

# Regal

## HARDWOODS

### General Installation & Care Instructions

#### **Please Read Before Installation**

IMPORTANT: COMPLETELY READ AND UNDERSTAND THESE GUIDELINES BEFORE INSTALLATION BEGINS. FAILURE TO DO SO CAN/WILL RESULT IN THE FOLLOWING DAMAGE TO YOUR WOOD FLOOR: CUPPING, WARPING, BOWING, TWISTING, BUCKLING, SHRINKING, DELAMINATION, GAPPING, CHECKING, CRACKING, SPLITTING, DISCOLORING, EARLY WEAR, DENTING, SCRATCHING, HOLLOWING, AND RELEASING FROM THE SUBFLOOR. FAILURE TO ABIDE BY THESE GUIDELINES CAN/WILL VOID ANY/ALL WARRANTIES OFFERED BY REGAL HARDWOODS.

## PREPARATION BEFORE INSTALLING

**Delivery/ Storage:** NEVER deliver wood flooring during adverse weather conditions such as rain and or snow unless the flooring can be completely and thoroughly protected from getting wet and or gaining moisture during transit to the job-site. NEVER store wood flooring in an “uncontrolled environment” e.g. patios, drive ways, garages, sheds, storage units, or even in the structure in which the flooring will be installed. Deliver the flooring to the job-site ONLY when a controlled environment has been established according to Regal Hardwoods/NWFA recommendations.

**Prior to Installation:** The installer must determine that the jobsite environment and the sub-surfaces involved meet or exceed all applicable standards. Regal Hardwoods declines any responsibility for job failure resulting from or associated with sub-surface, sub-flooring or jobsite environmental deficiencies. All wood flooring must be approved by end user prior to installation- use constitutes acceptance. The installer/owner has final inspection responsibility as to the grade, manufacture and factory finish. The installer must use reasonable selectivity and hold out or cut off pieces with deficiencies, whatever the cause. Should an entire individual piece be doubtful as to grade, manufacture or factory finish, the installer should not use the piece. If you determine that there is a quantity of more than 5% that shows defects in grading, manufacturing or finish, please contact the seller immediately. Do not continue to install the flooring.

**The Proper Installation Setting:** The structure must be closed in with all outside doors and windows in place. All concrete, masonry, framing members, drywall and other "wet" work should be thoroughly dry. Jobsite temperature and relative humidity levels MUST also be carefully measured and recorded daily during the installation process. The installer is responsible for determining the moisture emission rate of the sub floor/substrate as per the National Wood Flooring Association (NWFA) installation guidelines, SECTION V – Appendix AA Moisture Testing Procedures for Concrete Slabs, (specifically the Calcium Chloride test) and Appendix AB Moisture Testing for Wood. The homeowner/contractor MUST maintain the temperature and relative humidity level in the recommended ranges (65-75°F and 35 to 55rh) to ensure maximum performance. 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. A humidity range of 35% – 55% should be maintained during acclimatization, installation, and at all times afterward. These conditions MUST have been established at least five days prior to delivering the flooring to the job-site and continue for the life of the floor.

**Installation Conditions/Acclimation:** Regal Hardwoods engineered wood floors do not require pre-installation acclimation for “any” specified period. However, the environment MUST represent “normal live-in conditions,” which is interpreted to mean an environment maintained at 35% to 55% percent relative humidity and a temperature of 60°F to 75°F degrees Fahrenheit respectively. These conditions MUST have been established at least 5-days prior to delivering the flooring to the job-site and continue for the life of the floor. ALL doors and windows MUST be installed and weather striped prior to delivering the flooring to the job-site. The installer is responsible for determining the moisture emission rate of the sub floor/substrate as per the National Wood Flooring Association (NWFA) installation guidelines, SECTION V – Appendix AA Moisture Testing Procedures for Concrete Slabs, (specifically the Calcium Chloride test) and Appendix AB Moisture Testing for Wood.

All test results MUST be carefully documented and made available to the homeowner prior to installing the flooring. Regal Hardwoods declines any responsibility for job failure from or associated with inappropriately or improperly prepared subfloors or job site environment deficiencies. Also, Regal Hardwoods “HIGHLY” recommends that the installer/contractor take daily readings of the ambient conditions of the environment in which the flooring will be installed i.e. temperature and relative humidity levels and record the results on a daily log sheet as well as take periodic moisture readings of the wood floor and sub floor during the installation process and record the results of those readings as well.

Sub-floor must be thoroughly dry\* and level concrete slab, solid wood flooring or plywood. Tolerances for moisture and levelness can be determined by referring to the NWFA Hardwood Installation Guidelines outlined in

Section V Appendix AA. Warning – humidity levels below these recommended levels will likely cause movement in the flooring, including gapping between pieces and possible cupping and checking in the face.

