

INSTALLATION INSTRUCTIONS

G&F Engineered floors T&G



IMPORTANT: PROCEED WITH A VISUAL INSPECTION OF THE FLOORING BEFORE INSTALLATION. ONCE INSTALLED, THE FLOORING IS CONSIDERED ACCEPTED BY THE INSTALLER AND THE OWNER.

PLEASE READ THE INSTALLATION INSTRUCTIONS BEFORE PROCEEDING WITH THE INSTALLATION.

Hardwood flooring is a product of nature, which is characterized by distinctive variations in grain and color. These natural variations in color and grain are not flaws, but are a part of the natural beauty and uniqueness of hardwood flooring. These inherent variations should be expected and serve to enhance the natural beauty and enduring charm. G&F floors are manufactured in accordance with accepted industry standards, which permit a defect tolerance not to exceed 5%. The defects may be of a manufacturing or natural type.

- The installer assumes responsibility for final inspection of product quality. This inspection of the whole flooring should be done before installation. Carefully examine the flooring for color, finish and quality before installing it. Use reasonable selectivity and hold out or cut off pieces with glaring defects whatever the cause. If the flooring is not acceptable, contact G&F immediately.
- Before beginning installation of any hardwood flooring product, the installer must determine that the environment of the job site and the condition and type of the subfloor involved are acceptable, ensuring that it meets or exceeds all requirements which are stipulated in the G&F installation instructions which follow. G&F declines any responsibility for job failure resulting from or associated with inappropriate or improperly prepared subfloor or job site environment deficiencies.
- The use of stain, filler or putty stick for the correction of defects during installation should be accepted as normal procedure.
- Should an individual piece be doubtful as to minimum grade, manufacture or factory finish, the installer should not use the piece.
- When G&F hardwood flooring is ordered, a 5% allowance factor, depending on layout, must be added to the actual square meter amount needed. (Diagonal installations and/or board width of 200mm and over may require up to a 10% allowance factor.)
- Please note that engineered wooden floors must be installed in environments of 40% to 65% relative humidity to prevent possible damage not covered by warranty. Installation of a humidifier or dehumidifier may be necessary. The floor is designed to perform in an environmentally controlled structure. Warranty exclusions are, but not limited to, surface checking resulting from low humidity, mildew or discoloration resulting from extreme sub-floor moisture.

JOB SITE INSPECTION & ACCLIMATION

- This type of flooring can be installed below, equal or above ground level. Do not install in a bathroom.
- In a new construction, hardwood flooring should be one of the last items installed. All work involving water or moisture (plumbing, acoustical ceilings, dry wall taping, etc.) should be completed prior to wood flooring being installed. Heating and air systems should be fully operating maintaining a consistent room temperature at 16°C to 27°C (60-80° F) and a constant relative humidity of 40% to 65%.
- Flooring should not be delivered until the building has been closed in and cement work, plastering, painting and other materials are completely dry. Concrete and plaster should be cured and at least 60 days old. Check basements and underfloor crawl space to be sure that they are dry and well ventilated to avoid damage caused by moisture.
- Handle with care. Do not stand on ends. Store G&F flooring in a dry place being sure to provide at least a 10cm air space under and around cartons.
- Do not store directly on concrete or near outside walls. Cartons should be placed in the installation area.
- Flooring should be at the job site at least 72 hours for flooring up to 190mm width (7 days for flooring up to 300mm) or as long as necessary to meet minimum installation requirements for moisture content.
- The humidity level of the house must be maintained between 40% and 65% all year long. Wood is a living product which reacts to humidity level variations. During summer, where the humidity level is at its highest point, the wood has a natural expansion and absorbs the humidity, these variations must be dealt with adequate dehumidification. As for winter, when the heating system is working, the humidity level is lower. It is then recommended to use a humidifier to minimise the extreme effects of shrinkage.

