



Installation
Care &
Maintenance
Manual



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Introduction



We greatly appreciate your purchase of Volo Wood Flooring. You have selected a product designed to exceed industry expectations and provide long-lasting beauty and convenience.

For the best outcomes, take the time to thoroughly review the enclosed installation guide. Following these instructions is critical to prevent potential complications and ensure your flooring performs as intended.



IMPORTANT

- **Proper floor protection after installation is one of the most important things.** Protect your purchase and cover you floors with 1/4" - 3/4" dense material.
- Before installation, a flooring installer must check it for appropriate color, grade, gloss, damage, or an unacceptable appearance. Installing material that is defective or subpar is not a good idea. Before the planks are put in, their look needs to be approved.
- Cartons need to be acclimated 48-72 hours in climate-controlled indoor environment with temperatures maintained between 65°F to 85°F and 40-55% humidity. Installation and indoor climate should follow these parameters during and after installation.

Introduction



IMPORTANT

- **Frequently sliding furniture damages floors most commonly.** Use quality furniture felts, that screw into the base of furniture.

- Moisture readings of subfloor is imperative before material delivery and installation.
- Cut door casings to meet thickness of flooring, remove all baseboard or shoe molding necessary prior to installation of flooring.
- Store cartons on a smooth flat ground surface. Do not lean on walls as this may damage flooring.
- Clean and vacuum sub flooring prior installation. Particulate or debris lodged between subfloor and flooring will cause damage.
- A subfloor needs to be leveled to within 3/16" over a radius of 6 and 10 feet.
- When installing, open 4–6 boxes simultaneously and blend planks from each box to reduce the repetition of colors and patterns.
- Clean then cover floors immediately after construction.
- Leave 1/2" expansion space between the flooring and all perimeter walls, trim, and neighboring floors.
- Adequately protect flooring with moisture proof thin flooring protection after installation to limit paint and water damage during construction. Use dense protection for major walkways and areas of scaffolding, such as 1/8" to 1.5" plywood/OSB/Masonite layers.

Pre Installation



RECOMMENDED INSTALLATION METHOD

For the best long-term performance, a full trowel glue-down installation is the most secure method for VOLO engineered hardwood flooring. It creates a strong, continuous bond that minimizes movement, reduces noise, and offers excellent stability—especially important over radiant heat systems or concrete subfloors, where this method is required.

When installing over plywood or OSB subfloors, a nail and glue-assist method is also a great option. It combines mechanical fastening with adhesive support to enhance stability, particularly on wider planks, and helps reduce the chance of squeaks or board movement over time.

FLOOR LEVELING & SUBFLOOR PREPARATION

Improper subfloor or structural preparation is one of the leading causes of floor performance issues. Uneven, damaged, or unsupported subfloors can result in hollow spots, noise, gaps, or long-term failure.

Installers must confirm that both the subfloor and the structure (joists) meet the minimum standards outlined below. VOLO is not responsible for flooring issues resulting from job site or subfloor deficiencies.

- Subfloors must be level to within 3/16" over 10 feet or 1/8" over 6 feet.
- Use a fiber-reinforced self-leveling compound over wood subfloors to address minor unevenness or surface irregularities.
- Joists or subfloors that exhibit movement or deflection must be reinforced or repaired prior to installation.
- Install flooring perpendicular to floor joists for added stability, unless otherwise specified.
- The subfloor must be clean, dry, and structurally sound. Sweep and vacuum to remove dust and debris.
- Abrade the subfloor surface to improve adhesion for glue-down or underlayment systems.
- Always refer to the detailed subfloor requirements specific to the installation method and subfloor material.

MUDROOMS / LAUNDRY ROOMS / BATHROOMS

- Installation of wood flooring in areas with high moisture exposure—such as mudrooms, laundry rooms, and bathrooms—is not recommended. These spaces are prone to standing water, spills, and elevated humidity, all of which can cause permanent damage to wood flooring, including cupping, swelling, and finish degradation. If installation in these areas is chosen despite the risk, the homeowner assumes full responsibility. It is critical that all water exposure is promptly addressed and appropriate moisture mitigation strategies—such as mats, area rugs, and proper ventilation—are implemented to minimize potential damage.

