LVP INSTALLATION GUIDE

ROYAL HOUSE

INSTRUCTIONS
CARE TIPS
& MORE

2023-2024

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EXPANSION SPACE AND LAYOUT

EXPECTATIONS & INSTRUCTIONS

- This flooring WILL move/shrink/expand. This is normal for virtually all flooring products.
- Determine the longest, straightest wall to begin installation. This is usually an exterior wall. Decide the installation direction. It is recommended to install the length direction of the planks parallel to the main light direction, unless installing over an existing wood floor, in which case this flooring should be installed perpendicular to the plank direction of the wood. In hallways, it is recommended to install the floor parallel to the length of the hall if possible.
- Always ensure leaving a minimum 1/4" (6mm) gap between the flooring and any vertical obstruction, including walls, cabinets, islands, pipes, pillars, stairs, door jams, sliding glass doors, fireplaces, etc. These gaps will be covered with trim moldings after the floor is installed. Tip: When installing around pipes, drill the holes 1/2" (12MM) larger than the diameter of the pipes.
- Pay careful attention to maintain this ¼" expansion gap around doorways. Door trim should be undercut to allow flooring to move freely without being pinched. Failure to undercut door trim will void all warranties.
- For floor surfaces exceeding 6400FT2(620M2) and/or lengths exceeding 80 lineal feet (25m), use expansion gaps covered by T-moldings to ensure that no contiguous installed area exceeds these size limits.
- Whenever possible, plan the lay out so that the joints in the planks do not fall on top of joints or seams in the existing substrate. Do not install over expansion joints that have not been filled/patched.

CAUTION!

DO NOT SAND, DRY SWEEP, DRY SCRAPE, DRILL, SAW, BEAD-BLAST OR MECHANICALLY CHIP OR PULVERIZE EXISTING RESILIENT FLOORING, BACKING, LINING FELT, ASPHALTIC "CUTBACK" ADHESIVES OR OTHER ADHESIVES.

These products may contain asbestos fibers and/or crystalline silica.
Inhalation of such dust is a cancer and respiratory tract hazard. Unless positively certain that the product is an asbestos free material, you must presume it contains asbestos.

Regulations may require that the material be tested to determine asbestos content and may govern the removal and disposal of material.

See current edition of the Resilient Floor Covering Institute (RFCI) publication Recommended Work Practices for Removal of Resilient Floor Coverings for detailed information and instructions on removing all resilient covering structures.

The manufacturer's warranty does not cover discoloration from mold or from flooding, floods, leaking plumbing or appliances, water entering through sliding glass doorways, as well as floor covering failure due to hydrostatic pressure or moisture vapor emission.

PREPARING & TESTING THE SUBFLOOR

ALL SUBFLOORS

- Must be flat within 1/8" (3.2mm) in any 6' (1.8m) radius, or within 3/16" (5mm) in any 10' (3m) radius.
- The substrate should not slope more than 1” (2.5CM) per 6 feet (1.8m) in any direction. Any gaps in the sub-floor should not exceed 3/16” (5mm).
- Must be clean and swept free of any debris.
- Do not use products containing petroleum, solvents or citrus oils when preparing the surface as they can cause staining and expansion of the new flooring.
- Although this flooring is waterproof, it is not intended to be used as a moisture barrier. This flooring does not prevent the growth of mold under the floor or prevent structural problems associated with/caused by flooding, excessive moisture, alkalis in the subfloor, or conditions arising from hydrostatic pressure.
- Jobsite moisture and pH issues should be addressed and corrected prior to installation.

CONCRETE & GYPCRETE

- Subfloor material must have a minimum density of 3000 psi. Certain gypcrete and other non-cementitious subfloors may not meet this requirement.
- Subfloor must be fully cured, at least 60 days old, smooth, permanently dry, clean, and free of all foreign material such as dust, wax, solvents, paint, grease, oils, and old adhesive residue. Curing agents and hardeners could cause bonding failure and should not be used.
- Depressions, cracks, grooves, expansion joints and other subfloor imperfections must be filled with an appropriate patch or leveling compound. Grind down any high spots as needed.
- Moisture and alkalinity tests should be performed on all concrete substrates regardless of grade level or age of slab. Perform either an In-Situ Relative Humidity (RH)Test (ASTM F2170) or a Calcium Chloride Moisture Test (ASTM F1869). Perform pH test per ASTM F710 to determine alkalinity of the slab.
- Concrete moisture vapor emissions should not exceed 90% RH per ASTM F2170 or 8 lbs. per ASTM F1869, and pH should not exceed 9 per ASTM F710. For floors outside of this range a layer 6 mil polyfilm moisture barrier is required beneath the flooring, taped at the seams with waterproof tape and free of tears/perforations. If installation is above or at grade, poly- film is always recommended, but not required except when test results are outside these stated ranges.

PREPARING & TESTING THE SUBFLOOR

WOOD SUBFLOORS

- Subfloor must be structurally sound, with joists spaced maximum 16” on center.
    - Do not install over chip board, wafer board, or floating wood floors.
- Wood subfloors must be CDX-rated plywood at least 3/4” thick, PS2 rated OSB at least ⁄ ” thick, A.P.A rated particle board (minimum rating of BB or CC), or existing wood flooring that is securely fastened to a wood subfloor beneath.
    - Do not install over a floating wood floor, over solid subfloor planking, or over any wood floor or subfloor that is installed over concrete.
- Test wood sub floors for moisture content using a moisture meter recommended for wood flooring (minimum of 20 readings per 1000 sq ft.)
    - Subfloor moisture should not exceed 12% in any location.
- Repair any loose boards or squeaks before you begin the installation. Screw every 6” (15 cm) directly to joists to correct squeaking.
- Install the new flooring perpendicular to the existing wood floor.

EXISTING NON-WOOD FLOOR COVERINGS

- The flooring can be installed over most existing hard surface floor coverings, provided that the existing floor surface is clean, flat, dry, securely fastened or adhered, structurally sound, and in compliance with the flatness requirements outlined above.
- Acceptable floor coverings include: well-adhered linoleum (1 layer only), non-cushioned vinyl, terrazzo, ceramic, and stone tile. Tile floors with grout lines will require a cementitious patch to fill any grout lines, voids, or cracks.
- Unacceptable floor coverings include: carpet (any type), foam underlayment, cushion-backed vinyl, loose lay vinyl, rubber, cork, laminate, and any type of floating floor.
- Once all of the applicable subfloor requirements are met, this product may be installed on top of a sound reducing pad ONLY if the pad meets all of these requirements:
    - Pad is approved by the pad manufacturer for use with floating LVT flooring Minimum density of pad: 30 lbs.
    - Maximum thickness of pad: 0.06” (1.5mm)

Pads that are too thick or too soft will allow excessive vertical deflection that could result in damage to the edges and/or plank separation. Do not install this flooring over cork or rubber underlayment pads, or soft foam pads intended for use with laminate and hardwood flooring.

PREPARING & TESTING THE SUBFLOOR

RADIANT HEAT

- Radiant heat systems must have a minimum of 1/2" physical separation between the heating elements or tubing and this flooring product. Electric heating mats that are not embedded into the subfloor are not recommended for use underneath this flooring and will void the warranty.
- Floor temperature must never exceed 85°F (30°C). Use of an in-floor temperature sensor is recommended to avoid overheating.
- New concrete or gypcrete must be allowed to properly cure and dry a minimum of 4 weeks prior to operation of the radiant heat system.
- Operation of radiant heat system should be set to run at minimum 2/3 of maximum output for a minimum of 2 WEEKS.
- Prior to installation of flooring to allow moisture from concrete to dissipate and reach a final moisture content. This must be done in both heating AND non-heating seasons.
- Reduce heat to a temperature of 65°F four days prior to installation.
- Turn the heat off for 24 hours before, during and 24 hours after installation. In glue-down installations, failure to turn the heat off may result in significantly shortened working time of the adhesive.
- Failure to strictly follow adhesive manufacturer's guidelines may result in floor failure and void the warranty. In radiant-heated concrete or gypcrete subfloors, moisture vapor emissions must be reduced to a maximum of 3lbs per ASTM F1869 or 75% RH per ASTM F2170, with a PH limit of 9, prior to installation. Wood subfloors must not exceed 12% moisture content.
- Ensure that the temperature in the room is at least 60°F (15°C) during installation.
- After 24 hours post-installation, slowly raise the temperature of the heating system to its preferred operating level in increments of 5°F per day. Please exercise caution and increase heat slowly.
- An outdoor temperature sensor is highly recommended to adjust temperature to anticipated heat loss.
- Seasonal expansion and contraction is expected and does not mean that the flooring product is defective.

