CHAUNCEYS
TIMBER FLOORING

FITTING
Chaunceys Tectonic® Engineered Oak Flooring

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Owner/Installer Responsibility

Inspect all materials carefully before installation. The natural characteristics of wood cause variations in colour, grain etc. Try laying the boards out loose and rearrange boards to best advantage visually.

The installer assumes all responsibility for the final inspection of product quality. This inspection of all flooring should be done prior to installation. Carefully examine flooring for quality, finish and colour before installing it. The installer must use reasonable selectivity and hold out or cut off pieces with deficiencies, whatever the cause. If material is doubtful as to grade, manufacture or factory finish, do not install it and contact your retailer immediately.

The installer/owner is responsible for determining if the site sub-floor and site conditions are structurally and environmentally acceptable for Tectonic engineered flooring installation. The manufacturer declines any responsibility for floor failure resulting from or connected with sub-floor, subsurface, site damage, site environmental deficiencies or deficiencies after hardwood flooring has been installed. All substrates must be dry, clean, structurally sound, and level.

When flooring is ordered, a wastage factor must be included as a cutting allowance.

Use of appropriate products for correcting sub-floor voids should be accepted as a normal industry practice.

Site Inspection

All outside doors and windows must be in place. All concrete, masonry, plastering and other "wet" work must be thoroughly dry. The wall coverings should be in place and the painting completed except for the final coat work. When possible, delay installation of skirting until flooring installation is complete. Basements and crawl spaces must be dry and well ventilated.

Tectonic engineered flooring may be installed below, at or above ground level.

Crawl spaces must be a minimum of 600mm from the ground to underside of joists. Joist spacing max 450mm. A ground cover of 1200 gauge DPM film is essential as a vapour barrier with joints lapped 200mm and taped. The crawl space should have perimeter venting equal to a minimum of 1.5% of the crawl space square footage. These vents should be properly located to foster cross ventilation (see figure1). Local building regulations may apply.

Do not install Tectonic engineered flooring in saunas, wet rooms or high humidity bathrooms.

The installation site should have a consistent room temperature of 15°C - 24°C and humidity of 40-65% for 14 days prior, during and after installation, to allow for proper acclimatisation.

The sub-floor must be checked for moisture content by an appropriate testing method. Test results must be recorded.

Tools & Accessories Needed

For All Installations:
Breathing protection
Broom and vacuum
3M blue mask tape or similar
Chalk line/Laser
Straight Edge
Chalk or Pencil
Level
Eye protection
Knocking block and hammer
Chop saw
Circular saw,
Moisture meter (wood, concrete or both)
Square
Tape measure
Utility knife
Wood or plastic wedges/spacers

For Glue Down Installations add:
Mapei P990 adhesive
12mm V notch Trowel
Eco Prim T primer.
If DPM required - Mapei 1k Turbo
For heated screeds - Mapeiproof ESM should be used in accordance with manufactures recommendations.

For Nail Down Installations add:
Porta-nailer 402 or similar
38/50mm Nails

Caution: *Improper use of a power nailer can mark the surface of the flooring.*

For Screw Down Installations add:
Tounge-Tite screws

For Floating Installations add:
Good quality PVA wood glue
Moisture barrier (1200 gauge DPM or similar),
Resilient sub-floor covering/underlay.

Storage & Acclimatisation

Handle and unload with care.

Store in a dry place being sure to provide at least a 100mm air space under bundles, which are stored upon "on-grade" concrete floors.

Flooring should not be delivered until the building has been closed in with windows and doors in place and until cement work, plastering and all other "wet" work is completed and dry.

Allow a **minimum of 72 hours** for acclimatisation, or until Equilibrium Moisture Content is achieved (see Equilibrium Moisture Content Table for more info.

Sub Floor Types

Concrete sub-floors
New concrete slabs require a minimum of 60 days drying time before covering them with a wood floor (they must be fully cured). Concrete sub-floors must be dry, smooth (level within 3mm in a 3m radius) and free of structural defects. Remove loose or flaky concrete.

