

# 3/4" Solid Installation Instructions

**Thank you for choosing STRAVAGANZA products!**

Hardwood flooring is a natural product; therefore defects in the flooring can occur in the manufacturing process or naturally as a characteristic of the wood. STRAVAGANZA floors are manufactured within accepted industry standards, allowing for up to 7% defective product (may be natural or manufacturing related) based on the original hardwood flooring purchase order. It is highly recommended to increase your order by an additional 7-10% of flooring to allow for cutting and grading of material.

Prior to installation, the installer and owner assume all responsibility for final inspection and quality of the product. Flooring should be carefully examined for finish and quality. Do not install hardwood flooring that is unacceptable; contact seller immediately. Final grade, manufacturing, finish quality checks and final approval of the product are the sole responsibility of the owner and installer.

## Tools & Accessories

- 4d-6d Flooring nails
- Rubber mallet
- Jamb saw or hand saw
- Chalk line
- Pencil
- 15 lbs. asphalt felt
- Table saw or band saw
- Hammer
- Tape measure
- Leading brand of hardwood flooring cleaner
- Broom
- Quality moisture meter with manufacturer's relevant exotic species calibration figures.

**NOTE: 3/4" is meant for nail-down or staple-down (with 2" fasteners) installation only.**

## **Equalizing the Moisture Content**

Wood expands and contracts depending on the amount of moisture present in the surrounding atmosphere. Proper acclimation of flooring before installation is necessary to avoid excessive cracks between planks, and in extreme cases, cupping and lifting of the floor. While all wood will eventually acclimate to its environment, it is very important to determine the moisture equilibrium point of each installation. Always use a moisture meter to determine where the flooring and present job-site conditions are in relation to the projected final equilibrium point. Finally, monitor the flooring and job-site conditions as they acclimate.

The moisture content of wood below the fiber saturation point is a function of both relative humidity and temperature of the surrounding air.

If the wood is neither gaining nor losing moisture, an equilibrium condition has been reached. Wood in service usually is exposed to both long-term (seasonal) and short-term (daily) changes in the relative humidity as well as surrounding air temperature. Thus, wood is always undergoing at least slight changes in moisture content. These changes are usually gradual, and short-term fluctuations tend to influence only the wood surface.

The practical objective of proper handling and storing methods, is to minimize moisture content and resulting changes in wood. Equalizing moisture content to the job site equilibrium point before installation is paramount to stabilizing movement after installation.

Equilibrium points vary dramatically throughout each country. In addition, a wide range of relative humidity can be experienced between individual job-sites within the same basic locale. For example, a property located oceanfront will have higher moisture content than a home several miles inland. Different heating/air conditioning systems can also dramatically alter on-site relative humidity.

As a result, no one fixed moisture content is right for all situations, and it is up to the individual installer to establish the proper moisture content for each installation.

° F / C	EMC	EMC	EMC	EMC	EMC	EMC	EMC	EMC	EMC	EMC										
30 / 1	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 / 4	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 / 10	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
60 / 15	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 / 21	1.3	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 / 26	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	26.3
90 / 32	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 / 37	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
% RH	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	98

**STRAVAGANZA** carefully controls the moisture content prior to delivery and all flooring is moisture metered before it leaves our facility. While readings are attached to each invoice/packing statement, it is imperative that flooring be properly equalized before installation to minimize later on-site movement.

## Pre-Installation Site Inspection

Prior to installing hardwood floors, the building must be structurally complete and enclosed, including installation of exterior doors and windows. Concrete, masonry, drywall, and paint must also be complete, allowing adequate drying time as to not raise moisture content within the building.

HVAC systems must be fully operational at least 14 days prior to flooring installation, maintaining a consistent room temperature between 60-75 degrees and relative humidity between 35-55%. This not only stabilizes the building's interior environment, but also is essential when acclimating hardwood flooring to the job-site.

Exterior grading, directing drainage away from the structure, as well as gutters and downspouts should also be completed.

Floors can only be installed on or above grade level and are not recommended in full bathrooms.

It is essential that basements and crawl spaces are dry. Crawl spaces must be a minimum of 24" from the ground to underside of joists.

A vapor barrier must be established in crawl spaces using 6-mil polyethylene (poly) film or plastic film with joints overlapped and taped.

During the final pre-installation inspection, sub-floors must be checked for moisture content using the appropriate metering device for wood.

## **Equalizing Flooring**

Wood is a porous material with a natural cellular structure that expands and contracts depending on the amount of relative humidity present in the surrounding atmosphere. Equalizing moisture content to the job-site equilibrium point before installation is paramount to stabilizing movement after installation.

Handle and unload hardwood flooring with care and store within the environmentally controlled site in which it is expected to perform. Flooring stored upon "on-grade" concrete floors should be elevated at least 10 centimeters (4 inches) to allow air circulation under cartons.

Hardwood flooring must acclimate for as long as necessary to meet minimum installation requirements for moisture content.

Always use a moisture meter to determine where the flooring and present job-site conditions are in relation to the projected final equilibrium point taking into account seasonal changes.

Monitor the flooring and job-site conditions as they acclimate. If the wood is neither gaining nor losing moisture, an equilibrium condition has been reached.

**NOTE:** Equilibrium points vary dramatically throughout each country. In addition, a wide range of relative humidity can be experienced between individual job-sites within the same basic locale. Different heating/air conditioning systems can also dramatically alter on-site relative humidity.

As a result, no one fixed moisture content is right for all situations, and it is up to the individual installer to establish the proper moisture content for each installation.