**Newly Constructed Buildings:** In newly constructed buildings, hardwood flooring should be one of the last items installed. All work involving water or moisture **MUST** be completed prior to the delivery of wood flooring to the job site. In addition, all doors and windows must be installed and weather striped. All wet work such as plastering; painting and any/all masonry or tile work **MUST** be completed prior to delivering the flooring to the job-site. Additional information can be found in the National Wood Flooring Association’s Technical Publication No. A100 Water and Wood. “How Moisture Affects Wood”.

**HVAC System:** NEVER turn off the Heating Ventilation Air-conditioning or humidification (HVAC) system when you’re away from your home/building i.e. during vacation time periods. If you do, you may return to a floor that is cupped, or has a severe case of shrinking/gapping, splitting, checking and/or wear layer separation caused by shear.

## JOB SITE INSPECTION & PRE-INSTALLATION CHECKLIST

**Note:** In newly constructed buildings, wood flooring should be one of the last items installed. All work involving water or moisture MUST be completed prior to the delivering of flooring to the job site. In addition, all doors and windows MUST be installed and weather stripping in place. Additional information can be found in the National Wood Flooring Association's Technical Publication No. A100 Water and Wood. "How Moisture Affects Wood".

**Moisture:** Job site must be dry with no visible moisture. To ensure the job site is ready for hardwood flooring, installer MUST conduct moisture tests (i.e., Calcium Chloride Tests when installing over a concrete slab, RH probe test, or with approved Calibrated Pin Type Moisture Meters when installing over wood sub floors). All testing results MUST be carefully recorded and made available to the homeowner before any work begins. Electronic moisture meters designed to measure moisture content in concrete slabs are NOT recognized by Regal Hardwoods as a viable way to determine if a moisture vapor retarding system is needed/necessary prior to installing the floor.

\*\*\* Warning - humidity levels below these recommended levels will likely cause movement in the flooring, including gapping, cupping, warping, twisting, buckling, splitting, wear layer/inner ply separation, and checking in the face.

**Job-Site Evaluation:** Contractor/installer MUST perform a pre-installation job site evaluation. The contractor/installer MUST determine the following: Does the lot/structure sit on an alluvial plain? If so is water run off directed away from the side of the building? Does the roof gutter system direct water to a main drainage system that carries water away from the side of the building? Is there adequate drainage around all landscape and hardscape to carry water away from the side of the building? Also, check the surrounding concrete walkways and driveways for signs of efflorescence and/or algae growth. Check surrounding planters for over watering as well as make sure sprinklers are directing water spray away from the side of the building.

**Wet Work:** All wet work such as plastering; painting and any/all masonry or tile work MUST be completed prior to delivering the flooring to the job-site.

Grade Level: Regal Hardwoods engineered flooring is designed to be installed on all grade levels: on grade, below grade and above grade. However, you MUST follow adhesive manufacturer guidelines because they can/will take precedence over Regal Hardwoods' installation recommendations. Note: If any part of the soil surrounding the structure is 3" above the floor of any level, consider that level below-grade.

**HVAC System:** The installation site MUST have a consistent room temperature of 60 to 80 degrees Fahrenheit and 35 to 55 percent relative humidity respectively. The structure MUST be fully enclosed with interior climate controls operating for at least 5 days before delivering flooring to the jobsite. Moreover, recommended temperature and humidity levels MUST continue during and after installation for the life of the floor. If heating/air-conditioning/humidification systems are in operating condition, they need to be operating. If it is not possible for the permanent heating/air-conditioning/humidification systems to be operating before, during and after installation, a temporary heating/air-conditioning/humidification system that mimics "manufacturer" specified temperature and humidity conditions can enable the installation to proceed until a permanent heating/air-conditioning/humidification system is operating.

**Subfloor:** The sub floor MUST be free from any type of paint, oil, grease, dust, drywall mud, sealers, release agents and all other types of residues/contaminates.

**Moisture Emission:** Per NWFA/Regal Hardwoods' recommendations, it is generally recognized when installing engineered wood flooring directly to the surface of a concrete slab (without the use of an industry/manufacturer approved vapor retarding system), the maximum "allowable" moisture emission

rate (passing through the surface of the slab) as expressed by the Calcium Chloride test is 3.0 pounds per 1,000 sq. ft. per 24 hours before, during and after installation for the life of the floor.

## SUB FLOOR/SUBSTRATE REQUIREMENTS

**Concrete Slab:** The concrete slab must be dry. Newly poured Concrete slabs will require a minimum 120 to 210 day drying period depending on the size and depth of the slab and weather conditions. Please follow ASTM standard F-1869-4, which is the specific preparation/application instructions for calcium chloride testing.

