INSTALLATION INSTRUCTIONS

Engineered Hardwood Flooring

1.INFORMATION TO TAKE INTO ACCOUNT BEFORE YOU BEGIN

It is EXTREMELY IMPORTANT that you correctly read and understand the information given in these instructions before starting with the installation, as an incorrect installation, use, or maintenance of the installation may result in the cancellation of the manufacturer's warranty. The points listed below are part of the installer/owner's liability:

Carefully inspect ALL material prior to installation, in order to verify that it has no defects. Materials installed with visible defects are not covered by the warranty.

-Wood is a natural product that can vary in tone and fiber distribution, and has natural features that make it normal for variations to appear from one board to another. The repeatability of these variations or the differences with the samples is not guaranteed.

-Exposure to direct sunlight or to intense artificial light: all floor coverings change over time, with an oxidization and a darkening taking place in light woods, and a discoloring in the case of dark woods. This is something inherent to wood and is NOT a defect.

-If you are not satisfied with the floor prior to installation, please contact your dealer - DO NOT INSTALL the floor.

-We recommend that, as final inspector, you examine the color, finish, style, and quality, BEFORE installing. Verify that the floor is the right material. At this time you must pay attention to the particular features that you do not like and that you would like to eliminate or repair. We will not be liable for any expenses incurred once the pieces with visible defects are installed. Materials with different shades/production batches must not be mixed, unless expressly approved by L'Antic Colonial. Check that all the material comes from the same collection and is made in the same batch.

-It is the installer's and the owner's responsibility to ensure that work conditions and the work area base are suitable, before installing any wood floor. Likewise, it is necessary that the environmental conditions described in this document are guaranteed at all times. The manufacturer disclaims all liability for faults or defects in the wood pieces, caused by or related to the screed or the environmental conditions of the work area. Before installation, verify and write down the environmental conditions and the moisture conditions of the substrate or screed.

The performance of the parquet flooring will depend on the correct installation, environmental conditions, maintenance and, to a large extent, the performance of the substrate on which it is installed.

2.CONDITIONS FOR THE RECEPTION AND STORAGE OF MATERIALS

2.1. Parquet reception

All floors arrive from the factory ready to be installed directly on site, not requiring any treatment before or after their installation. Otherwise, it would be indicated in the natural wood maintenance sheet.

Upon reception on site, the parquet batches shall be checked, taking into account aspects: type, color, and design; quantity supplied; dimensions and quality class or appearance; moisture content of the elements; general condition and physical integrity of the elements (for example absence of blows in the machined parts). In case any observation is detected from the inspection, it shall be indicated in the documents.

This record shall be signed by the supplier and the Site Management/ client representative, confirming that the batch is satisfactory.

2.2. Moisture content of the parquet

European standards for different parquet products, establish manufacturing moisture content ranges; standard EN 13489 (multilayer parquet), section 4.5, establishes a range between 5% and 9%, but one must take into account that in practice, these moisture content ranges are not suitable for all climates and climate control conditions of the premises. We recommend that the parquet moisture content in climate controlled premises (heating or air conditioning) be between 7% and 9%. When installing parquet over water radiant floor heating, we recommend adjusting the moisture content to 7% as much as possible.

2.3. Parquet and auxiliary products documents

At the time of supply, the parquet batches must go with the following documents: product technical sheets; installation instructions; certificate of guarantee with exemptions and coverage; declaration of EC entitlements as per standard EN 14342; CE marking; UKCA marking; instructions for maintenance and/ or upkeeping. Adhesive varnishes, leveling pastes, and auxiliary materials in general, must go with the technical sheet and product safety sheet.

2.4. Parquet storage

Parquet shall be stored sheltered from the elements, in ventilated, clean, and dry premises, and shall be stacked leaving space between the wood, the floor, and the walls.

In the event that the parquet products come wrapped in shrinkable plastic, they shall remain in their closed packages until they are going to be used. Packages shall only be opened immediately prior to installation. It is also convenient to store the boxes in the room 24 hours prior to installation, to facilitate the acclimatization of the wood to the room's temperature and humidity conditions.

2.5. Storage of varnishes and adhesives

They shall be stored in ventilated, cool, and dry premises, at temperatures between 10 °C and 25 °C, in their closed containers and protected from direct sunlight or other heat sources. Check with the manufacturer how long the product can be stored without loss of properties under these environmental conditions.

3.PRECONDITIONS OF PREMISES

Moisture protection should be foreseen at the time of proper construction design, using quality construction practices and materials in the building, from the outside to the inside, protecting it from moisture seepage, seasonal moisture effects, and moisture fluctuations between the outside and inside of the structure. As manufacturers of wood flooring, we cannot evaluate every design of substrate construction system, so we indicate below the general ideas, which should be contrasted by accredited professionals following the standards and legal requirements in each country.

3.1. General conditions

3.1.1. Enclosure

The building must be insulated sufficiently so that it does not get moisture from the outside, so the basement walls, floors, roof, and any other construction element must be conditioned so as not to suffer sudden changes in moisture, temperature, or accumulation of water vapor, which can be transferred to the substrate and subsequently, to the parquet floor.