Pre Installation



RADIANT HEATING

Our wood flooring is compatible with most radiant heating systems when installed correctly. However, special care must be taken to avoid heat-related damage such as excessive drying, gapping, or surface checking. NWFA recommends running the radiant system for at least 5–7 days before installation to drive out residual moisture in the slab/subfloor, then turning it off (or down to installation temp) 24 hours prior to installing the floor.

Surface temperature must never exceed 80°F at any point. Prior to installation, gradually bring the radiant heat system up to no more than 65 - 70°F and maintain this for at least 24 hours. After installation, maintain the floor temperature at or below 65°F for an additional 48 hours before resuming normal heating. Gradually increase temperature by no more than 2-5°F per day until the desired comfort level is reached. Use an in-floor temperature sensor to monitor heat levels and avoid overheating. Indoor relative humidity should be maintained between 40%–55% year-round to prevent shrinkage or expansion of the wood. Please consult your radiant heating system manufacturer and follow all applicable building codes and system guidelines to ensure compatibility and long-term performance.

FLOOR PROTECTION DURING CONSTRUCTION

Proper floor protection is essential to preserve the integrity and appearance of your new flooring throughout the remainder of the construction process.

We often see damage caused by inadequate protection, especially from paint, water, heavy foot traffic, or equipment. To avoid costly repairs or replacements, follow these guidelines:

- Immediately after installation, apply Lastik™ Floor Covering or similar as the primary base protective layer. This moisture-resistant and breathable barrier helps protect against paint, minor spills, and surface scratches during ongoing construction.
- In high-traffic zones, major walkways, and areas with scaffolding or equipment, install a dense secondary protection layer such as 1/8" to 1.5" plywood, OSB, or Masonite over the Lastik™ covering to prevent compression damage and heavy impact. The best outcome is when the entire job is covered in this in addition to Lastik™ floor protection.
- Avoid using non-breathable materials (e.g., plastic sheeting) directly on the floor, as they can trap moisture and damage the finish.
- Do not tape directly to the flooring surface. Use only floor-safe tape applied to the protective layer.
- Ensure all contractors and trades are informed that the flooring is a finished surface and must be handled accordingly.

VOLO is not responsible for damage resulting from failure to properly protect the floor after installation.

Pre Installation



Make sure you have carefully read all of the instructions before starting the installation.

Additionally, the installer needs to adhere to all installation rules that the National Wood Flooring Association (www.nwfa.org) recommends. When this document deviates from the NWFA guidelines, it is the one that takes priority. To get ready for the installation before installation, the installer bears the responsibility of verifying that all of the General Conditions are fulfilled and that all of the specific installation instructions (Glue Down, Nail Down, or Floating Floor, plus, where applicable, Radiant Heat Systems) are followed. Volo Floors Engineered Hardwood Flooring is authorized for use above, on, and below grade by specified guidelines. When building below grade, the Floating Floor installation technique ought to be employed.

Before installation, a flooring installer must check it for appropriate color, grade, gloss, damage, or an unacceptable appearance. Installing material that is defective or subpar is not a good idea. Before the planks are put in, their look needs to be approved. Any subpar material should be fixed by Volo Floors, your neighborhood merchant, or distributor before INSTALLATION. Read the section on radiant heating systems below before deciding on a final product or starting the installation process. Carefully following these instructions is necessary for a successful installation that is guaranteed. It is not always the case that wood species installed over radiant heat will function adequately.

