



INSTALLATION
SAWYER | MASON

Please read all of these instructions thoroughly before beginning installation. In addition to these instructions, we recommend that the installer follow all installation guidelines set forth by the National Wood Flooring Association (www.nwfa.org).

STRUCTURED (ENGINEERED) FLOORING INSTALLATION INSTRUCTIONS

For all prefinished UV-Oiled Structured Plank Flooring including the Sawyer Mason collection

1. Choose a qualified installer for your new oiled and structured plank floor. Most performance-related issues are caused by environmental factors and improper installation methods.
2. It is the installer's responsibility to ensure that all of the general conditions are met prior to installation and to follow all specific installation instructions for the installation method you have chosen. When installed according to these instructions, Sawyer Mason UV-Oiled Structured plank flooring is approved for use above, on, and below grade.
3. It is the installer's responsibility to inspect the flooring for proper color, grade, visible manufacturing defects, damage, or otherwise unsatisfactory appearance. **Do not install damaged or visibly unsatisfactory material. Installing a plank constitutes acceptance of its appearance.** After identifying a visible problem, do not open any additional cartons. Contact your flooring dealer immediately.
4. If installing over radiant heat, read the 'Radiant Heat Systems' section below before finalizing product selection or beginning installation. Careful adherence to these guidelines is required for a successful and fully warranted installation. Certain wood species and plank sizes are not warranted for installation over any type of radiant heat. Sawyer Mason does not offer a warranty on ANY flooring installed over electric radiant heat systems. Only hydronic (water) systems may be approved. In wood flooring installations over radiant heat, moderate surface checking, cracking (especially at the ends of boards and around knots), shrinkage, gapping between planks, and slight cupping are all to be expected and do not constitute a product defect.

NOTE: When nailing down planks wider than 6", it is strongly recommended to use a full spread adhesive in addition to nails in order to prevent movement and squeaking. Claims will not be accepted for movement or squeaking in floors wider than 6" that were nailed down without a full spread adhesive. Nailing planks wider than 7.5" wide without a full spread adhesive will void all warranties. (See below under Nail and Glue Installation Instructions for details.)

GENERAL CONDITIONS – ALL INSTALLATION METHODS

Environmental Conditions

1. To help minimize moisture-related expansion and contraction, confirm that, prior to installation, all exterior walls, windows, and doors are in place and the building envelope closed during acclimation and installation.
2. All wet work such as painting, drywall, masonry, and concrete must be completed and dry.
3. Basements and crawl spaces must be dry and well ventilated. Crawl spaces must be a minimum of 18" high from the ground to the bottom of the joist. Dirt floors in crawl spaces should be covered with a 6-10 mil black plastic to reduce moisture migration. Seams should overlap and be sealed

with waterproof tape. Perimeter crawl space cross ventilation should equal 1.5% of the square footage. Vents must remain open year round.

4. Exterior grading should be complete and drainage should move away from the building structure with a minimum drop of 3" in 10'.
5. Permanent HVAC should be on and operational and maintained between 60-75°F with relative humidity of 35% - 55% for a minimum of seven days prior to delivery, as well as during and after installation of the flooring. Humidity levels below 35% or above 55% may cause movement in the flooring, gapping between pieces, cupping, cracking and other problems. Use of a humidification/dehumidification system may be required to maintain proper humidity levels, particularly over radiant heat.

Acclimation

1. Ensure that the flooring has been properly acclimated to the site conditions prior to installation. The flooring must be delivered to the jobsite and the packages opened a minimum of five days prior to the start of the installation. Additional acclimation time may be required in dry climate areas. Additional special requirements apply when installing over radiant heat. See below under 'Radiant Heat Systems' for details.

Subfloor Conditions

Ensure that subfloors meet the following criteria:

1. Clean

Subfloors must be scraped clean and free of debris. Sweep and /or vacuum all debris from the subfloor. Debris on the subfloor may cause over-wood and uneven surfaces in the finished floor, poor fit between planks, and poor adhesive bond in glue-down installations.

2. Flat

Subfloors must be flat to within 3/16" over any 10' radius and 1/8" over any 6' radius. Check the flatness using a straight edge, laser line or string line. Grind, scrape, sand or shim all high or low spots. On concrete subfloors, grind all high areas and fill low areas using a quality cementitious leveling compound. Ensure that all fasteners securing the subfloor are set flush.