RCC warrants its flooring products for defects in material and/or workmanship that relate to the performance of the flooring in accordance with the terms of these warranties and during the stated period of the warranty.

GENERAL INSTALLATION GUIDE

Remove baseboard, quarter-round moldings, wall base, appliances and furniture from room. After preparation work, sweep and vacuum the entire work area to remove all dust and debris.

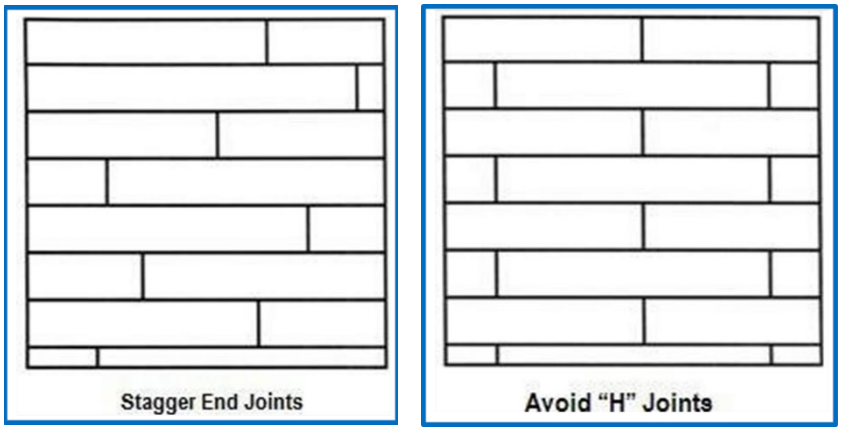
To achieve a uniform appearance across the entire floor, work from a minimum of four cartons at a time and lay out the flooring ahead of time. Be sure to mix the planks for the best aesthetic appearance. Make certain the room is well lit to ensure color is acceptable and that any visual defects can be seen and removed prior to installation.

STEP 1 – Plan the End Points

- Measure the area to be installed across the width of the planks and divide by the width of one plank. If the remainder is less than 2 and 1/2” (64mm), adjust the width of the first row to be installed so that the final row is wider than 2”.
- Measure the area to be installed along the length of the planks and divide by the length of one plank. If the remainder is less than 8", cut your first plank in the row so that the final piece is at least 8” long.

STEP 2 – Preparing the First Rows Prior to Installation

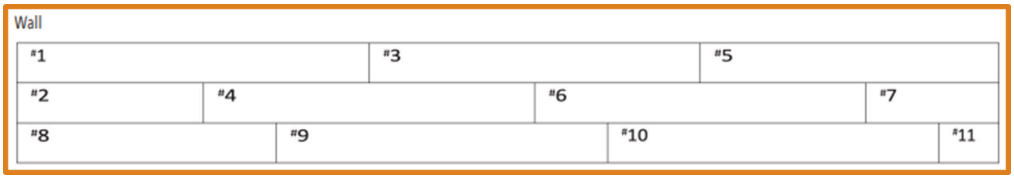
- Pre-cut the planks for the first three rows. Trim off the profiles facing the walls and position the cut edges at least 1⁄4” from the wall. Randomly install different lengths to avoid a patterned “stair-step” appearance. End cuts from starter rows can be used at the opposite side of the room to complete rows or may be used to start the next row.
- Make sure to stagger end joints by at least 8” (20CM). Avoid “H” patterns, where the end joint aligns with and end joint in other nearby rows. Avoid installing pieces shorter than 8” (20 cm) at the beginning or end of rows.

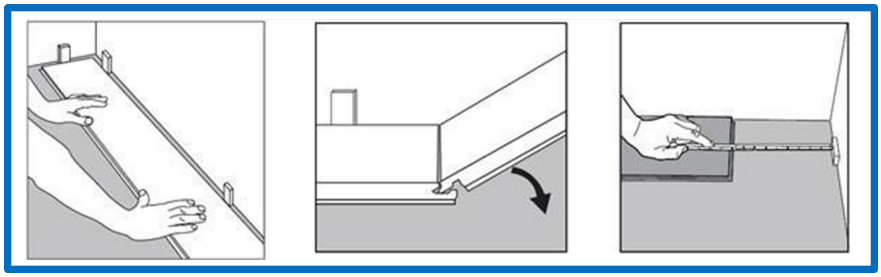


- For glue-down installations, be sure not to apply any adhesive until the first 3 rows have been properly aligned and checked for proper fit.
- Set spacers to allow a minimum gap of 1⁄4" (6mm) around the perimeter of the subfloor for movement or product expansion. Do not remove the spacers until the installation is complete.

STEP 3 – Installation of Flooring

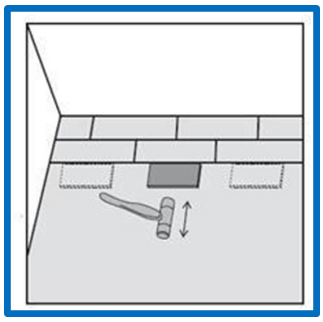
- For glue-down installations, follow the adhesive manufacturer's recommendations regarding open time and only spread enough adhesive to cover an area that can be installed within that working time.
- Refer to these diagrams for subsequent steps:

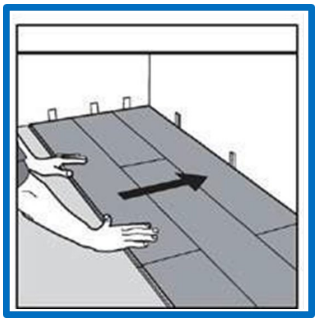




- Align the first plank of the second row (#2) with the first plank of the first row (#1) at an angle as shown above and engage the long side joint by folding down until joints lock tightly. Use a small scrap of plank to gently tap along the entire length of the plank to ensure that the seam is tight. Lock the groove of the scrap piece to its tongue and gently tap the edge of the scrap with a tapping block.
- Make sure that the click system is engaged tightly. Any gapping can compromise the integrity of the installation.
- Align the second plank of the first row (#3) against the end joint of the first plank of the first row (#1) at a slight angle and fold down until joints lock.
- Join the short side edge of the second plank in the second row (#4) to the first plank in the second row (#2) in the same manner. There will be a gap on the long side joint between plank #4 and planks #1 & #3.
- Raise the outside long edge of plank #4 upward approximately 1" as shown above. This will raise the outside long edge of planks in that row. Maintain this angle as you push the plank in until the long edge of the plank meets the long edge of the first row. Rotate downward on the plank until the joint locks. Gently tap the long side and short side joints closed, if necessary, using your scrap piece and tapping block.
- Continue this pattern until the first three rows are complete. After the first 3 rows are installed, check to ensure that the flooring is running parallel to room. If it is not, it could be that the starting wall has some irregularities. If so, the starting row of planks may have to be scribed and re-trimmed to account for any unevenness in the wall. This can be done without having to disassemble the beginning rows.
- From there, install row by row, cutting the last plank in each row to the proper length to leave at least ¼" space at the end wall. Continue to stagger end joints by at least 8" and avoid "H" patterns.

- It is usually necessary to rip the last row at the far wall to allow for the ¼” expansion.





- Use a pull bar to pull the click system together tightly at the last row.
- If necessary, separate planks already installed, separate the whole row by lifting it up delicately at an angle. To separate the end joints, place the planks flat on the subfloor and slide them apart.

INFORMATION

Pre-Installation Guidelines

It is the installer's responsibility to inspect the flooring for proper color, visible manufacturing defects, damage, or otherwise unsatisfactory appearance. It is also the installer's responsibility to ensure that job site and subfloor conditions are acceptable prior to the installation of the flooring. This product does not need acclimation.

Calculate the room surface prior to installation and plan to purchase an extra 10% for cutting waste and culling. Be sure to install cabinetry, island and peninsula counters, vanities, tubs, and showers before proceeding with the flooring. Flooring should be one of the last items installed for any new construction or remodel project.