The parquet shall be installed when the premises have outer glass enclosures, in order to prevent the entry of rainfall water, frost effects, excessive variations in relative humidity and temperature, etc.

3.1.2. Walls and ceilings work site moisture

Wall and ceiling materials shall have a moisture content under 2.5%, except for plasters and paints, which can have up to 5%.

3.1.3. Relative humidity and temperature of the premises

Before installation, verify and write down the environmental conditions.

Hygrothermal conditions of the premises, listed below, shall be maintained during the whole parquet installation process. Installation work shall not start until relative humidity conditions of the premises reach between 40-65%, and are maintained for at least 7 days.

Temperature is important in the parquet bonding and finishing works. Follow the manufacturer's product use instructions in relation to this point. In the absence of manufacturer's instructions, standard UNE 56810 recommends not carrying out bonding or finishing works below 10°C or above 27°C.

3.1.4. Maintenance of premises conditions

If it were necessary to use auxiliary means for the climate control of the premises, such as aerotherm heaters, humidifiers or dehumidifiers, space heaters etc., there shall be a sufficient amount of them, and they shall be kept during the necessary time in order to guarantee the installation conditions. The use of these materials is essential if humidity is lower than 40% or greater than 65% as the wood flooring could be damaged. The manufacturer shall not be liable for any effect/damage on the wood floor which takes place due to a failure to comply with the above.

3.1.5. Installations tests

The tests for the installations of water supply and disposal, electricity, heating, air conditioning, even the installation of bathroom fixtures, shall be carried out before the parquet installation work begins.

3.1.6. Other specifications

The installation of other floor coverings such as ceramics, marble etc., in bathroom areas, kitchens, and floor entrance plateaus, shall be completed before starting the parquet installation. In any case, we shall ensure that the mortars used with these coverings are suitably dried, in order to prevent moisture transmission to the parquet in their surrounding areas.

White plastering and plaster work installations shall be finished. The door opening frames or sub-frames shall be installed.

3.1.7. Sublayers

3.1.7.1. Vapor barrier

For the floating installation system and on all mineral surfaces, we recommend the use of PE-150 or PE-200 polyethylene films (0.15 to 0.20 mm thickness respectively), and 2 mm foam. L'Antic Colonial recommends the Anti-humidity sheet + Foam. This sheet is laid by overlapping the joints at the ends of the polyethylene films between sheets. It shall be raised around the perimeter at least halfway up the baseboard. The film works as a vapor barrier and the foam will improve the acoustic behavior and will correct slight deviations from the substrate.

Where the floor has radiant floor heating, we seek to improve thermal conductivity so that the system is as efficient as possible.

L'Antic Colonial recommends installing the Anti-static radiant floor heating sheet, which extends the radiant floor heating evenly throughout the pieces, preventing it from concentrating at different points.

Other products are allowed, based on waterproof resins and chemical products of different nature that, when mixed with mortar (at the time of execution or applied afterwards as surface primers) may serve purposes that are similar to those of a vapor barrier. In these cases, please check with the wood floor manufacturer.

3.1.7.2. Noise reduction sheet

Depending on the needs and the project, an acoustic sheet can be used in order to reduce transmission and impact noise.

Sometimes it might be necessary to level out the base. It is necessary that this film is consistent and has suitable compactness. L'Antic Colonial recommends the Insulating Sheet.

3.2. General conditions of the substrate

As a general rule, substrates where the parquet is going to be installed shall be compact, solid, flat, not too rough and absorbent. They shall also be dimensionally stable, non-deformable, dry, free of capillarity moisture; crack-free, be clean, and free from loose substances and dust.

IMPORTANT: Never install a wood floor on a substrate that has moisture, or that you know may have moisture-related problems.

3.2.1. Cement slabs

Cement slabs shall comply with what is indicated below.

3.2.1.1. Dosage and application

The recommended standard dosage is made up of CEM-II 32.5 EN 197-1 cement and washed river sand with 4 mm maximum grain size, in a 1 to 3 proportion respectively. The mortar shall be extended with the equipment or pro cedures that guarantee a suitable resistance and porosity, especially if bonded floorings are to be installed. Specifically, smoothing procedures that generate surface accumulation of binder "fines" shall be avoided. The mortar shall have a minimum compressive strength of 20 N/mm^2.

3.2.1.2. Thickness

When the cement slab is not constructed under the prescriptions for anhydrite slabs, and does not include fibers or other types of reinforcements in its composition, its minimum thickness shall be 5 cm. The possibility of using other cement-based products that can significantly reduce the base thickness is considered, provided they do not undermine its mechanical properties.

In the event that the slab includes water pipes, they shall be insulated, and the recommended minimum thickness of the slab is 3 cm over the insulation. For water radiant floor heating, the system manufacturer recommendations shall be followed regarding this point.

3.2.1.3. Moisture content and estimation of drying time

The concrete slab moisture content, prior to the installation of any type of wood flooring, shall be below or equal to 2.5%.

When auxiliary means are used for forced drying of the slab (e.g. heaters), a more intense drying takes place in the upper layers and moisture remains at lower depths. Afterwards, this moisture rises through capillary action and increases again the moisture content in the surface layers. Therefore, in these cases, sufficient time (at least 7 days) shall be taken into account before taking new measurements, until the moisture content is uniform throughout the slab thickness.