3. Dry

Check and record all moisture and temperature conditions prior to installation. Visually check the jobsite for potential moisture problems. Look for signs of water intrusion around window and doors. Check for mold or fungus on walls and all other areas. Water intrusion may require structural repairs and/or create conditions unsuitable for flooring installation.

Check plywood and composite subfloors using a calibrated moisture meter. Be sure to use the correct moisture meter setting for the species being checked. Carefully follow the moisture meter manufacturer's operation instructions. Moisture readings should not exceed 10% in any location and the moisture variation between the subfloor and the flooring should not exceed 2% at time of installation.

Concrete subfloors must be fully cured, at least 60 days old, and should have a minimum 6-mil polyfilm between the concrete and ground. Lightweight concrete can hold more moisture and may

take longer to dry out to an acceptable moisture content.

Installations over concrete require the use of a Calcium Chloride test per ASTM F 1869, or an in-situ Relative Humidity test using probes inserted into holes drilled into the concrete. Test all areas where wood will be installed. The results of the Calcium Chloride tests should not exceed 3 lbs per 24 hours per 1000 square feet, and in-situ test results should not exceed 75% RH. Carefully record all results.

When installing over radiant heat, more stringent requirements regarding the dryness of the subfloor apply. See 'Radiant Heat Systems' below for details.

NOTE: These tests give a snapshot of moisture conditions at the time of the test, but do not reflect the permanent year-round condition of the substrate. If you are Gluing Down on concrete that is on or below grade, it is highly recommended to use a concrete sealer, approved by the manufacturer of the adhesive you have chosen, even if you believe the concrete is dry. Sawyer Mason is not responsible for site-related moisture issues.

4. Structurally Sound

Be sure that wood subfloors are well fastened. Use screws every 6" and replace subfloor panels/boards as necessary to eliminate all movement and squeaking.

Acceptable Sub-Floor Types

CDX plywood

At least 5/8" thick for joist spacing up to 16" on center, and a minimum 3/4" thick for joist spacing greater than 16" on center (19.2" maximum). Plywood subfloors installed over concrete must be installed in accordance with the guidelines set forth by the National Wood Flooring Association (NWFA) (www.nwfa.org).

OSB

At least 3/4" thick, PS 2-92 rated or PS 1-95 rated.

Existing Hardwood Flooring

Existing floor must be well fastened, smooth, and for Glue down installations, unfinished. Existing flooring must be over a suitable subfloor as outlined above.

Underlayment-Grade Particle Board

(minimum 40 lb density) For Glue-Down/Floating floors only.

Concrete Slab

Glue Down/ Floating Floors only. Concrete must be at least 3000 lbs. density for Glue-Down installations.

Lightweight Concrete (gypcrete)

Floating Floors only. Gluing to concrete that is less than 3000 lbs density is not warranted. Sawyer Mason provides no guarantee that lightweight concrete or gypcrete will remain structurally sound during the life of the floor. Separation of the flooring from the subfloor caused by deterioration or fracturing of the substrate will not be considered a product failure.

Ceramic Tile

Floating Floors only. Tile must be well-adhered and flat to 3/16" over any 10-ft radius.

Resilient Tile & Sheet Vinyl

Glue Down/ Floating Floors only. For Glue-Down, tile/vinyl must be new and non-urethane coated.

Preparation of the Perimeter

Undercut door trim, jambs and casings to the thickness of the flooring plus any adhesives or underlayments you plan to use.

All wood flooring expands and contracts with changes in humidity. It is essential to install the floor leaving adequate expansion space between ALL sides of the floor (that is, leave adequate expansion space around the perimeter of the floor) and ALL vertical obstructions, including door trim, jambs, studs, plumbing, cabinets, etc. This space will be covered with base molding. **Failure to provide adequate expansion space in any single location can cause damage to the entire floor.**

Minimum expansion space for 9/16" – 13/16" thick flooring is 5/8"

Minimum expansion space for 5/16" – 1/2" thick flooring is 1/2"

Layout

On wood subfloors, if the subfloor is fastened to joists or trusses, the flooring should be installed perpendicular or at a 45-degree angle to the joists/trusses. If possible, use an outside wall as the starting wall. No contiguous area of installed flooring should exceed 30' across the widths of the planks or 50' along the lengths of the planks. For spaces wider or longer than these dimensions, add expansion space midway through the span and cover with a T-molding or other transition piece.