## Recommended Sub-Floor

### **Preferred:**

3/4" moisture resistant Grade Plywood or 3/4" OSB, cork roll underlayment with 3mm thickness minimum

### **Minimum:**

5/8" CDX Grade Plywood with a minimum of 40lbs. density

**Do not nail over particleboard or similar products, including Gypsum concrete.**

**DO NOT INSTALL THIS FLOORING OVER RADIANT HEAT FLOORING.**

## Sub-Floor Preparation

### **Sub-floor must be...**

- ...Dry and free of wax, paint, oil, and debris. Replace any water-damaged or delaminated sub-flooring or underlayment. Scrape smooth and sweep prior to installation.
- Level/flat within 3/16" over 10' or 1/8" over 6'. High areas or joints can be sanded flat. Low spots can be lifted to flat using shims or layers of builders felt between wood and sub-flooring during installation. If plywood or equivalent, sub-floor must be structurally sound prior to installation.
- Sub-floor must be properly secured with nails or screws every 6" along joists to reduce the possibility of squeaking after final installation.

- Appropriate moisture tests must be performed as outlined in the "Testing for Moisture Content" section listed below.

Minimum thickness sub-floor material recommendations are satisfactory for 16" on center joist spacing. Thicker sub-floor recommendations will allow up to 19.2" joist spacing. When joist spacing is greater than 19.2" on center, flooring will exhibit minimum performance. Minimum performance may result in movement, gaps, and/or noises. A second layer of sub-flooring material bringing the overall thickness to 1"-1 1/8" will provide optimum results when joist spacing exceeds 19.2" on center. Sub-floor panels should be spaced 1/8" apart to allow for expansion.

Hardwood flooring should, whenever possible, be installed perpendicular to flooring joists.

Do not install STRAVAGANZA floors over existing glue-down wood floors or over wood floors that exceed 3 1/4" face size. In these applications, or when installing floors parallel to existing wood floors, install an additional 1/4" layer of plywood to assist stabilization.

## Testing for Moisture Content

Using a quality moisture meter, measure the moisture content of both the sub-floor and the hardwood flooring. Sub-floors must not exceed 12% moisture content and the difference between sub-floor and hardwood flooring cannot exceed 4%. If sub-floors exceed this amount, an effort should be made to locate and eliminate the source of moisture before further installation. A moisture barrier (6 mil polyethylene film minimum) may be required in addition to the 40lbs. asphalt felt. Asphalt felt is not considered a moisture barrier.

## Installing The Floor

### Helpful Tips

- Remove flooring from several different cartons to maximize color and shade mixture.
- Stagger the ends of boards at least 6" in adjacent rows.
- Installation parallel to the longest wall provides best visual effect.

- Before you begin installing the hardwood floor, cover sub-floor area with plastic, cork or polyethylene film roll.

## **Doorway and Wall Preparation**

Undercut or notch-out door casings  $1 \frac{1}{16}$ " higher than the thickness of the flooring being installed to avoid difficult scribe cuts during installation. Also remove existing base and shoe molding as well as doorway thresholds; each can be replaced after installation is complete.

## **Establish Starting Point**

An exterior wall is usually the straightest and best reference line to start the installation. Direction of finished flooring should be at right angles to the floor joists whenever possible. Establish a starting line by leaving a minimum  $\frac{1}{2}$ " expansion gap around all vertical obstructions. In large spans, more spacing may be needed depending on geographical area, interior climate control, and time of the year. Measure this distance from the starting wall (in at least two places) close to the starting walls opposite corners. Mark these points and snap a working chalk line parallel to the starting wall allowing the required expansion space between the starting wall and the edge of the first row of flooring.

## **Installing The Floor**

On the first row of flooring use 6d or 8d flooring nails to top nail surface of flooring and countersink (pre-drilling nail holes will prevent splits). Nails should hit the joist whenever possible. To ensure proper alignment of flooring, make sure the flooring along the working chalk line is straight.

Allowing for a  $\frac{1}{2}$ " minimum expansion gap is critical. Wood expands and contracts with changes in humidity. Wood will buckle and/or cup if an adequate expansion space is not provided. Always allow for expansion when making end or side cuts around vertical objects.

**CAUTION:** It is extremely important to use the appropriate nailer/stapler and fasteners for installation.

Make sure to properly space nails every 8-10" along the length of the board with a minimum of 2 fasteners per piece 2-3" from each end. If face width of flooring is 5" or wider, properly space nails every 4-6" along the length of the board. Top and/ or hand nail enough rows to allow adequate spacing from wall; continue installation with a floor-nailing machine.

Continue across the room until finished; remember to provide adequate spacing for expansion gap. Once completed, install molding and trim. Thoroughly clean, sweep, and vacuum installed floor before further use.

If floor is to be covered, use a breathable material such as our flooring boxes or rosin paper. Do not cover with plastic. All areas of hardwood flooring species that are photosensitive (darken with exposure to natural light) such as but not limited to Brazilian Cherry, Amendoim, Tigerwood, should be carefully covered completely if the floor is not to be used for a period of time. If areas are left open to natural light, expect the uncovered areas to begin the natural

## Common Sense Care

color change.

It is important to keep your hardwood floors free from dirt, water, food, grease, and other spills which can damage the floor or finish. Periodically clean floors using a leading brand of cleaner made for prefinished hardwood floors. Do not use ammonia or oil-based wax, polish, abrasive cleaners, or furniture cleaners. Make sure to install floor protectors under furniture, chairs or other items that may sit directly on your hardwood floor to help prevent scratches, scarring, and dents. Regularly, sweep, vacuum to keep dirt and grit from dulling the shine and scratching the finish. Wipe up all spills promptly with a soft, mop. Avoid walking on floors with sharp, stiletto high heel shoes or shoes with soles in need of repair.

**Congratulations on your new STRAVAGANZA hardwood floors! If you have any further questions regarding installation, please contact our distributor.**