Grinding high spots in concrete is recommended over using filling compounds. However if a filling/levelling compound is used, it must be of a Portland base compound (min. 3,000 p.s.i.) with a high compressive strength.

Concrete must be free of paint, oil, existing adhesives, wax, grease, dirt, sealers, and curing compounds.

These may be removed chemically or mechanically, but do not use solvent based strippers under any circumstances.

Residual solvents can prohibit the satisfactory bonding of flooring adhesives. It is important to ensure a proper bond of the adhesive between the concrete and the planks.

Lightweight concrete
Lightweight concrete that has a dry density of 100 pounds or less per cubic foot is not suitable for Tectonic engineered flooring.

Many products have been developed as self-levelling toppings or floor underlay.

These include cellular concrete, resin-reinforced cement underlay, and gypsum-based materials.
Although some of these products may have the necessary qualifications of underlay for wood flooring installations, others do not.

To test for lightweight concrete, scrape a coin or key across the surface of the sub-floor. If the surface powders easily or has a dry density of l00 pounds or less per cubic foot, do not install Tectonic engineered flooring.

Wooden sub-floors
Wooden sub-floors need to be well nailed or secured with screws.

Nails should be ring shanks and screws need to be counter sunk.
The wood sub-floor needs to be structurally sound (meaning sub-floors without loose boards, vinyl, tiles) and dry. They should not exceed 12% moisture prior to installation. If the sub-floor is single layer, less than 20mm thick, add a single cross layer for strength and stability (minimum 9mm thick for a total 25mm thickness). This is to reduce the possibility of squeaking. Wood sub-floors must be free of paint, oil, existing adhesives, wax, grease, dirt and urethane, varnish etc.
Particleboard is not an acceptable sub-floor for staple or nail down installation, but can be used as a sub - floor in glue down installations. When installing over existing wood flooring, install at right angles to the existing floor.

Radiant heated sub-floors
Before installing over a radiant heated floor turn off heat and wait until the floor has reached room temperature. After installing the floor, gradually return the heat to the previous setting.

Sub-floors other than wood or concrete
Terrazzo, tile and any other hard surfaces that are dry, structurally sound and level, as described above, are suitable as a sub-floor for Tectonic engineered flooring installation. As above, the surface must be sound, tight and free of paint, oil, existing adhesives, wax, grease and dirt. Terrazzo and ceramic tile must be scuffed to assure adhesion.

Sub Floor Moisture Level Check

Concrete sub-floors
The recommended wood flooring adhesive may be used for all common substrates.
Below ground applications (e.g.. Basements) are susceptible to moisture and should be tested for moisture prior to installation in several locations within the installation area.

Acceptable conditions concrete sub-floors are:
65% Relative Humidity – (use hygrometer moisture meter).
2% max. mc for normal installations. 1.5% max. for under-floor heated screeds
Wood Substrates must have a moisture reading of less than 12% mc when using a moisture meter.

WARNING: *Do not sand existing resilient tile, sheet flooring, backing, or felt linings. These products may contain asbestos fibres that are not readily identifiable. Inhalation of asbestos dust can cause Asbestosis or other serious bodily harm. Check with local regulations for handling hazardous material before attempting the removal of these floors.*

CAUTION: *The sub-floor surface must never exceed 27.0° C in temperature.*

Sub Floor Preparation

Racking The Floor

Whether you choose to install the floor by the glue down method, nail or staple down or floating, start by cutting four to five planks in random lengths, differing by at least 450mm.
As you continue working across the floor be sure to maintain the 450mm minimum between end joints on all adjacent rows.

Never waste material; use the left over pieces from the fill cuts to start the next row or to complete a row.

Note: *When installing be sure to blend the wood from several shades to ensure a good grain and shading mixture throughout the installation. Ideally roughly layout the boards in the room, so you can make the best choice of which boards go where. Allow for a 12-15mm expansion gap all around the room, depending on room size.*

Suitable Sub Floor surfaces for different fitting methods.