General Tools and Accessories Recommended (all installation methods):

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|------------------|-----------------------|-----------------------|
| • Pencil | • Shim Wedges | • Scraper |
| • Tape Measure | • Tapping Block | • Dust Mask |
| • Safety Glasses | • Rubber Mallet | • Rags |
| • Utility Knife | • Carpenter Square | • Chalk Box and Chalk |
| • Moisture Meter | • Pry-bar or Pull-bar | |
| • Hammer | • Wood filler | |

NOTE: When installing any prefinished flooring, never hit the planks directly with your hammer or rubber mallet. Always use a Tapping Block to protect the edges of the planks. Make sure the Tapping Block is in good condition. Hold Tapping Block down when using it.

When sawing off pieces of the planks, use a fine-toothed hand saw, jig saw, chopsaw or guillotine.

Avoid using tape if possible. If tape is needed, use only 3M Advanced Delicate Surface 2080EL Tape. Be sure to remove any tape within 20 minutes of application. Leaving tape on for more than 20 minutes or using the wrong type of tape will damage the finish. Never tape protective covering directly to the floor—only tape the protective covering to itself.

NAIL DOWN INSTALLATION INSTRUCTIONS

Not recommended for planks wider than 6". For planks wider than 6", follow the Nail and Glue

Installation Instructions. NOTE: nailing planks wider than 7.5" wide without a full spread adhesive will void all warranties.

Sawyer Mason UV-Oiled Structured Plank Flooring can be nailed to plywood, OSB or existing wood flooring that meets the requirements outlined above under 'Subfloor Conditions.'

For Nail-Down Installations, you will need the General Tools and Accessories, plus:

- Nail set
- Tack Stapler or 1" roofing nails (for felt)
- 6-d Finish Nails or Pneumatic Finish Nailer with 1-1/4" to 1-1/2" fastener
- Edge or Blind Stapler/Nailer (Manual or Pneumatic) with 1-1/2" - 2" Fasteners for flooring 5/8" - 13/16" thick, or 1-1/4" to 1-1/2" fasteners for flooring 5/16" - 9/16" thick (always do a test plank to verify that fasteners are seating properly and not causing dimpling on the surface)
- 15 lb. roofing felt, #15 hardwood floor underlayment felt, or Aqua Bar underlayment paper

Nailing Down the Floor

1. Install 15 lb. felt or Aqua Bar per the manufacturer's instructions, then choose the starting wall for the installation. This may depend on the owners' personal preference or along the longest wall furthest away from the entry/exit door of the room. This will allow easy exit out of the room without stepping onto the newly installed floor.
2. Measure the number of planks required across the floor. This can be done by measuring the width across the floor and dividing by the width of one board to be installed. More often than not, the number of boards does not come to a round number. If the final plank is smaller than 3" measure out from the starting wall the width of one flooring plank plus the appropriate expansion space for that thickness of flooring. Mark two points toward each end of the starting wall and snap a chalk line along the full length of the wall through the marks.
3. Lay the tongue side of the first row of flooring along the chalk line. Face nail (top nail) the first row of flooring in place. Place the fasteners approximately 3/4" from the wall side (groove side) of the flooring board every 4" to 6". Continue the first row installation blind/edge nailing every 4" to 6" along the tongue and every 2" to 3" from every end joint. Note: Blind/edge nailing of the first row may require the installer to use 6-d finish nails or the pneumatic finish nailer along the tongue.
4. Continue the installation across the room, blind/edge nailing every 4" to 6" and 2" to 3" from each end joint. Stagger end joints by at least 8". Avoid creating "H" patterns (where an end joint is adjacent to another end joint in the second to last row installed). Use cut ends to start the subsequent row, discarding any pieces shorter than 8".
5. Trim the last row of flooring to maintain the minimum expansion space at the far wall.
6. At the far (finish) wall, it may be necessary to face-nail the last 2-3 rows due to the angle of the stapler/nailer. The last row or two of flooring may need to be pulled together using a pulling bar.
7. Complete the installation by reinstalling or installing new base moldings.

