



HARDWOOD INSTALLATION METHODS

You can install prefinished hardwood flooring with one of these methods:

- **Glue Down** – For solid T&G hardwood above wood or concrete subfloors.
- **Nail/Staple** – For solid and engineered T&G hardwood above wood subfloors or above concrete subfloors overlaid with a plywood underlayment.
- **Click Lock Floating** – For engineered click lock flooring above wood or concrete subfloors.
- **Engineered Floating** – For engineered T&G hardwood above wood or concrete subfloors.



TOOLS AND MATERIALS

You will need most of the general tools and materials plus anything specific for your installation method.

- | | |
|---|--|
| <input type="checkbox"/> 4' or 6' level | <input type="checkbox"/> Safety goggles and mask |
| <input type="checkbox"/> Broom | <input type="checkbox"/> Soft rubber mallet and/or white tipped mallet |
| <input type="checkbox"/> Carpenter's square | <input type="checkbox"/> Spacers for expansion gaps |
| <input type="checkbox"/> Chalk line | <input type="checkbox"/> Tape measure |
| <input type="checkbox"/> Crow, pull bar and/or power bar | <input type="checkbox"/> Tapping block or clean piece of scrap wood |
| <input type="checkbox"/> Electric and/or hand saw with carbide tipped blade | <input type="checkbox"/> Utility knife |
| <input type="checkbox"/> Hammer | <input type="checkbox"/> Utility towels |
| <input type="checkbox"/> Jig saw | |

Glue Down Installation

- | | |
|--|---|
| <input type="checkbox"/> ¼" square notch trowel (for planks 5" or wider) | <input type="checkbox"/> Flooring adhesive |
| <input type="checkbox"/> 3/16" notched trowel (for planks 5" or less) | <input type="checkbox"/> Flooring adhesive remover |
| <input type="checkbox"/> Blue painters tape and/or ratchet straps | <input type="checkbox"/> Weighted items (books, buckets of glue) to weigh down areas of the floor |

Nail/Staple Installation

- | | |
|--|---|
| <input type="checkbox"/> Electric drill (to predrill nail holes) | <input type="checkbox"/> Staples or nails |
| <input type="checkbox"/> Nail punch | <input type="checkbox"/> Pliers |
| <input type="checkbox"/> Staple or nail gun | <input type="checkbox"/> Wire Cutters |

Floating Engineered Installation

- | | |
|---|---|
| <input type="checkbox"/> Adhesive remover | <input type="checkbox"/> Tongue and groove adhesive |
|---|---|

**You may need additional tools/materials for your installation method.*



HARDWOOD INSTALLATION AREAS

Prefinished hardwood flooring can be installed in areas that are Above Grade or On Grade over these types of subfloors:

- Wood subfloors (plywood or OSB board). Do not install above a particle board subfloor. Wood subfloors must be structurally sound and free from movement.
- Concrete subfloors. Concrete should be at least 30 days old and pass all moisture tests.
- Radiant heating systems, if approved by the flooring manufacturer.
- Existing tile, porous stone, hardwood, bamboo and vinyl.

Prefinished hardwood should NOT be installed in Below Grade areas (such as basements) unless specifically approved by the manufacturer due to the excess moisture typical in these areas.



INSTALLATION BASICS

- Install your hardwood parallel to incoming light. In narrow rooms, install so the flooring runs parallel to the longest wall. For added stability, install hardwood perpendicular to floor joists.
- Never store your hardwood in direct sunlight or in the garage. Keep your hardwood flooring away from outside walls, doors, windows and air vents.
- During installation, always leave at least a ½" expansion/contraction perimeter around the room. More expansion/contraction area may be required for large room installations or if you live in a humid area. Consult your flooring manufacturer or retailer.
- Always use an underlayment. Cork, standard foam, combination foam/film and upgraded foam are all good choices. For more specific information about these underlayments, see the full **Installing Prefinished Hardwood Flooring** guide on FindAnyFloor.com.
- Install a moisture barrier (6mm polyethylene/plastic sheeting) between your subfloor and hardwood, especially if you are installing above a concrete slab or you live in a humid area.
- Calculate the number of rows of hardwood you'll need to complete your floor. If your first and last row are very different widths (for example, your first row is 3" and your last row is less an 1") re-calculate so that these rows are more equal.
- You may need to scribe fit your first and last row to match the wall contours to ensure your hardwood floor goes down straight even if your walls are not.
- Stagger all joints 2-3 times the width of the plank for an even looking floor. Avoid H-joints.