Where the slab is on a radiant floor heating system, the moisture content shall be below 2% unless otherwise specified by the system manufacturer. Cement slabs with high residual moisture (max. 5%), that cannot be eliminated by other means or that have weak parts, shall be waterproofed previously.

The slab's drying time depends on its thickness and the relative humidity of the premises. Under normal environmental conditions of 50% relative humidity and 20° C, we can estimate the drying time of a slab by using the expression $t = 2 \cdot s^2$, where t = drying time in days and s = thickness of the slab in cm. If using cement-based products with higher drying rates, the manufacturer's instructions shall be followed regarding the drying.

3.2.1.4. Measurement of the moisture content

The moisture content of the floor slab shall be measured before installing a parquet. It shall be carried out at a depth of approximately half the slab thickness, and in any case at a minimum depth of 2 cm.

The moisture content can be estimated using electric, capacitive, microwave, or carbide hygrometers. In each case the manufacturer instructions of the equipment used shall be followed. Measurements made with carbide hygrometers are the most precise ones, and should be considered as reference and corroboration for the rest of the methods. In all cases and regardless of the measurement or estimation method, it shall be taken into account that the sample must be representative of the slab thickness. Written evidence (records) shall be made of the measurements taken. This record shall be signed jointly by the person in charge of the measurements and by the Site Management/Client representative (e.g. a clear photograph of the measurement can be considered a proper record).

3.2.1.5. Verifications of the slab moisture

We recommend carrying out at least one control per 100 m^2 of surface.

If the surface is smaller, one control shall be carried out at least. In buildings with several heights, measurements must be carried out on different floors and in the most unfavorable positions (in general facing North) or the least ventilated areas (hallways).

3.2.2. Anhydrite slabs

Parquet flooring (in any of the systems) can also be installed on anhydrite slabs whenever they present a minimum compressive strength of 20 N/mm^2 (CA-C20-F4 designation as per EN 13813). Anhydrous mortar shall contain at most 0.5 per cent of moisture (for water radiant floor heating, 0.3 percent).

3.2.2.1. Cleaning the substrate

The substrate, regardless of its nature and the installation system of the parquet that is going to be laid, shall be clean and free from elements that can complicate bonding, the laying of battens, or the correct board settling in floating installation systems.

3.2.2.2. Flatness and horizontality

The substrate shall be flat and horizontal before starting the parquet installation. As a general criterion a local flatness is adopted measured with a 20 cm ruler, and deflections bigger than 1 mm shall not exist whatever the place and direction of the ruler, and a general flatness is measured with a 2 m ruler. In the case of bonded or floating system, there shall not exist deflections larger than 3 mm, whatever the location and direction of the ruler.

Horizontality shall be measured with the 2 m ruler and the level, and horizontality deviations shall not exist which are greater than 0.5% whatever the location and direction of the ruler. In parquets on battens, the batten layout can compensate local flatness deviations, general flatness deviations, and horizontality deviations larger than those specified in general.

3.2.3. Substrates with lightening products (expanded clay, vermiculite, perlite)

Substrates based on lightening products absorb a great amount of moisture which is later transferred slowly and constantly, affecting wood floors. Therefore in these cases a standard mortar layer which is at least 3 cm thick and a waterproofing layer (resin type) shall be laid out for the bonded installation system. In the floating system, a resin type waterproofing layer shall be laid out. (The mortar layer is not necessary). We do not recommend using the batten system on substrates with lightening products.

3.2.4. Wooden substrates

For the installation of the subfloor panels, construction standards must be followed in order to achieve an installation that is sufficiently stable and rigid to avoid problems of noise, movement, bending, breakage in the joint system, warping, opening between pieces, or other structural problems. Do not install over structures that have movement, are noisy, have water damage, delamination, or do not meet the minimum requirements of wood subfloor standards.

It is not recommended to use self-leveling agent or silicone to correct irregularities in the wood subfloor.

For additional information, follow the installation recommendations for Wood Panel Subflooring. See APA's Engineered Wood Construction Guide (Form E30) and APA Technical Note C468 (Floor Squeaks: Causes, Solutions and Prevention)

3.2.4.1. Moisture content of wood panels

The moisture content (MC) of the wood subfloor should not exceed 12% maximum, and the difference in moisture content with respect to the flooring to be installed should not vary more than 3%.

In basements, whether open, ventilated or closed, insulation is essential since this air space is a source of humidity and water vapor condensation, which causes moisture migration to the parquet flooring. Follow the instructions of the IRC (International Residential Code), section R408, as well as the construction methods related to insulation and moisture control systems, in which ventilation requirements are indicated, and assess whether the installation of a vapor barrier (vapor retarder) or other construction systems on the underside of the joists or subfloor is necessary.

3.2.4.2. Installation over wood joists

In buildings where the wood subfloor is laid on joists, the spacing between the joists, as well as the spacing between the joists and the building floor, must be taken into account. The joist and span spacing, construction methods, the proper combination of joist spacing and panel thickness, fasteners used, load requirements, species and quality of wood, or any wood subfloor over which the parquet flooring is installed, are the responsibility of the builder, architect, engineer, or customer, who should evaluate the best construction method.

