HighTech Woods™ - Installation Instructions

Important: COMPLETELY READ ALL OF THE FOLLOWING GUIDELINES, AS THEY ARE PROVIDED TO HELP WITH THE INSTALLATION PROCESS. INSTALLATIONS SHOULD BE DONE BY A PROFESSIONAL FLOORING INSTALLER, AND THEY SHOULD ADHERE THE INFORMATION AND GUIDELINES PROVIDED BY THE NATIONAL WOOD FLOORING ASSOCIATION (WWW.NWFA.ORG; 800-422-4556). WHERE THESE INSTRUCTIONS DIFFER FROM THE NWFA'S, THESE GUIDELINES TAKE PRECEDENCE. IF YOU HAVE ANY QUESTIONS OR CONCERNS, PLEASE CONTACT A SUSTAINABLE MATERIALS' REPRESENTATIVE PRIOR TO STARTING THE INSTALLATION PROCEDURE.

Pre-Installation and Jobsite Requirements:

Prior to the installation of HighTech Woods™, the installer must ensure that the jobsite and site conditions are suitable for installation. Sustainable Flooring is not responsible for flooring failure resulting from unsatisfactory prep/jobsite/subfloor conditions.

IMPORTANT INFORMATION:

HighTech Woods™:

- can be installed in most places in the home and commercial areas, though they are not suitable for — and should be not installed in — humid or wet areas such as bathrooms or saunas.)
- can be installed over most hard surfaces, including resilient floor coverings such as LVT, SPC, VCT. For installations over linoleum ensure that it is properly glued down, fixed, completely level, and has no loose areas.
- Can NOT be installed over 'Soft' surfaces
- Carefully inspect all material before installation. Any material installed with obvious defects (grade, color, finish, quality, or other visual defects) will not be warranted.
- Please note that HighTech Woods™ flooring is a natural material and slight variations in color occur naturally

Transport, storage, indoor conditions, and site prep:

- Packages should be transported and stored horizontally - acclimatize unopened packages in a dry, well-ventilated area of the job site for at least 48 hours before installation
- Maintain a room temperature of at least 64°F (18°C) and relative air humidity (RH) range between 35-65% during storage and installation.
- Only open the packages when you have started installation.
- Floor panels from several different packages can be mixed to get your preferred look.
- Examine each floor panel in daylight before installation to look for any damage or visible defects in color or texture. Problems with defects need to be brought to the attention of the supplier before installation.
- Use protective paper without a polymer layer on top of the floor during installation.
- No not attach any adhesive tape to the floor.
- As the buyer, you are responsible for approving the product — even it is installed by a professional installer. If the product is installed, it is seen to have been approved.
- The maximum floor width is 80 linear ft (25 linear meters) in either direction before a transition is required.
- In all areas bigger than 6727 ft2 (625 m2) an expansion joint is essential to avoid gaps appearing in the joints due to changes in humidity and temperature.

Fixtures and placement

- Never fix or bolt any kitchen units, fittings, or partitions to a floating floor – it will prevent expansion and contraction that occurs with seasonal changes and humidity. Instead, fix any fitting to the sub-floor first and then install the floating floor around them, leaving the appropriate space as an expansion gap.
- Modern kitchen units are usually fixed to the wall with support legs resting on the floor at the front of the units - this is generally ok for the floor. The exception is kitchens with heavy worktops such as marble or

granite - where the support legs should not rest on the floor as it can restrict the expansion and contraction. As an alternative, a chipboard of the same thickness as the floor can be installed under kitchen units.

- It is ok to install the floor under the fridge, freezer, and dishwasher — always ensure that they are placed on plastic drip trays to avoid unseen leaks.
- If the kitchen contains a wood-burning stove or similar, install chipboard or similar under the heat-resistant floor plate or hearth under the stove. The heavy stove rests on the chipboard and not the floor, preventing problems with expansion and contraction. The chipboard should be slightly smaller in dimensions of the hearth to act as an expansion gap when you install the floor around the stove. It will also make it easier to replace floor panels near the stove, if necessary.

End Joints

- The floor needs to always be staggered, even in small areas — not only does this look better, but it's also essential for structural stability.
- Staggered end joints mean that no two adjacent end joints are aligned or close to each other — they should be staggered by at least 16" (400 mm) to prevent any gaps or other structural problems occurring.