- When starting all new rows, follow the manufacturer's recommendations for board length (usually between 8"-10") to ensure your joints are staggered evenly. You may be able to use the remainder of the plank you cut to end the previous row.
- Inspect all boards before you install them. Do not install damaged boards. Cut away damaged areas and use the remainder to start rows. Place slightly discolored boards in closets or pantries where the color variation may not be as noticeable.



PREPARE FOR INSTALLATION

- Remove all existing flooring, if necessary. Do not remove any existing flooring if you find asbestos. Follow all local, state and federal guidelines when handling and/or disposing of asbestos.
- Use a moisture meter to test wood subfloors for moisture. Acceptable ranges include:
 - **3" wide or less** – Less than a 4% variance between the subfloor and the hardwood flooring.
 - **3" wide or more** – Less than a 2% variance between the subfloor and the hardwood flooring.
- Perform a Calcium Chloride and pH Alkalinity test on concrete subfloors. Acceptable ranges include:
 - **Calcium Chloride** – Not to exceed 3 lbs per 24 hrs per 1000 sq ft.
 - **Radiant Heating Calcium Chloride** – Not to exceed 1.5 lbs per 24 hrs per 1000 sq ft.
 - **pH Alkalinity** – Between 6-9 on the pH scale.

NOTE: You can perform a Polyethylene Moisture Test on concrete slabs. Tape several 12"x12" pieces of plastic sheeting to the subfloor. If after 24 hours any condensation forms, you must perform a Calcium Chloride and pH Alkalinity test. It's a good idea to perform these tests anyway as excessive subfloor moisture can cause major problems in the long run.

- Ensure the subfloor is level and free from all bumps, dips and imperfections (such as drywall mud or paint overspray). Scrape your subfloor clean. Sand down any high areas. Use self-leveling compound to level low areas. Perform all moisture tests again if a self-leveling compound is used.
- Have your hardwood flooring delivered 2 -7 days before your installation.
- Place your hardwood flooring in the installation area to acclimatize. The room should be between 60°- 80° F with a relative humidity of between 35%-65%. Follow all the manufacturer's acclimatization recommendations.
- Use a moisture meter to moisture test your hardwood flooring before installation as recommended by your manufacturer.
- Undercut the door casings in the installation area, if desired.
- Remove all doors and molding. Set aside.
- Sweep and vacuum your floor before installing your hardwood flooring.

- Always install safely using the proper safety equipment. Follow all manufacturer safety recommendations.



TIPS AND TRICKS

- When cutting, saw into the prefinished side first to avoid chipping the finish. Always use a carbide-tipped blade. Use blue painters tape along the area to be cut to help prevent chipping the prefinished surface.
- Use a tapping block to move the hardwood into position. Do not hit the hardwood flooring directly.
- Keep the installation area as clean as possible. Do all cutting in another area.
- Place tools on a piece of cardboard on top of your hardwood to avoid scratching or damaging your new floor.
- Most professional installers work from left to right, although you can do what is most comfortable for you.
- Always work from your subfloor NOT your new hardwood floor.



INSTALL THE UNDERLAYMENT

Install your cork, foam, plastic sheeting or other underlayment according to the manufacturer's recommendations. If using the glue down method, make sure the underlayment you use is specifically designed for a glue down installation.

GLUE DOWN METHOD

Use this method for solid T&G hardwood above wood or concrete subfloors. Keep these things in mind before you begin:

- Always choose a urethane based adhesive designed to be troweled onto the subfloor. Do not use any adhesive that lists water as an ingredient.
- Use books, buckets of glue or other heavy objects to weigh down areas where the flooring is not securely in contact with the subfloor.

NOTE: Not all manufacturers approve glue down installations for solid hardwood floors above concrete subfloors. Always check with your manufacturer to ensure this type of installation will not void your warranty.

INSTALL THE FIRST ROW

Take extra time when installing the first row of hardwood flooring. It is critical that this row be straight even if the walls are not.

1. Measure out your expansion spacing in at least two places along the longest wall. Snap a chalk line between these points.
2. Dry fit the first row by laying out the hardwood with the groove toward the wall. Add spacers between the wall and the flooring. Make sure this first row is completely straight.

Scribe fit (if necessary) so that the flooring matches the contours in the wall.

