Underlay for flooring is a layer of material, that is used for cushion or leveling the floor. It provides sound absorption, insulation and helps reduce wear of your flooring.

Wood fiber has been utilized to manufacture underlayment for wood floors for more than 50 years worldwide, and by STEICO for more than 30 years. Strong production quality control and combination of qualities such as high-performing soundproofing, high compression strength, ability to level the floors, vapor open technology and other make STEICO underlayment a great option to resolve multiple installation needs. That made STEICO wood fiber underlayment a leader in sales in its category for the last decade on various markets and ensured accomplishment of hundreds of thousands commercial and residential projects over the years.

Wood fiber insulation is an innovative, safe, natural and high performing alternative to many synthetic insulation options currently on the market.

PRODUCTION

Only high-quality raw materials (wood chips) are used to produce STEICO wood fiber underlayment. Product is made from 100% natural wood fiber without use of the glue; **Lignin,** a wood resin that is secreted in the process of milling wood acts as a binding agent of the wood fibers is responsible for the durability and sturdiness of the boards.

In order to produce a high-quality product made out of wood fibers, especially in thin sheets less than 6 mm (1/4") in thickness, a very persice proportion of Lignin and length of the fibers is required. To meet this strict requirement only Pine and Spruce are suitable to be utilized in the production of these products. (Recycled wood from construction or household materials is not suitable for this purpose.)

All STEICO products are VOCs, glue, and chemicals free; IBR, FSC and ISO certified and sustainably sourced.

SOUNDPROOF BARRIER

Wood fibers alike wool, animal or human hair are hollow inside. That quality allows underlayment boards exhibit unique soundproofing characteristics on a minimum thickness and create a real sound barrier – air is located not only between fibers, but also within them.
No artificial materials have this property.

The level of sound insulation that an underlayment provides may be measured in negative decibels (-dB) or rated by Impact Insulation Class (IIC) or Sound Transmission Class (STC). It also can be represented as Delta IIC (Δ), number indicating the performance of product alone, without other materials. Wood Fiber, Felt, and Cork are the best underlayment materials for providing sound insulation.

<u>Let's talk about sound insulation and tests in more details:</u>

There are three kinds of audible sound. First is **Impact:** Sound transmitted due to impact of an object with the floor surface. Examples can be walking in heels, a hammer, an object drops to the floor etc. **- IIC value**. Second is **Air**: Any acoustic sound that is transmitted through air such as talking, TV Sounds, vacuum cleaner - **STC value**. And third is **Structural:** Sounds transmitted through construction or framed structures.

When measuring the IIC and STC values, it is not the values for the underlayment alone, but a values for the whole structure. The structure tested is commonly composed of finished floor covering, underlayment, concrete slab (such as used in between floors of a building, may vary in thicknesses: 6”, 8”, 10”, 12”), ceiling insulation, drop ceiling or any sheetrock ceiling fixed on metal frame. The thicker the above-mentioned layers of the tested structure, the higher the numbers that the test will yield.

When companies advertise IIC and STC values of 70-76 dB it means they conducted their testing on thick concrete slabs and with thick drop ceilings. The most reliable results is done with a structure that consists of: Finished floor covering, underlayment, concrete slab of 6” (not 8” or 10”) and measured without a drop ceiling or any ceiling insulation

Very few underlayments can claim 50 dB or higher when tested under the above conditions.
Wood fiber material can.

US building code requires tests on 6' slab with no ceiling assembly the rates to be 50 and up.
Link to an acoustic tests or specs

INTERLOCKS AND CLICK-LOCK PROTECTION

STEICO underlayment has a unique capability of leveling the floors and high pressure resistance.

Wood fiber boards are very durable. They can handle pressure at a load of **20 tons per square meter** (21.32 PSI), but, simultaneously due to plasticity, they can effectively level unevenness of the subfloor. This unique property protects the interlocks of the finish floor from squeaking and damage, maintaining the flooring joints' stability and integrity and eliminating a very unpleasant "springy" effect when walking. That reduces the movement of the flooring planks, prolongs and enhance performing of the floors.