Wood flooring should be installed perpendicular, or diagonal to the direction of the joist/support beam.

3.2.4.3. Installation over wood panels

Due to the tendency of wood panels to swell at the edges (edge-swell), and expand in length, width, and thickness, as well as the effects that moisture has on the wood (such as rotting, mildew or even decay) when exposed to moisture, it is preferable to use high-performance board underlayments, rather than lower grades.

For more information regarding installation, recording environmental conditions and selection of construction materials, refer to the instructions provided by the NWFA (National Wood Flooring Association) and/or the construction standards required in each country.

3.2.4.3.1. Plywood panels

PLYWOOD SUBFLOOR PANELS: the panels must conform to U.S. Voluntary Product Standard PS 1 performance standard, for Construction and Industrial Plywood and/or Canadian standards CSA 0153 or CSA 0121, and/or Canadian performance standard CAN 0325. They must also meet the requirements of the International Residential Code (IRC) and International Building Code (IBC) at the date of manufacture. These panels intended for subfloor use must be rated Exposure 1 or Exterior.

3.2.4.3.2. OSB Panels

OSB: Panels must conform to the current U.S. Voluntary PS 2 and/or Canadian performance standard CAN/CSA 0325 or CSA 0437. They must also meet the requirements of the IRC (International Residential Code) and the IBC (International Building Code) at the date of manufacture. These panels intended for subfloor use must be rated Exposure 1 or Exterior. The joint system of these boards must be tongue and groove.

3.2.5. Existing wood floors

Parquet flooring should not be installed over a floating floor.

3.2.6. Existing ceramic or stone substrates

With this type of substrates the necessary checks shall be previously made to ensure proper adhesion of the floor to the substrate (bonded system), and the non-transmission of moisture (all systems).

3.2.7. Existing textile floors

The installation of parquet on textile flooring, any type of carpet or padded element is not recommended in general.

3.2.8. Joints

The slab shrinkage joints can be filled with flexible materials. The parquet may be installed on these joints, no matter what the installation system is (bonded, battens, or floating). The building joints shall be left free.

3.3. Specifications for installation

3.3.1. General information

Prior to the installation of any floor, it is necessary to check that the slab it will be placed on meets the suitable moisture and leveling conditions. It is thus necessary that the above points have been checked and taken well into account.

Wood is a natural product and therefore has variable features. It is necessary to check the boards in daylight before installing them, in order to see whether they have faults or damage, as well as to see their color and structure. We likewise recommend that you classify the boards before installing, in order to obtain the desired floor structure and color. It is convenient to lay pieces mixed from different boxes. Claims on already installed products are not accepted; the warranty shall not apply.

Specific installation elements shall likewise be used such as hammer, jigsaw or electric saw, drill, folding ruler, pencil, wedges (spacer wedges), tie rod, and set-squares.

Below we add some particularities for floating, bonded, and water radiant floor heating installations.

3.3.2. Specifications for installation of floating parquet

3.3.2.1. Design

Whenever possible, the parquet shall be installed parallel to the larger dimension of the room.

However, usually the installation direction is given by the space's light source, e.g., the terrace window. The elements shall be installed parallel to the incoming light.

The space proportions can also be emphasized by suitably choosing the installation direction. For instance, a longitudinal direction installation is required in areas such as hallways. In long and narrow rooms the installation direction shall be adapted to the room proportions. To make narrow rooms look wider, place boards perpendicular to the smaller dimension. The use of light-colored wood expands small spaces visually.

3.3.2.2. Insulating sheet

As a general rule, floating wood floors are laid on an insulating layer. The functions of this insulation sheet can be widely varied, while the most important ones are to provide thermal and acoustic insulation as well as improve the overall comfort of the parquet system plus the insulation sheet. Sometimes it can act as a vapor barrier and other times it presents an improved thermal conductivity for installing on underfloor heating. We recommend placing the bands perpendicular to the boards. It shall be installed overlapping the polyethylene film sheets at least 20 cm. It shall be raised around the perimeter at least halfway up the baseboard.

3.3.2.3. Joints

3.3.2.3.1. General information

Both perimeter joints and expansion joints specified below are designed for absorbing dimensional swelling and shrinkage movements experienced by parquet surfaces as a result of the normal hygrothermal variations that take place in rooms. For instance, variations in relative humidity between the winter and summer periods, or those derived from the start-up and shut-off of climate control devices (heating, air conditioning).

These joints are not in any case intended to absorb abnormal dimensional variations such as those which arise from the inadequate conditioning of the premises, or those that can take place for instance as a result of an accident with entry of water, condensation, or other similar circumstances.

3.3.2.3.2. Perimeter joint

In floating installations, a perimeter joint with a minimum width of 1.5 ‰ of the larger room dimension, and of at least 10 mm if they are multilayer products. The maximum standard thickness of baseboards is 17 mm, so that for unobstructed room dimensions equal or larger than 12 meters, the use of special baseboards shall be provided for, or expansion joints shall be carried out in the installation.