INSTALLATION METHODS (Floating, Nailed and Glued down) AND APPROVED SUBFLOORS



Type of subfloor	Floating	Nailed	Glued
Plywood 5/8" –OSB 23/32" (truss/joist of 16" c/c or less)	YES	YES	YES
Plywood 3/4" T&G –OSB 23/32" (truss/joist of 19,2" c/c or less)	YES	YES	YES
Concrete	YES	N/A	YES
Ceramic tiled floor, terrazzo, slate and marble	YES	N/A	YES
(Concrete) Radiant Subfloor heating	YES	N/A	YES
Radiant heating (plywood)	YES	YES	YES

Subfloor conditions

- CLEAN - Scraped or sanded, swept, free of wax, grease, paint, oil and other debris.
- HORIZONTAL / FLAT – Maximum tolerance of 3mm over 3 meter, or 2mm over 2 meter.
- Sand high areas or joints. If the floor is glued, fill the low areas with a latex additive cement surfacing product with a minimum resistance to compression of 20 000 kPa.
- Wood Substrates: Test the moisture of the wood substrate using a calibrated moisture meter approved for testing wood moisture according to the meter manufacturer. The reading should not exceed 12%, or read more than a 4% difference than moisture content of products being installed.
- Concrete slabs (Regardless off existing floor covering) should be inspected and checked in strict accordance to BS8201-2011 to conform to the necessary code of practices.
- Concrete or screeded substrates must have been completed at least 30 days before checking for moisture and any underfloor heating should be fully commissioned for minimum of 2 weeks and turned off.
- There are several types of tests for measuring the moisture content of concrete or screed
- Moisture Encounter – This is a non destructive test to display a surface reading of moisture as an indicative value, however not considered accurate and should only be used for exploratory tests prior to carrying out further tests.
- Hygrometer Probes – This requires drilling into the sub-floor and installing sleeves into the concrete that can be read using Hygrometer equipment and very accurate. Cannot be used with underfloor heating. The results will be measure in Relative Humidity. 75% or below for concrete or screed without Underfloor heating and 65% or below when underfloor heating is in the substrate
- Hygrometer Boxes – These are boxes mounted on the surface of Concrete or screed and is non destructive, therefore suitable for substrates with under floor heating. The results will be measure in Relative Humidity. 75% or below for concrete or screed without Underfloor heating and 65% or below when underfloor heating is in the substrate.
- Calcium Carbide Test – This is a destructive test, used when instant results are required and doesn't require leaving equipment on site to wait for measurements to be taken.
- For Anhydrite, Calcium Sulphate or similar screeds the guidelines as above should be followed but the laitance (the surface layer after curing) should be removed as soon as possible after curing to allow the moisture to escape.

Radiant Subfloor heating

- The heating system must be functional and working for at least 7 days prior to the floor installation.
- Stop the heating and let the floor cool down to ambient temperature for 3 or 4 hours before starting the floor installation.
- Immediately start the radiant heating system after the installation, but take special care that you don't raise the temperature at floor level with more than maximum 5°C per day. The temperature of the finished surface cannot go over 27°C (80 °F) at all times for the duration of the flooring's life span.
- Radiant heating systems usually procure a dry heat which can lower the ambient humidity level. It could be necessary to use a humidifier to maintain a recommended level of 40% to 65% and prevent any damage to the floor.
- Apply a layer of recommended wood glue on the grooved side before inserting the strip.

REQUIRED TOOLS FOR PROPER INSTALLATION



Power Tools

- Table Saw, Electric Miter Saw, Band Saw, Chop Saw, Power Jamb Saw, or Jig Saw

Hand Tools

- Broom and dust pan or Vacuum
- Tape Measure
- Moisture meter (wood, concrete or both)
- Chalk line & chalk
- 3M Blue Tape
- Hand saw
- Hammer
- Rubber mallet
- Tapping block
- Pry bar
- Filler stick and Touch-up marker
- Hardwood Floor Cleaner

Additional Tools for Glue-Down

- Recommended Adhesive & Adhesive Remover
- Trowel (Follow adhesive manufacturer's instruction)

Additional Tools for Staple-Down Installation

- Pneumatic Nailer
- Flooring Nails
- Drill

Additional Tools for Floating Installation

- 6 mil Polyethylene Vapor Barrier
- Foam Underlayment
- Floating Floor Glue

STEP BY STEP INSTALLATION INSTRUCTION (Glued down application)

STEP 1 – Establish a starting line

- For best visual effect, it is recommended that flooring be installed parallel to the longest wall in the room.
- Using a chalk line the area between the wall and the chalk line becomes your working area for starting installation, and your last installation area for completing the installation.

STEP 2 – Spread the adhesive

- Apply the recommended adhesive with a trowel according to the manufacturer installation instructions (found on the adhesive pail) for the specific adhesive that is being used.