**Cleanliness:** For glue down applications, the subfloor MUST be free from any/all type of paint, oil, greases, drywall mud/dust, release agents and all other types of residues/contaminates.

**Floor Flatness:** The subfloor should be level in general however; it MUST be flat to within 3/16" over a 10-foot radius, in all directions. When using a self-leveling or patch type product to correct for floor flatness issues. ALWAYS consult with the chosen adhesive manufacturer for recommendations as to what self-leveling/patching material is compatible with their specific adhesive product(s).

**Plywood Sub-Floor:** If plywood/OSB is used as a subfloor, the moisture content difference MUST NOT exceed more than 4% between the finished wood floor and the plywood/OSB subfloor. Sub floor panels should conform to U.S. Voluntary Product Standard PS1-07, Construction and Industrial Plywood and/or U.S. Voluntary PS 2-04 and/or Canadian performance standard CAN/CSA 0325.0-92 Construction Sheathing. Other CSA standards also apply.

*Note:* Both CD EXPOSURE 1 plywood and OSB Exposure 1 sub floor panels are appropriate sub flooring materials. Plywood size for subfloor is suggested to be standard ¾" x 4' x 8' panels, with an expansion gap of ¼" between panels, and stagger full sheets by ½. Cross kerf the back of each panel every 1' x 3/8" deep. Plywood/OSB subfloor should run at a 45-degree angle (preferred) or perpendicular to the direction of the finished wood floor.

**ATTENTION:** ENGINEERED FLOORING CANNOT BE INSTALLED DIRECTLY OVER 1" X 6" PLANK TYPE SUBFLOORING. REGAL HARDWOODS REQUIRES AN ADDITIONAL LAYER OF 1/2" PLYWOOD (CDX or better) BE PLACED AND SECURED TO THE SURFACE OF THE 1" X 6" SUB FLOOR FOR ADDITIONAL SUPPORT. RECOMMENDED FASTENERS: 1 ¼" TO 1 ½" LONG DECK SCREWS (screwing schedule 6" to 8" around perimeter and every 12" in the field).

**Terrazzo or Vinyl:** Before installing with a glue-down method over terrazzo or vinyl type surfaces, first consult with the adhesive manufacturer as they will be able to provide you with specific information regarding the necessary steps that are required in order to properly prepare the surface for installation.

**CDX Plywood:** CDX plywood when properly installed over the surface of a concrete slab or lightweight concrete substrate (following manufacturer/industry standards) it is strongly recommended that the plywood be covered with an additional layer of 15 lb or 30 lb tar saturated felt paper, or an asphalt laminated paper meeting UU-B-790a, Grade B, I, Style 1a, prior to installing the floor.

**NOTE:** If the plywood is glued down, it is recommended to follow the adhesive manufacturer's guidelines as to not void the Regal Hardwoods warranty.

**Raised Foundation:** Ground level of the raised foundation sub floor must be completely covered with an industry approved moisture vapor retarding system such as 1 layer of 15 lb or 30 lb tar saturated felt paper, or an asphalt laminated paper meeting UU-B-790a, Grade B, Type I, Style 1a (i.e. Aqua Bar). Installations over raised foundations (joist type or pier and beam type construction) must conform to the following requirements: Joist span of 16" on center requires a "minimum" of 5/8" CDX plywood; 19.2" span requires a minimum of ¾" CDX and 24" spans require a minimum of 1" interlocking tongue and groove CDX plywood.

**Vapor Protection System/ Calcium Chloride Testing:** Regal Hardwoods' engineered wood flooring CANNOT BE INSTALLED DIRECTLY TO THE SURFACE OF A CONCRETE SLAB WITHOUT THE USE OF A VAPOR RETARDING SYSTEM IF THE MOISTURE EMISSION RATE (based on the calcium chloride test) EXCEEDS 3 lbs IN 24 HOURS OVER 1,000 SQ. FT. OF FLOORING SURFACE. If the moisture emission rate exceeds 3 lb before, during and after the installation for the life of the floor, then a manufacturer approved vapor-retarding system MUST be applied to the slabs surface prior to commencing with the installation. Failure to do so can/will void all applicable warranties.

## GENERAL INSTALLATION GUIDELINES

**Required Tools and Accessories for Nail and Glue down Installations:** Please refer to the National Wood Flooring Association's Technical Publication NO. A300 Tools of the Trade. "What Contractors Need for Hardwood Flooring Installation".

**Control Environment:** Meter the moisture content level of the flooring again and make sure it has stabilized with the surrounding controlled environment based on 35 to 55 percent relative humidity and 65°F to 75°F Fahrenheit.