This joint shall also be carried out in all the elements that cross the parquet (pipes for different types of installations) and in the areas of contact with carpentry elements (door frames).

3.3.2.3.3. Expansion joints

If the dimensions of the premises exceeded 8 unobstructed meters, expansion joints shall compulsorily be installed in the proper places (not to be confused with perimeter joint) so that they can absorb the swelling and shrinkage movements that this type of floor undergoes.

Example 1: in a residential type dwelling, when there are two opposing rooms connected by a hallway, there can be unobstructed lengths ranging from 8-10 m or longer. These expansion joints shall be of a minimum 10 mm width so that they can fulfill their role effectively. The most suitable places to have expansion joints are: starts of hallways; doorway areas; narrowings between partitions that separate different spaces of one room.

In the case of houses in which the partitioning creates evident narrowing, carrying out expansion joints in critical points must be provided for (even when the dimensional specifications established in this section are not met). Heavy furniture can create a discontinuity in the floor's floating behavior.

3.3.2.4. Offset

Place the board so that the ends of each board are separated from the next one at least twice the width of the board or at least 30 cm (taking the smallest measure.)

3.3.2.5. Trims and intermediate segments

To trim the end of each row, pieces of a minimum length of 30 cm can be used, however, in intermediate segments, measures shorter than the minimum provided are not allowed.

3.3.2.6. Gluing the boards

When using products to be tongued and grooved, apply glue all around the perimeter. The glue should always be applied on the top of the groove.

Wood adhesives for the installation of floating floors should be minimum of D3 class, according to EN 204. Other conventional adhesives for solid products are not to be used here.

3.3.2.7. Installation steps

You will need to lay the base, damp proofing sheet + foam

overlapping the joints of the damp proofing sheet edges. At the perimeter joint, the base must have the height of the skirting.
Before starting the installation, measure the installation area to know the width of the last row. This row should not be less than 5 cm. If this is not the case, the first row should be trimmed to the previously calculated measurement.
In floating installations, the length relative to the width of the installed flooring should not exceed 8 m. In the case of installations with lengths greater than 12 m, expansion joints should be left, using the different expansion profiles appropriate to each circumstance. At least 10 mm of expansion with respect to the wood must be preserved in the profile.

3.3.2.7.1. Tongue & groove system

A. Installation in the first row.

1- The 1st row is aligned on the right side with the female part facing the wall. It is firmly fixed to the wedge, keeping a perimeter expansion gap.
2- Assemble using a peg and a hammer. Never hit the board directly with the hammer, for it can damage the connecting system.
3- Use the hitting lever or a chisel in the last row respecting the expansion perimeter. Start the next row with the leftover from the previous one.

B. Installation in subsequent rows.

4- Continue with the installation of the following rows respecting at least the minimum 30 cm offset between the joints of the different rows. Make sure the parallel lines of the first three rows have not been missed.
Attention: Respect the joint rotation system when hitting in order to prevent the joints from opening. In order to ease the installation, we recommend hitting smoothly with the peg the long part of the board once it has been fitted to ensure fixation.

C. Installation in the last row.

5- Finish installing the last row with the hitting lever, to respect the expansion joint.
6- Remove expansion joint wedges to place the skirting board, screw or nail it with a pneumatic gun.
7- In areas such as corridors where the installation is in a T, L or U shape, the use of expansion profiles is recommended.

3.3.2.7.2. Lock System

A. Installing the first row

1- First, install the board correctly. Start the installation on the far left and with the groove towards the wall. Make sure the distance from the wall is 10-15 mm. The short ends will be joined together with a small hammer blow towards the new board. We recommend using a specialized tool in order to avoid damaging the panels.
2- On the third board and all those remaining for the new rows, the same installation method as the one used earlier shall be used. The installation of the first rows is important; they have to be perfectly straight, only thus will we have the guarantee that the remaining rows are properly parallel. Always keep a recommended minimum distance of 10/15 mm to the wall with the wedges
3- In order to cut the last board to the right measure it needs to be turned 180° and be set next to the last inserted row, so that the tabs are placed facing. On the front side an 8 mm side movement margin shall be calculated. The cutting line shall be marked and sawed. The boards must follow the line of the wall. If the wall is not straight, in the first row the wall movement is transferred to the boards. The boards shall be sawed lengthwise as they have been marked.
4- Align the row with full precision (controlled by the ruler); join the tabs and slots correctly and check that the row goes straight.

B. Installation of the following rows.

5- Position the board with as little sloping as possible (ca. 20-30 degrees) with the long side parallel to the first row. With a rotation movement and a slight pressure on the already-installed row, the panel's rounded profile slowly fits into the fitting. Continue with the rotating movement until the board is perfectly installed.
6- The next board is installed as indicated previously, starting the installation in the longitudinal direction. The right board shall be introduced into the left one with a slight blow until the short ends are completely closed.
7- Continue using the same installation method with the following boards until the desired area is covered. Make sure to keep the minimum distance in all rows between the boards and the wall.
8- Ideally, each of the rows should be offset 30 cm from the previous row, installing the different rows staggered in order to achieve a high resistance.