STEP 3 – Install the boards

- Always select your boards with care. The more deeply colored strips should be installed where they are less visible. Pieces with flaws should be recut.
- Using the working area to install your flooring, line up the first board with the tongue facing the wall, then press the strip into the adhesive and against the holding block.
- Leave 6mm between the wall and the end of each strip in each row.
- Start the second row with a strip of at least 15cm shorter or longer than the strip used in the first row. This will avoid aligning or clustering the end joints.
- Continue with the subsequent rows in the same manner.
- When you get to the final row you will likely find it necessary to rip-saw the strips to fit against the wall. Install using the pry bar and leave 6mm minimum expansion spaces.

STEP 4 – Once installation is finished

- Always keep a few spare strips from your initial installation for possible repairs in a sealed carton and properly stored
- Wait 24 hours before moving furniture and appliances back into the area where flooring was installed.



STEP-BY-STEP INSTALLATION INSTRUCTION (Nailed down application)

Set-up and Use of Pneumatic Nailers

- Read and follow the manufacturer's instructions for complete set-up and operation of equipment.
- Make sure the adapter size for the pneumatic stapler or nailer matches the thickness of the flooring being installed and that the tool's adapter seats properly in the tongue of the flooring.
- Pneumatic nailer: Air pressure should be adjusted adequately for each species of hardwood floor installed and checked regularly (always try it before using).

STEP 1 – Establish a starting line

- Using a chalk line, draw a guideline.
- It is very important to start straight and square.

STEP 2 – Install the floor

- Always select your strips with care. The more deeply colored strips should be installed where they are less visible (i.e. in a closet or under the refrigerator). Pieces with flaws should be recut.
- Use the longest, straightest strips available for the first row.
- Install the first row of flooring with groove facing starter wall.
- The first few rows must be nailed down by hand rather than with the nailing machine because of the vertical wall obstruction. Nailing interval should be at 15cm. Leave 6mm between the wall and the end of each strip in each row.
- Start the second row with a strip of a least 15cm shorter or longer than the strip used in the first row. This will avoid aligning or clustering the end joints.
- When the area is free from wall obstruction, you can repeat the installation using a pneumatic stapler.
- It is also likely that you may have to rip saw the strips to fit the final row against the wall. Leave 6mm minimum expansion spaces.

STEP-BY-STEP INSTALLATION INSTRUCTION (Floating application)

Important notice regarding expansion space: It is important to include an expansion space of 1.5cm between rooms (ex: hallway adjacent to a bedroom). You will need to fill this space with a molding. Same rule applies for rooms exceeding 9 meter, you will also need an expansion space and a molding.

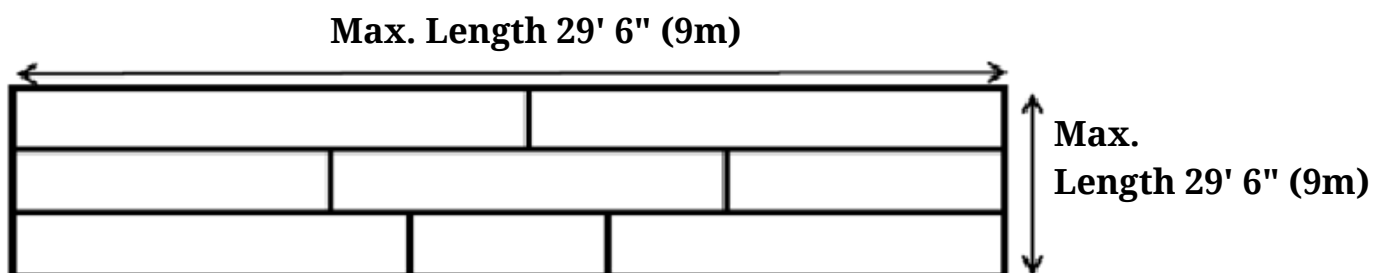


Fig.1

STEP 1 – Install underlayments

Install 6 mil Polyethylene vapor barrier over entire flooring surface. Overlap sheets of Polyethylene 40cm and tape together creating airtight seal. Run the vapor barrier 3 to 4cm up the walls and secure in place with tape. Using underlayment, roll out one roll at a time over the vapor barrier. There are many types of underlayments available today. The use of acoustical underlayment will improve the feel and sound transmission of your flooring.