Door Openings

- When installing the floor through a door or archway, always divide the floor with an expansion gap and cover that with a threshold or molding.
- If there is an existing threshold that is fixed to the sub-floor, leave expansion gaps on either side of it. Alternatively, remove the existing threshold, install the floor, and replace the threshold — leaving an expansion gap underneath it.
- If the threshold or molding is too high for the door to open and close freely after installing the floor, the door can be sanded or cut to fit.
- It may be possible to install the floor through door openings or aches without using a threshold or expansion gap, however, this type of installation requires a skilled professional.

Base Boards

- Never attach the baseboards directly to the floor as it can restrict the expansion and contraction and cause structural problems.
- Attach the baseboards to the wall instead — using nails, screws, or adhesive.
- Miter joints are recommended for the best results.
- The width of the expansion gap decides the thickness of the baseboard and not vice versa.
- Read the baseboard thickness section for more details.

Expansion Gaps

- Wood floors expand and contract due to temperature and seasonal changes, which is why an expansion gap is critical when you install near walls and other fixed objects — *every edge needs an expansion gap between it and the floor*.
- The floor needs to be able to expand at thresholds, door frames, pipes, pillars, stairs, tiles, other wooden flooring, etc.
- The floor will also contract in the winter, so the width of the skirting board needs to take this contraction into account.
- Remember that an expansion gap between two rooms or floor areas will be double the width of the expansion gap between the floor and a fixed object — such as a wall. This is because both floor areas need space to expand and contract.
- A room's RH (relative air humidity) value changes due to seasons and the floor needs to able to expand and contract within this range.
- Calculate the width of the expansion gap by using the formula: 1.5mm x the room's width in meters.
    - For example: a room that is 4 meters (13.1 ft) wide needs a 6mm (0.24 inch) expansion gap. Calculated as follows: 1.5mm x 4 = 6mm (0.24 inch)
    - As a rule of thumb, an expansion gap between 8—10mm (5/15—3/8") can be used for rooms less than 6 meters (19.7 ft) wide.

Baseboard thickness

- Remember that the width of the expansion gap decides the thickness of the skirting board and not vice versa.
- Larger floor areas will need a bigger expansion gap, which means that a thicker skirting board will also be needed.

Floor width 1	Movement joint 2	Cover allowance	Skirting thickness 3
4 m (13,1 ft)	6 mm (0,24 in)	3 mm (0,12 in)	15 mm* (0,59 in)
6 m (19,7 ft)	9 mm (0,35 in)	5 mm (0,20 in)	15 mm* (0,59 in)
8 m (26,2 ft)	12 mm (0,47 in)	6 mm (0,24 in)	18mm* (0,71 in)
10 m (32,8 ft)	15 mm (0,59 in)	7 mm (0,28 in)	22 mm* (0,87 in)
12 m (39,4 ft)	18 mm (0,71 in)	9 mm (0,35 in)	27 mm* (1,06 in)
15 m (49,2 ft)	22 mm (0,87 in)	11 mm (0,43 in)	33 mm (1,3 in)
18 m (59,0 ft)	27 mm (1,06 in)	13 mm (0,51 in)	40 mm (1,56 in)

Tip/note: If you're building new or renovating, one simple way to avoid overly thick skirting boards is to leave a gap between the plasterboards on the wall and the sub-floor. This will allow you to use the thickness of the plasterboard in your expansion gap measurement and will require a much thinner skirting board.

Subfloor

- HighTech Woods™ flooring can be installed on almost any type of subfloor — for example, wooden or cement concrete floors.
- Make sure the sub-floor is level, flat, dry, and clean.
- Any unevenness in height greater than 1/16" over a length of 6 ft needs to be leveled — use patching or leveling compound or ground/sand the area.
- Wood subfloors must have a moisture content (MC) less than. 13% at 68°F (20°C).
- Concrete or slab subfloors must have a maximum relative humidity (RH) of 80% RH at 68°F.

Vapor Diffusion Retarders

IMPORTANT: Vapor Diffusion Retarders MUST be installed as a condition for warranty (except where referenced below)

Vapor Diffusion Retarders are important to control moisture in floors and come in two classes (and based on the installation condition, the proper one must be used).

- Class I - are to be used in the following situations:
  - Concrete or slab subfloors
  - Wood subfloors over concrete
  - Screed or sleeper systems
  - Radiant heat systems (underfloor heating)
  - The Vapor retarder needs to be at least 0.2 mm thick, age- resistant PE-foil (6 mil polyethylene film, foil). The foil needs an 8" (20 cm) overall between the joints and needs to be taped and folded up at each wall. Once the skirting boards are installed, the retarder will be trimmed to fit.