Typically, the underlayment thickness corresponds to the size of the defect that it can level out (these may be protruding subfloor defects, small metal objects or concrete particles remaining after construction, glue leftovers, etc.). Boards can be used to smooth small potholes, dents, cavities, or chips on the subfloor surface in accordance with the installation technology.

LEVELING THE FLOOR

If, in addition to leveling the subfloor, it is required to raise its height, then a thicker board can be used. As an alternative, thinner STEICO underlayment on hand can be installed in several layers. Both thickness can be stacked or combined as needed.

When laying wood fiber underlayment in multiple layers, it is important that the joints (seams) of the layers and levels do not coincide with each other. It can be achieved by shifting the boards relative to each other or by putting the second layer in a direction different from the layer below.

VAPOR PERMEABILITY

Boards that are made from wood fibers differ with high vapor permeability – the ability to remove excess moisture from the premises, keeping the structure of the house dry. This technology is called "vapor open". Once installed due to the excellent vapor permeability and air circulation, the house “breathes", this process minimizes conditions for musty odor, mold, and mildew growth.

MOISTURE HANDLING

Wood fiber underlayment can get wet and subsequently dry out without losing its physical, thermal, and soundproofing properties throughout the process. Boards can absorb up to 20% of their mass of excess moisture from the air in the room and release it back when the air is dry.
Thus, wood fiber boards are a natural indoor microclimate regulator.

HIGH HEAT RESISTANCE

STEICO wood fiber underlayment does not deteriorate and does not change its geometry when exposed to elevated temperature such as use of “radiant heat” floors system. Maintaining the original dimensions is one of the most important properties for sound and heat insulation since cracks and gaps can lead to a complete loss of insulating properties.

STEICO wood fiber underlayment has R-Value of 2 per inch. So, if you are looking at 1/8" thickness product it will be - 0.25, 1/4" thickness product - 0.5.
1/8” STEICO wood fiber underlayment thickness works perfectly with all types of heated floors.

FIRE RESISTANCE

In the event of a direct fire, the wood fiber is charred which sufficiently slows the transmission of flame over its surface. Charring protects objects and surfaces behind the fibreboard, as well as the supporting structures of the building from loss of strength.

SOUND INSULATION FOR WALLS AND CEILINGS

Wood fiber underlayment can be utilized for walls and ceilings sound insulation, using it in combination with drywall. The most preferred method of attaching the boards is glue down.

INSTALLATION PREP

Unpack the underlayment and leave it in the room where the installation will be carried out 48 hours before starting work. It is recommended to store the underlayment horizontally.
Wood fiber boards need to acclimatize - adapt to humidity and temperature of the facility where installation will take place.

SUBFLOOR

Before starting installation, make sure that the subfloor surface is clean, dry and level.
To do this, it is necessary to make sure that the spread of deviations for every 6.5 feet of the base does not exceed 2 mm. If the variation exceeds 2 mm, a 6mm (1/4”) wood fiber underlayment should be used for leveling.

VAPOR INSULATION

STEICO wood fiber underlayment is not a moisture barrier and product is designed to be installed without a moisture barrier.

However, in some cases an additional vapor barrier might be needed.
A plastic film (we recommend not less than 6 MIL) should be installed if the installation is in a basement that is very damp and humid, or a first floor of a house without a basement and also with the same moist conditions. Also, vapor barrier might be needed if the concrete slab is newly poured, and it did not have enough time to cure and dry. If the floor you are working on is in upper floors, or in a dry environment, by all means, use without any barrier.

If you are laying the underlayment and need an additional vapor barrier, a minimum of 6 MIL vapor barrier polyethylene film should be install. Roll film strips with approximately 6-7 inches overlap and bring edges of the film approximately 4-5 inches in height onto the walls of the room perimeter. Excess film will be cut off after baseboard installation. Please refer to the **installation instruction** for vapor barrier installation recommendations.