All "wet" work such as paint, drywall, concrete, masonry, and plumbing must be complete and dry prior to the delivery of the flooring.

This product is not suitable for any outside use, sunrooms/solariums, showers, saunas, seasonal porches, camping trailers, boats, RV's or rooms that have a potential of flooding. Do not install in rooms or homes that are not temperature controlled.

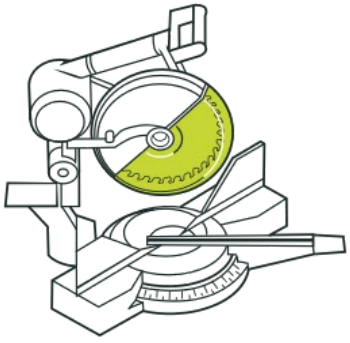
Gutters and downspouts should be in place and the exterior grade complete to allow for proper drainage of water away from the building's exterior perimeter.

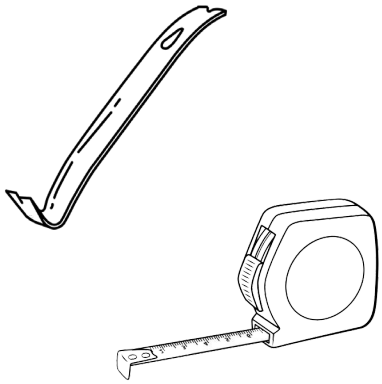
Flooring should only be installed in temperature-controlled environments. HVAC should be on and maintained between 60 – 80 degrees with a relative humidity of 30%- 60% range a minimum of 5 days prior to delivery, during and after installation of the flooring. Portable heaters are not recommended as they may not heat the room and subfloor sufficiently. Kerosene heaters should never be used.

Special conditions apply to installations over radiant heat systems.

Tools & Supplies Needed

- Tape Measure
- Chalk Line
- Miter Saw
- Utility Knife
- Crowbar/Pry Bar
- 1/4" spacers
- Rubber Mallet
- Pin Type Moisture Meter
- Concrete Testing Kit





METHODS

Acceptable Methods of Installation on Different Grade Levels:

ABOVE GRADE: Flat or Glue Down

ON GRADE: Float or Glue Down

BELOW GRADE: Float Only For glue down installation, use only a premium pressure-sensitive vinyl flooring adhesive.

Please consult with the adhesive manufacturer to determine if suitable for use with this material. For glue down method, follow adhesive manufacturer's installation instructions, in addition to all of the guidelines in this document.

CAUTION!

When doing the glue down installation method, DO NOT include a 6-mil poly vapor barrier in the assembly. Flooring material must be adhered directly to the subfloor.

CARE & MAINTENANCE

GENERAL CARE

- Sweep or vacuum daily using soft bristle attachments.
- Place a walk-off mat at outside entrances to reduce the amount of dirt brought into your home. Do not use mats with a latex or rubber backing since these backings can cause permanent discoloration.
- Clean up spills and excessive liquids immediately.
- Damp mop as needed with water, or with a high-quality, pH-neutral vinyl cleaner such as Bona Pro Series Luxury Vinyl Floor Cleaner. Do not use solvent-based cleaners, waxes, oils, bleaches, abrasive cleaners, or products recommended for other types of flooring.
- Avoid any cleaners that describe themselves as a polish or 'cleaner and polish in one.' Polishes can leave a residue that will dull the finish, collect dirt, and can be extremely difficult to remove.
- Use proper floor protection devices such as felt protectors under furniture to prevent scratching.
- Do not drag or slide heavy objects across the floor.
- Avoid walking on your vinyl floors with cleats, sports shoes and high heels.
- When moving heavy furniture, do not slide it on the flooring. Pick up the furniture completely and place it on a protective surface such as cardboard so that the furniture can be "walked" along that surface.
- After installation, make sure that the flooring is never be exposed to temperatures less than 0˚F (-15°C) or greater than 140˚F (60°C). Direct sunlight on flooring can produce surprisingly high temperatures. Window treatments may be necessary to protect the flooring from high heat.
- Maintain room temperature (60° to 80°F) year-round& the recommended relative humidity of 30% to 50% year-round.

Royal House US strives to make every customer satisfied with their purchase. If there are claims or questions, or in the event that you are not totally satisfied with your floor, please contact your retailer or distributor first.

If they are unable to answer your questions, please contact us in writing at the following address:

ROYAL HOUSE, Attn: Customer Care, 3233 W Castor Street, Santa Ana, CA

92704 (714) 215 – 4632

orders@apollofloor.com

CARE & MAINTENANCE

SPOT & STAIN REMOVAL

- **Food Stains:**
  - Mix 1 tablespoon baking soda with water and gently rub the stain with the paste. Rinse the area with water and dry.

- **Acidic Liquids or Harsh Substances:**
  - Use dish soap with warm water on a damp cloth.
  - *We do not recommend using a steam cleaner or hot water to clean.*

- **Stubborn Stains:**

  ex. paint, crayon, hair dyes, and chemicals
  - Use isopropyl rubbing alcohol or mineral spirits. Pour the liquid agent onto a clean cloth and mop or rub the stain. Rinse the area with clean water and dry.
  - *Pouring the liquid agent directly onto the flooring can damage it.*

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ROYAL HOUSE LVP WARRANTY

WEAR LIMITED WARRANTY

ROYAL HOUSE SPC planks are protected with a wear layer. ROYAL HOUSE warrants that there will be no wear-through of the wear layer for the number of years indicated for the specific product.

"Wear-through" means complete loss of the wear layer so that the printed color layer is changed or affected. The term for your specific product wear Limited Warranty will appear on the insert of the product you purchased. This Limited Warranty applies only to first quality merchandise provided the recommended installation and maintenance procedures are followed as outlined in this document.

WARRANTY COVERAGE

This warranty covers SPC flooring when applied in a residential or light to medium commercial setting.
For commercial coverage, ROYAL HOUSE products must be installed in a commercial area, regardless of commercial use designation. It must be professionally installed by a certified flooring contractor to validate this limited warranty. No exclusions or exceptions will be made to this clause.

This warranty covers the cost of material (with receipt of purchase) for the period of the warranty stated. The manufacturer reserves the right to repair any floor and/ or obtain the services of a professional to conduct repairs or replace flooring. The manufacturer reserves the right to inspect any floor that is deemed by the client to be defective. Removal of the flooring prior to this inspection voids this product warranty in its entirety. The manufacturer at its discretion will send a company representative and/or a third-party, independent inspector to the installation site to conduct the inspection. The warranty is valid only in the event that all manufacturer's installation and care & maintenance recommendations are strictly followed.Please see the following page for Terms of Limited Warranties.

LIMITED WARRANTIES

Joint Integrity

- *ROYAL HOUSE warrants that the locking system contained in your SPC Flooring will not fail.*

Manufacturing Defects

- *The limited manufacturing warranty warrants that your SPC Flooring will be free of manufacturing defects.*

Waterproofing

- *ROYAL HOUSE warrants that our SPC products are 100% waterproof. The structural performance of the SPC product, when properly installed and under normal use conditions, will be resistant to water damage for the life of the product.*

ROYAL HOUSE warrants our flooring products for defects in material and/or workmanship that relate to the performance of the flooring in accordance with the terms of these warranties and during the stated period of the warranty.

ROYAL HOUSE SPC WARRANTY

TERMS OF LIMITED WARRANTIES

Claims reported on material defects of SPC planks and tiles will be prorated over the life of the product. Reasonable labor costs will be paid with the following exceptions:

Claims reported after 1 year of use will pay labor charges at the rate of 50% reasonable labor charges. Claims reported after 5 years of use will not pay labor charges. This warranty shall not include loss of time, inconvenience & incidental expenses (such as telephone calls) included in the removal or re-installation of the affected flooring materials, and any other incidental or consequential damages. This warranty is in lieu of any other warranties expressed or implied. This warranty service is available only by notice to your distributor through the dealer from whom the purchase was made. Notification must be accompanied by a copy of the original invoice and can only be authorized by your distributor.

PET WARRANTY

Our SPC planks and tiles are warranted to resist stains caused by pet soiling from domestic dogs and cats during the specific warranty time frame. The pet stains include urine, feces, and vomit. Resisting stains means that your floor has the ability to minimize or hold out permanent stains under the conditions stated.