NAIL and GLUE INSTALLATION INSTRUCTIONS -

Required when nailing down planks over 6" wide, and recommended when nailing down all planks

over 5" wide.

Sawyer Mason Oiled & Structured Plank Flooring can be nailed and glued to plywood, OSB and existing wood flooring that meets the requirements outlined above under Subfloor Conditions. For Nail and Glue Installations, you will use the General Tools and Accessories plus the following:

- Premium wood flooring adhesive: Franklin 771, 811, 821; Bostik GreenForce, BEST, VaporLock or Bona R851.
- Always check with your adhesive dealer for the most up-to-date adhesive offerings for pre-oiled floors.
- Adhesive Remover recommended by the manufacturer of the adhesive selected.
- Adhesive Trowel recommended by the manufacturer of the adhesive selected.
- Nail set
- Tack Stapler or 1" roofing nails (for felt)
- 6-d Finish Nails or Pneumatic Finish Nailer with 1-1/4" to 1-1/2" fastener
- Edge or Blind Stapler/Nailer (manual or pneumatic) with 1-1/2" – 1" fasteners for flooring 5/8"- 13/16" thick, or 1-1/4" to 1-1/2" fasteners for flooring 5/16"-9/16" thick. Always do a test plank to verify that fasteners are seating properly and not causing dimpling on the surface.

Nailing and Gluing the Floor:

1. Measure out from the starting wall the width of one flooring plank plus the appropriate expansion space for that thickness of flooring. Mark two points toward each end of the starting wall and snap a chalk line along the full length of the wall through the marks.
2. Trowel spread the adhesive on the subfloor along the chalk line wide enough to allow the first row of flooring to be installed, being careful not to cover the line. Follow the adhesive manufacturer's recommendations for wet lay times before proceeding to the next step.
3. Lay the tongue side of the first row of flooring along the chalk line. Face nail (top nail) the first row of flooring in place. Place the fasteners approximately 3/4" from the wall side (groove side) of the board every 4" to 6". Once the face nails are set, use 6-d finish nails or the pneumatic finish nailer to blind/edge nail along the tongue of the first row, every 4" to 6" and every 2" to 3" from every end joint. Check to make sure the first row is still straight along the chalk line before proceeding.
4. Trowel spread enough adhesive to install 2-3 more rows.
5. Install the second row by sliding the groove side onto the tongue of the first row. Blind/edge nail it in to place, with fasteners every 4" to 6" and 2" to 3" from each end joint. Stagger end joints by at least 8".
6. Continue nailing and gluing 2-3 rows at a time in this manner across the room. Avoid creating "H" patterns (where an end joint is adjacent to another end joint in the second to last row installed). Use cut ends to start the subsequent row, discarding any pieces shorter than 8".
7. Most adhesives require that the installer clean the adhesive off the flooring boards during the installation. Follow the adhesive manufacturer's recommendations for this procedure.

8. Trim the last row of flooring to maintain the minimum expansion space at the far wall.
9. At the far (finish) wall, it may be necessary to face-nail the last 2-3 rows due to the angle of the stapler/nailer. The last row or two of flooring may need to be pulled together using a pulling bar.
10. Complete the installation by reinstalling or installing new base moldings.

GLUE DOWN INSTALLATION INSTRUCTIONS – for all plank widths

Sawyer Mason Oiled and Structured Plank Flooring collections can be glued down to concrete, plywood, OSB, underlayment grade particleboard, and existing wood floors that meet the requirements outlined above under General Conditions/Subfloor Conditions. Sawyer Mason Oiled and Structured Plank Flooring can also be glued to other surfaces, such as well-adhered sheet vinyl, vinyl tile, ceramic, etc., but the performance of the adhesive is the responsibility of the adhesive manufacturer. It is crucial that you carefully follow the adhesive manufacturer's installation instructions for that particular subfloor surface. Sawyer Mason does not warrant the adhesive bond between the subfloor and the wood flooring.