**During Installation:** It is the installer's responsibility to protect the flooring from any/all damage i.e. dings, dents, scratches etc. Installation/construction related damages are NOT covered under Regal Hardwoods' structural and or finish warranties. During installation of flooring pieces, push or gently tap boards flush to the previous row. To prevent damage to the finish, avoid tapping the face of the board with a rubber mallet, especially on oil finished floors. Please do not use any tapes on oil finished floors. Never adhere tape to finished flooring. When taping paper or sheets together, tape them to each other, not the floor. On urethane finished floors, use only 2080EL 3M tape.

*Shrinkage/gapping, cupping, warping, twisting, buckling, checking, splitting and even wear-layer and/or inner ply separation. Regal Hardwoods will not warrant any damages caused by moisture/atmospheric related causes.*

**Undercut Door Casings and Jambs:** Undercut all door casings and jambs 1/16" higher than the thickness of the "finished" flooring being installed. You can achieve this by using a hand jamb saw using a piece of the flooring as your height gage or use an adjustable power jamb saw adjusted to the appropriate height.

**Box Rule (3-5):** Before beginning the actual installation, provide proper layout of flooring by working out of multiple boxes of material (3 to 5 boxes) is recommended in order to achieve a more uniform color tone, and grain appearance throughout the installation.

**Blending Rule:** Where wood flooring transitions into support moldings (i.e. stair treads, stair nosing's, reducer's, T-molds, end-caps etc.) pick boards that better blend to the color tone of the molding to avoid a drastic change in color. Your goal is to gradually transition into the molding to avoid a distinct color variance between the wood floor and the trim moldings.

**Expansion Space:** Allow at least (1/2" minimum) of expansion space at all wall and vertical obstructions. Expansion space will be concealed using baseboard and quarter round trim. Wood flooring will change in size according to changes in the ambient conditions of the structure i.e. temperature and relative humidity levels. Insufficient expansion space can result in cupping, buckling, cracking and checking in the flooring. Regal Hardwoods Premium Hardwood will not warrant any damages caused by improper installation.

**Lightweight Concrete:** For installations over lightweight concrete slabs always consult with the adhesive manufacturer prior to beginning installation. They will be able to offer instruction on how to properly prep the surface of the substrate to avoid a potential de-bonding failure. Always follow the adhesive manufacturer's recommendations for proper use.

**Radiant Heat Systems:** Make certain the temperature of the installed wood floor does not exceed 80 degrees Fahrenheit and that the temperature within the atmosphere is maintained between 67-72 degrees Fahrenheit and the relative humidity is maintained between 35-55 percent respectively. Moreover, make sure that the floors moisture content does NOT go below 6.8%. It is critical that the relative humidity does not drop below 35%, otherwise you may experience the following condition(s) with your floor: gapping/shrinking, checking, cracking, splitting, warping, bowing and delamination DUE TO STRESS. Expect some heating season separations between the edges of each plank. Once it has been



determined (through testing results) that the conditions are suitable for the installation of flooring over a radiant heated subfloor, then, and only then can the installation proceed forward. A three-thermostat system is kindest to wood flooring because it moderates the floor temperature. People tend to crank up the heat inside the structure which could shock your floor resulting in cracking, splitting, wear layer delamination, shrinking, gapping, cupping, buckling etc.

**Water Heated System:** With water-heated radiant heat system(s), a pressure test MUST be performed and documented by a qualified plumber or the system installer prior to beginning the installation of the wood flooring.

## INSTALLATION TYPES

All Regal Hardwoods engineered floors can be installed using any of the following recommended methods. Please be advised that *improper installation will void the warranty*.

**Floating:** Floating floors can be installed on various substrates because there is no need to directly attach the floor to the floor below. A protective pad is placed between the hardwood floor and the subfloor which protects the hardwood against moisture and reduces the transmission of sound. Regal Hardwoods recommends Omni Choice Acoustical underlayment. The floor boards are then joined together by means of an adhesive between the hardwood boards themselves. Regal Hardwoods recommends Eurobond D3 Certified Floating Floor Glue as the adhesive.

**Nail Down / Staple Down:** Nail down and staple down floors are essentially the same thing in that the hardwood floor is affixed to the subfloor using a mechanical fastener. Nails are used when the installed flooring is thick and where a staple won't penetrate the wood. Staples are used when the flooring is thinner and where a nail would blow right through the tongue. Nail 1/2" products and staple 3/8" products. 1.5" 18 gauge nails are recommended for nailing. 1.25" - 1.5" staples are recommended for stapling.