Pet accidents should be cleaned up immediately, as the more they sit, the more difficult they will be to remove. Any damage to the subfloor and/or surrounding structure caused by pet soiling is not covered by this warranty. Please follow our maintenance procedures for cleaning the affected areas.

STEAM CLEANERS

ROYAL HOUSE does not recommend the use of any type of steam cleaner on our floors. These types of cleaners generate too much moisture and heat during their use. The resulting moisture and heat can be enough to break down any adhesives used in the manufacturing of this product. Peaked and swelled plank or tile edges can occur with steam cleaners. Therefore, all complaints that are determined to be from a consumer using a steamer will be denied.

ROYAL HOUSE SPC WARRANTY

PRE-INSTALLATION LIMITED WARRANTY

Royal House warrants that our SPC products are free from visual defects. All SPC products purchased for an installation should be inspected by you and/or the installer.

Visually defective products should not be installed. Royal House will not be responsible for reimbursing labor charges on any claim for visually defective products installed.

Prior to installation, it is the responsibility of the installer to determine product suitability.

	WEAR LAYER 0.3mm	WEAR LAYER 0.5mm
RESIDENTIAL	20 years	30 years
COMMERCIAL	10 years	15 years

If a problem occurs, discontinue the job immediately. Please contact the retailer, distributor, or Royal House for clarification before proceeding with installation

ROYAL HOUSE SPC WARRANTY

LIMITED WARRANTY EXCLUSIONS

Any damage to structures which are not part of the installed LVP flooring.

- ex. damage to surrounding walls, subfloor, structures, fixtures, furniture, underlayment, moldings, trims, subfloor heating systems, etc.

- Any damage from mold and/or mildew growth due to extended water exposure. Flooring that has been
- installed outdoors.
- The product is out of the warranty period.
- Product damage caused by failure to follow installation instructions.
- Product defects from improper usage or weather (ex. surface damage from sharp objects and/or heavy objects)
- Improper cleaning and hygiene of the product leading to discoloration due to high concentration of chemical solutions and detergents.
- Exposure to high temperature, fire and direct sunlight. Using adhesives
- not suitable for LVP flooring.
- Warranty coverage for any replacement LVP flooring planks and tiles will be limited to the remaining time of the original warranty.
- Warranty coverage does not apply to seconds, off-quality, or “as-is” goods.
- Warranty coverage applies only to the original purchaser of the flooring and the original installation site & is non-transferable.
- Warranty coverage does not apply to conditions or defects caused by improper installation, the use of improper materials during installation, or inadequate sub- flooring preparation.
- Warranty does not apply to floors with alkalis in the sub-floor or conditions arising from hydrostatic pressure or flooding.
- Warranty does not apply to damages or failure of the floor to adhere to the subfloor resulting from excessive moisture, alkali and/or hydrostatic pressure.
- Warranty coverage does not apply to construction-related damage.
- Warranty coverage does not apply to color variations between samples or printed illustrations and the actual production runs.
- Warranty coverage does not apply to reduction of gloss from use or improper maintenance. Warranty coverage does
- not apply to product sold through unauthorized dealers.
- Warranty coverage does not apply to conditions caused by the use of steam cleaners. Warranty does not apply
- to damage that results from not following LVP floor maintenance instructions.
- Warranty does not apply to damages caused by burns, flooding, fires and other accidents. Warranty does not
- apply to damage caused by abuse.
  - ex. scratches from dragging heavy objects, stains from plastics, etc.
- Warranty does not apply to discoloration from heat or sunlight.

"Wear-Through" - complete loss of the wear layer so that the printed pattern or design of the floor is altered.

"Commercial Use" - daily activities commonly associated with a commercial environment.

"Residential Use" - daily activities commonly associated with residential use.

If you have any questions regarding the above information, please contact your local flooring dealer or distributor.

TECHNICAL DATA

CHEMICAL & STAIN RESISTANCE (ASTM F3261)

	5 Minutes			*24 Hours*		
Staining Agent	Surface Attack	Dulling	Color Change	Surface Attack	Dulling	Color Change
5% Acetic Acid (White Vinegar)	0	0	0	0	0	0
Ammonia	0	0	0	0	0	0
Hydrochloric Acid	0	0	0	0	0	0
5% Phenol	0	0	0	0	0	0
5% Sodium Hydroxide	0	0	0	0	0	0
5% Isopropyl Alcohol	0	0	0	0	0	0
5% Sulfuric Acid Solution	0	0	0	0	0	0
Bleach	0	0	0	0	0	0
Gasoline	0	0	0	0	0	0
Kerosene	0	0	0	0	0	0
Mineral Oil	0	0	0	0	0	0
Olive Oil	0	0	0	0	0	0

TECHNICAL DATA

LUMINOUS COLLECTION 4.5MM

STAIN RESISTANCE (24 HOURS)

Reagent	Rating		
	Surface attack	Color change	Surface dulling
Aceton	5	5	5
Aniline Blue	5	5	5
Ball Point Pen	5	5	5
Betadine 10%	5	5	5
Bicarbonate (sodium hydrogencarbonate)	5	5	5
Bleach 10% (Cleaning solution)	5	5	5
Cherry soda	5	5	5
Ethyl Alcohol	5	5	5
Hematoxylin	5	5	5
Iodine	5	5	5
Lemon Eze	5	5	5
Methylen Blue	5	5	5
Permanent Marker	5	5	5
Potassium Permanganate	5	5	5
Purell	5	5	5
Neutral Cleaner: floor clean	5	5	5
Glass Cleaner	5	5	5
General Purpose Cleaner	5	5	5
Red Wine	5	5	5
Shoe polish paste Brown.	5	5	5
Yellow Mustard	5	5	5
Coffee	5	5	5
Black tea	5	5	5

Rating 1-5 represents:
5 = no change; 4 = minor change; 3 = moderate change; 2 = significant change; 1 = strong change.

Test Notes

- ASTM F3261 - Physical Characteristics/ Tolerances - Includes Size, Squareness, Thickness, Wear Layer Thickness (Commercial Class). Flatness, Openings, and Ledging.
- ASTM E648 -Critical Radiant Flux (Radiant Panel) - Passes Requirements for Class 1 per International Building Code (IBC) 2018 & NFPA 101 Life Safety Code.
- ASTM E662 -Smoke Density: 450 Is the limit established by many states, county, and/or local building and/or fire codes but is not set as a limit for (resilient) flooring products nationwide. Thus, Smoke Density requirements for flooring products may vary from jurisdiction to jurisdiction. Consult your building inspector/ fire marshal to learn more.
- CPSIA = Consumer Product Safety Improvement Act.
- RCC Flooring is Floorscore Certified and Green Guard-approved.
- Our products are made without harmful toxic chemicals, making them eco-friendly and safe for homes, hospitals, children, and pets. RCC LVP Flooring is 100%
- waterproof and easy to clean, making them ideal for kitchens, bathrooms, and basements.
- Flooring is lightweight, simple to score and cut, and features a rapid click-lock groove system for fast, easy DIY floating or glue-down installations.
- RCC Flooring is built to last and backed by a 25-year residential/15-year commercial warranty.