Glue Down
3/4" chipboard, Sterling or particleboard
Acoustic concrete
Ceramic, terrazzo, slate and marble
Concrete slabs
Existing solid wood flooring
Metal
Preferred: (19 mm) CDX grade plywood
Vinyl, resilient tile, cork flooring

Screw or nail-down
3/4"chipboard
Existing solid wood flooring
Preferred: 3/4"(19 mm) CDX grade plywood

Floating
Concrete slabs
Existing solid wood flooring

Glue Down Installation

Getting Started
Select a starter wall. It is recommended to start the installation along an exterior wall; it's more likely to be straight and square with the room. Measure out from the wall the width of two planks plus a 15mm expansion gap and mark each end of the room and snap your chalk line. Secure a straight edge on the chalk line before you spread your adhesive to ensure alignment, which is a critical part of the installation. This prevents movement of the planks that can cause misalignment.

Spreading The Adhesive
Using the recommended *trowel at a 45° angle to get the proper spread of adhesive applied to the sub-floor is important, doing so will produce a proper and permanent bond. Improper bonding can cause loose or hollow spots. Spread adhesive from the straight edge out about 30 in/ 750mm.). Working in small sections is helpful for this method as it will allow you to reach across the adhesive to install the wood flooring without putting any weight on it, and will ensure proper transfer of the adhesive to the wood flooring (See Fig.1).

Install Your Starter Rows
Install the first row of starter planks with the tongue side of the plank facing the straight edge and secure into position. Pull in tight together at seams and tape with 3M blue mask tape or similar (e.g. ratchet cramps) to prevent movement and continue with installation(See Fig.3).


FIG.1


FIG.2


FIG.3

Job Completion
Once the starter rows are secure spread 750mm of adhesive along the length of the room (See Fig.2) .Never spread more adhesive than can be covered using the open time recommendation listed in the instructions on the adhesive label. Never lay planks further than you can comfortably reach. Place tongue into groove of planks and press firmly into adhesive. Never slide planks through adhesive. Test for proper bond by occasionally lifting a board and looking for good coverage (90%), then replace it into the adhesive. Clean any adhesive off the surface before it cures. Use 3M blue mask tape (See Fig.3), to hold planks securely in place as you are installing and continue the process throughout the installation. Use caution when using a rubber mallet to butt material together, as it can burnish the finish and cause marring.
Note: *Never work on top of the flooring when installing with the glue down method*

Radiant Under-floor heating (Glue down installation only)
The maximum temperature of sub-floor under normal use should not exceed 27°C. (Check with heat system manufacturer).

For correct water temperature inside heating pipes, check with manufacturers suggested guidelines.

Heating pipes must be covered with 30mm of concrete or minimum 3mm below bottom side of plywood sub-floor. In addition, for plywood sub-floor, heat transfer plates or insulation boards must be under pipes.

Before installation of Tectonic engineered flooring, the heat system must be operated at normal living temperature for a minimum of 14 days. One or two days before the flooring is laid, switch off heating unit. (At time of installation sub-floor must be 15-20°C) Bring heat up over 3 to 4 days.

Room temperature should not vary more than 10 °C season to season. 45 to 65% relative humidity in home for radiant heated rooms.

Nail Down Installation

Getting Started

You must staple or nail 30 – 50mm from the ends and every 150mm along the edges on a wooden sub floor. This will help ensure a satisfactory installation. If using a compressed air nailing tool, it is best to set the compressor PSI at 80 - 85lbs. to keep the staples from going through or breaking the tongues. Improper stapling techniques can cause squeaks in the floor. Adjustments may be necessary to provide adequate penetration of the nail or staple into the nail bed. You want it flush in the nail pocket. Use a scrap piece of flooring material to set tools properly before installation. Before installation of the engineered flooring begins, install a 1200 gauge (or similar) layer over the sub-floor. This will retard moisture from below and may help prevent squeaks. Keep in mind there is no complete moisture barrier system for staple or nail down installations.

Note: roofing felt or resin paper may be substituted for the polyethylene and installed as below.