**Glue Down:** With a glue-down floor, a mastic or adhesive is spread onto the subfloor to adhere the flooring to it. Regal Hardwoods recommends Bondtec Pro®, a premium moisture cure urethane, Fortane One®, a moisture and acoustical barrier adhesive and Fortane Zero®, a zero VOC M.S. polymer wood flooring adhesive, depending on your specific site conditions and needs.

All Regal Hardwoods engineered floors can be installed using any of the following recommended methods. Please be advised that improper installation will void the warranty.

## OWNER/INSTALLER RESPONSIBILITY

**Regal Hardwoods flooring is manufactured according to accepted industry standards, which permit a defect tolerance of 5%.**

**Product Quality:** The contractor/installer/end-user assumes all responsibility for final inspection of product quality. The flooring MUST be inspected at time of delivery and prior to installation. Carefully examine the flooring for moisture content (6.8 to 10.2%), color, grade, finish quality or any damage during transit before installing it. The installer should use reasonable selectivity to cull out or cut off unacceptable pieces, if the flooring material is considered unacceptable. Instead, contact the Regal Hardwoods Premium Hardwood dealer immediately. **Use and installation of the floor constitutes acceptance of the product received. Please see warranty for more detail.**

**Informing the Homeowner:** Homeowner(s) MUST be made aware of color variations, graining ranges, the effect that moisture has on wood flooring; the importance of maintaining a controlled environment (60 to 80f and 35 to 55rh respectively) before, during and after the installation for the life of the floor. Also, the proper way in which to maintain wood floors and the effect that UV light has on wood, especially exotic woods. All products from Regal Hardwoods Premium Hardwood will change color over time. The degree of change depends on the species and the amount of UV exposure. The homeowner MUST be made aware of the effect that moisture has on wood flooring e.g. moisture gain can result in cupping, buckling, cracking, splitting, checking, warping, wear-layer delamination/shear, and/or cross-ply separation from the sub floor and possible damage to surrounding walls, tile/stone floors and cabinetry etc. Moisture loss can also result in splitting/separation of the segments, gapping, surface and or end checking and everything else mentioned with moisture gain.

**Waiver:** Unless a waiver or letter of protest listing exceptions exists, installation constitutes acceptance of subfloor/substrate, the job itself – including the ambient temperature and relative humidity at the time of installation, and all impacting variables that may affect a wood floor.

## MAINTENANCE AND CARE GUIDELINES

### PREVENTATIVE MAINTENANCE

- To reduce wear, use area rugs at work stations, dining areas, and at heavily traveled areas and pivot-points (i.e. stair landings, room entries, etc.), especially if there is a large family or indoor pets.
- Use dirt-trapping walk-off mats at all exterior doors to keep sand, dirt, grit, grease, and oil outside.
- Sweep or vacuum regularly, since built-up grit can damage the finish. The vacuum head must be a soft brush or felt type. Be certain the wheels of the vacuum are clean and do not damage the flooring. Do not use a vacuum with a beater bar head.
- NEVER mop or flood floor with water on Titanium ScuffGARD products. This can severely damage the flooring.
- Thoroughly clean and rinse used and even new sponge mops to eliminate detergents.
- Remove spills promptly using a soft cloth and cleaning products recommended by Regal Hardwoods (Pro-Care Citrus Floor Cleaner, Pro-Coat products). See below for regular maintenance.
- IMPORTANT: Do not use oil soaps, liquids, or paste wax products or other household cleaners that contain lemon oil, tung oil, or ammonia since Regal Hardwoods warranty does not cover damaged caused by non-recommended products.
- Keep pet's nails trimmed and paws clean and free of dirt, gravel, grease, oil, and stains.
- Office chairs with rollers must have a hardwood floor approved breathable mat over the floor covering to prevent scratching and roll marks. Excessive rolling will damage the finish over time.
- Place protective pads beneath furniture legs and feet to reduce scratches and dents.
- Use a dolly and protective sheets of plywood when moving heavy objects, furniture, or appliances.
- Make certain furniture casters are clean, operate properly, and approved for hardwood floors.
- Remove shoes with spiked or damaged heels before walking on floor.
- Exposure to the sun and its UV rays accelerates the oxidation and aging of wood and fabrics. This causes the stain and/or wood to fade and/or change color. We recommended rearranging rugs and furniture periodically so the floor ages evenly.
- Close drapes/blinds where excessive sunlight hits the floor. Heat and light can cause furniture, carpets, wallpaper, curtains, and floors to fade or discolor over time. The warranty does not cover damage from the sun.