C. Installing the last row

When installing the last row of boards, the width needs to be determined with full precision. A board needs to be installed in the next-to-last row of boards. Afterwards we shall install a second panel with the tongue facing the wall, on the panel which needs to be measured, and use it as a ruler. Please do not forget the distance to keep to the wall. Saw the board according to the markings and adjust. Please use the template for recording the installation information.

3.3.2.7.3. Quick Lock system

A. Installation in the first row.

1- Start the installation, as long as the conditions of the premises allow it, with the tongue towards the wall. Make sure the distance from the wall is 10 mm.
2- Arrange the second piece by placing its short side on top of the short side of the first installed piece. You should hear a click, continue with the rest of the pieces in the first row in the same way.

B. Installation in subsequent rows.

3- Install the first piece of the second row by inserting the long side into the groove on the long side of the piece of the first row, this should be done by placing the piece at an angle of ± 20º.
4- Insert the long side of the second piece into the groove of the first row piece approximating the short side to the first piece of the second row, drop the piece and help with a light tap until the rubber of the short side is into both slats. A click must be heard. A rubber mallet can be used for this operation.
5- On the third panel and all the others for the new rows, you must carry out the same installation as before. The installation of the first rows is very important, they must be perfectly straight, this is the only way to guarantee that the remaining rows are correctly parallel. Precisely align the row (check with the ruler); correctly connect the tabs and slots and check that the row runs straight. Continue with the same installation technique on subsequent panels until the desired area is completed. Make sure all rows keep the minimum distance between the panels and the wall.

3.3.3. Specifications for the installation of glued parquet

3.3.3.1. Perimeter joints

Leave a joint perimeter of 10 mm to the walls or any other vertical elements. This joint can be filled with flexible materials. For glued flooring, the perimeter joint is to prevent Wall surface moisture and as a soundproof barrier. It is also intended for absorbing potential swelling movements that the installation may experience.

3.3.3.2. Adhesives

The recommended adhesive can be found in L'Antic Colonial's virtual catalog (www.anticcolonial.com).
Generally, in order to use adhesives, the manufacturer's instructions are to be followed regarding reaction time, open-air period, duration, doses, application, products, forms, and adequate parquet thickness.

3.3.3.3. Gluing the pieces

It is quite important to observe the maintenance conditions and room recommendations regarding cleaning, size and shape of the room, levelling, environmental humidity, etc. that have been described in this document.
IMPORTANT
- Before starting the installation, place 4 to 5 board rows to see if the pieces are correctly positioned.
- Use a notched trowel and apply glue in 45º angles.
- Apply glue to the first row and fit the pieces. Then spread the glue all over the surface, at least, for the installation of the three first rows or use as much glue as materials can be installed for the next 10 minutes after application.
- Additional gluing in H on the tongue and groove joint with D3 adhesives, according to EN 204. L'Antic Colonial recommends the glue of its catalogue.
- Do not press edging when puting elements together, but fit them easily by using the assembly joint. Add additional preassure to ensure a good joint at door entrances or on places close to the Wall.
- Start a new row with the pieces sawn from the last raw, keeping a mínimum of 40 cm length to guarantee a fine looking installation.
-Proceed by installing only a few panels to make sure that the glue does not dry before placing the boards.
- Use and adapted tapping block and remove the tapping crowbar to fit the joint.
- After gluing, wait a mínimum of 24 hours before walking on the flooring, although waiting 72 h is advisable.
You can watch a video on installation procedures: http://www.youtube.com/ watch?feature=player_detailpage&v=mAAHQewMhkQ

3.3.4. Specifications for installing parquet floors with water radiant heating systems

This point applies to water underfloor heating systems that include pipes of different materials (usually plastic materials) and are found in mortars of diverse nature which force warm liquids or coolants into them. Other underfloor heating systems like "radiant wire", "radiant pannels", "radiant sheets" and the like.

3.3.4.1. Recommended installation systems

It can be glued or floating.

3.3.4.2. General recommendations

We recommend making the installation glued to the floor, provided that the thickness of the parquet flooring is higher than 15 mm or that the wood has a density higher or equal to 550 kg/m³.
It is interesting to mention that the parquet boards must be glued directly to the floor and also between them (groove and tongue), not only to gain stability but also to improve heat conductivity. This is due to the fact that Wood is a more insulating material than others, so it offers resistance to heat transfer.

3.3.4.3. Screed thickness

The screed thickness will be the necessary one to ensure its adequate functioning. In any case, a minimum of 30 mm is recommended, counted as the conduction pipes of the system

3.3.4.4. Thermal resistance of the parquet and sublayers

The heat resistance of the parquet and sublayers as a whole, i.e., of all cladding or substrate materials located over the radiant slab, shall be 0.17 m^2.ºC/W (sq meters Celsius degrees / Watt) at most. The thermal conductivity/thermal resistance data of the wood floorings are available in the technical data sheets of each model, these data must be taken into account to calculate the performance of the heating system, following the instructions of the manufacturer of the radiant heating system and/or coolant.
This point is guaranteed if the materials recommended by L'Antic Colonial are used:
- Floating installation: Anti-static radiant floor heating sheet
- Glued installation: The recommended adhesive can be found in L'Antic Colonial's virtual catalog (www.anticcolonial.com).

