

Herringbone Gluedown (plywood) Guide_ME Floor

Advantages:

Possibility of using a cement base for installation that does not have sufficient strength: this type of installation allows you to install the flooring even on bases with reduced strength, including bases on gypsum binders, which simplifies working with various types of subfloors.

Raising the base level without using self-leveling mixtures: allows you to increase the floor level without using self-leveling solutions, which prevents an increase in humidity in the room and reduces the waiting time for the material to gain strength.

Integration of additional hydro-, vibration-, heat- and noise-insulating layers: a two-layer plywood base allows you to add insulating layers, which significantly improves the floor's sound, heat and vibration insulation characteristics and also protects against moisture penetration.

Ensuring immobility of installed boards: additional mechanical fixation of the boards ensures their tight pressing to the base and prevents their displacement until the glue has completely dried, which guarantees high reliability of installation. Unlimited floor covering area: the method allows you to lay the floor covering in a single piece without the installation of expansion gaps in doorways, which creates a visually integral space.

ATTENTION: this type of installation is not recommended for heated floors.

1. Microclimate

Temperature of the base and air in the room where the parquet is planned to be installed should be stable and be within 18-26 °C and the relative humidity - from 40% to 65%. Avoid acclimatizing the parquet and installing it at extreme values of the permissible microclimate range. Optimum conditions for installation are a temperature of 22 °C and humidity of 50%. In such conditions, the parquet will have a balanced reserve for expansion and shrinkage. Installation at high humidity may result in micro gaps between the boards after the microclimate has returned to normal, while installation at low humidity may result in board deformation and internal stress. Use industrial dehumidifiers and humidifiers to regulate the microclimate.

2. Base requirements

Base preparation is a key stage that determines the quality and durability of the entire parquet floor. To ensure reliable adhesion of the parquet to the subfloor and its long-term operation, certain requirements must be met:

2.1 Base Subfloor

2.1.1 Requirements for the Base Subfloor

- the base must be intact, without damage or delamination.
- the base must be sufficiently rigid.
- the base must be flat, with permissible deviations of no more than 2 mm for every 2 meters of length.
- the base must be dry. The permissible moisture content of the base subfloor made of cement materials must not exceed 2% by weight, which corresponds to approximately 4% by the carbide method. For wooden bases, the permissible moisture content must not exceed 9% by weight. If the humidity exceeds the permissible values, it must be reduced by providing good ventilation or using dehumidifiers. Waterproofing should also be provided, especially if the base is located above damp, wet rooms or soil. High humidity of the base can lead to deformation and damage of the parquet board, so it is important to strictly monitor this parameter.

2.1. Subfloor preparation

Remove dust, dirt, debris, and residues of other substances from the surface of the base that can reduce the adhesion of the adhesive to the base.

Treat the base with a primer. This improves the glue's adhesion to the surface and can act as a primary waterproofing, preventing moisture penetration. The primer should be applied evenly using a roller or brush, ensuring complete coverage of the entire surface without gaps.

2.2 Plywood base

2.2.1 Requirements for plywood base

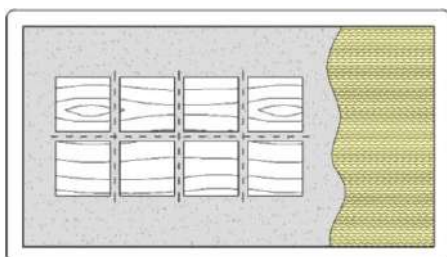
It is recommended to use moisture-resistant FSF plywood corresponding to quality class not lower than class B. This plywood has increased resistance to moisture due to the properties of the adhesive composition, which makes it suitable for use in high humidity conditions. Quality class B allows minor defects, such as small knots or minor cracks, but at the same time maintains high mechanical properties and surface aesthetics.

The minimum thickness of the plywood should be 12 mm, which ensures sufficient strength and stability of the structure. The optimal thickness is 15-18 mm, such plywood withstands better with loads and has greater rigidity.