STEP 2 – Preparing the starter rows

It is very important that enough expansion gaps are kept between the flooring and all the walls. This is done by placing 6mm spacers every 20cm apart around all vertical walls. Measure the width of the room – perpendicular to the direction you intend to install the flooring. The last row of flooring should be no less than 4cm wide. If it is less, you should rip-saw the starter row narrower. Leave 6mm between the wall and the end of each strip in each row. Start the second row with a strip of at least 15cm shorter or longer than the strip used in the first row. This will avoid aligning or clustering the end joints

STEP 3 – Gluing the floor

In a floating floor installation, the flooring is not glued or nailed to the underlayment, but is glued in the board's side and end grooves only. This is achieved by applying a bead of glue on the upper side of the groove along the entire length and on the end of each plank with T & G glue. Turn the board upside down when applying the adhesive to achieve proper application, when the board is turned again for installation with the finish side up, this will allow the adhesive to flow down and give better coverage. Do not apply adhesive on the top of the tongue.

Install the first row of flooring with groove facing starter wall. Use a tapping block and a mallet to gently push or tap the glued strips together until no gaps are seen and making sure that end joints are square.

At the end wall use a pry bar, if needed, to pull the ends of the boards tight. Continue laying the floor on top of the underlayment, working left to right, tapping the strips tight together. Make sure to continue using 6mm spacers along the wall throughout the installation.

To avoid shifting or gapping of the flooring during installation, lay perpendicular strips of 3M blue tape to hold the strips together. Remove the tape within 24 hours. Avoid use of masking tape, which leaves an adhesive residue and may cause damage to the finish.

The last row will most likely require cutting to width but it should be no less than 4cm wide. To do this, place a full row of strips on top of the last row installed. Insert a 6mm spacer against the wall, and using a full width strip, trace distance from wall onto final row. Cut strips for final row to designated width. Apply glue and pull into place with a pry bar.

Allow floor to dry for a minimum of 12 hours before removing all the spacers and allowing foot traffic.

Finally, install the transition pieces, baseboards and/or, quarter round mouldings.

COMPLETING THE JOB – ALL INSTALLATION

Clean the floor with Hardwood Floor Cleaner. Please ensure that any adhesive on the finish is cleaned before leaving. Dried or cured adhesive cannot be removed.

Install transition pieces.

Inspect final floor for nicks or minor gaps and fill with appropriate color wood putty.

Use plywood or hardboard when moving heavy appliances or furniture across floor.

**“INSTALLATION IMPLIES ACCEPTANCE.” NO WARRANTY WILL BE OFFERED FOR APPEARANCE
RELATED CLAIMS ONCE THE PRODUCTS ARE INSTALLED.**

Subfloor heating

G&F Flooring on top of subfloor heating

It is possible to install engineered floor in combination with underfloor heating.

But for this to work the indoor temperature must vary only gradually and to a limited extent to prevent the wood from shrinking or expanding.

A subfloor heating system is a 'slow' system: it takes longer for a room to reach the right temperature and also for the heat to leave the room again. The heating pattern of the occupants is very important: the more stable this is, the better. Too much heat causes the wood to dry out and shrink. Rapid and major fluctuations in the temperature may damage the floor. Practical matters also play a role: rugs and carpets on the floor and cupboards with no space underneath can also cause heat to build up, possibly resulting in shrinkage joints and cracks. These can be prevented with the help of one or two tips on heating and interior design.

Application of G&F Flooring

20/5,5mm G&F Flooring consists of a 5,5mm thick top layer of solid wood, which is glued onto a 14,5mm plywood underlayment at the factory. 15/4mm Multiplank consists of a 3,5mm thick top layer of solid wood, which is glued onto a 11,5mm plywood underlayment at the factory. In the following wood species, both types of floor can be used in combination with floor heating either as the main source of heat or as additional heating:

- European Oak

The instructions you will need to follow are provided below.

NOTE: You must be very careful about making sure you adhere to the requirements imposed in terms of the climatological conditions. If the humidity in the room does not achieve the values stipulated, the chances of cracks forming in the top layer will increase significantly. Cracking as a consequence of this is not covered by the guarantee.

To assist in keeping the Relative Humidity between the optimal levels, we strongly recommend the use of a Humidifier with the correct capacity to help you in keeping your indoor climate in optimal condition.