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TECHNICAL DATA

LUMINOUS COLLECTION 4.5MM - SPEC SHEET

PHYSICAL PROPERTIES & PACKAGING (LUMINOUS COLLECTION SPC FLOORING – 4.5 MM / 0.5 MM)	
USE	Commercial & Residential *(please refer to Recommended Usage for Commercial Recommended Areas)*
SIZE	7" W x 48" L
THICKNESS	4.5 mm (including Pad)
THICKNESS - WEAR LAYER	0.5 mm (12 mil)
PROFILE	Unilin click
FINISH	High Definition Decor Film, Embossed & UV Coating ; No Bevel
UNDERLAYMENT	1.0 mm Anti-microbial IXPE
COVERAGE - CARTON	11 planks/carton (22.64 Sq.Ft. / 2.1 Sqm)
COVERAGE - PALLET	55 cartons/pallet (1,445.4 Sq.Ft. / 126 Sqm)
COVERAGE - CONTAINER	15 Pallets/20' container (20,376 Sq.Ft. / 1,890 Sqm)

STANDARD	DESCRIPTION	REQUIREMENTS	RESULTS
ASTM F3261	Physical Characteristics / Tolerances	Refer to Standard	Passes Requirements
ASTM F1914	Residual Indentation	Average: < 0.007% (0.18mm)	Passes Requirements
ASTM F1914	Surface integrity	No Puncture through wear layer / Decor layer	Passes Requirements
ISO 23999	Dimensional Stability	≤ 0.2% / lineal ft. (305mm)	Passes Requirements
ISO 23999	Curling	≤ 0.080 in. (2.0mm)	Passes Requirements
ASTM F925	Chemical Resistance	No surface attack, color change or surface dulling	Passes Requirements
ASTM F1514	Resistance to Heat	Average ΔE ≤ 8.0	Passes Requirements
ASTM F1515	Resistance to Light	Average ΔE ≤ 8.0	Passes Requirements
ASTM F3261	Thickness Swell	Max 2% without Pad Max 5% with Pad	Passes Requirements
ASTM 970	Static loading without pad	≤ 0.005 in (0.13mm) loading 250lb/in2	Passes Requirements

STANDARDS – SAFETY & PERFORMANCE			
STANDARD	DESCRIPTION	REQUIREMENTS	RESULTS
ASTM E648	Critical Radiant Flux (Radiant Panel)	Class I: > 0.45 W/Sq. cm	Passes Requirements
ASTM E662	Smoke Density	Flaming & Non-Flaming < 450	Passes Requirements
CDPH Standard Method v1.2	VOCs/TVOCs, Formaldehyde	Refer to Standard	Passes Requirements
REACH SVHC 223	Substances of Very High Concern	Per Substance: < 0.1% weight/weight	Passes Requirements
ASTM F963	Heavy Metals	Refer to Standard (Table 1)	Passes Requirements
CPSC-CH-C1001-09.4	Phthalates	Per CPSIA4 < 0.1% per Substance	Passes Requirements
ASTM D2047	Coefficient of Friction / Slip Resistance	N/A (No Official Requirements)	≥0.6 (wet)

STANDARDS – SOUND			
ASSEMBLY	RESULTS		NOTE
		ASTM E492	
6" Concrete Slab	ASTM E90	IIC 55	Results of configuration: core 3.5mm, pad 1mm
8" Concrete Slab + Ceiling	STC 52	IIC 71	Results of configuration: core 3.5mm, pad 1mm

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TECHNICAL DATA

LUMINOUS COLLECTION 4.5MM

CHEMICAL RESISTANCE	ASTM F925-13(2020)		
Reagent	Rating		
	Surface attack	Color change	Surface dulling
White vinegar (5% acetic acid)	o	o	o
Rubbing alcohol (70% isopropyl alcohol)	o	o	o
White mineral oil (medicinal grade)	o	o	o
Sodium hydroxide solution (5% NaOH)	o	o	o
Hydrochloric acid solution (5% HCl	o	o	o
Sulfuric acid solution (5% H_2SO_4)	o	o	o
Household ammonia solution (5% NH_4OH)	o	o	o
Household bleach (5.25% NaOCl)	o	o	o
Olive oil (light)	o	o	o
Kerozene (K1)	o	o	o
Unleaded gasoline (regular grade)	o	o	o
Phenol (5% active phenol)	o	o	o

Phthalates Content

Test Method: Organic solvent extraction, analyzed by GCMS

Test Result:

			Test No.	T001
			Material No.	M001
Test Parameter	CAS NO	Unit	RL	Result
Dibutyl phthalate (DBP)	84-74-2	%	0.005	n.d.
Benzylbutyl phthalate (BBP)	85-68-7	%	0.005	n.d.
Diethylhexyl phthalate (DEHP)	117-81-7	%	0.005	n.d.
Di-n-octyl phthalate (DNOP)	117-84-0	%	0.005	n.d.
Diisononyl phthalate (DINP)	28553-12-0, 68515-48-0	%	0.005	n.d.
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	n.d.
Di-n-pentyl phthalate (DnPP)	131-18-0	%	0.005	n.d.
Di-n-hexyl phthalate (DnHP)	84-75-3	%	0.005	n.d.
Dicyclohexyl phthalate (DCHP)	84-61-7	%	0.005	n.d.
Diisopentyl phthalate (DIPP)	605-50-5	%	0.005	n.d.

Abbreviation: n.d. = not detected (< Reporting Limit)
RL = Reporting Limit
NA = Not Applicable
% = percentage

Total Heavy Metal Content

Test Method: ASTM F963-17 (CPSC method)

Test Result :

			Test No.	T001
			Material No.	M001
Test Parameter	CAS NO	Unit	RL	Result
Antimony	7440-36-0	mg/kg	10	n.d.
Arsenic	7440-38-2	mg/kg	10	n.d.
Barium	7440-39-3	mg/kg	10	n.d.
Cadmium	7440-43-9	mg/kg	10	n.d.
Chromium	7440-47-3	mg/kg	3	n.d.
Lead	7439-92-1	mg/kg	10	n.d.
Mercury	7439-97-6	mg/kg	0.3	n.d.
Selenium	7782-49-2	mg/kg	10	n.d.

Abbreviation: n.d. = not detected (< Reporting Limit)
RL = Reporting Limit
mg/kg = milligram per kilogram

Vinyl Chloride Content

Test Method: EN ISO 6401:2008

Test result

Test No.	Material No.	Test Parameter	Unit	RL	Test Result
T001	M001	Vinyl chloride monomer	mg/kg	1	n.d.

Abbreviation: n.d. = not detected (< Reporting Limit)
RL = Reporting Limit
ppm = part per million
mg/kg (milligram per kilogram) is equal to ppm
NA = not applicable

Formaldehyde Content

Test Method: EN ISO 14184-1:2011

Test Result:

			Test No.	T001
			Material No.	M001
Test Parameter		Unit	RL	Result
Formaldehyde content		mg/kg	10	n.d.

Abbreviation: n.d. = not detected (< Reporting Limit)
RL = Reporting Limit
ppm = part per million
mg/kg (milligram per kilogram) is equal to ppm
NA = not applicable

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TECHNICAL DATA

NASA COLLECTION 5.5MM - SPEC SHEET

PHYSICAL PROPERTIES & PACKAGING (NASA COLLECTION SPC FLOORING – 5.5 MM / 0.5 MM)	
USE	Commercial & Residential *(please refer to Recommended Usage for Commercial Recommended Areas)*
SIZE	9 " W x 48"L
THICKNESS	5.5mm (Including Pad)
THICKNESS - WEAR LAYER	0.5 mm (12 mil)
PROFILE	Floating Glueless UniClic
FINISH	High Definition Decor Film, Embossed & UV Coating ; No Bevel
UNDERLAYMENT	1.5mm IXPE 15X
COVERAGE - CARTON	10 planks/carton (30.14 Sq.Ft. / 2.1 Sqm)
COVERAGE - PALLET	64 cartons/pallet (1,928.96 Sq.Ft. / 126 Sqm)
COVERAGE - CONTAINER	15 Pallets/20' container (20,376 Sq.Ft. / 1,890 Sqm)

STANDARDS – MANUFACTURING & USAGE (ASTMF3261)			
STANDARD	DESCRIPTION	REQUIREMENTS	RESULTS
ASTM F3261	Physical Characteristics / Tolerances	Refer to Standard	Passes Requirements
ASTM F1914	Residual Indentation	Average: < 0.007% (0.18mm)	Passes Requirements
ASTM F1914	Surface integrity	No Puncture through wear layer / Decor layer	Passes Requirements
ISO 23999	Dimensional Stability	≤ 0.2% / lineal ft. (305mm)	Passes Requirements
ISO 23999	Curling	≤ 0.080 in. (2.0mm)	Passes Requirements
ASTM F925	Chemical Resistance	No More Than Slight Change	Passes Requirements
ASTM F1514	Resistance to Heat	Average ΔE ≤ 8.0	Passes Requirements
ASTM F1515	Resistance to Light	Average ΔE ≤ 8.0	Passes Requirements
ASTM F3261	Thickness Swell	Max 2% without Pad Max 5% with Pad	Passes Requirements
ASTM 970	Static loading without pad	≤ 0.005 in (0.13mm) loading 250lb/in²	Passes Requirements
ASTM F3261	Thickness Swell	Max 2% without Pad Max 5% with Pad	Passes Requirements
ASTM 970	Static loading without pad	≤ 0.005 in (0.13mm) loading 250lb/in²	Passes Requirements