The moisture content of the plywood should not exceed 9%. This is an important indicator, since if this value is exceeded, moisture may migrate to adjacent materials, such as parquet. Such migration can lead to deformation and damage of the parquet, including warping, cracking or even detachment from the base.

Therefore, maintaining the optimal level of plywood moisture is extremely important to ensure the durability and reliability of the entire structure.

2.2.2 Single-layer plywood base. Gluing with additional mechanical fixation to the base.

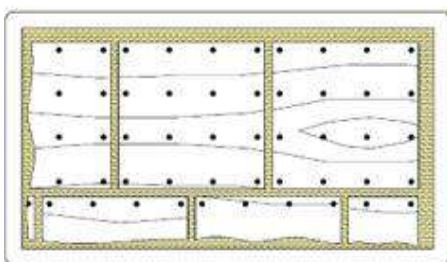


Cut the plywood sheet into equal squares of about 50x50 cm or 75x75 cm.

Use two-component adhesives to glue the plywood to the base. These adhesives set quickly and securely fix the plywood in place. Apply the adhesive evenly over the entire surface of the

sheets to ensure strong and durable adhesion to the base.

When installing the plywood, leave a gap of 5-10 mm between the sheets and 10-15 mm from the walls to allow the material to expand and contract freely with changes in temperature and humidity. Plywood sheets should be staggered to avoid overlapping joints, which will give the base additional strength and stability.



Additional fixation is provided by dowel nails or self-tapping screws, which should be installed at intervals of 15-20 cm along the edges and 20-30 cm in the center of each sheet. The fastening depth should be at least 30-40 mm to ensure reliable fastening of the plywood to the base.

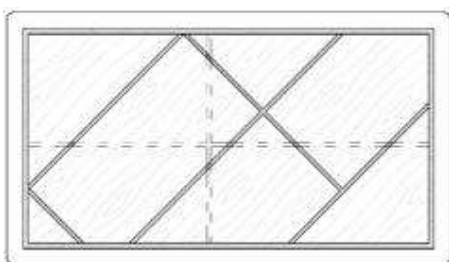
After installing the plywood, sand the entire surface to remove any possible differences and irregularities. Use a sanding machine with a grain of 80-120 to achieve a flat and smooth surface.

Carefully remove all dust after sanding with an industrial vacuum cleaner. This is important for good adhesion of the glue.

2.2.3 Two-layer plywood base. Without fixation to the base.

If necessary, place hydro-, vibration-, heat- and noise-insulating materials on the base.

Then install the first layer of plywood sheets directly onto the prepared base. During installation, leave gaps of 5-10 mm between the sheets and 10-15 mm from the walls to allow the plywood to expand and contract freely with changes in temperature and humidity. There is no need to shift the plywood sheets relative to each other.



Install a second layer of plywood on top of the first layer, also made of entire sheets, but at an angle of 45° relative to the first layer. This will give to the whole structure additional rigidity, strength and stability.

Use mechanical fixation to securely fasten the plywood between the layers. Place the fasteners around the perimeter of the sheets at intervals of 10 cm and additionally diagonally for better connection of the layers. The length of the fasteners should be less than the total thickness of the plywood layers, but long enough for their secure connection. This installation method provides a strong and durable base for engineered parquet installation.

3. Parquet installation

Parquet is installed last, after all construction and finishing work that may lead to increased pollution and humidity in the room has been completed. Before starting the installation, it is necessary to make sure that all microclimate systems are operating in a stable mode.

Bring boxes with the parquet to the installation site and leave them in original packaging for a couple of days. Do not open boxes in advance. Parquet must adapt to the temperature and humidity of the room. Please follow this rule, especially in winter or in case of international deliveries from different climate zones, to avoid "shock" of the parquet from sudden changes in temperature and humidity.

Before installing the parquet, we recommend selecting planks that match each other in color and texture, which will ensure a uniform and harmonious appearance of the floor. Planks with small defects should be set aside for use in places where they will be hidden by furniture or used at the beginning or end of a row, after cutting defects.

