

INSTALLER/OWNER RESPONSIBILITIES

Wood flooring is a product of nature and its inherent beauty stems from the fact that each piece is unique with no two pieces the same. Due to the fact that this flooring is a product of nature, the installer and/or owner, have the following responsibilities:

- 1) Understanding how the floor will look once installed – the installer and owner must meet prior to installation to review:
 - a. How was the floor chosen? Review the control samples, (the samples from which the floor was chosen), and compare to the actual flooring batch onsite prior to installation to make sure it meets the owner's expectations as to:
 - i. Grade – is it the correct grade? Also grade from batch to batch may vary slightly so make sure the owner is happy with this batch of flooring you are about to install. Each grade contains specific characteristics which need to be known and explained to the consumer.
 - ii. Color/Graining - do certain dark/light pieces or wild grained need to be graded out to meet the owners expectations?
 - iii. Color Variation, Batch to Batch – inspect the production run of flooring you received and make sure it meets your expectations. Wood from different locales can have varying colors and grains and differ from the samples from which the floor was chosen. Tint colors may also vary slightly batch to batch. Make sure the owner will be happy with the batch they received.
 - iv. Color Change - do they understand how the wood will change color over time? The owner may have chosen their floor from samples that have aged so they need to understand in advance of installation the color change to be expected. (refer to our website at www.wflooring.com for species specific color change descriptions and photos).
 - v. Finish issues:
 1. Is the gloss correct?
 2. Does the look of the finish meet the owner's expectations?
 3. Does the owner understand that the finish will scratch and wear and that care must be taken during installation, move-in and in-use?

Congratulations ! You have now made sure that the owner will not be disappointed once the flooring is installed and they see it for the first time !! WFI cannot be responsible for visual issues once the flooring is installed.

- 2) Installer responsibilities during installation:
 - a. Receive the floor & make sure it is as ordered and meets the owner's expectations.
 - b. Test the subfloor and relative humidity on site to make sure the flooring will perform satisfactorily on this installation.
 - c. Follow these Installation Instructions.
 - d. Grade out any pieces with visible defects and stop the installation should a reoccurring problem be found, (over the 5% allowed by industry practices). DO NOT INSTALL pieces with visible defects.
- 3) Keep a Permanent Job Record – use [WFI's Permanent Job Record](#) to record this on.
- 4) Make sure the owner understands that wood and water, (as well as wood and overly dry conditions), do not mix as wood flooring is a natural material and will shrink/cup/move when over-dried and will expand, warp and buckle/cup when over-wetted.
- 5) Make sure the owner understands how to maintain the floor. Give them a copy of [WFI's Maintenance Instructions](#) & [WFI's Warranty](#).



WARNING: Our flooring is well manufactured and is designed to perform within the typical residential environment. We are not responsible for site conditions, as we do not control them. Only you, the installer can test and correct for too dry or too wet site conditions prior to installation. Note: Wood flooring installed in areas where the relative humidity is below 35% may cup, shrink in width/length, or crack and in these dry conditions a humidifier is necessary to bring relative humidity above 35%. Flooring installed on top of wet sub floors may crown, (and then cup), swell, (and then shrink), buckle, telegraph, or edge/tip raise. Flooring that is soaked from above will do the same. **DO NOT INSTALL THIS FLOORING ON WET SUBFLOORS OR IN OVERLY DRY CONDITIONS** without first correcting any deficient conditions.

PRE-INSTALLATION JOBSITE REQUIREMENTS

Carefully examine the flooring prior to installation for grade, color, finish and quality. Ensure adequate lighting for proper inspection. If flooring is not acceptable, contact your distributor immediately and arrange for replacement. WFI cannot accept responsibility for flooring installed with visible defects. Prior to installation of any flooring, the installer must ensure that the jobsite and subfloor meet the requirements of these instructions. WFI is not responsible for flooring failure resulting from unsatisfactory jobsite and/or subfloor conditions.

Wood flooring should be one of the last items installed for any new construction or remodel project. All work involving water or moisture should be completed before flooring installation. Warning – water and wood do not mix. Installing flooring onto a wet subfloor will likely cause cupping, tip & edge raising, subsequent gapping.

Room temperature and humidity of installation area should be consistent with normal, year-round living conditions for at least a week before installation of wood flooring. Room temperature of 65-75°F and a humidity range of 35-65% is recommended. Warning - humidity levels below 35% will likely cause movement in the flooring, including gapping between pieces and possible cupping and checking in the face.