3.3.4.5. Working temperature

The power of the system must be regulated so that at no time does the temperature at the surface of the parquet exceed 27°C or fall below 18°C in the case of cooling systems.
It is very important that underfloor cooling is equipped with suitable control systems that protect against condensation of water vapor on the floor surface. To prevent this, the temperature of the cold water in the pipes must not fall below a certain value: the dew point temperature. An effective control system will prevent the penetration of condensed water from the air into the floor, avoiding uncontrolled humidification of the wood that can damage the wood floor, such as warping, discoloration, forming of gaps between boards, cracks, etc.
To ensure adequate comfort, the minimum and maximum floor surface temperature shall be 20°C and 27°C respectively.

3.3.4.6. Screed humidity. Drying protocol

Do not turn on the heating abruptly. It is advisable to increase temperature gradually. Sharp change in temperature may dry up the wood, producing cranks or warping.
For cement-bound screeds, moisture content must be less than 2%. For anhydrite-bound screed moisture content must be less than 0.3%.
As for new buildings as for refurbished houses, a progressive heating protocol to be done is a must before placing the pavement. This is done in order to prevent subfloor moisture to raise to the screed.
You may use the water underfloor heating system to dry screed. For doing so, it is necessary to follow a heat-up phase to turn it on, keep it and turn it off, according to the manufacturer instructions. Proceed as follows:
- Functional heating
- Heating for the installation
- Installation of the pavement
You must need to keep in mind and follow these considerations, apart from those specified by the manufacturer:
For cement-bound screeds, the heat-up phase will take no less than 21 days. Pavement cannot be installed if moisture content exceeds 2 CM%. For anhydrite-bound screed, this phase will take no less than 7 days. Placement of the pavement is not allowed if moisture content exceeds 0.3 CM%.
- Turn the heating system on and gradually increase temperature by intervals of 2 or 3ºC a day over a week until reaching the regular temperature of the system.
- Keep this temperature over another week until the screed is completely dry.
- Reduce temperature by daily intervals of 2 or 3º C until the heating system is turned off. Once the heating-up phase is over, the parquet installation should start in a maximum of 48h to prevent hygroscopic screed to absorbed environmental humidity.
Floor surface temperature must not exceed 25ºC and not to be lower than 15ºC. Optimal conditions are met at 18ºC if temperature is even / fair all over the floor surface.
Optimal relative humidity is between 40 - 65%. Use a humidifier or a similar system if necessary.
Once the pavement has been installed, the use of a heating-system at a low temperature is recommended in the first week, gradually increasing temperature over the next week until reaching the usual temperature that better fits your necessities.
It is recommended to combine the heating-up phase with the regular ventilation of rooms.
Some methods for measuring the mortar moisture content on site are destructive or potentially dangerous to the integrity of the water radiant floor heating pipe system. This is why humidity should be measured in points where indications of riskless places have been left. These measures must be taken with a carbon hygrometer.

It is not advisable to use screeds because the distance generated between the screed and the wood creates an air chamber that may damaging. As air isolates temperature and delays the spread of it across the floor, the heating system is not enough, and air chambers would raise the wood temperature and produce floor reductions, warping, etc.

3.3.5. Specifications for placing skirting boards

L´Antic Colonial recommends skirting boards to be screwed or nailed to the wall with a pneumatic pistol for a correct installation, thus guaranteeing a perfect adaptation to the floor size and shape and a long lasting fixation. Before the skirting boards are installed, spacers must be removed.

Other adhesives and glues are possible, but it is possible too that they do not guarantee the same stability and duration than the previously mentioned method. Never use glues or acidic silicones.

For more information on the installation of skirting boards, refer to the website www.anticcolonial.com.

3.3.6. Specifications for the installation in areas with underfloor heating system pipes

For installations with this kind of heating system, 10 mm expansion joint between Wood and pipes are necessary.

4.PROTECTION, MAINTENANCE, AND PARQUET INSPECTION

4.1. Provisional parquet protection

Placement must be planned in advance, so it should start with the last phases of the finishing and, if possible, after the painting. While finishing Works are done, hygrometry conditions in rooms, state in previous clauses of this instructions manual, should be ensured. For parquets finished in site, it may happen that the starting of finishing work is delayed a few weeks (or even months) since the placement (whatever the system used is) took place. In this case, parquet must be covered with a material adequate to every phase of the building work. A breathable material is recommendable.

4.2. Conditioning rooms

Wood and its derivate materials are hygroscopic, that is, they absorb or release humidity from or to the environment according to hygrothermic conditions (humidity and temperature) in the environment.

The parquets finishing (varnish, oil, wax, dye, stain, etc.) is only a relative protection from hygroscopic imbalance. High relative environmental humidity (above 65 % for more than 15 days), may cause the pavement to absorb and excess of moisture. Low relative environmental humidity in rooms (less than 35%) for the same period of time, may cause an excessive loss of moisture in pavement.