### REGULAR CARE MAINTENANCE OF HARDWOOD FLOORS:

To keep floors their best, we recommend that they be dust-mopped or vacuumed at least twice a week, more often on high traffic areas. Regular dust-mopping or vacuuming is essential to the care of hardwood floors. A good quality dust mop or vacuum attachment is the most effective tool for cleaning dust and dirt off the floor. Any spills tracked in by dirt or caused by beverages, chemicals, and/or bodily fluids should be wiped up promptly and be cleaned with Pro-Care Citrus Floor Cleaner. NEVER use wet mops to clean. If necessary, weekly cleaning with Pro-Care Citrus Floor Cleaner is harmless (for Regal Hardwoods Titanium ScuffGARD/Urethane finish floors only).

For Nature GARD/Oil finish floors: Any spills tracked in by dirt or caused by beverages, chemicals, and/or bodily fluids should be wiped up promptly and be cleaned with WOCA Natural Soap (see cleaning specifics on page 16). If necessary, weekly cleaning with WOCA Natural Soap is harmless.

**REGAL HARDWOODS RECOMMENDS THE FOLLOWING CLEANING PRODUCTS:**

- Pro-Care Citrus Floor Cleaner for Titanium ScuffGARD finishes only
- WOCA Natural Soap & WOCA Oil Refresher for Nature GARD finishes only

**DO NOT USE THE FOLLOWING PRODUCTS OR ANY PRODUCT SIMILAR IN NATURE:**

- Bona X Hardwood Floor Cleaner
- Bona X Hardwoods Floor Refresher
- Fantastic
- Orange Glo
- Old English
- Formula 409
- Dishwashing Detergent
- Powdered All Purpose Cleaners
- Murphy's All Purpose Cleaners
- Paste Wax
- Endust, Pledge, or other dusting products
- Future, Mop N Glow, Brite, or any other polish

## HOW RELATIVE HUMIDITY IMPACTS WOOD FLOORS

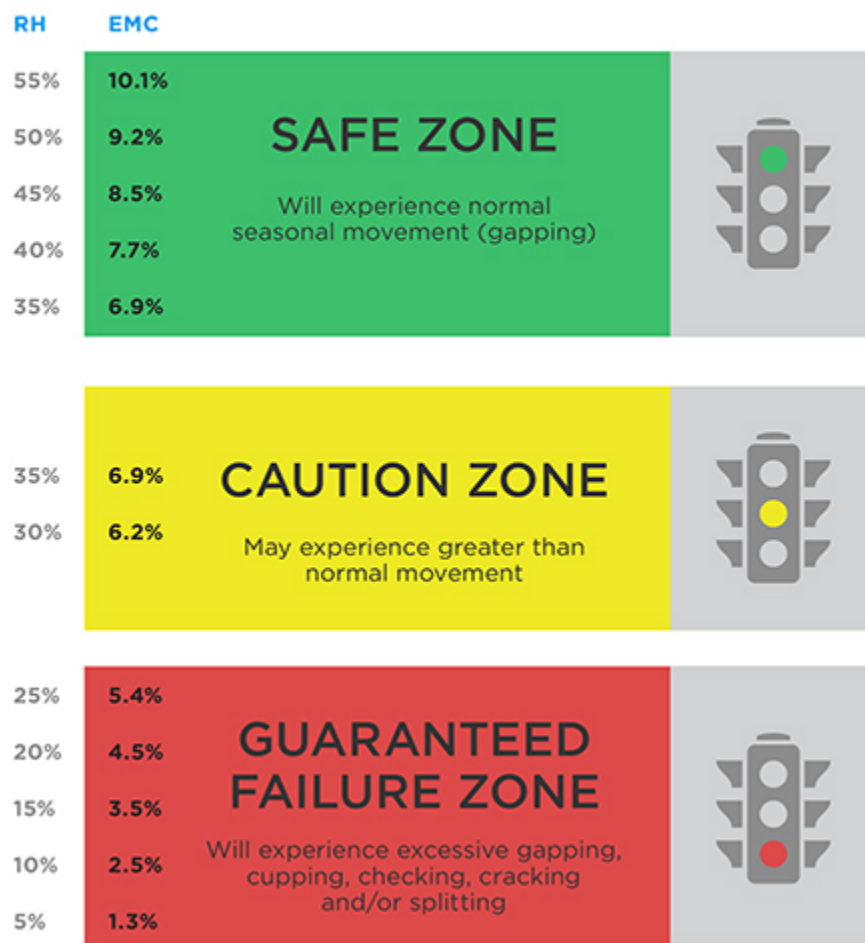
Over the past decade there has been huge controversy over engineered vs. solid wood flooring. Engineered flooring was designed to be more dimensional stable than solid under certain conditions. Most manufacturers have found by maintaining proper relative humidity (typically between 35 to 55%) engineered flooring remains reasonably stable where solid flooring will see side effects like gapping. Engineered will also see side effects but at lesser amounts.