Solid Wood Floors, both unfinished and pre-finished, **MUST** be equalized properly before installation. Please follow the recommendations later in this document for proper equalization instructions.

PRE-INSTALLATION SUBFLOOR REQUIREMENTS

All Subfloors must be:

- Structurally sound
- Clean: Thoroughly swept and free of all debris (If being glued down, subfloor must be free from wax, grease, paint, sealers, & old adhesives etc., which can be removed by sanding)
- Level: Flat to 3/16" per 10-foot radius
- Dry and will remain dry: Subfloor must remain dry year-round. Moisture content of wood sub floors must not exceed 11%, concrete must not exceed 3.5 as measured with a [Tramex Commercial Concrete Moisture Meter](#).

Wood Sub floors must be dry and well secured. Nail or screw every 6" along joists to avoid squeaking. If not level, sand down high spots and fill low spots with an underlayment patch.

Ceramic tile, resilient tile and sheet vinyl covered Subfloors must be well-bonded to subfloor, in good condition, clean and level. *Do not sand existing vinyl floors, as they may contain asbestos.*

OSB PS2 rated underlayment (Please note some OSB type products will not hold the nail in place which can result in squeaky floors. This is not a flooring defect.)

Radiant heat: At this time all WFI Solid Wood Flooring is **NOT WARRANTED** for use over radiant heat.

EQUALIZING YOUR WOOD FLOORING

Wood Floors, both unfinished and prefinished, **MUST** be equalized properly before installation. Please follow these recommendations for equalizing:

Background to equalizing Wood Flooring

Wood is a natural porous material like wood, which continues to “breathe” even after installation and finishing. Wood has a cellular structure, and much like a sponge, expands as it picks up moisture and shrinks when it releases moisture. It is this movement which can cause cracks, separation, cupping, swelling and lifting in your floor. All wood will eventually acclimate itself to its surroundings. This is known as reaching the equilibrium point.

The exact equilibrium point to be reached by all wood elements on a job site and can be accurately predicted by taking relative humidity and temperature readings at the site and then use the chart below to find the expected equilibrium moisture content. The numbers in the middle of the chart are the equilibrium, moisture content point that all wood elements will reach.

Equilibrium Moisture Content

		Relative Humidity (%)																		
Temp	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	98
30 F	1.4	2.6	3.7	4.6	5.5	6.3	7.1	7.9	8.7	9.5	10.4	11.3	12.4	13.5	14.9	16.5	18.5	21.0	24.3	26.9
40 F	1.4	2.6	3.7	4.6	5.5	6.3	7.1	7.9	8.7	9.5	10.4	11.3	12.4	13.5	14.9	16.5	18.5	21.0	24.3	26.9
50 F	1.4	2.6	3.6	4.6	5.5	6.3	7.1	7.9	8.7	9.5	10.3	11.2	12.3	13.4	14.8	16.4	18.4	20.9	24.3	26.9
60 F	1.3	2.5	3.6	4.6	5.4	6.2	7.0	7.8	8.6	9.4	10.2	11.1	12.1	13.3	14.6	16.2	18.2	20.7	24.1	26.8
70 F	1.6	2.5	3.5	4.5	5.4	6.2	6.9	7.7	8.5	9.2	10.1	11.0	12.0	13.1	14.4	16.0	17.9	20.5	23.9	26.6
80 F	1.3	2.4	3.5	4.4	5.3	6.1	6.8	7.6	8.3	9.1	9.9	10.8	11.7	12.9	14.2	15.7	17.7	20.2	23.6	26.0
90 F	1.2	2.3	3.4	4.3	5.1	5.9	6.7	7.4	8.1	8.9	9.7	10.5	11.5	12.6	13.9	15.4	17.3	19.8	23.3	26.0
100 F	1.2	2.3	3.3	4.2	5.0	5.8	6.5	7.2	7.9	8.7	9.5	10.3	11.2	12.3	13.6	15.1	17.0	19.5	22.9	25.6



Wood flooring in service is usually exposed to both long-term (seasonal), and short-term (daily), changes in the relative humidity and temperature. Thus, wood is virtually always undergoing slight changes in moisture content even after installation. Different parts of the country have varying equilibrium points. And each area may vary greatly season to season. So a given equilibrium point in June may be different from one in December on the same site. In addition, a wide range of equilibrium points can be experienced between job sites in the same locale, determined by individual heating/cooling systems and/or specific site variables such as being next to a lake, etc.