For Glue-Down Installations, you will need the General Tools and Accessories, plus:

- Premium Wood Flooring Adhesive: Dry Tac 7700, Franklin 771, 811, or 821, Bostik GreenForce, BEST, VaporLock, or Bona R851. Check with your adhesive dealer for the most up-to-date adhesive offerings for pre-oiled floors.
- Adhesive Remover recommended by the manufacturer of the adhesive selected
- Adhesive Trowel recommended by the manufacturer of the adhesive selected
- Masking Tape: 3M Advanced Delicate Surfaces 2080EL Tape

Gluing Down the Floor

1. Measure out from the starting wall the width of one flooring plank plus the appropriate expansion space for that thickness of flooring. Mark two points toward each end of the starting wall and snap a chalk line along the full length of the wall through the marks. Install backer boards as guides along the wall side of the chalk line. Anchor the backer boards in place with screws or finish nails. Over concrete subfloors, anchor the backer boards with concrete screws or concrete nails. These boards will be removed later.
2. Lay the first row of flooring, but do not glue into place. Align the tongue side of the flooring boards against the backer board. Dry lay the next two rows of flooring in place, sliding the tongue into the groove. End joints should be staggered by at least 8". Pull the rows of flooring boards out away from the backer board approximately 24" to allow for the glue to be spread.
3. Trowel spread the adhesive on the subfloor along the backer board wide enough to allow the first three rows of flooring to be installed. Follow the adhesive manufacturer's recommendations for wet lay times before proceeding to the next step.
4. Install the first row of flooring, pressing the tongue to the backer board. Slide the tongue of the next row of flooring into the groove of the first row and continue until the first three rows are done.

5. If tape is needed to hold boards together, use ONLY 3M Advanced Delicate Surfaces 2080EL Tape, and be sure to remove any tape within 20 minutes of application.
6. Trowel spread adhesive and continue the installation across the room. Trim the last row of flooring to maintain the minimum expansion space at the far wall. Be careful not to move the installed flooring out of position. Using knee-boards can help prevent movement. Some flooring boards may need to be tapped or pulled into place with a tapping block or pull bar.
7. Most adhesives require that the installer clean the adhesive off the flooring boards during the installation. Follow the adhesive manufacturer's recommendations for this procedure.
8. Once the room is finished, remove the backer boards at the starter row.
9. Dry lay the first row of flooring to replace the backer board. Trowel spread the adhesive on the back of the flooring boards (not on the subfloor) and install the flooring, sliding the groove onto the tongue of the already installed starter row. Doorways and other openings may require installation of the flooring the same way. Slide the flooring boards under the previously cut door trims and casings.
10. Complete the installation by reinstalling or installing new base moldings.
11. Do not allow foot traffic on the floor for 24 hours after installation is complete.

FLOATING FLOOR INSTALLATION INSTRUCTIONS

Sawyer Mason Oiled and Structured Plank Flooring can be installed as a floating floor system over almost all types of subfloors including Plywood, OSB, Existing Wood Floor, Vinyl, Vinyl Tile, and Ceramic Tile provided they are clean, flat, dry and structurally sound, meeting the requirements outlined above under 'Subfloor Conditions.'

NOTE: Sawyer Mason UV-Oiled Structured Plank Flooring boards must be at least 4" wide to be installed as a floating floor system.

For Floating Floors, you will need the General Tools and Accessories, plus:

- Tongue and Groove Glue: Franklin Titebond III or Equivalent PVA adhesive
- Underlayment Pad: ~1/8" thick Two-in-One pad (pad plus vapor barrier) or ~1/8" thick pad with 6 mil polyfilm sheeting
- Masking Tape: 3M Advanced Delicate Surfaces 2080EL Tape

Floating the Floor

1. If installing over underlayment pad plus a separate layer of polyfilm, install the 6 mil polyfilm first, taping all seams with waterproof tape, and then install the pad. Roll out the first run of pad from wall to wall parallel to the starter wall. On the installed pad mark two points toward each end of the starting wall and chalk a line the full length of the wall through the marks. This is the starter line.
2. Lay the first row of flooring using only long boards. The first flooring board and the last flooring board in this row should be a minimum of 12" long and cut to provide the appropriate expansion space on each end. Apply a 1/8" continuous bead of T&G glue on the bottom side of the groove of each end joint. Align the tongue side of the starter row along the chalk line and engage the end joints together. Use shims along the long wall and at both ends of the row to keep the floor in place

and maintain the right expansion space.