  - If the RH in the substrate is over 80%, the vapor diffusion retarder will not protect against moisture sufficiently.
- Class II- is to be used on the following situations:
  - Wood subfloors over an unconditioned space
  - Lightweight concrete mix or gypsum-based topping compounds
  - Existing floor covering such as ceramic, terrazzo, slate, and marble installed on concrete
  - A ventilated moisture barrier — for example, from manufacturers like Platon and Mataki — is recommended if there is a risk of additional moisture or the RH in the subfloor is over 80% and needs to be installed following the manufacturer's instructions.
  - HighTech Woods™ installed on this type of substrate require a load distribution board — such as masonite, plywood, or chipboard — with a minimum thickness of 0,24" (6 mm) on top of the moisture barrier

- *Notable Exceptions*: (if you have any questions about suitability, please contact your Sustainable Flooring representative)
  - No Vapor Diffusion Retarders are needed on top of a wood subfloor that has a Class I or II Vapor Retarder already installed on the underside of the joists.
  - Installing the floor on an existing floor covering — such as vinyl, linoleum, adhered cork, or resilient flooring — may not require a vapor retarder.

Underlayment

- Installing approx. 2mm thick underlayment is recommended for noise reduction.
- An underlayment material with a compressive strength of at least 60 kPa is recommended.
- The underlayment must be installed on top of the vapor retarder.
- ***Important Note:*** Certain Class I underlayment sheet/vapor retarders may include 6-mil polyethylene film.

Underfloor heating

- HighTech Woods™ flooring can be installed on hydronic or electrical floor heating systems.
- The floor heating system must be flat and distributed evenly on the subfloor.
- A room sensor (thermostat) and a floor sensor (for maximum temperature limitation) must be installed to prevent the surface temperature from exceeding 80°F (26°C).
- Underfloor heating must never be installed under kitchen units or similar installations.
- For hydronic floor heating systems with the pipes positioned in profiled particle floorboards, covering with heat-distributing aluminum sheets and a 0,24" (6 mm) load bearing profiled — for example, tongue/groove — particleboard or plywood is recommended
- ***Important Note:*** The flooring must be acclimated for at least 3 days when the installation is taking place. The hydronic radiant heating system should be turned "ON" (at the upper end of 'operating conditions') for at least 3 days before installation (to help ensure the moisture in the concrete has escaped) and then turned off for 12 hours right before the installation of the flooring system (ie: Vapor Diffusion Retarder and flooring).
- ***Important Note:*** After the flooring is installed, you may turn on the hydronic radiant control system at a rate of (but not to exceed) 1 degree per 12 hours. This ensures the floor is not shocked from the heat.
- ***Important Note:*** ALL FLOOR HEATING SYSTEMS REQUIRE A CLASS I (PE-FOIL) VAPOR RETARDER BETWEEN IT AND THE UNDERLAY MATERIAL OF THE SUBFLOOR.

Room climate

- Ambient climate for wood floors should be 35-65% relative air humidity (RH) at 68°F (20°C).
- A low RH can cause small cracks to appear in the joints between the planks.
- An indoor air conditioner for temperature and vapor is the optimal way to control the room — especially during the winter.
- Complaints regarding unevenness, joint openings, or board size cannot be inspected if the room climate RH and temperature are outside the limits — it can be inspected only after the room climate has had normal values for at least 4 weeks.
- Wood is hygroscopic — meaning that it absorbs moisture and is affected by fluctuations in the room climate RH and temperature. The changes normally resolve once the room climate returns to the recommended levels.

- Underfloor heating will cause increased shrinkage in a wood floor due to the drying effect. During winter, humidifiers are recommended.

Full surface bonding

- As an alternative to a floating installation, Hardened Wood floors can be installed with full-surface bonding using an approved adhesive.
- All floor installation instructions and adhesive manufacturers' instructions must be followed carefully when installing floors with full surface bonding.
- Recommended full surface bonding products (both are: an elastic 1-component silane adhesive for wooden floors)
    - Bona: Bona Titan — plus Bona R590 when a moisture barrier is also required.
    - Bostik: Bostik Maxi Bond Parquet — contact Bostik technical support when a moisture barrier is also required.
- Please Note: Recommended adhesives have undergone extensive testing, and should you have any questions, contact the adhesive manufacturer for technical support.
- ***Important Note***: Sustainable Flooring does NOT assume any liability or accept warranty claims for any loss or claim related incorrect use of adhesive.