It is necessary to plan in advance the conditions of the rooms (ventilation, heating, protection against direct sunlight, etc.) so the parquet is not under undesirable moisture imbalances, and their subsequent changes in dimension. It is recommended to keep rooms with relative environmental humidity between 50 and el 70 % for coast areas and between 35 and 60 % en for inland areas. Once installation is concluded, maintenance conditions are the construction owner's responsibility.

4.3. Inspection with the customer

Once the installation is completed, inspection with the customer will be carried out and s/he will be given a copy of the Maintenance and Care Instructions Manual. Inspect the parquet by standing up with natural light behind the observer. Do not use corner lamps nor backlighting to inspect and locate defects on the surface flooring.

Flooring last inspection will be done no later than seven days after the installation is completed and a report upon construction reception will be issued to be signed by the installer and the customer, adding any necessary note.

4.4. Maintenance and Care Instructions

Upon completion of the installation, the company in charge of it will provide the contractor or customer a manual or instructions for flooring use and maintenance.

4.5. Before its First Use

We recommend applying AQUAOIL before its first use following the manufacturer's instructions for floors with NATUR or NATUR PLUS finish.

5.CLEANING AND MAINTENANCE MANUAL

For the flooring production, L'Antic Colonial has used state-of-the art technology in order to make the most of this wood exclusive product special features. Parquet is the flooring par excellence. Parquet flooring improves with time but requires constant but easy care in order keep looking new and scratch-free. Parquet is always a good investment because of its resistance over time. Indeed, it is always trendy, admits a wide range of finishes and makes your house look warmer than with any other ceramic pavement.

Taking these simple precautions will keep your flooring in perfect conditions and will keep its value in the long term.

1- Try to avoid wearing heavy-soled shoes, especially if they are wet or have residues such as gravel or mud. Consider placing a doormat to clean grit and dirt from shoes before entering the house. You may also consider using carpet runners in any other area.

2- Special care is recommended when using shoes (for example, high-heels may damage the floor).

3- Avoid knocks and scapes with hard objects.

4- Use felt pads under furniture legs to avoid scratching the floor, mainly if it is a heavy furniture. Be careful when changing the place of a furniture: lift it, do not drag it over the floor.

5- Clean and dry liquid spills immediately to avoid moisture penetrating into the joints.

6- Changes in environmental humidity can cause contraction (when diminishing humidity) and expansion (when increasing humidity). These changes may damage the floor if some precautions are not taken. Keep humidity at a constant level to avoid them, as these changes may cause black stains, cracks, thickness swelling, and warping. To prolong the beauty of the flooring, we recommend to keep environmental humidity conditions as indicated, below:

7- In rooms where the parquet is laid, keep temperature at 20ºC/68ºF.

8- To ensure healthy atmospheric conditions, make sure that relative humidity is kept between 40% and 65%, as recommended by the World Health Organization.

9- For doing so, keep rooms ventilated, control abrupt changes in the heating, and protect the floor against sunlight direct exposure.

10- Avoid ultraviolet light direct exposure. Sunlight direct exposure or intense artificial light may affect the flooring top layer. This exposure can produce oxidation and, as a result, pale Woods get darker while dark Woods get fade. This is a Wood feature, it is NOT a defect.

11- For second homes and apartments we recommend to increase or decrease heating temperature progressively to reach the desired temperature.

12- When houses are not to be used for a time, we recommend to control these parameters and keep a perfect insulation. Wood requires some care as it is not a lifeless product.

13- Do not adhere masking tape or similar on the flooring or accessories such as profiles and skirting boards, as the solvents contained in the adhesive can damage the surface.

5.1. Cleaning

APRESTO finishing

Dry cleaning:

Can be cleaned using a soft broom, dust mop or vacuum cleaner. If a wet cleaning is necessary, use a damp mop or a dust mop

Wet cleaning:

Clean the flooring regularly with RMC SOAP detergent for varnished floors, in order to clean it and preserve it.

Intensive cleaning:

To prevent major soiling, use regularly CLEAN GREEN ACTIVE for an intensive cleaning of your flooring. In areas where the flooring will be exposed to scrapes and scratches more frequently, we recommend RMC UNIVERSAL MAINTENANCE OIL VOC FREE PURE, after the cleaning with CLEAN GREEN ACTIVE.

NATUR finishing

Before its First Use we recommend applying AQUAOIL before its first use following the manufacturer's instructions for floors with NATUR or NATUR PLUS finish.

Dry cleaning:

Flooring can be cleaned using a soft broom, dust mop or vacuum cleaner. If a wet cleaning is necessary, use a damp mop or a dust mop.

Wet cleaning:

Clean the flooring regularly with MC SOAP. MC SOAP is a quality product for the cleaning and surface protection of the Wood. It helps to seal scratches, prevents soiling and moisture penetrating into the joints. If moisturizing is needed, you may apply AQUAOIL following the manufacturer directions.

Intensive cleaning on natural finish:

Care of NATUR flooring will depend on the traffic and the use given to it. Apply ACTIVE, (used as intensive cleaner and paint stripper) and then use AQUAOIL.

Intensive cleaning on stained finish:

Clean your flooring with RMA SOAP detergent and then use AQUAOIL.

We recommend the use of AQUAOIL as a first treatment immediately after laying your floor.