Installing 1200 gauge polythene

Install the polythene parallel to the direction of the flooring and allow a 75mm over run at the perimeter. Make sure each run of polyethylene overlaps the previous run by 150mm or more.

Layout The Job

Measure out from the ends of your starting wall, 192mm when installing 180mm TECTONIC planks and mark both ends. Lay the flooring at 90° angles to the floor joists. Make a chalk line along the starting wall using the marks you made.

Beginning installation

Place the planks with the tongue facing away from the wall and along your chalk line. Use brads or small finishing nails to secure the first starter row along the wall edge 30-50mm from the ends and every 150mm along the side. Counter sink the nails and fill with a filler that blends with the flooring installed. Place the nails in a dark grain spot in the board. Secret nail at a **45° angle** through the tongue . (Max width: 180mm for secret nailing). It will be easier if you pre-drill the holes in the tongue. It may be necessary to secret nail the next row or two before you can start using a Portanailer or similar to speed things up. A Porta-nailer with 38 or 50mm nails can also be used to secret nail and no pre-drilling is needed. Continue the installation using the recommended engineered wood flooring staples or nailer cleats.

Final touches

Install the proper *trim moulding at the doorways to achieve the transition and along the walls to cover the edges of any gaps along the wall due to irregularity. Complete the job by using *filler that blends with the installed flooring to fill any gapping along the joints and clean the finished floor. PIPES: Holes for pipes should be cut at least 16mm larger in diameter than the pipe. This gap can then be covered with hardwood ferrules.

Nailed Installation directly over joists

Tectonic engineered flooring can be nailed directly over joists, provided that the joists are not further apart than 400mm centre to centre.

Floating Installation

Sub-floor preparation

As part of your sub-floor preparation, remove any existing skirtings or doorway thresholds. These items can be replaced after installation, but should be replaced in such a way to allow at least 12mm "room for expansion" around the perimeter of the room. All door casings should be notched out or undercut to allow 12mm room for expansion and to avoid difficult scribe cuts. This is easily done by placing a piece of Tectonic on the sub-floor as a height guide for your hand saw.
Note: In large areas measuring more than 7.0m, use 6.5mm expansion for each 3.5m width and length (i.e. – 15 x 15m requires a 25mm expansion on all sides).

Installing the floor

Once the 1200 gauge DPM and the resilient sub-floor covering (if used) have been installed over the sub-floor, the site is ready for the TECTONIC boards. When the decision is made on the direction the boards will run, start at one side wall with the first row of boards allowing a 12mm expansion alongside and at the end walls (Fig. 1) with the use of wood wedges (or equivalent spacers). If the starting wall is out of square, it is recommended the first row of boards be scribed to allow for 12mm of expansion and a straight working line.

Side and end gluing

Tectonic engineered floor boards must be side and end glued using a good quality PVA Carpenter's Wood Glue. Apply the glue in a continuous line along the board. Each glue line is flush to the top of the groove. (See Fig. 2). Also fully glue every end joint. If any excess glue squeezes up to the finished surface, wipe off using a slightly damp cloth. Install the first row using the appropriate expansion space with the groove side facing the wall (Fig. 1). The subsequent rows are installed, side and end glued, tap together with a hammer and tapping block to prevent damage to the protruding tongue (Fig. 3). Tapping block should be against tongue only. Use only flat side of tapping block against tongue. Do not tap on groove side of Tectonic engineered flooring as this will cause damage. Check for tight fit on sides and ends , if not pull in tight together at seams then tape with 3M blue mask tape or similar (e.g. ratchet cramps) to prevent movement. Stagger a minimum of 450mm between end joints of adjacent board rows (see Fig. 4 & 5). End joints should not repeat visually across installed floor. Never install without some end joints in the floor.


