundproofing); as a felt underlay (if condensation is limited); for furniture and interiors (chairs, sofas, mattresses); as a natural fibre reinforcement (hot press moulding and vacuum injection bio-composites); and for crop cultivation (substrate mats and geotextiles). This material is a wonderful natural alternative to synthetic products and is suitable for all common building techniques. When hemp felt is used in 'vapour-permeable' timber-framed constructions, the unique qualities of this natural product become even more enhanced.

2. Characteristics and dimensions

Thicknesses:

- Available in 3, 5 and 10mm
- Several layers are laid on top of each other to create a floor with a higher reduction in footfall noise.
- The installation dimension under load is approx. 75% of the nominal dimension (compression degree of 25%).

Widths:

- Rolls with a width of 1.00 m (fleece)
- Rolls 10 cm wide (insulation strips)

Lengths:

- The rolls vary between 10 and 25 m depending on the thickness of the material





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3. Installation recommendations

Before putting the hemp impact sound insulation felt, make sure the subsurface is dry. This may be determined by placing a sheet of plastic on the floor and checking for condensation. If this is the case, either allow the underbody to dry for a suitable period of time or protect the felt on the underbody with a film.

Hemp impact sound insulation felts should not be utilized in spaces that are always moist. They should not be "locked in" between two closed foils, either. The construction should be as open to diffusion as possible.

Let the unrolled hemp impact sound insulation felt rest for a while so that it can adapt to the subfloor and the room temperature.

The desired floor covering (laminated, planks, parquet, carpeting, etc.) can then be built up. With floating floor constructions, the hemp footfall sound insulation felts must be loaded over the entire surface if optimal footfall sound insulation is to be guaranteed in the long term.

Avoid that the joints of the floor covering lie exactly on the seams of the hemp impact sound insulation felt.

The optimal impact sound insulation values are only achieved if the impact sound insulation is not interrupted by pipes etc.

The floating floor over full-surface hemp impact sound insulation felt - various structures

Depending on the planned floor covering, the following structures have proven to be practicable (each from bottom to top):

wood floorboards

- 2 x 10 mm hemp impact sound insulation felt (installation dimension under load approx. 15 mm, = 25% compression)
- 18 mm OSB board
- Wooden floorboards screwed to the OSB board

Flooring (carpet, linoleum, cork, ...)

- 2 x 10 mm hemp impact sound insulation felt (installation dimension under load approx. 15 mm, = 25% compression)
- 2 x 12 mm OSB board, screwed together
- Flooring (carpet, linoleum, cork, ...)

Parquet

The underlay under parquet or laminate is not primarily about impact sound insulation for the floor below the floor. The main thing here is decoupling with the ground to eliminate unpleasant noises when walking over this ground.



INSTALLATION GUIDE

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The parquet is laid directly on the felt.

If necessary, the manufacturer of the parquet also specifies a maximum permissible felt thickness as an underlay. If it is exceeded, instability can occur at the connection points.

If you are free to choose the appropriate thickness, the following applies: If it is only a question of decoupling, then 3 mm is sufficient. If you want to have a small impact sound insulation effect downwards, you tend to get a little thicker.

More than 10 mm thickness is not recommended under any circumstances. On the one hand, it is questionable whether the parquet is stable on such a thick felt base, on the other hand, the running noise develops negatively in this case (slight clinking).

Decoupling with hemp impact sound insulation felt as insulation strips

The insulating felt strips are laid floating between the ceiling beams and the floor structure (e.g. the wooden floorboards) to improve the impact of sound insulation.

This means: the floorboards must not be screwed to the ceiling beams. There must be no fixed connection between the wood below and the wood above the insulating felt strip.

The thickness of the insulating felt strips should be chosen as thick as possible. Since there is a significantly higher surface load on the insulating strips than on a full-surface felt substrate, the elasticity and thus the decoupling effect is correspondingly lower.

A structure with 3 x 10 mm insulating felt strips (results in a final height of approx. 23 mm when installed) is technically feasible without any problems.

Height-saving structure with insulating strips under a floorboard

You can reduce the height of the joists if the structure is not too tall. They do not have to be mounted on the beams, as is commonly supposed, but may also dangle in the gap section from a model.

In theory, you may imagine the floorboards connected to the joists as a giant panel (the same size as the individual room) that you can hypothetically raise. So you can see that the joists serve merely to keep the individual boards together, with no further function.

Floorboards can also be placed directly on ceiling beams (of course the hemp impact sound insulation strips must still be between the floorboards and the beam).

If the ceiling beams are not perfectly level, this can be accounted for by inserting hemp impact sound insulation strips of an appropriate thickness piecemeal.



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INSTALLATION GUIDE

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Soundproofing with wooden beam ceilings

Wood beam ceilings often have very poor sound insulation. This applies to both footfall sound insulation and airborne sound insulation (transmission of noises such as conversations and music from one room to another).

The floorboards are often to be applied directly to the joist layer. In order to ensure a minimum level of impact sound insulation, the floorboards must be decoupled from the beam (no hard connection). For this purpose, as described above, hemp impact sound insulation strips are attached to the beams. If circumstances allow, it makes sense to provide a total felt height of 20 mm (possible with 2 x 10 mm).

With regard to airborne noise protection, the selection of the filling material between the beams is of particular importance. It is recommended here, fiber insulation such as the use of hemp fiber insulation fill. They combine the damping effect of heavyweight (clay) with the ability of the hemp fiber to absorb sound vibrations. However, these will add more weight to the ceiling.

On the other hand, granular fillings made of perlite or cork are relatively unsuitable.

Cutting the hemp impact sound insulation felt

The cutting of hemp impact sound insulation felts is often difficult with conventional cutting devices. Regardless of whether it is an insulating material knife, a cutter knife, scissors, or a saw - the fibers behave quite stubbornly.