The practical objective of equalizing your solid wood floor to the individual job site levels, prior to installation, is to minimize the amount of subsequent movement after installation. With no one equilibrium moisture content right for all situations, only your installer, with their critical knowledge of local conditions, used in conjunction with proper testing and planning, can establish the proper equilibrium point at which to install your wood flooring.

As manufacturers, we produce our solid wood flooring to industry standards of 6-9% moisture content. However, this may not be low/high enough for your installation. Therefore, it is imperative your installer follows these recommendations for equalizing wood flooring. Wood Flooring International shall not be responsible for any shrinkage/swelling or any other movement of the floor after installation as Wood Flooring International does not control any of the job-site variables – only the installer and end user do so.

Recommendations for equalizing Solid Wood Flooring:

Proper method to equalize solid wood flooring – your installer should:

1. Establish the job-site specific target equilibrium point the flooring should be installed at by taking into account all of the following variables:
 - Existing relative humidity and temperature
 - Planned or existing heating/cooling systems
 - Planned or existing dehumidifying or humidifying systems
 - Measure other existing wood/wood elements to see what equilibrium point they have reached.
 - Projected seasonal variations at the site and estimated average equilibrium point
2. Moisture meter the flooring upon job site arrival
3. If the flooring is too high in moisture content for the job-site, it must be allowed to dry out and shrink prior to installation. If it is too low, it must be allowed to pick up moisture. This can be accomplished by removing the flooring from its packaging and completely spreading out all of the individual pieces to allow good circulation around them, until such time as they fully equalize to the moisture content desired.

Tip – To speed up the equalizing process you can build piles of flooring by criss-crossing the pieces in an open stack and using fans to force air over/through the stack. Periodically take readings of the moisture content of the flooring as you monitor its movement towards the desired equilibrium point. By using a two-pin type moisture meter (with insulated pins) you can take reading at both the surface and the core of the flooring. This will enable you to tell the direction the moisture content in the flooring is moving, how quickly it is moving there and when it has reached the desired equilibrium point. Once the flooring has reached the target equilibrium point it is now ready to be installed.

INSTALLATION TOOLS

For all installation methods:

- Tape measure
- Tapping block (trimmed piece of flooring)



- Pencil
- Pry bar
- Chalk line
- Wood or plastic spacers (5/8")
- Crosscut power saw
- Hammer
- [3M Blue Tape](#)

For nail-down installation, you will also need:

- Powernail 50P, [Bostich MIIIFS – Industrial Flooring Stapler](#), or [Bostich MIIIFN – Flooring Nailer](#) – air stapler/nailer with adapter
 - 1/2" x 2" staples for the floor runner stapler
 - 2" L-shaped flooring cleat (18 gauge)
- Air compressor

Acceptable Subfloor types:

- Plywood (at least 3/4" thick)
- OSB PS2 rated (at least 3/4" thick), Note: some OSB type products will do not hold the staple/cleat in place which can result in squeaky floors. This is a subfloor failure
- Existing wood floor

STARTING YOUR INSTALLATION

Make sure subfloor is tested for moisture first and is properly prepared.

Since wood expands with any increase in moisture content, always leave at least a 5/8" expansion space between flooring and all walls and any other permanent vertical objects, (such as pipes and cabinets). This space will be covered up once you reapply base moldings around the room. Use wood or plastic spacers during installation to maintain this 5/8" expansion space.

When laying flooring, stagger end joints from row to row by at least 8". When cutting the last plank in a row to fit, you can use the cut-off end to begin the next row. If cut-off end is 8" in length or less, discard it and instead cut a new plank at a random length and use it to start the next row. Always begin each row from the same side of the room.

Work from several opened boxes of flooring and "dry lay" the floor before permanently laying the floor. (But never open more than a few boxes in advance) This will allow you to select the varying grains & colors and to arrange them in a harmonious pattern. It also allows you the opportunity to select out very dark/light pieces for use in hidden areas in order to create a more uniform floor. Remember, it is the installers' responsibility to set the expectations of what the finished floor will look like with the end user first and then to cull out pieces that do not meet those expectations.