STANDARDS – SAFETY & PERFORMANCE			
STANDARD	DESCRIPTION	REQUIREMENTS	RESULTS
ASTM E648	Critical Radiant Flux (Radiant Panel)	Class I: > 0.45 W/Sq. cm	Passes Requirements
ASTM E662	Smoke Density	Flaming & Non-Flaming < 450	Passes Requirements
CDPH Standard Method v1.2	VOCs/TVOCs, Formaldehyde	Refer to Standard	Passes Requirements
REACH SVHC 223	Substances of Very High Concern	Per Substance: < 0.1% weight/weight	Passes Requirements
ASTM F963	Heavy Metals	Refer to Standard (Table 1)	Passes Requirements
CPSC-CH-C1001-09.4	Phthalates	Per CPSIA4 < 0.1% per Substance	Passes Requirements
ASTM D2047	Coefficient of Friction / Slip Resistance	N/A (No Official Requirements)	≥0.6 (wet)

STANDARDS – SOUND			
ASSEMBLY	RESULTS		NOTE
		ASTM E492	
6" Concrete Slab	ASTM E90	IIC 55	Results of configuration: core 3.5mm, pad 1mm
8" Concrete Slab + Ceiling	STC 52	IIC 71	Results of configuration: core 3.5mm, pad 1mm

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TECHNICAL DATA

NASA COLLECTION 5.5MM

CHEMICAL RESISTANCE	ASTM F925-13(2020)		
Reagent	Rating		
	Surface attack	Color change	Surface dulling
White vinegar (5% acetic acid)	o	o	o
Rubbing alcohol (70% isopropyl alcohol)	o	o	o
White mineral oil (medicinal grade)	o	o	o
Sodium hydroxide solution (5% NaOH)	o	o	o
Hydrochloric acid solution (5% HCl	o	o	o
Sulfuric acid solution (5% H_2SO_4)	o	o	o
Household ammonia solution (5% NH_4OH)	o	o	o
Household bleach (5.25% NaOCl)	o	o	o
Olive oil (light)	o	o	o
Kerozene (K1)	o	o	o
Unleaded gasoline (regular grade)	o	o	o
Phenol (5% active phenol)	o	o	o

Phthalates Content

Test Method: Organic solvent extraction, analyzed by GCMS

Test Result:

			Test No.	T001
			Material No.	M001
Test Parameter	CAS NO	Unit	RL	Result
Dibutyl phthalate (DBP)	84-74-2	%	0.005	n.d.
Benzylbutyl phthalate (BBP)	85-68-7	%	0.005	n.d.
Diethylhexyl phthalate (DEHP)	117-81-7	%	0.005	n.d.
Di-n-octyl phthalate (DNOP)	117-84-0	%	0.005	n.d.
Diisononyl phthalate (DINP)	28553-12-0, 68515-48-0	%	0.005	n.d.
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	n.d.
Di-n-pentyl phthalate (DnPP)	131-18-0	%	0.005	n.d.
Di-n-hexyl phthalate (DnHP)	84-75-3	%	0.005	n.d.
Dicyclohexyl phthalate (DCHP)	84-61-7	%	0.005	n.d.
Diisopentyl phthalate (DiPP)	605-50-5	%	0.005	n.d.

Abbreviation: n.d. = not detected (< Reporting Limit)
RL = Reporting Limit
NA = Not Applicable
% = percentage

Total Heavy Metal Content

Test Method: ASTM F963-17 (CPSC method)

Test Result :

			Test No.	T001
			Material No.	M001
Test Parameter	CAS NO	Unit	RL	Result
Antimony	7440-36-0	mg/kg	10	n.d.
Arsenic	7440-38-2	mg/kg	10	n.d.
Barium	7440-39-3	mg/kg	10	n.d.
Cadmium	7440-43-9	mg/kg	10	n.d.
Chromium	7440-47-3	mg/kg	3	n.d.
Lead	7439-92-1	mg/kg	10	n.d.
Mercury	7439-97-6	mg/kg	0.3	n.d.
Selenium	7782-49-2	mg/kg	10	n.d.

Abbreviation: n.d. = not detected (< Reporting Limit)
RL = Reporting Limit
mg/kg = milligram per kilogram

Vinyl Chloride Content

Test Method: EN ISO 6401:2008

Test result

Test No.	Material No.	Test Parameter	Unit	RL	Test Result
T001	M001	Vinyl chloride monomer	mg/kg	1	n.d.

Abbreviation: n.d. = not detected (< Reporting Limit)
RL = Reporting Limit
ppm = part per million
mg/kg (milligram per kilogram) is equal to ppm
NA = not applicable

Formaldehyde Content

Test Method: EN ISO 14184-1:2011

Test Result:

			Test No.	T001
			Material No.	M001
Test Parameter	Unit	RL	Result	
Formaldehyde content	mg/kg	10	n.d.	

Abbreviation: n.d. = not detected (< Reporting Limit)
RL = Reporting Limit
ppm = part per million
mg/kg (milligram per kilogram) is equal to ppm
NA = not applicable

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TECHNICAL DATA

PLANET COLLECTION 6.5MM - SPEC SHEET

PHYSICAL PROPERTIES & PACKAGING (PLANET COLLECTION SPC FLOORING – 6.5 MM / 0.5 MM)	
USE	Commercial & Residential *(please refer to Recommended Usage for Commercial Recommended Areas)*
SIZE	9 "1/6 x 60". (230mm x 1524 mm)
THICKNESS	5.0 mm
THICKNESS - WEAR LAYER	0.5 mm (20 mil)
PROFILE	Unilin click
FINISH	Polyurethane acrylate coating, painted bevel edge
UNDERLAYMENT	1.5mm IXPE 15X
COVERAGE - CARTON	6 planks/carton (22.64 Sq.Ft. / 2.1 Sqm)
COVERAGE - PALLET	60 cartons/pallet (1,358.4 Sq.Ft. / 126 Sqm)
COVERAGE - CONTAINER	15 Pallets/20' container (20,376 Sq.Ft. / 1,890 Sqm)

STANDARDS – MANUFACTURING & USAGE (ASTM F3261)			
STANDARD	DESCRIPTION	REQUIREMENTS	RESULTS
ASTM F3261	Physical Characteristics / Tolerances	Refer to Standard	Passes Requirements
ASTM F1914	Residual Indentation	Average: < 0.007% (0.18mm)	Passes Requirements
ASTM F1914	Surface integrity	No Puncture through wear layer / Decor layer	Passes Requirements
ISO 23999	Dimensional Stability	≤ 0.2% / lineal ft. (305mm)	Passes Requirements
ISO 23999	Curling	≤ 0.080 in. (2.0mm)	Passes Requirements
ASTM F925	Chemical Resistance	No More Than Slight Change	Passes Requirements
ASTM F1514	Resistance to Heat	Average ΔE ≤ 8.0	Passes Requirements
ASTM F1515	Resistance to Light	Average ΔE ≤ 8.0	Passes Requirements
ASTM F3261	Thickness Swell	Max 2% without Pad Max 5% with Pad	Passes Requirements
ASTM 970	Static loading without pad	≤ 0.005 in (0.13mm) loading 250lb/in²	Passes Requirements

STANDARDS – SAFETY & PERFORMANCE			
STANDARD	DESCRIPTION	REQUIREMENTS	RESULTS
ASTM E648	Critical Radiant Flux (Radiant Panel)	Class I: > 0.45 W/Sq. cm	Passes Requirements
ASTM E662	Smoke Density	Flaming & Non-Flaming < 450	Passes Requirements
CDPH Standard Method v1.2	VOCs/TVOCs, Formaldehyde	Refer to Standard	Passes Requirements
REACH SVHC 223	Substances of Very High Concern	Per Substance: < 0.1% weight/weight	Passes Requirements
ASTM F963	Heavy Metals	Refer to Standard (Table 1)	Passes Requirements
CPSC-CH-C1001-09.4	Phthalates	Per CPSIA4 < 0.1% per Substance	Passes Requirements
ASTM D2047	Coefficient of Friction / Slip Resistance	N/A (No Official Requirements)	≥0.6 (wet)