3. Once satisfied with the fit, remove and stack boards in the order they will be installed. Take care not to scratch the finish while stacking.
4. Use a trowel to apply the flooring adhesive to the subfloor according to the manufacturer's instructions.
5. Re-install the first row of flooring. Place spacers between the wall and each board. Ensure boards are in full contact with the adhesive.
Squeeze each T&G tightly together. Wipe away any excess adhesive. If desired, use small finishing nails to hold the first row in place.
6. At the end of the wall, measure and cut a plank to fit. Use a pinch bar (if necessary) to fit the last plank in place. Place a spacer at the end of the first row.
7. Evaluate the first row to ensure it is straight and level. Adjust where needed.
8. Let the first row set completely before continuing your installation.



INSTALL THE MAIN PART OF THE FLOOR

1. Use a short board (it should be at least 8"-10" in length) to start the second row.
2. Spread adhesive and fit the hardwood together as you did on your first row.
3. Work your way across the floor until you reach the last row. Weigh down areas of concern.



INSTALL THE LAST ROW

1. Measure out your expansion spacing in at least two places along the wall. Snap a chalk line between these points.
2. Dry fit the last row by laying out the hardwood with the tongue or cut part of the board toward the wall. Scribe fit (if necessary) so that the flooring matches the contours in the wall. Make sure this last row is completely straight.
3. Once satisfied with the fit, remove and stack in the order the boards will be installed. Take care not to scratch the planks while stacking.
4. Use a trowel to apply the flooring adhesive to the subfloor according to the manufacturer's instructions.
5. Re-install the last row of flooring. Place spacers between the wall and each plank. Ensure all boards are in full contact with the adhesive.
6. At the end of the wall, measure and cut a plank to fit. Use a pinch bar (if necessary) to fit the last plank in place. Place a spacer at the end of the first row.
7. Evaluate the last row to ensure it is straight and level. Adjust where needed.



ROLL THE FLOOR

Use a 100lb-150lb roller to roll the floor as recommended by your flooring manufacturer to ensure all flooring is securely in

contact with the subfloor. Rollers can be rented from most equipment rental shops. Or use heavy objects to weigh down the floor during your installation to simulate rolling.



LET THE FLOOR SET

Allow the adhesive to set for between 8-24 hours. Do not walk upon or place anything on the newly installed floor during this time. Do not remove the spacers until the floor is completely dry.

NAIL/STAPLE METHOD

Use this method for solid and engineered (if approved by your manufacturer) T&G hardwood above wood subfloors or concrete subfloors overlaid with a plywood underlayment. Always follow your flooring manufacturer's recommendations when choosing between staples and cleats/nails.

Fasten each tongue at the proper intervals:

- 3"-4" for staples (usually recommended for hardwood)
- 4"-6" for cleats/nails
- Within 1"-2" of each end joint

Keep these tips in mind before you begin:

- Set all staples correctly in the nail pocket.
- Use the correct type of top and angled stapler with the proper plate. Ensure the plate is covered with felt or plastic so it does not scratch the hardwood.
- If using a pneumatic fastening device, use the correct pressure setting (usually between 70-80 PSI). Practice fastening a scrap piece of flooring before you begin your installation.
- Use pliers to remove a staple that did not go in completely.
- Use wire cutters to cut staples that are partially exposed and cannot be removed.
- Use a nail punch to drive a staple in completely.



INSTALL THE FIRST ROW

Take extra time when installing the first row of hardwood flooring. It is critical that this row be straight even if the walls are not.

1. Measure out your expansion spacing in at least two places along the longest wall. Snap a chalk line between the points.
2. Lay out the hardwood with the groove toward the wall but do not secure yet. Add spacers between the flooring and the wall. Make sure this first row is completely straight. Scribe fit this row (if necessary) so that the flooring matches the contours in the wall.
3. Once satisfied with the fit, top nail the first row to the subfloor at the appropriate intervals.
4. At the end of the wall, measure and cut a plank to fit. Use a pinch bar (if necessary) to fit the last plank in place. Place a spacer at the end of the first row.

5. Evaluate the first row to ensure it is straight and level. Adjust where needed.



INSTALL THE MAIN PART OF THE FLOOR

1. Use a short board (it should be at least 8"-10" in length) to start the second row.
2. Gently tap this board together with the first row. Use an angled stapler to secure in place.
3. Work your way across the floor until you reach the last few rows.