Installation methods

Option 1:

The boards can be glued directly onto the cement screed. Make sure that the cement screed is formretaining and level. We recommend at least D20 cement. The flatness can be checked: the maximum height difference over 2 metres is 2 mm. If you opt to glue the floor directly onto the cement screed (Option 1), we recommend that you take the following steps:

- Apply a primer and, if necessary, a liquid moisture barrier as well. You can do this, for example, by first applying one coat of Wakol MS330, or something similar and then applying a second coat crosswise; this will act as a sufficient moisture barrier.
- Using a Wakol MS260 (or similar) adhesive, or something similar, you should glue the boards on top within 24 hours with the help of a Suitable 4-5mm notched trowel.
- Make sure that pressure is applied to the boards for 24 hours after being glued into place using at least a 20kg weight per m²

Option 2:

If the subfloor does not satisfy the above requirements, an should be installed. G&F Flooring can then be glued and blind nailed onto this intermediate floor.

If you opt for installation using a mosaic intermediate floor (Option 2), you should take the following steps:

- Glue a mosaic intermediate floor onto the cement screed using a Wakol MS260 (or similar).
- Once the adhesive has set, sand the intermediate floor until it is even.
- Then glue the boards on top using a Wakol MS260 (or similar) with the help of a Suitable 4-5mm notched trowel and also blind nail the boards to the subfloor.

Heating up before laying the wooden floor

- Before you use the subfloor heating unit for the first time, the sand/cement screed should be at least 42 days old. Set the temperature to 20 °C on the first day of use, and then raise it by 5 °C every day.
- Make sure that the supply water temperature does not exceed 45 °C. Maintain this maximum temperature for at least 24 hours per centimetre of floor thickness.
- The lowering of the water temperature should also be in increments of 5 °C every 24 hours until you reach a water temperature of 20 °C.
- The entire heating process takes 14 days – ensure good ventilation during this period to allow moisture to escape. Check the cement screed for residual moisture after this process. This must not exceed 1,8% for a sand/cement screed and 0,3% for an anhydrite floor; if a liquid moisture barrier is used, the maximum is 3%.

Heating up after laying the wooden floor

- When laying the floor, the screed should be between 15 and 18 °C. Maintain this temperature for at least 5 days after laying, then you can slowly raise the temperature (1 to 2 °C every day) until you reach the temperature you desire or the maximum permissible temperature.
- The residual moisture in the floor must be no more than 1,8% for a cement screed and no more than 0,3% for an anhydrite floor.
- The maximum contact temperature of the cement screed is 28 °C. The contact temperature is the temperature of the surface of the cement screed / anhydrite floor, measured 3 heating days after setting the temperature (depending on the depth of the pipes).

Heating during the season

- Raise the temperature very gradually at the start of the heating season, and lower it again very gradually at the end (1 to 2 °C every day).
- To keep the floor as stable as possible, do not create any difference in day and night temperatures.

Key points

- The RH in the room must be between 40% and 65%. Measure the RH using a well-calibrated measuring device in a non-draughty room 10cm above the floor. NOTE: if the RH is too low, cracks may form.
- The cover on water pipes must be at least 30 mm thick to ensure a good distribution of heat.
- The maximum contact temperature of the cement screed is 28 °C.
- Heat the room at a steady temperature.
- Follow the heating protocol before, during and after installation.
- When you begin to turn up the subfloor heating again in winter, do so gradually (raise the temperature approximately 1 to 2 °C every day).
- If the cement screed is uneven and/or weak, use an oak mosaic intermediate floor.
- Sand an anhydrite floor beforehand with K24, remove all dust and always apply a primer.
- If there is a chance of rising moisture, or residual moisture exceeding 1,8% (for an anhydrite floor no more than 0,3%) with a maximum of 3%, then apply 2 x PU280 crosswise to act as a moisture barrier.
- If there is no mosaic intermediate floor, the cement screed needs to be of excellent quality. It is essential that 20 kg of pressure per m² be applied to each board immediately after gluing into place.
- Use a two-component adhesive such as Lecol PU240 or something similar – ask your supplier for advice.
- Apply the adhesive using a toothed T69 steel adhesive comb.
- Do not place any rugs on top, or cupboards with no space underneath.
- Cracks and shrinkage joints are often caused by insufficient RH and/or an excessively high water temperature.

Guarantee

- Guarantee We guarantee a stable product and also give a guarantee against delamination, excessive deformation and cracking. A Fidbox monitoring sensor should be installed in various locations of the floor. We may reject claims where these sensors have not been used.
- Installation should be carried out in accordance with the above instructions.
- The climate should satisfy the above requirements (RH between 40% and 65% measured 10 cm above the floor using a calibrated hygrometer; the contact temperature of the cement screed must be no higher than 28 °C).

Cracking that does not exceed the quality description by more than 10% is not covered by the guarantee.