STANDARDS – SOUND			
ASSEMBLY	RESULTS		NOTE
		ASTM E492	
6" Concrete Slab	ASTM E90	IIC 55	Results of configuration: core 4.3mm, pad 1mm
8" Concrete Slab + Ceiling	STC 52	IIC 71	Results of configuration: core 4.3mm, pad 1mm

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TECHNICAL DATA

PLANET COLLECTION 6.5MM

CHEMICAL RESISTANCE	ASTM F925-13(2020)		
Reagent	Rating		
	Surface attack	Color change	Surface dulling
White vinegar (5% acetic acid)	o	o	o
Rubbing alcohol (70% isopropyl alcohol)	o	o	o
White mineral oil (medicinal grade)	o	o	o
Sodium hydroxide solution (5% NaOH)	o	o	o
Hydrochloric acid solution (5% HCl	o	o	o
Sulfuric acid solution (5% H_2SO_4)	o	o	o
Household ammonia solution (5% NH_4OH)	o	o	o
Household bleach (5.25% NaOCl)	o	o	o
Olive oil (light)	o	o	o
Kerozene (K_1)	o	o	o
Unleaded gasoline (regular grade)	o	o	o
Phenol (5% active phenol)	o	o	o

Phthalates Content

Test Method: Organic solvent extraction, analyzed by GCMS

Test Result:

			Test No.	T001
			Material No.	M001
Test Parameter	CAS NO	Unit	RL	Result
Dibutyl phthalate (DBP)	84-74-2	%	0.005	n.d.
Benzylbutyl phthalate (BBP)	85-68-7	%	0.005	n.d.
Diethylhexyl phthalate (DEHP)	117-81-7	%	0.005	n.d.
Di-n-octyl phthalate (DNOP)	117-84-0	%	0.005	n.d.
Diisononyl phthalate (DINP)	28553-12-0, 68515-48-0	%	0.005	n.d.
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	n.d.
Di-n-pentyl phthalate (DnPP)	131-18-0	%	0.005	n.d.
Di-n-hexyl phthalate (DnHP)	84-75-3	%	0.005	n.d.
Dicyclohexyl phthalate (DCHP)	84-61-7	%	0.005	n.d.
Diisopentyl phthalate (DiPP)	605-50-5	%	0.005	n.d.

Abbreviation: n.d. = not detected (< Reporting Limit)
RL = Reporting Limit
NA = Not Applicable
% = percentage

Total Heavy Metal Content

Test Method: ASTM F963-17 (CPSC method)

Test Result :

			Test No.	T001
			Material No.	M001
Test Parameter	CAS NO	Unit	RL	Result
Antimony	7440-36-0	mg/kg	10	n.d.
Arsenic	7440-38-2	mg/kg	10	n.d.
Barium	7440-39-3	mg/kg	10	n.d.
Cadmium	7440-43-9	mg/kg	10	n.d.
Chromium	7440-47-3	mg/kg	3	n.d.
Lead	7439-92-1	mg/kg	10	n.d.
Mercury	7439-97-6	mg/kg	0.3	n.d.
Selenium	7782-49-2	mg/kg	10	n.d.

Abbreviation: n.d. = not detected (< Reporting Limit)
RL = Reporting Limit
mg/kg = milligram per kilogram

Vinyl Chloride Content

Test Method: EN ISO 6401:2008

Test result

Test No.	Material No.	Test Parameter	Unit	RL	Test Result
T001	M001	Vinyl chloride monomer	mg/kg	1	n.d.

Abbreviation: n.d. = not detected (< Reporting Limit)
RL = Reporting Limit
ppm = part per million
mg/kg (milligram per kilogram) is equal to ppm
NA = not applicable

Formaldehyde Content

Test Method: EN ISO 14184-1:2011

Test Result:

			Test No.	T001
			Material No.	M001
Test Parameter	Unit	RL	Result	
Formaldehyde content	mg/kg	10	n.d.	

Abbreviation: n.d. = not detected (< Reporting Limit)
RL = Reporting Limit
ppm = part per million
mg/kg (milligram per kilogram) is equal to ppm
NA = not applicable

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TECHNICAL DATA

ROMAN COLLECTION 8.0MM - SPEC SHEET

PHYSICAL PROPERTIES & PACKAGING (ROMAN COLLECTION SPC FLOORING – 8.0 MM / 0.5 MM)	
USE	**Commercial & Residential *(please refer to Recommended Usage for Commercial Recommended Areas)***
SIZE	**9 "1/6 x 60". (230mm x 1524 mm)**
THICKNESS CORE	**6.0 mm**
THICKNESS - WEAR LAYER	**0.5 mm (20 mil)**
PROFILE	**Unilin click**
FINISH	**Polyurethane acrylate coating, painted bevel edge**
UNDERLAYMENT	**2.0mm IXPE 15X**
COVERAGE - CARTON	**6 planks/carton (22.64 Sq.Ft. / 2.1 Sqm)**
COVERAGE - PALLET	**60 cartons/pallet (1,358.4 Sq.Ft. / 126 Sqm)**
COVERAGE - CONTAINER	**13 Pallets/20' container (17,659.2 Sq.Ft. / 1,638 Sqm)**

STANDARDS — MANUFACTURING & USAGE (ASTM F3261)			
STANDARD	DESCRIPTION	REQUIREMENTS	RESULTS
ASTM F3261	Physical Characteristics / Tolerances	Refer to Standard	Passes Requirements
ASTM F1914	Residual Indentation	Average: < 0.007% (0.18mm)	Passes Requirements
ASTM F1914	Surface integrity	No Puncture through wear layer / Decor layer	Passes Requirements
ISO 23999	Dimensional Stability	≤ 0.2% / lineal ft. (305mm)	Passes Requirements
ISO 23999	Curling	≤ 0.080 in. (2.0mm)	Passes Requirements
ASTM F925	Chemical Resistance	No More Than Slight Change	Passes Requirements
ASTM F1514	Resistance to Heat	Average ΔE ≤ 8.0	Passes Requirements
ASTM F1515	Resistance to Light	Average ΔE ≤ 8.0	Passes Requirements
ASTM F3261	Thickness Swell	Max 2% without Pad Max 5% with Pad	Passes Requirements
ASTM 970	Static loading without pad	≤ 0.005 in (0.13mm) loading 250lb/in^2	Passes Requirements

STANDARDS — SAFETY & PERFORMANCE			
STANDARD	DESCRIPTION	REQUIREMENTS	RESULTS
ASTM E648	Critical Radiant Flux (Radiant Panel)	Class I: > 0.45 W/Sq. cm	Passes Requirements
ASTM E662	Smoke Density	Flaming & Non-Flaming < 450	Passes Requirements
CDPH Standard Method v1.2	VOCs/TVOCs, Formaldehyde	Refer to Standard	Passes Requirements
REACH SVHC 223	Substances of Very High Concern	Per Substance: < 0.1% weight/weight	Passes Requirements
ASTM F963	Heavy Metals	Refer to Standard (Table 1)	Passes Requirements
CPSC-CH-C1001-09.4	Phthalates	Per CPSIA4 < 0.1% per Substance	Passes Requirements
ASTM D2047	Coefficient of Friction / Slip Resistance	N/A (No Official Requirements)	≥0.6 (wet)

STANDARDS — SOUND			
ASSEMBLY	RESULTS		NOTE
		ASTM E492	
6" Concrete Slab	ASTM E90	IIC 55	Results of configuration: core 4.3mm, pad 1mm
8" Concrete Slab + Ceiling	STC 52	IIC 71	Results of configuration: core 4.3mm, pad 1mm

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TECHNICAL DATA

ROMAN COLLECTION 8.0MM

CHEMICAL RESISTANCE	ASTM F925-13(2020)		
Reagent	Rating		
	Surface attack	Color change	Surface dulling
White vinegar (5% acetic acid)	o	o	o
Rubbing alcohol (70% isopropyl alcohol)	o	o	o
White mineral oil (medicinal grade)	o	o	o
Sodium hydroxide solution (5% NaOH)	o	o	o
Hydrochloric acid solution (5% HCl	o	o	o
Sulfuric acid solution (5% H_2SO_4)	o	o	o
Household ammonia solution (5% NH_4OH)	o	o	o
Household bleach (5.25% NaOCl)	o	o	o
Olive oil (light)	o	o	o
Kerozene (K1)	o	o	o
Unleaded gasoline (regular grade)	o	o	o
Phenol (5% active phenol)	o	o	o

Phthalates Content

Test Method: Organic solvent extraction, analyzed by GCMS

Test Result:

			Test No.	T001
			Material No.	M001
Test Parameter	CAS NO	Unit	RL	Result
Dibutyl phthalate (DBP)	84-74-2	%	0.005	n.d.
Benzylbutyl phthalate (BBP)	85-68-7	%	0.005	n.d.
Diethylhexyl phthalate (DEHP)	117-81-7	%	0.005	n.d.
Di-n-octyl phthalate (DNOP)	117-84-0	%	0.005	n.d.
Diisononyl phthalate (DINP)	28553-12-0, 68515-48-0	%	0.005	n.d.
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	n.d.
Di-n-pentyl phthalate (DnPP)	131-18-0	%	0.005	n.d.
Di-n-hexyl phthalate (DnHP)	84-75-3	%	0.005	n.d.
Dicyclohexyl phthalate (DCHP)	84-61-7	%	0.005	n.d.
Diisopentyl phthalate (DiPP)	605-50-5	%	0.005	n.d.