INSTALL THE LAST ROW

You'll install the last few rows differently as your nailer/stapler may not fit between the wall and your rows of flooring.

1. Begin using a white tipped mallet (which will not mar the wall) to tap boards in place 5-6 rows out from the wall.
2. When your stapler no longer fits between the wall and your flooring (about 3 rows out), continue installing your hardwood, but do not staple. Use the mallet to fit each board tightly to the next.
3. When you are on your last row, measure out your expansion spacing in at least two places. Snap a chalk line.
4. Lay out the hardwood flooring with the tongue or cut part of the board toward the wall. Scribe fit (if necessary) so that the flooring matches the contours of the wall. Make sure the last row is completely straight. Tap with the mallet so all boards fit tightly together. (This is especially important since you did not staple the last few rows of flooring.)
5. Once satisfied with the fit, top nail the last row in place. Add a few extra staples in this row as it is holding 3-4 rows together.

Your hardwood floor does not need any time to set. Once you place your last staple, you can remove all spacers and begin using your new hardwood floor.

FLOATING CLICK LOCK METHOD

Use this method for engineered click lock flooring. Only use these instructions as a reference as there are a variety of click lock hardwood styles. Always follow the instructions provided by your specific flooring manufacturer.



INSTALL THE FIRST ROW

Take extra time when installing the first row of click lock hardwood. It is critical that this row be straight even if the walls are not.

1. Measure out your expansion spacing in at least two places along the longest wall. Snap a chalk line between the various points.
2. Lay out the click lock hardwood with the groove toward the wall but do not click together yet. Add spacers between the flooring and the wall. Make sure this first row is

completely straight. Scribe fit this row (if necessary) so that the flooring matches the contours in the wall.

3. Once satisfied with the fit, click and lock the first row together.
4. At the end of the wall, measure and cut a board to fit. Use a pinch bar (if necessary) to fit the last plank in place. Place a spacer at the end of the first row.
5. Evaluate the first row to ensure it is straight and level. Adjust where needed.



INSTALL THE MAIN PART OF THE FLOOR

1. Use a partial board (it should be at least 8"-10" in length) to start the second row.
2. Click and lock the board together with the first row.
3. Work your way across the floor until you reach the last row.



INSTALL THE LAST ROW

1. Measure out your expansion spacing in at least two places along the wall. Snap a chalk line between these positions.
2. Dry fit the last row by laying out the click lock hardwood with the tongue or cut part of the board toward the wall. Scribe fit (if necessary) so that the click lock flooring matches the contours in the wall. Make sure this last row is completely straight.
3. Once satisfied with the fit, click and lock each board in the last row together.
4. At the end of the wall, measure and cut a click lock plank to fit. Use a pinch bar (if necessary) to fit the last board in place. Place a spacer at the end of the first row.
5. Evaluate the last row to ensure it is straight and level. Adjust where needed.

Your click lock hardwood floor does not need any time to set. Once you click the last board into place, you can remove all spacers and begin using your new hardwood floor.

ENGINEERED FLOATING METHOD

Use this method for engineered T&G hardwood above a wood or concrete subfloor. Keep these things in mind before you begin:

- Only use this installation method if approved by your flooring manufacturer.
- An engineered floating floor is NOT secured to the subfloor. Only the tongues and grooves are secured together.
- Always choose a urethane-based adhesive designed to be applied to the tongue or groove of the flooring. Do not use any adhesive that lists water as an ingredient or adhesives designed to be troweled onto the subfloor.
- This method is not recommended for 3/8" engineered hardwood floors unless specifically approved by your manufacturer.

INSTALL THE FIRST ROW

Take extra time when installing the first row of hardwood. It is critical that this row be straight even if the walls are not.

1. Measure out your expansion spacing in at least two spots along the longest wall. Snap a chalk line between these places.
2. Dry fit the first row by laying out the hardwood flooring with the groove toward the wall. Do not glue yet. Add spacers between the wall and the flooring. Make sure this first row is completely straight. Scribe fit (if necessary) so that the flooring matches the shape of the wall.
3. Once satisfied with the fit, remove and stack boards in the order they will be installed. Take care not to scratch the finish while stacking.
4. Apply adhesive along the entire top of the tongue of the first board to be installed. Apply glue on the bottom of the groove of the second plank to be installed. Fit tightly together on the floor. Wipe away any excess glue. Place a spacer between each board and the wall.
5. Work your way down the wall installing the floating hardwood planks.
6. At the end of the wall, measure and cut a board to fit. Use a pinch bar (if necessary) to fit the last plank in place. Place a spacer at the end of the first row.
7. Evaluate the first row to ensure it is straight and level. Adjust where needed.