The only systems that can get approval are hydronic (water) systems. When wood flooring is laid over radiant heat, it is normal to expect some degree of surface checking, shrinkage, cupping, and cracking (particularly at the ends of boards and around knots). All installation over radiant heating must be a full trowel glue down install method. NOTE: It is advised that wide-plank floors be nailed as well as bonded to a wood subfloor to eliminate any possible squeaks. The only suggested installation method for any planks wider than 5" is glue and nail or complete trowel glue down. Procedures - General Guidelines Evaluation of the Environmental Situation When moisture is absorbed by wood, it expands, and when it is released, it contracts. To reduce expansion and contraction caused by moisture, the following conditions need to be examined before installation: During acclimation and transition, the external walls, windows, and doors must be in place. During the building envelope's acclimation and installation, the external walls, windows, and doors must be in place. Before beginning any other wet operation, such as painting, drywall, masonry, or concrete, all wet work must be finished and dried. The cross-ventilation along the outside of a crawl space should be 1.5 percent of its total area. It is necessary to always keep vents open. To guarantee drainage away from the building structure, the external grading must have a minimum drop of 3 inches every 10 feet. Crawl spaces and basements should be sufficiently dry and ventilated. Dirt floors should be coated with 6–10 mil black plastic, with the seams overlapped and sealed with waterproof tape, to minimize moisture migration into crawl spaces. The minimum height of crawl spaces from the ground to the bottom of the joists must be 18".

Pre Installation



ACCLIMATION

The flooring needs to be delivered on-site 5 days before installation, and the flooring has to properly be acclimated to site conditions before installation. Final HVAC needs to be presently running before material arrival, during installation, and after installation. Correct atmospheric conditions inside of the space need to be as follows 60-80F and 40-55% humidity. Lower than 35-40% moisture will result in gapping, dry cupping, and cracking of the flooring material. To maintain proper humidity supplementary humidification and dehumidification may be needed. See the Radiant Heat section for further details. Radiant heating is not to exceed 80 degrees surface temperature. The initial floor temperature should not exceed 65°F for 24 hours before and 48 hours after installation. Additional precautions need to be used when installing over radiant heat. Such as incrementally increasing heat by 2-5 degrees per week with proper humidity. The use of an in-floor temperature sensor is recommended to avoid overheating.

Further Prep and Considerations

You will need to cut the casings, jambs, and trim to the same thickness as the flooring if you intend to use adhesives or underlayment. Installing flooring to wood subfloors that are fastened to joists or trusses should be done perpendicularly or at a 45° angle. An exterior wall is the ideal choice for the starting wall. When installing, open 2-3 boxes simultaneously and blend planks from each box to reduce the repetition of colors and patterns.

Appropriate Subfloor Types

For joist spacing up to 16", the thickness of CDX plywood should be 5/8" or less, and for joist spacing larger than 16", it should be 3/4" or less (19.2" minimum). It is necessary to adhere to NWFA (www.nwfa.org) rules while putting plywood over concrete subfloors. An OSB that is at least 3/4" thick and rated either PS2-92 or PS1-95 is necessary. The present hardwood flooring is laid over a suitable subfloor, as mentioned above. For Glue Down installations, the current floor must be smooth, unfinished, and securely affixed. For concrete slabs, there are only two options: glue down and floating floors. For glue-down installations, a minimum of three thousand pounds of concrete is needed. Gypcrete is a thin concrete specifically designed for floating flooring. There is no warranty on a concrete foundation weighing less than three thousand pounds. Volo Floors makes no assurances about the structural soundness of lightweight concrete or gypcrete over time. The flooring coming loose from the subfloor due to degradation or fracture is not considered a product failure.



IMPORTANT

Final HVAC needs to be operational and running before material delivery, during installation, and post installation.

Pre Installation



MOISTURE TESTING REQUIREMENTS

Moisture testing is a critical part of the installation process and must be performed on both the subfloor and the flooring material before installation. Wood flooring is highly sensitive to moisture, and improper moisture conditions can lead to expansion, cupping, warping, and failure of the flooring.

INSTALLER RESPONSIBILITY

It is the installer's responsibility to conduct and document all moisture testing prior to installation. VOLO Floors is not responsible for any product failure resulting from moisture imbalance, improper testing, or environmental conditions.