Determine which planks match better the baseboard and other interior elements, if any, and set them aside for installation in the appropriate places.

Decide on the installation direction. Installing planks along the long side of the room helps to create a visual effect of lengthening the space and looks more aesthetically pleasing.

The recommended reserve of 7% - 10% of the finished area is necessary to compensate for possible losses in the process of selecting planks, cutting out defects or small differences in room sizes in the layout from the actual ones. Such a reserve helps to avoid shortages of material during installation and, if necessary, provides the ability to replace damaged boards during the work.

To ensure accurate installation, it is necessary to mark out so that the boards are strictly parallel to the walls. This will help to identify possible deviations of the walls from parallelism, as well as to avoid the appearance of a crooked row with boards of different widths near opposite walls.

When laying parquet boards, it is necessary to consider the presence of expansion gaps along the walls and around any obstacles in the room, such as columns, outgoing heating pipes, built-in floor convectors and other elements.

When installing around complex shapes, such as curved columns or asymmetrical obstacles, it may be necessary to cut the boards. Use accurate templates or marking tools to ensure a neat result. Always check the size and location of all obstacles before starting the installation to plan where the expansion gap will be required and what elements will be used to hide it.

The recommended size of the expansion gap is 8-10 mm. This gap is important to compensate for possible changes in the dimensions of the boards due to fluctuations in temperature and humidity. Make sure that the expansion gap will be completely covered by baseboards or other decorative moldings later.

Make sure that the width of the rows adjacent to the opposite walls will be at least half the width of the board. This will ensure an aesthetic appearance of the entire floor. If necessary, adjust the width of the first row of boards by cutting them to the required dimensions.

If the walls have significant deviations from parallelism, it is recommended to use diagonal installation of the parquet. This will prevent the appearance of crooked rows near the walls and create a more harmonious look of the floor. Keep in mind that diagonal installation increases the consumption of parquet, which can reach 10% - 15% of the finished area, depending on the configuration of the rooms. Before starting diagonal installation, make sure that you have enough material to complete it.

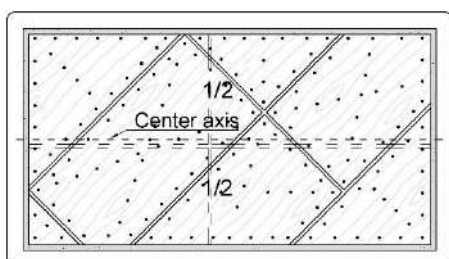
This is recommended to use two-component polyurethane adhesive or one-component adhesive based on MS polymers for parquet installation. These adhesive types have excellent durability, elasticity and good adhesion to both wood and concrete, which ensures a reliable and durable connection. The use of water-based adhesives is not recommended, as they can cause wood deformation due to moisture penetration at increased consumption.

Before using the adhesive, prepare it according to the manufacturer's instructions. Use a special notched trowel of the appropriate size to apply the adhesive evenly to the surface of the subfloor, ensuring that the recommended consumption is observed.

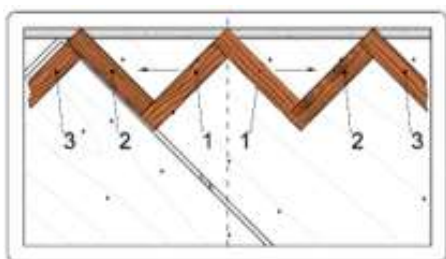
Work in stages, applying the adhesive only to the area that can be covered with boards before the adhesive begins to set. It is important to take into account that the adhesive has a different film formation time depending on its brand, type

and the microclimate in the room. This time may vary, so follow the manufacturer's instructions and the room conditions to avoid adhesion problems and ensure high-quality installation of the planks.