INSTALL THE MAIN PART OF THE FLOOR

1. Use a short plank (it should be at least 8"-10" in length) to start the second row.
2. Apply adhesive to the entire top of the tongue of the installed board and the entire bottom of the groove of the plank to be installed. Fit tightly together and wipe away any excess adhesive.
3. Work your way across the floor until you reach the last row. Install spacers where needed.

INSTALL THE LAST ROW

1. Measure out your expansion spacing in at least two points along the wall. Snap a chalk line between these spots.
2. Dry fit the last row by laying out the hardwood with the tongue or cut part of the board toward the wall. Scribe fit (if necessary) so that the flooring matches any curves in the wall. Make sure this last row is completely straight.
3. Once satisfied with the fit, remove and stack boards in the order they will be installed. Take care not to scratch the planks while stacking.
4. Apply adhesive as before to install the entire last row. Fit all planks tightly together and place spacers along walls.
5. At the end of the wall, measure and cut a plank to fit. Use a pinch bar (if necessary) to fit the last board in place. Place a spacer at the end of the first row.
6. Evaluate the last row to ensure it is straight and level. Adjust where needed.



LET THE FLOOR SET

Allow the adhesive to set for between 8-24 hours. Do not walk upon or place anything on the newly installed floor during this time. Leave the spacers in place until the floor is completely dry.

SPECIAL CIRCUMSTANCE AREAS

Hardwood flooring can be installed in a variety of special circumstance areas such as on stairs or around brickwork. For more detailed information about these areas, see the full **Installing Prefinished Hardwood Flooring** guide on FindAnyFloor.com.



INSTALL ON STAIRS

You have two options when installing hardwood on stairs:

- Use prefabricated stair treads and risers.
- Use stair nose and flooring boards.

Safety is a major concern when installing hardwood on stairs. All stairs should be glued as well as nailed/screwed down every 8".

For complete installation instructions and safety information, see the full **Installing Prefinished Hardwood Flooring** guide on FindAnyFloor.com.



INSTALL AROUND BRICKWORK

When installing hardwood around brickwork (such as fireplaces) you can:

- Undercut the brickwork and install the hardwood underneath. The brickwork will cover all expansion spacing.
- Install the hardwood flush with brickwork and use end molding to hide the expansion spacing.

TRANSITIONS AND TRIM

Install transitions and trim to hide all the expansion spacing and put the finishing touches on your room.



INSTALL TRANSITIONS

Once your floor is completed, you can install your transition pieces to hide the expansion spacing at doorways as well as transition to other types of flooring. The following transition pieces can be used:

- **T-Molding** – For transitions between hardwood floors and interior/exterior doorways and transitions between similar height flooring surfaces.
- **Overlap Reducer** – For transitions between floating hardwood floors and lower height floors (such as vinyl, tile or carpeting).

- **Overlap Stair Nose** – Used for floating hardwood installation on steps (such as into a sunken living room) to provide the proper overhang.
- **Flush Reducer** - For transitions between glued and nailed/stapled hardwood floors and lower height floors (such as vinyl, tile or carpeting).
- **Flush Stair Nose** - Used on steps (such as into a sunken living room) or on staircases to provide the proper overhang.
- **End Molding/Square Nose/Universal Edge** – For carpet, similar height floors or outside threshold transitions; also can be used around brickwork.

Hardwood transitions are either glued to the subfloor with a quality adhesive or secured using trim tracks. Floating hardwood floors may need shims installed below certain transitions for additional support.



INSTALL TRIM

Install all wall base, shoe base and quarter round to hide the expansion spacing around the perimeter of the room. Always glue the trim to the wall. Do NOT glue to the subfloor. Nail trim

at an angle to the wall every 16". Use caulk to hide significant gaps between the trim and the wall.



CORRECT DEFECTS

Use wood filler, putty sticks or stain to correct any defects and fill all nail holes. Only use fillers designed specifically for hardwood floors.



SEAL MOISTURE PRONE AREAS

Use silicone sealant and/or weather stripping to seal all expansion spaces near moisture prone areas (kitchen appliances, outside doors, etc.) as directed by your manufacturer.