FLOATING FLOOR INSTALLATION INSTRUCTIONS

HighTech Woods™ planks come with a different locking mechanism, depending on whether you are looking at the long or short side of the plank.

- Long sides (ie: length) - are connected by angling the tongue into the groove, where the lower lip has a locking design.
- Short side (ie: width) - The short sides of the planks connect with the Välinge 5G® Fold Down™ locking system and simply fold down, and it 'locks' with a reassuring "click".

The installation steps are listed below, with the #'s (1 through 10) associated with the image # further below:

1) Door frames can be removed and raised, but it's usually easier to cut them. Use a loose plank as a template and cut off excess. Ensure that the floor is not pressed between the subfloor and the door frame.
2) Now it's time to lay the first plank in the first row. Start in a left corner and lay a plank with the tongue side facing the wall. Now insert a wedge between the wall and the plank's left short side so there is a gap at least ½" (8-10mm) wide.
3) Position the second plank to the right short side of the first plank.
4) Fold down the second plank, making sure it's positioned tightly to the first plank — press down firmly and listen for the click that means it's locked in place.
5) Continue installing the first row. When you are close to the wall on the right side, place a wedge at the wall and measure the length to determine the size of the row's last plank.
6) Cut the row's last plank to size. If you are using a jigsaw, cut it face down. If you are using a hand saw, cut it face up.
7) To begin the second row, use the remainder of the cut plank you used to finish the first row.
8) Position the second plank to the right short side of the first plank.
9) Fold down the second plank, making sure it's positioned tightly to the first plank — press down firmly and listen for the click that means it's locked in place.
10) Continue to install the row as before. When you have completed 2–3 rows insert wedges between the wall and the first row so there is a gap at least ½" (8-10mm) wide.

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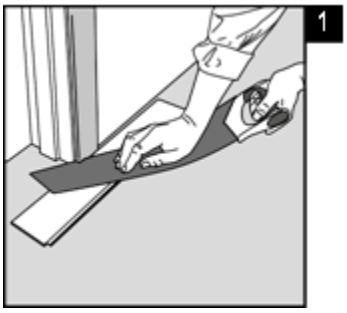
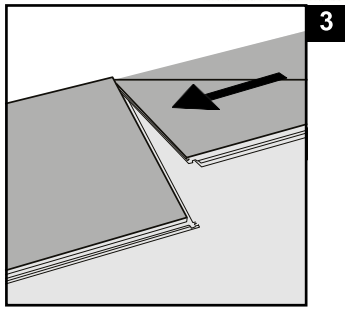
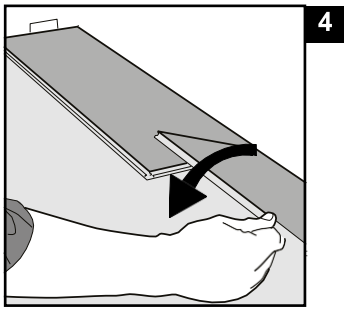
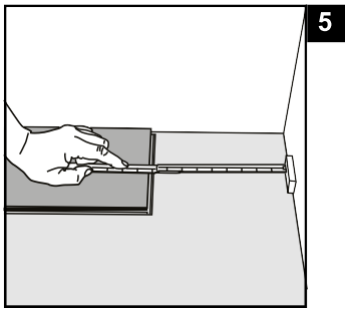
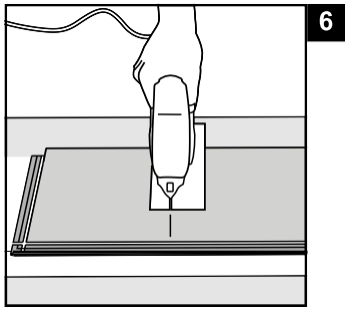
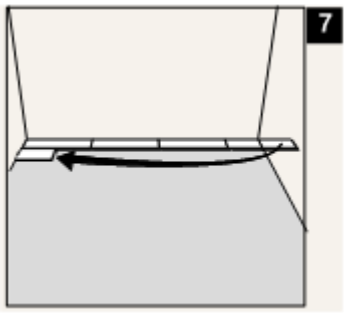