3. Lay the second and third row of flooring boards. End joints should be separated by a minimum of 8" from the adjacent row. Spread a 1/8" bead of T&G glue along the bottom side of the long groove and each end joint groove on the second row of flooring. Engage the groove side of the second row with the tongue of the starter row. Engage the end joints at the same time, aligning them and cutting at the end of each row to allow for appropriate expansion space. Continue this procedure for the third row. These three rows must be aligned straight to ensure that the rest of the installation remains straight.
4. Continue using the same procedure. If boards do not easily engage together, use a tapping block or pull-bar. Use masking tape* as needed to keep the boards together and rows straight. Remove all tape within 20 minutes of application. **Use only the 3M Advanced Delicate Surfaces 2080EL Tape.*
5. Avoid working on top of the installed flooring to prevent breakage of the glue joint.
6. Complete the installation by reinstalling or installing new base moldings.
7. After installing the floating system, avoid placing any heavy objects (i.e., a piano) or other heavy furniture in the corners or peripheral surroundings in order to allow for expansion/contraction during acclimatization

RADIANT HEAT SYSTEMS

NOTE: The following Sawyer Mason structured products are NOT WARRANTED in installations over radiant heat:

- **All Hickory products, regardless of plank dimensions**
- **All products with plank widths greater than 8" other than oak.**
- **Oak of all dimensions may be installed over radiant heat provided that all guidelines and restrictions are followed.**

Please be advised: Due to the nature of the following timber species, we STRONGLY ADVISE these species NOT to be used as flooring with under-floor heating. These species include: Kempas, Maple, Jatoba, Iroko, Beech, and Australian timber (Jarrah, Sydney Bluegum, Blackbutt, Tasmanian Oak, Spotted Gum). Any warranty claims arising from using the above species on under-floor heating will not be entertained.

The following Sawyer Mason products ARE WARRANTED for use over hydronic radiant heat: European Oak, White Oak, Red Oak, Ash, or Walnut with planks not wider than 8".

In all installations over radiant heat, the warranty will be void if any of the following requirements and instructions are not adhered to:

- The radiant heat system must be hydronic (using warm water). Sawyer Mason UV-Oiled Structured Plank flooring is not warranted over electric radiant floor heat systems.
- The heat system must be designed for wood flooring and have an outside temperature sensor and in-floor direct contact temperature sensors.
- The system controller must be designed for wood flooring and have a temperature control

mechanism that will not allow the surface temperature of the subfloor to exceed 82°F.

- The system must be kept on and within 15°F of normal operating temperature AT ALL TIMES.
- For concrete subfloors, conduct and document Calcium Chloride Tests per ASTM F1869. Test results must not exceed 2.0 lbs. per 1000 square feet per 24 hours.
- For wood subfloors, use a pin type meter to document the moisture content of the subfloor. Moisture readings should not exceed 8% in any location and readings for the subfloor must be within 2% of the flooring at the time of installation.
- Relative humidity at the jobsite must be maintained between 35% and 55% at all times. Failure to maintain proper humidity levels will void all warranties.
- The radiant heat system must be on and operating at normal output a minimum of 14 days prior to the start of the installation.
- Wood flooring must be delivered to the jobsite and acclimated to the installation environment a minimum of 7 days prior to the start of the installation.
- Temperature in the installation area must be controlled between 60°F and 80°F at all times.
- Maximum surface temperature of the wood flooring can never exceed 82°F.
- Excessive heat, rapid heating, and/or failure to maintain humidity levels between 35% and 55% may cause cracking, cupping and other forms of failure and will void the warranty.

Once these instructions and requirements are met, continue the installation by following the instructions for your specific installation method as outlined above.

NOTE: In wood flooring installations over radiant heat, moderate surface checking, cracking (especially at the ends of boards and around knots), shrinkage, gapping between planks, and slight cupping are all to be expected and do not constitute a product defect.

CARE AND MAINTENANCE

After installation, it is recommended to buff in a coat of maintenance paste for an additional layer of protection and durability. We recommend products by WOCA that are designed specifically to maintain and clean oiled flooring.

Please refer to www.SawyerMason.com for specific care and maintenance guides. Alternatively, contact your flooring salesperson for care and maintenance information.