Subfloor Moisture Testing

Wood Subfloors:

- Test with a pin-type moisture meter (e.g., Wagner, Delmhorst, Lignomat).
- Subfloor moisture content must be within 2% of the flooring material for planks up to 3" wide, and within 3% for planks wider than 3".
- In Michigan, subfloor moisture readings must not exceed 10% MC at the time of installation, and must also be within NWFA tolerances relative to the flooring.

Concrete Subfloors:

- **Moisture testing must follow ASTM standards:**
 - ASTM F2170 (in-slab Relative Humidity): Maximum of 75% RH, or per adhesive manufacturer's spec.
 - ASTM F1869 (Calcium Chloride): Maximum 3 lbs/1,000 sq ft/24 hrs, unless otherwise specified by adhesive manufacturer.

Flooring Moisture Testing

- Test the wood flooring with a calibrated pin meter to ensure it has acclimated to the environment.
- Ensure flooring moisture content aligns with the subfloor as noted above.

Vapor Retarders & Barriers

- For wood subfloors: Use a permeable vapor retarder, such as 15 lb. asphalt-saturated felt or an NWFA-approved underlayment.
- For concrete subfloors: For glue-down installations, follow adhesive manufacturer's vapor protection guidelines.

IMPORTANT: Multiple tests should be conducted across the floor (minimum 3 per 1,000 sq ft) and documented. Installing over a subfloor with excessive or unstable moisture will void all VOLO warranties. Always retain documentation of pre-installation moisture tests.

Subfloor Requirements



SUBFLOOR INTRO

Scrape the subfloor to ensure it is clean and free of debris. The surface should be vacuumed or swept thoroughly, as any debris left behind may result in uneven surfaces on the finished floor, as well as poor fit and reduced adhesion between the planks and adhesive during glue-down installation. Additionally, addressing loose subfloor sections before installation helps prevent squeaks and movement. It is strongly recommended the entire subfloor is screwed down into the joists and well fastened prior to installation of the flooring.

The subfloor must be leveled to within 3/16" over a span of 10 feet. Use a string line, laser line, or straight edge to determine flatness. High spots should be ground, sanded, or scraped, while low areas on concrete subfloors should be filled using a high-quality cementitious leveling compound. All subfloor panels must be securely fastened using flush-set fasteners.

Moisture and temperature conditions must be tested and documented prior to installation. Visually inspect the job site for signs of moisture issues. It is advisable to check for water intrusion near doors and windows and verify that no mold or fungus is present on walls or other surfaces. If water infiltration is detected, structural repairs may be necessary and installation should not proceed. Testing plywood or composite subfloors with a calibrated moisture meter is essential. The moisture meter must be properly set for the species being tested and used in accordance with the manufacturer's instructions. Plywood moisture readings should not exceed 10%, and there should be no more than a 2% moisture difference between the subfloor and the flooring.

Concrete subfloors must be fully cured—at least 60 days old—and must have a minimum 6-mil polyethylene moisture barrier between the slab and the ground. The surface must be hard, dense, and free of powder or flaking. Because lightweight concrete can retain more moisture, it may require additional time to reach acceptable moisture levels. Note that moisture testing reflects only the condition at the time of testing and may not account for seasonal changes. All holes, grooves, expansion joints, and depressions must be filled, troweled smooth, and feathered evenly with the surrounding surface.

Glue-down installations over concrete that is on or below grade require a moisture barrier or sealant specified by the adhesive manufacturer, even if the slab appears dry. A below-grade slab that is dry today may absorb moisture in the future, potentially causing flooring failure. VOLO Floors is not responsible for moisture-related issues due to improper site conditions. Subfloor moisture requirements are stricter when installing over radiant heat—please refer to the “Radiant Heat Systems” section for further guidance. Securing subfloor panels with screws every six inches and replacing damaged or loose boards will help eliminate movement and squeaking.

When installing over existing wood flooring, it's important to recognize that these materials may expand and contract with moisture changes, which can negatively affect the performance of the new flooring. For best results, remove existing wood flooring, especially in areas where moisture exposure is likely.