Fig.1


Fig.2


Fig.3

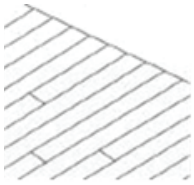


Fig.4

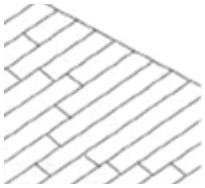


Fig.5

Installing the last row

Most often the last row does not fit in width. When this occurs, follow this simple procedure: lay a row of boards, unglued, tongue toward wall, directly on top of last installed row. Take a short piece of Tectonic engineered flooring with the face down and the tongue side against the wall. Draw a line with a pencil along the row moving down the wall. The resulting line gives the proper width for the last row which, when cut, can then be wedged into place using a crow bar, fitting bar or similar. Make sure when the installation is complete that wedges and spacers are removed and the expansion space is covered with an appropriate moulding. Always attach the trim to the wall or vertical object and never to the Tectonic engineered flooring boards.

Herringbone Installation

NOTE: *Installation of Herringbone style flooring requires a high degree of technical ability and should only be performed by a qualified and experienced professional hardwood installer.*

Tools & Accessories Needed
Dust mask
Broom or vacuum
Chalk line & chalk
Electric power saw
Spline/slip-tongue (reversing tongues)
Level
Scraper
Levelling compound
Eye protection
Hammer
Hand saw or jamb saw
Moisture meter (wood, concrete, or both)
Chaunceys Magic Cleanser
Tape measure
Pry bar

**When installing site finished products sanding equipment may be applicable.*

Measure
The secret of a successful Herringbone floor installation is measurement accuracy. The more accurate the measurement is, the better the results. Exactitude of room measurement is equally important. When beginning installation, validate measurements regularly and make necessary adjustments. Floor strips are manufactured using the metric system and installation will be much more precise if measurements are taken accordingly.

Layout
1. Herringbone engineered flooring can be laid out in several ways (Figure 1) as parallel or at a 45-degree angle to the room.

Regardless of direction, it is very important to consider:
- The longest direction of the room, or
- Major architectural landmarks, such as main entrance hall, wall with window or fireplace as Herringbone will require a center line and two working lines (Figure 2).

NOTE: *The multiple of the width should equal the exact length of the piece. If the width of the product varies, this will cause separations at the end of the herringbone pieces.*

2. Use reference lines throughout the area that is being installed.

3. Measure the room for center and strike the main control line, perpendicular line and diagonal reference line (Figure 2).

4. The working lines are determined by either dividing the diagonal measurement by 4 or calculate $\sqrt{a2 + b2 = c}$ (Figure 3).

5. Strike the two working lines alongside the main control line (Figure 4) and begin by laying out a few alternating slats.

6. Measure the distance from Line 1 to Line 2. Line 3 should be ½ that distance and run parallel to Lines 1 & 2. The centerline of the room and the center of the pattern is represented by Line 3.

Glue Down Installation
1. To begin installation on working Line 2 (See Figure 4), cut a square piece of plywood the size of the herringbone pattern. For example, if the herringbone pattern is 3" x 12", cut a 12" x 12" square of plywood.

2. Fasten the piece of plywood at your starting point on Line 1, with one corner of the square pointing in the direction of the pattern.

3. After at least three slats are placed in the next row check for squareness and the angle to make sure the pattern is placed correctly.

4. Continue placing the pieces in order started. Continue with the pattern until reaching the far wall. Then work the pattern to the right, one row at a time, alternating the direction of the flooring always with the tongue in the same direction. Each row will require its starting piece to be aligned to the previous row and a periodically alignment check.

5. When completing the upper right area, go back to the intersection of the working lines and complete the upper left area by one row at a time.
Carefully align the first piece of each row and periodically check alignment with the backer board. Alternate the direction of the flooring until upper area is completed.

6. Continue with the two remaining areas in the room. Start at the centerline and continue working the herringbone pattern backwards. When installing the pattern backwards it is easiest to maintain alignment by coming back with double rows. The first double row back into the lower left and right quadrant will be aligned with the reference line." After completing the first double row, continue installing two rows at a time until reaching the left wall.