Abbreviation: n.d. = not detected (< Reporting Limit)
RL = Reporting Limit
NA = Not Applicable
% = percentage

Total Heavy Metal Content

Test Method: ASTM F963-17 (CPSC method)

Test Result :

			Test No.	T001
			Material No.	M001
Test Parameter	CAS NO	Unit	RL	Result
Antimony	7440-36-0	mg/kg	10	n.d.
Arsenic	7440-38-2	mg/kg	10	n.d.
Barium	7440-39-3	mg/kg	10	n.d.
Cadmium	7440-43-9	mg/kg	10	n.d.
Chromium	7440-47-3	mg/kg	3	n.d.
Lead	7439-92-1	mg/kg	10	n.d.
Mercury	7439-97-6	mg/kg	0.3	n.d.
Selenium	7782-49-2	mg/kg	10	n.d.

Abbreviation: n.d. = not detected (< Reporting Limit)
RL = Reporting Limit
mg/kg = milligram per kilogram

Vinyl Chloride Content

Test Method: EN ISO 6401:2008

Test result

Test No.	Material No.	Test Parameter	Unit	RL	Test Result
T001	M001	Vinyl chloride monomer	mg/kg	1	n.d.

Abbreviation: n.d. = not detected (< Reporting Limit)
RL = Reporting Limit
ppm = part per million
mg/kg (milligram per kilogram) is equal to ppm
NA = not applicable

Formaldehyde Content

Test Method: EN ISO 14184-1:2011

Test Result:

			Test No.	T001
			Material No.	M001
Test Parameter		Unit	RL	Result
Formaldehyde content		mg/kg	10	n.d.

Abbreviation: n.d. = not detected (< Reporting Limit)
RL = Reporting Limit
ppm = part per million
mg/kg (milligram per kilogram) is equal to ppm
NA = not applicable

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CERTIFICATIONS

EPH

TEST CERTIFICATE

FOR PERFORMANCE CHARACTERISTICS OF CONSTRUCTION PRODUCTS FOR THE CE MARKING

FLO-22-11-21-01

Products: SPC Flooring Collection; (3,4 - 8,5) mm with and without IXPE (1,0 - 2,0) mm and EVA (1,0 - 2,0) mm underlay material

Client: Royal Crystal Joint Stock Company
Dong Nai Street No. 8, Nhon Trach Industrial Zone II
Nhon Phu, Hiep Phuoc Town, Nhon Trach District
Dong Nai Province / Vietnam

Order: Testing and classification of selected properties according to EN 14041:2004+AC2005+AC2006

Test report: 2720452, 2722282

Test results: The above mentioned SPC Flooring Collection can be classified regarding to the tested properties according to EN 14041:2004+AC2005+AC2006 (CE-labelling) as follows:

Properties	Results	Declaration according to EN 14041:2004+AC2005+AC2006
Reaction to fire performance according to EN ISO 9239-1:2010 and EN ISO 11925-2:2020, Classification according to EN 13501-1:2018 - Critical heat flux - Smoke production	11,1 kW/m² 457 %*min	Reaction to fire class fs ≤1*
Sliding behaviour according to EN 13893:2003	µ = 0,38	class DS
Formaldehyde emission according to EN 717-1:2005	< LOD (96 h)	class E1
Thermal resistance according to EN 12667:2001	≤ 0,0538 (m²K)/W	≤ 0,05 (m²K)/W
Thermal conductivity according to EN 12667:2001	0,125 W/(m*K)	0,12 W/(m*K)

* Valid on wooden or mineral subfloor in end use application, using adhesives or not.
LOD = Limit of Detection

Dresden, 21/11/2022

Head of laboratory

Engineer in charge

bsi.

Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that: ROYAL CRYSTAL JOINT STOCK COMPANY
Road No. 8, Nhon Trach II Industrial Park - Nhon Phu,
Hiep Phuoc Town, Nhon Trach District,
Dong Nai Province,
Vietnam

Holds Certificate Number: FM 746110

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

Manufacturing of stone plastic composite vinyl flooring.

For and on behalf of BSI: Chris Cheung, Head of Compliance & Risk - Asia Pacific

Original Registration Date: 19/05/2021 Effective Date: 19/05/2021
Latest Revision Date: 19/05/2021 Expiry Date: 18/05/2024

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RECORD OF PARTICIPATION

ROYAL CRYSTAL JOINT STOCK COMPANY
CÔNG TY CP HOÀNG GIA PHA LÊ

Road 8, Nhon Trach II Industrial Park - Nhon Phu, Hiep Phuoc Town, Nhon Trach District, Dong Nai Province, Vietnam

Dường SG-8, KCN Nhơn Trạch II - Nhơn Phú, Thị Trấn Hiệp Phước, Huyện Nhơn Trạch, Tỉnh Đồng Nai, Việt Nam

has been assessed by Intertek as conforming to the requirements of:

Global Security Verification

GLOBAL SECURITY VERIFICATION

Registration Number: F_IAR_169091_GSV-R1

Audit Date: June 28, 2023
Issue Date: July 5, 2023
Expiry Date: July 4, 2024

Request Scope
ISDV Program Manager, Intertek

Guillaume Dignac
Global Vice President,
Technical Management & Quality,
Business Assurance, Intertek

CERTIFICATE OF COMPLIANCE

GREENGUARD GOLD
PRODUCT CERTIFIED FOR LOW CHEMICAL EMISSIONS UL.COM/GG UL 2818

ROYAL CRYSTAL JOINT STOCK COMPANY

See product list below

UL 2818 - 2013 Gold Standard for Chemical Emissions for Building Materials, Finishes and Furnishings

SCS Global Services does hereby certify that an independent assessment has been conducted on behalf of:

Royal Crystal Joint Stock Company

United States

For the following product(s):

Vinyl Tile:
Stone Plastic Composite (SPC) Floor with EVA underlayment
Stone Plastic Composite (SPC) Floor with IXPE underlayment
Vinyl Tile Flooring with no underlayment
(Maximum thickness: 6.5mm)

The product(s) meet(s) all of the necessary qualifications to be certified for the following claim(s):

FloorScore®
Indoor Air Quality Certified to SCS-EC10.3-2014 v4.1
Conforms to the CDPH/EHLB Standard Method v1.2-2017 (California Section 01350), effective April 1, 2017, for the school classroom and private office parameters when modeled as Flooring.

Measured Concentration of Total Volatile Organic Compounds (TVOC): Less than/equal to 0.5 mg/m³ (in compliance with CDPH/EHLB Standard Method v1.2-2017)

Registration # SCS-FS-06263
Valid from: August 1, 2023 to July 31, 2024

SCS Global Services is currently the only certification body approved by the Resilient Floor Covering Institute (RFCI) to provide FloorScore® product certification; certified products are only listed on the SCS Green Products Guide, http://www.scsglobalservices.com/certified-green-products-guide

floor score

ANAB ACCREDITED PRODUCT CERTIFICATION

SCSglobal SERVICES

Stanley Mathuram, PE, Executive Vice President
SCS Global Services
2000 Powell Street, Ste. 600, Emeryville, CA 94608 USA

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RCC Customer Care

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