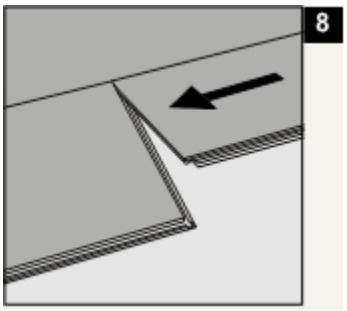


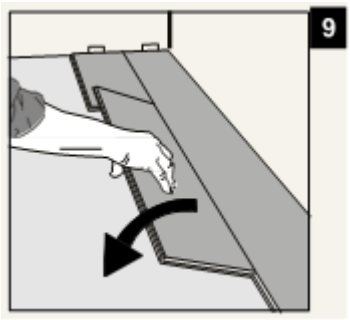


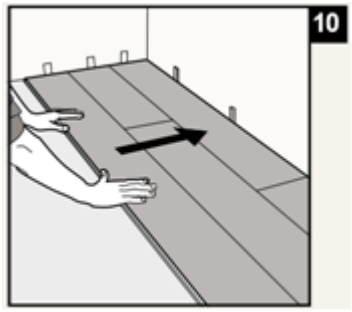






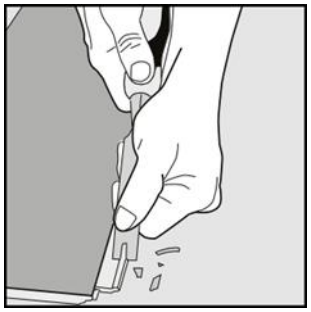


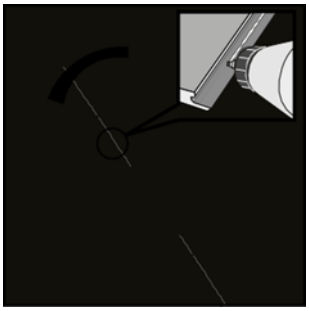




When Angling is NOT possible:

- Remove the locking element/hook as shown in the diagram. Use white PVAc glue to connect the planks. Press/place wedges between the glued strip and the wall.





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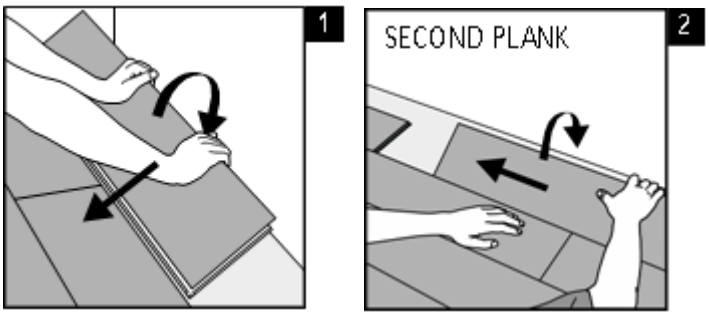
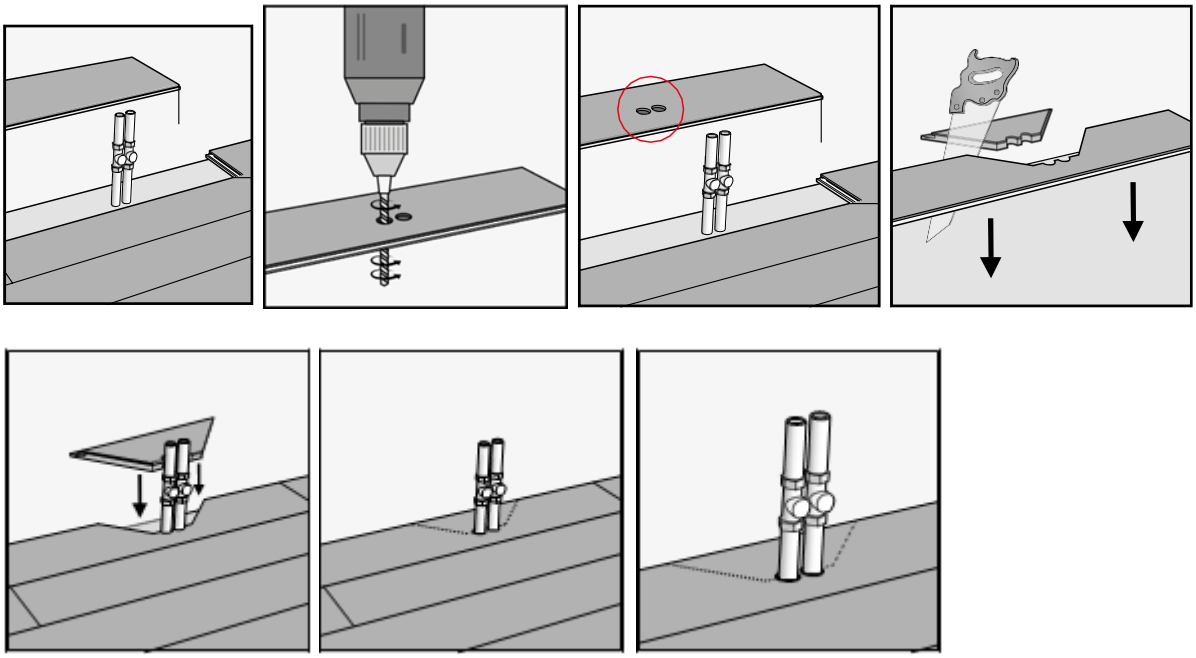
Reverse Installation