If engineered flooring is exposed to high or low RH conditions one may see irreversible affects like checking, splitting, shearing, delamination, dry cupping, etc. When environmental conditions go beyond the caution zone and into the guaranteed to fail zone these side effects will become permanent. Where solid wood flooring will see side effects as well but usually will just have larger gaps between the planks.

Listed below is a chart which helps outline some of the relative humidity boundaries by flooring manufacturers:

### Factory Finished Flooring Performance by Zone

Relative Humidity (RH)    Equilibrium Moisture Content (EMC)



Source: <http://mwfcblog.blogspot.com/>

**URETHANE FLOORS (Titanium ScuffGARD finish)**

- Regal Hardwoods does not recommend wet mopping.
- **Never** use a household dust treatment such as Pledge or Endust.
- Always use Regal Hardwoods recommended cleaning products (Pro-Care Citrus Floor Cleaner)
- **Never** use wax on top of a non-wax surface finish.
- Wipe up spills immediately with a lightly dampened cloth, then follow up with a recommended cleaning product.
- For stubborn stains, lightly dampen a soft cloth with a Regal Hardwoods recommended hardwood floor cleaner (Pro-Care Citrus Floor Cleaner). Apply directly to the stain and repeat as necessary.
- **Never** use petroleum-based cleaners on water-based finishes.

**HARD WAX OIL FLOORS (Nature GARD finish)**

- Daily cleaning of your oiled hardwood floor is performed by sweeping, vacuuming or dust mopping.
- Wipe up spills immediately with a lightly dampened cloth, and then follow up with a Regal Hardwoods recommended cleaning product.
- **Always** use Regal Hardwoods recommended care products (Woca Natural Soap & Woca Oil Refresher).
- For stubborn stains, lightly dampen a soft cloth with a Regal Hardwoods recommended hardwood floor cleaner. Allow the cleaner to set on top for 30-40 seconds, then lightly agitate and remove. Apply directly to the trouble spot and repeat as necessary. If the stain persists, please contact a professional floor covering repair expert.
- Close drapes/blinds where excessive sunlight hits the floor. Excessive heat may cause wax to become sticky.
- **Never** use petroleum-based cleaners on water-based finishes.
- **Never** use alcohol-based cleaning products, as it will dissolve the hard wax oil.
- We highly recommend contacting a professional floor covering repair expert to address gouges and/or scrapes.
- When installing:
  - To prevent finish damage, avoid tapping the face of the board with a rubber mallet.
  - Please do not use any tapes on oil finished floors.
  - Never adhere tape to finished flooring.
  - When taping paper or sheets together, tape them to each other, not the floor.
- After installing, Regal Hardwoods recommends applying a coat of Woca Natural Soap (mixture specifics and instructions on the following page).

## GUIDE: USING WOCA

### WOCA NATURAL SOAP

Woca Natural Soap is made up of emollients extracted from soy beans and coconut oils, which also retain the moisture in the floor, just as quality soap would for your hands. As they dry and form an invisible film on the surface, the floor receives added protection against wear and dirt. Natural Soap is only to be used for cleaning and maintenance of oiled, waxed, and soaped surfaces. Please follow Woca's maintenance instructions and schedules accordingly.

1. Prepare two buckets (one with Woca Natural Soap & one to rinse mop with water)
2. Shake container well
3. Mix with water (Specific mixing measurements in video on our support page)
  - For typical maintenance mixtures:
    - Mix at a ratio of 40:1 (3oz:Gallon)
    - 1 Liter covers 3400 to 4000 sq. ft.
  - For post-installation maintenance on Darker Floors:
    - Darker Floors: 20:1 (6oz:Gallon)
    - 1 Liter covers 2000-2500 sq. ft.
  - For post-installation maintenance on Lighter Floors:
    - Lighter Floors:10:1 (12oz:Gallon)
    - 1 Liter covers 1000-1200 sq. ft.
4. Clean the floor with clean mop/cloth with the grain
5. Dip used floor mop/cloth into second bucket to clean
6. Dip back in Woca mixture and repeat
7. Leave Woca Natural Soap to dry

Please view the videos on the support page of our website to see a demo.

### WOCA OIL REFRESHER

Woca Oil Refresher should be used for restoring luster and beauty to oiled wood floors, as well as adding a protective, moisture resistant layer to the surface of the floor. Woca Oil Refresher should only be used for natural oiled floors. Regal Hardwoods recommends an initial coat of Woca Oil Refresher right after installation for maximum resistance. Do not apply more than four times a year. Please follow Woca's maintenance instructions and schedules accordingly.