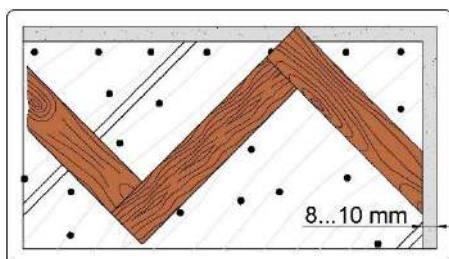
If adhesive gets on the front surface of the parquet, remove it immediately using special products that do not damage the parquet coating. This will prevent stains from appearing after it dries and preserve the aesthetic appearance of the floor. It is important to act quickly and carefully to prevent the adhesive from being absorbed into the surface.



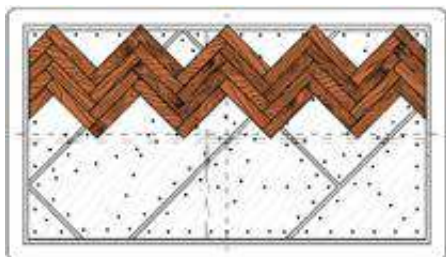
Divide the room in half lengthwise. Mark the center line using chalk line or a laser level to ensure accuracy. Check that the line is straight and aligned with the desired marks. If necessary, secure the line with a permanent marker.



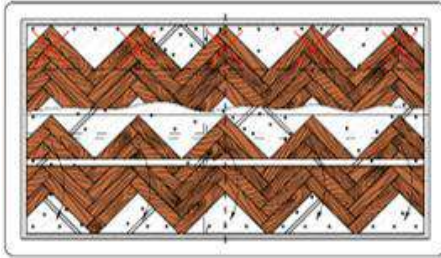
Start laying the first row of parquet from the center line along the wall which is further from the entrance. Do this by "dry" method - without fixing planks with glue, to ensure accuracy before final fixing.



Use a protractor to determine the length and angle of the cut of the last board in a row. Make sure that the length of the adjoining board is sufficient to form an expansion gap after its installation.

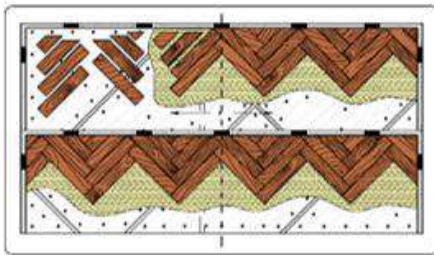


Lay out four or five rows of parquet in the same way as the first. Make sure that each row is laid out evenly and fits tightly against the previous one. Check regularly for proper installation and expansion gaps. Make sure that everything is flat.

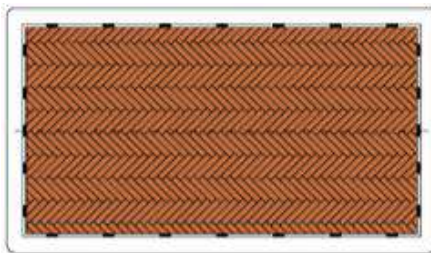


Draw a line with a marker using a straightedge set exactly at the tops of the inside corners of the first row of planks. This will be the starting line after the boards are cut and laid into the overall covering. Number the boards to avoid mistakes when laying them out. Cut the boards along the markings. Use

the cut planks to complete following rows.



Install spacers along the wall to create a compensation gap. Apply glue to the base. Start laying the boards from the center line, alternating rows on both sides of it. Tap the boards with a hammer through the spacer so that the tongue fits tightly into groove, without gaps.



Continue laying to the opposite wall, remembering to install spacers along the walls. Once installation is complete, use the remaining pieces of parquet cut at the beginning. Clean the parquet from debris and dust using suitable care products.

Avoid any movement in the room until the adhesive has hardened. After that, be sure to remove all spacers and inserts.

Install skirting along the perimeter of the entire room, fixing it only to the wall. This will prevent possible damage to the installed flooring and provide the necessary space for the parquet to expand during seasonal fluctuations. If necessary, cover the parquet with a protective material. For long-term covering, use only breathable material, as it prevents moisture accumulation and allows parquet to "breathe". Film materials can only be used for a short period. Do not cover the parquet if the underfloor heating system is in exploitation or if the heating pipes running in the floor are insufficiently insulated, to avoid overheating and damage to the parquet flooring.