Subfloor Requirements



LIGHTWEIGHT CONCRETE

The suitability and performance of lightweight concrete under wood flooring is the responsibility of the lightweight concrete manufacturer. Installers may be required to obtain authorization or certification from the manufacturer to perform installations over these substrates.

Proper site mixing ratios and the use of well-maintained equipment are essential to ensure consistent performance. It is highly recommended to conduct slump testing on-site to verify the quality of the mix and ensure proper flow characteristics.

Lightweight concrete that uses aggregates with a dry density greater than 90 lbs. per cubic foot may be suitable for flooring applications. However, in areas subject to significant static or dynamic loads, higher-strength and higher-density materials should be used to ensure structural integrity. The concrete surface must be completely dry, free of debris, smooth, and dimensionally stable before flooring installation. Bond tests should always be performed to verify adhesive compatibility. If additional adhesion is needed, a 9050 primer or equivalent may be applied, per the adhesive manufacturer's instructions.

For moisture testing of lightweight concrete:

- Conduct three ASTM F2170 in-slab relative humidity tests for areas up to 1,000 square feet
- Add one additional test for every additional 1,000 square feet

All moisture and bond test results must be recorded and retained as part of the project documentation.

RADIANT HEATING

Radiant heating systems may be installed in or under concrete, wood subfloors, or hybrid substrates. The system must be properly designed to accommodate wood flooring and should meet all relevant building codes and manufacturer specifications.

A minimum 1/2-inch separation must be maintained between any radiant heating elements and the bottom of the wood flooring. The radiant system must be fully operational for at least two weeks before flooring installation to allow any residual construction moisture within the slab or system to dissipate.

Three days prior to installation, reduce the radiant system temperature to 65°F to stabilize site conditions. After installation, gradually increase the system temperature by no more than 5°F per day to prevent thermal shock, checking that the flooring surface never exceeds 80°F.

The use of an in-floor temperature sensor is strongly recommended to monitor and regulate surface temperature, ensuring safe and consistent heat distribution beneath the wood flooring. Always consult the radiant heating system manufacturer for specific installation recommendations and compatibility with engineered wood products.

It is very important monitor or supplement adequate humidity during use with radiant floor heating, especially if you live in a region that experiences winter or dry seasons.

Subfloor Requirements



HEATED LIGHTWEIGHT CONCRETE SUBFLOORS

Installing engineered wood flooring over heated lightweight concrete subfloors requires extra care and adherence to both concrete and radiant heat installation standards. Lightweight concrete can retain moisture longer than standard concrete and has different thermal conductivity and structural properties. These factors must be properly accounted for to ensure long-term floor performance.

The radiant heating system must be hydronic (water-based) and approved for use under wood flooring. Electric heating systems embedded in lightweight concrete are not recommended unless the system and installation are explicitly approved by both the heating and flooring manufacturers.

Before installation:

- The radiant system must be fully operational for at least 30 days to allow the slab to dry thoroughly.
- Three days prior to installation, reduce the system temperature to 65°F and maintain this until installation is complete.
- After installation, gradually increase the floor temperature by no more than 5°F per day until the desired level is reached.

The surface temperature must never exceed 85°F, and an in-floor temperature sensor should be installed to monitor and regulate surface temperatures consistently.

The lightweight concrete mix must be properly formulated and installed using manufacturer-approved ratios and equipment. On-site slump testing is recommended to ensure consistent mixture quality. The dry density of the aggregate should be greater than 90 lbs. per cubic foot. Higher density and strength mixes are recommended for areas subjected to heavy static or dynamic loads.

Before flooring installation:

- The surface must be completely dry, clean, smooth, and structurally sound
- Conduct ASTM F2170 in-slab relative humidity testing:
 - Minimum of 3 tests per 1,000 square feet, with 1 additional test per additional 1,000 square feet
- Perform bond tests to confirm adhesive compatibility
- Use a 9050 primer or manufacturer-approved bonding agent if additional adhesion is required.