1. Prepare two buckets (one with Woca Oil Refresher & one to rinse mop with water)
2. Shake container well
3. Mix with water (Specific mixing measurements in video on our support page)
  - For typical maintenance mixtures:
    - Mix at a ratio of 40:1 (3oz:Gallon)
    - 1 Liter covers 3400 to 4000 sq. ft.
4. Clean the floor with clean mop/cloth with the grain
5. Dip used floor mop/cloth into second bucket to clean
6. Dip back in Woca mixture and repeat
7. Leave Woca Natural Soap to dry

The use of WOCA Oil Refresher will extend the life of the oil finish, therefore, extending the time between periodic oil maintenance applications. Please view the video on the support page of our website to see a demo.



## DISCLAIMER OF NON-RESPONSIBILITY

Statement/disclaimer of non-responsibility (voids any/all applicable warranties offered by Regal Hardwoods) pertaining to labor/material costs and or damages caused to any/all cabinets, furniture, counter tops, built-in ranges/stoves, moldings/trims, fixed furniture/wall units, wall paper, painting, specialized plaster coatings, etc., as a result of removal of the flooring, cupping, buckling, twisting, bowing, shrinking, lifting, moving etc. Regal Hardwoods reserves the right to void any/all warranties if and when any of the above mentioned or non-mentioned item(s) are installed over the surface of a Regal Hardwoods floor where the floor experiences a manufacturer or non-manufacturer related failure, which requires the removal of the flooring in part, or in its entirety. Regal Hardwoods Wood and wood flooring products MUST NOT be installed prior to the installation of cabinetry and or any other fixed furniture etc., as outlined above. The general contractor/flooring contractor/designer/homeowner/renter etc., assume ALL responsibility for any/all damages/costs incurred if flooring is laid prior to the installation of the above mentioned or non-mentioned items. Said parties absolve Regal Hardwoods from any/all liability/responsibility of any claims now or in the future.

***WARNING: DO NOT INSTALL MOLDINGS/TRIMS IF THERE IS ANY QUESTION TO THERE ACCEPTABILITY. INSTALLATION CONSTITUTES ACCEPTANCE OF THE MATERIAL BEING INSTALLED!***

Regal Hardwoods Premium Hardwood WILL NOT be responsible/liable for any/all costs i.e. LABOR associated with any/all claims involving color difference issues within/the Wood floor and any/all supporting trim components e.g. stair treads, stair nosing's, reducers, T-moldings, end caps etc., after the molding/trims have been installed. It is the responsibility of the flooring contractor/installer/dealer to make certain that the moldings color match to the flooring is acceptable before installing it/them. Precautionary Statement: Before mixing materials, i.e. Wood flooring from different runs/lots MAKE SURE the color tone is acceptable before installing the floor.

IT IS THE RESPONSIBILITY OF THE DESIGNER, ARCHITECT, BUILDER, HOMEOWNER, FLOORING CONTRACTOR ETC., TO DISCUSS WITH THE FLOORING INSTALLER(S) THE ACCEPTABLE COLOR TONE RANGE OF THE FLOORING BEING INSTALLED. THE APPROVED FLOORING SAMPLE MUST BE SHOWN TO THE INSTALLER(S) BEFORE COMMENCING WITH THE INSTALLATION. MOREOVER, THE APPROVED COLOR TONE SAMPLE MUST BE USED/VIEWED AS A GO-NO-GO TOOL. ONCE INSTALLED, THERE IS NO QUESTION AS TO THE FLOORS ACCEPTABILITY. INSTALLATION CONSTITUTES ACCEPTABILITY OF THE MATERIAL BEING INSTALLED. REGAL HARDWOODS WILL NOT BE RESPONSIBLE FOR ANY/ALL COSTS I.E. MATERIALS AND OR LABOR ASSOCIATED WITH CLAIMS INVOLVING COLOR TONING RELATED ISSUES.

MAINTENANCE AND PROTECTION:

**Cleaning:** During routine maintenance, DO NOT clean your floor surface with oil soaps, sprays of any kind, silicone oil, wax, water, Windex and water, vinegar and water, conditioners, surface refreshers, solvents of any kind, non-recommended flooring cleaners such as Swiffer Wet Jet or any other like cleaning products. Only use cleaning products that are specifically recommended and or approved by Regal Hardwoods. For more information on how to properly maintain your Regal Hardwoods wood floor, please see our maintenance guidelines on our web-site [www.RegalHardwoods.com](http://www.RegalHardwoods.com) under customer support.

**Protective Glides:** Place protective glides on the bottom of all chairs and furniture legs; they come in a variety of sizes and shapes and can be purchased at your local home improvement center. For your really large furniture such as China cabinets and hutches etc., you will definitely need to use protective glide pads that are designed to cover a larger area so as to better protect the flooring from dings, dents and scratches. For pianos use manufactured piano coasters.

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