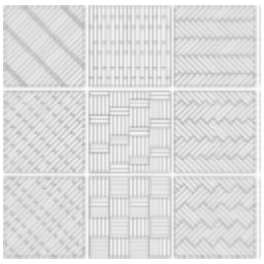


Fig.1

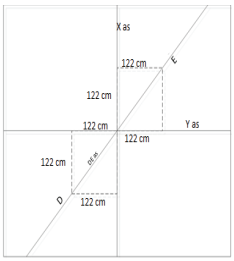


Fig.2

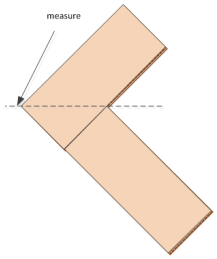


Fig.3

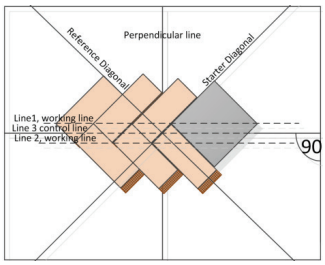


Fig.4

Chevron Installation

NOTE: *Installation of Chevron style flooring requires a high degree of technical ability and should only be performed by a qualified and experienced professional hardwood installer.*

Layout and Preparation

Determine the layout for the floor and the direction the pattern will run. Typically the pattern will follow the length of the room, but in some cases it may be positioned according to fixed features such as a fireplace or a main entranceway. Precise measurements are essential. Verify measurements and check row alignment frequently to ensure pattern is being laid accurately and evenly.

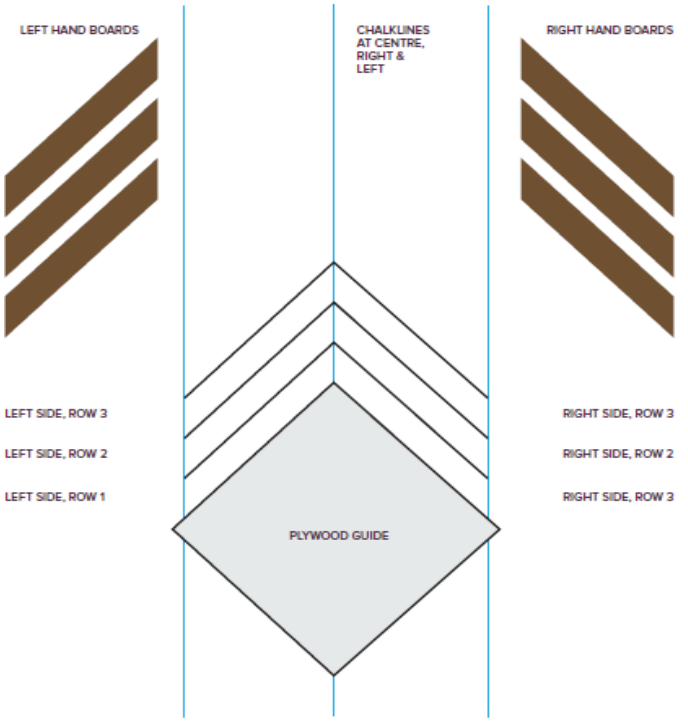
When you have determined the centre line for the pattern, snap a chalk line along the entire length of the installation area. Then, snap a parallel chalk line 500mm to the left of the centre line and another 500mm to the right. These will serve as guides for the outer edges of the first two rows and the corner of each board should be checked once installed to ensure it is parallel to the chalk guideline. You may want to snap additional lines as guides for the outer rows as you proceed with the installation.

To use as a guide to begin the installation, prepare a perfectly square piece of plywood 500mm x 500mm. Select your starting area in the middle of the room and affix the plywood guide to the sub-floor in a diamond position with the top and bottom points aligned with the centre line. (See diagram on right)

A unique feature of chevron flooring is that the boards are milled in two different profiles, one for the left side of the pattern and one for the right. It is recommended that you physically separate the boxes, keeping the left boards on your left hand working side and the right boards on your right hand working side. This will avoid confusion when you begin installing.

Glue Down Installation

1. Begin installation in the area directly in front of your plywood guide. Spread adhesive over a reasonable working area. Set the first right hand board in place with the groove side snug to the plywood guide and the butt ends aligned with the chalk guides.