Note: Due to the moisture retention characteristics of lightweight concrete, additional drying time may be necessary even after heating. Always confirm moisture levels are within the manufacturer's limits before proceeding. Improper installation over heated lightweight concrete can lead to cupping, delamination, or adhesive failure, which are not covered under warranty.

Subfloor Requirements



ELECTRIC RADIANT FLOORS

Electric radiant heating systems typically consist of embedded cables or conductive mats installed beneath the flooring surface. Rapid temperature swings are what stress wood most, electric heating systems heat much faster than hydronic. These systems must be fully encapsulated in a cement-based patching or self-leveling compound prior to flooring installation.

The encapsulating layer must:

- Be at least 1/2" thick over the highest point of the heating element.
- Wood floorings surface temperature must not reach over 80 Degrees Fahrenheit.
- Use a Portland cement-based or high-alumina cement compound.
- Achieve a minimum compressive strength of 3,000 psi.
- Meet all moisture and pH requirements per adhesive and flooring manufacturer specifications

This layer serves to protect the heating system, ensure uniform heat transfer, and provide a flat, stable substrate for flooring installation.

- System should be run and tested (at operating temp) to make sure it works properly.
- Then turn it off 24 hours before installation so adhesives and/or the wood itself aren't exposed to direct radiant heat during install.
- During installation:
- Keep system off. If it's cold, provide alternative heat to keep the jobsite at normal living conditions (65–75°F air, 40–55% RH).
- After installation:
- Wait until the adhesive (if used) has fully cured (check manufacturer's instructions — usually 3–7 days).
- Then bring the system up slowly ($\leq 5^\circ\text{F}$ per day) to operating level.

Special Considerations

- Electric radiant is often more "direct" (right under the floor covering) so the risk of hot spots is higher than hydronic.
- Never place rugs, furniture, or anything insulating on top of an area with electric radiant, as it can cause localized overheating above 80°F.
- Always check both the flooring manufacturer's warranty and the radiant manufacturer's specs — some exclude wood or only allow engineered floors.

Always confirm compatibility with the flooring and heating system manufacturers and allow the encapsulating compound to cure fully before proceeding.

PLYWOOD AND OSB SUBFLOORS

Engineered wood flooring can be installed directly over plywood or OSB (Oriented Strand Board) subfloors when properly prepared. These subfloors must be clean, dry, flat, and structurally sound, with no signs of movement, delamination, mold, or water damage.

The subfloor must be:

- Minimum 3/4" OSB/PLYWOOD for joists spaced 16" on center
- Free of loose panels, squeaks, or deflection—secure all seams with screws every 6" as needed.

Before glue-down installation, abrade and vacuum the surface to ensure proper adhesive bond.

Note: A full trowel glue-down installation is always recommended for maximum performance, but nail and glue-assist is acceptable for plywood or OSB subfloors when conditions allow.

Do not install flooring over particle board or MDF subfloors. These materials lack the structural integrity and fastener-holding strength required for wood flooring.

Subfloor Requirements



Installation Over Crawl Spaces

When installing VOLO engineered hardwood flooring over crawl space areas, special precautions must be taken to control moisture migration and provide structural support. Crawl spaces are particularly vulnerable to humidity, condensation, and ground moisture, all of which can severely impact wood flooring performance.

To ensure a successful installation, the following requirements must be met:

The crawl space must be fully enclosed and dry prior to delivery of flooring materials. Exterior walls, windows, doors, and the roof structure must be completed, and the building must be climate controlled.

A minimum ground clearance of 18 inches between the bottom of the joists and the soil surface is required to allow for adequate air circulation.

The crawl space must be properly ventilated with cross-ventilation equal to at least 1.5% of the total crawl space square footage, distributed across opposing walls. Vents must remain unobstructed and permanently open unless an encapsulated crawl space system is used.

A minimum 6-mil polyethylene vapor barrier (black plastic sheeting or equivalent) must be installed over the entire ground surface. The plastic should extend up foundation walls by at least 6 inches and be secured and sealed at all seams using waterproof tape to prevent moisture migration.