To draw planks together, always use a tapping block, (a short piece of flooring), and hammer, as tapping the flooring itself will result in edge damage. When near a wall, you can use a pry bar to pry close the side and end joints. Take care not to damage edge of flooring. For glue down, use [3M Blue Tape](#) to hold any pieces, which might have side bow and the need to hold them straight & tight until the adhesive sets up.

Begin installation next to an outside wall. This is usually the straightest and best reference for establishing a straight working line. Establish this line by measuring an equal distance from the wall at both ends and snapping a chalk line. The distance you measure from the wall should be the width of a plank plus about 5/8" for expansion space. You may need to scribe cut the first row of planks to match the wall in order to make a straight working line if the wall is out of straight.

You may want to dry lay a few rows, (no glue or nails), before starting installation to confirm your layout decision and working line.



STAPLE/NAIL DOWN INSTALLATION

Make sure subfloor is tested for moisture content first and is properly prepared. Use Powernailer 50P, [Bostich MIIIFS – Industrial Flooring Stapler](#), or [Bostich MIIIFN – Flooring Nailer](#) – air stapler/nailer with 5/8” Naildown adapter or a stapler/nailer of your choice after testing to make sure that stapling/nailing will not cause dimpling in the finished floor.

For the first and second starting rows: Lay first plank inside chalk line with grooved edge toward wall. Install entire first row in the same manner. Always leave at least a 5/8” expansion space between flooring and all walls and vertical objects (such as pipes and cabinets). Use wood or plastic spacers during installation to maintain this expansion space. In order to affix these first rows, as it is difficult to get the nail gun in place next to the wall, you may wish to set these rows in mastic and glue them down rather than face nailing them and leave unsightly nail holes which must be putty filled to match the wood floor. After gluing down these starting rows with a urethane adhesive, (or [Liquid Nails LN-901](#) adhesive), set weight on top of these rows and allow them to set before commencing stapling/nailing the additional rows, as nailing the adjacent rows may cause the starting rows to subsequently move. Make sure the starting rows are straight and drawn tight.

Subsequent rows: Lay by using floor nailer/stapler to blind-nail top inside edge of tongue at a 45 degree angle. Nail each board every 8” and within 2” of each end. Remember to stagger end joints from row to row and use a tapping block to fit boards together. It may be necessary to face-nail in doorways or tight areas where the nailer/stapler can’t fit, (or glue down in these areas and weight them while the mastic sets). The last two rows will need to be face-nailed, (or glued down), in the same manner as the first two rows.

WARNING – Stapling/nailing can cause dimpling on the face if stapled incorrectly. Always make sure to visually check the installed floor as you go to ensure that the stapling/nailing is not causing dimpling on the face. (Note: be sure to look at the face of the installed flooring at a low angle from a distance to see if dimpling is occurring as it is hard to see when directly above the floor.) If dimpling does occur, STOP and adjust the stapler/nailer shoe and angle/place of staple entry in order to avoid it. WFI is not responsible for dimpling.

AFTER INSTALLATION

- If you decide to cover the floor , (to allow the other construction trades to continue working), in order to protect the floors prior to final cleanup and turnover to the owner, use rosin paper to cover the floors and only use [3M Blue Tape](#) to hold the rosin paper to the floor. Do NOT USE plastic film or other non breathing type coverings as this can cause the floor to become damaged from humidity buildups. Also, only use the [3M Blue Tape](#) as this tape is designed for use on finishes and other tapes may pull and damage the finish when removing it.
- Remove expansion spacers and reinstall base and/or quarter round moldings to cover the expansion space.
- It is suggested that you buff the floor with lambs wool pads in order to “pull any splinters”, remove any residues and handprints/foot prints, etc.
- Install any transition pieces that may be needed (reducer, T-moldings, nosing, etc.).
- Do not allow foot traffic or heavy furniture on floor for 24 hours (if glue-down or floating).
- Dust mop or vacuum your floor to remove any dirt or debris.

CLEANING, MAINTENANCE, & REFINISHING

Please visit our website for cleaning, maintenance and re-finishing instructions, go to: [WFI’s Maintenance Instructions](#).



PRODUCT LINKS

To find out information about the recommended products listed above, click on the following links:

Nailer:

Power Nailer 50P – Nailer with Appropriate Adapter

[Bostich MIIIFS – Industrial Flooring Stapler](#) – air stapler/nailer with appropriate adapter