2. Set the first right hand board in place with the groove side snug to the plywood guide and the butt ends aligned with the chalk guides.

3. Ensure no glue is forced into tongue & groove joints during installation as this may affect the fit of the joint. Avoid getting adhesive on the flooring surface, and clean up any seepage or spills immediately according to adhesive manufacturer's instructions.

4. To prevent boards shifting after they have been set into place, strap them with low tack masking tape. (Do not use regular masking tape as it may leave a residue of adhesive on the surface.) Continue working forward until the first two rows are complete to the far wall. Cut final row to fit, allowing expansion space to the wall. Remove the plywood guide and work back to complete the first two rows.

5. Continue with the installation in whichever direction best suits the working conditions. Check measurements and row alignment frequently to ensure that your rows are staying true and square. Snap new chalk lines with every row to serve as guides.

6. When installation is complete, remove all the masking tape from the floor. (Do not leave the masking tape on the floor for more than 24 hours.) If desired, roll the floor with a padded roller of recommended weight (100 to 150lbs). Install mouldings and profiles as required. Ensure skirting or mouldings are affixed to the wall, not the floor. Wait 24 hours before moving furniture or appliances onto floor.

7. If the flooring was installed over a Under Floor Heating system, wait 24 hours after installation or until the adhesive has fully cured before turning the system back on. Bring the temperature of the system up gradually, in 5° increments. Never allow the temperature of the floor to exceed 27°C and avoid dramatic temperature changes; always adjust the system gradually in 5° increments. It is recommended that a dedicated thermostat be installed to allow the temperature of the Under Floor Heating to be accurately controlled.

Maintenance

Preventative Maintenance

Regularly sweep and vacuum the floor.

Install barrier mats such as coir matting inside and outside all external doorways.

Wipe up any spilled liquids with a wet damp cloth as wood will absorb liquid and expand which could affect the stability of the floor.

Avoid use of any household cleaners. These can be abrasive and damage or dull the surface and can leave a dangerous slippery film.

Your wood needs the right environment: ideally, a room temperature between 15 and 24 degrees Celsius and around 40-65% relative air humidity

Stick felt pads under the legs of all furniture. Lift and avoid dragging when moving the furniture.

Regular Maintenance

Chaunceys Wash Care is a water additive with plant soaps and natural care components. It cleans your floors gently and thoroughly – free of streaks. Wash care will freshen up the floor surface whilst also making it dirt repellent.
Just add to water (approx. 3 caps per 5 litres of water). Wring out cloth and mop as usual. If necessary wipe again with dry cloth.

Additional Maintenance

Wax care

Oak floors are often susceptible to getting scratched and dull over time. Reviving your flooring is quite simple and can be done by applying Chaunceys ready-to-use Wax Care. This solution also available in a spray will regenerate and freshen up worn oak floor surfaces while simultaneously improving wear protection.
To use, apply Chaunceys Wax Care on dust-cleaned floor and rub evenly with a cloth – let dry and polish with a cloth. Be sure to use this do this approx. every three months or as required - in very high traffic areas this could be required monthly or even weekly. In larger areas this can be applied via a slowly rotating buffing machine.

Magic Cleaner

Our Magic Cleaner available in a spray will regenerate and freshen up heavily worn oak floor surfaces while simultaneously improving wear protection.
For removal of persistent stains, put a small quantity of Chaunceys Magic Cleaner on your floor and leave for 5-10 minutes then wash off with clean water. Be careful that you do not use steel wool, micro fibre or abrasive cleaner!

Re- finishing Your Floor

After some time it will be necessary to re-finish your floor. Please contact us if you are looking to do this, we will be happy to provide you the finish originally applied to your floor and guide you through the process.

Disclaimer

Our fitting and maintenance advice is tested and assembled to the best of our knowledge however, is still considered as a non-binding recommendation. Responsibility of the outcome of our recommendations rests solely with the you, the user. When an updated version of this fitting/maintenance sheet is released this one will no longer be valid.