- When installing in reverse, start from the left. Angle the long side groove into position at the tongue of the adjacent plank from the previous row and fold down to lock into place.
- Angle the long side groove of the second plank into position at the tongue of the adjacent plank from the previous row and fold down. Now slide the second plank to the left to position it to the right short side of the first plank. Press down firmly and listen for the click that means it's locked in place.



Installing around pipes

- Mark the center point of the pipes on the plank. If the required expansion gap is 10mm, drill holes 20mm bigger than the pipe diameter. Cut as shown below. Apply white glue and install the floor pieces. Cover the holes with pipe collars or fill with a joint sealer.



Dismantling an installed plank

- When a plank is locked, it is not possible to dismantle it by hand. Lifting up and knocking gently on a plank will unlock the row — fold up to fully release the long side.
- Once the whole long side is released each plank can be dismantled by angling the short sides up vertically.

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Installer and Owner Responsibility

After Installation (General)

- Once the floor is installed, it is not recommended to place carpets on the floor for the first few months.
- If the floor has lighter colors from rugs or other coverings, it will change color quickly when they are exposed to daylight.
- Use protective pads on the base of furniture legs and protective mats under caster chairs with hard wheels.
- Always use a protective mat at entrances.

Floor Treatment after Installation

- Pre-lacquered Hardened Wood floors do not need any surface treatment after installation. Cleaning the floor before use is recommended — use a hardwood floor cleaner for lacquered floors, such as Bona Hardwood Floor Cleaner.
- ***Important Note:*** ALWAYS USE A DETERGENT SPECIFICALLY FOR UV ACRYLIC WEAR LAYER HARDWOOD FLOORS. NORMAL SOAP CAN LEAVE A FAT RESIDUE ON THE FLOOR SURFACE WHICH IS DIFFICULT TO CLEAN.
- ***Important Note:*** IN COMMERCIAL AND HIGH-TRAFFIC AREAS SHOULD RECEIVE ADDITIONAL SURFACE TREATMENT IMMEDIATELY FOLLOWING INSTALLATION.
    - CLEAN THE FLOOR AND MAKE SURE IT IS DUST FREE
    - TREAT THE FLOOR WITH A HARDWAX OIL FROM OSMO

Daily cleaning

- For daily cleaning use mainly dry methods, such as vacuum cleaner, dust mop or microfiber mop. Stains/dirt can easily be removed by using a magic melamine sponge.

Regular cleaning

- Clean the surface with a microfiber cleaning pad and a Hardwood floor cleaner for lacquered wood floors or oiled wood floors (e.g Bona Hardwood Floor Cleaner) to clean the floor.

Maintenance

- When needed, a hardwood floor refresher for lacquered wooden floors, such as Bona Hardwood Floor Refresher, can be used to freshen up the surface and remove micro- scratches.
- A floor refresher is suitable for restoring a worn lacquer — giving a protective layer for easier cleaning and maintenance. It is not, however, a substitute for a refinish.
- ***Important Note***: USING A HARDWOOD FLOOR REFRESHER WILL MAKE A LACQUERED FLOORS' GLOSS VALUE INCREASE. THE MORE USED, THE HIGHER GLOSSIER IT WILL BECOME MORE NOTICEABLE ON A MATTE LACQUERED FLOOR. MAKE SURE THAT THE FLOOR IS CLEAN FROM POLISH, WAX, AND GREASE STAINS BEFORE APPLYING THE REFRESHER.

If you have any questions or need additional information, contact your HighTech Woods™ representative, or Sustainable Materials directly:

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