For encapsulated crawl spaces or where mechanical dehumidification is used, the relative humidity within the crawl space must be kept between 40% and 55% at all times.

The subfloor above the crawl space must be:

- Structurally sound and properly fastened (screw fasteners every 6" recommended)
- Free from mold, mildew, and visible moisture
- Within moisture content tolerance: wood subfloor moisture must not exceed 12% and must be within 2% of the wood flooring moisture content (for planks up to 3" wide), or within 3% for wider boards.

Failure to properly prepare crawl space conditions may result in cupping, warping, gapping, or other moisture-related failures and will void all applicable warranties.

Raised Access Panel Subfloors

Raised access panel floors must meet specific requirements for flatness, stability, and dimensional tolerance before installation. The panels should be:

- 24" x 24" in size
- Level to within 1/8" over 10 feet
- Free of adhesives, deflection, or movement

Additional tolerances include:

- Maximum lippage between panels: 0.0295" (0.75 mm)
- Maximum gap between panels: 0.039" (1 mm)
- Maximum concavity or deflection: 0.0295" (0.75 mm)

When installing flooring over raised panels, planks or tiles should be staggered to avoid aligning directly with panel seams. Telegraphing of seams may be visible and is considered a natural result of the installation surface. It is not considered a product defect and is not covered under VOLO's manufacturer warranty.

Installation



Nail and Glue-Assist Installation

Tools Needed

Tape measure, chalk line, pneumatic or manual flooring nailer/stapler, compressor (if applicable), 15-gauge or 16-gauge cleats or staples (length based on flooring thickness), approved wood flooring adhesive, glue trowel (per adhesive manufacturer), safety glasses, tapping block, pull bar, utility knife, saw (miter/jigsaw), moisture meter, hammer, spacers, subfloor fasteners (for repair), broom or vacuum.

Installation Overview

Nail and glue-assist installation is recommended for planks wider than 5 inches to reduce movement, improve soundness, and prevent squeaking. This method combines mechanical fasteners with a full-spread or bead-applied adhesive for enhanced bond strength and stability.

Adhesive Application

Use only a premium, moisture-resistant wood flooring adhesive approved for engineered products. Follow the adhesive manufacturer's instructions for:

- Approved trowel type
- Flash time (if applicable)
- Working time
- Moisture limits

Spread adhesive in a continuous serpentine bead or full-trowel pattern along the underside of each board or directly to the subfloor, depending on the product design and plank width. Take care to avoid adhesive squeeze-out at joints.

Fastening

Secure each board using a flooring nailer or stapler, placing fasteners through the tongue at 6" to 8" intervals, and within 2" of each board end. For shorter boards, at least two fasteners per piece are recommended. Avoid face-nailing unless required at starting/ending rows, and predrill to prevent splitting if face-nailing.

Installation



Expansion Space

Leave a 1/2" expansion gap at all vertical obstructions, including walls, cabinetry, columns, and doorframes. Do not install flooring tight to any fixed surface. Undercut door jambs to allow proper expansion clearance.

Installer Responsibility

It is the installer's responsibility to confirm:

- Subfloor is suitable, level, and dry
- Moisture content is within required tolerances
- Adhesive is compatible and properly applied
- Fastener placement and spacing follow industry best practices
- Tools are properly calibrated for use with the specified product

Failure to follow recommended installation practices, moisture control procedures, or subfloor prep requirements may void all manufacturer warranties.



IMPORTANT

IMPORTANT NOTE: The nailer must be properly calibrated to the thickness of the flooring. Miscalibrated nailers can cause edge blow-out, tongue damage, or surface dimpling, which may void product warranty and compromise installation quality. Always test nailer settings on a scrap piece before beginning.

Installation



Glue Down - Full Trowel

Tools Needed

Tape measure, chalk line, approved wood flooring adhesive, manufacturer-approved trowel, utility knife, saw (miter/jigsaw), moisture meter, straightedge or level, spacers, painter's tape (low-tack only), tapping block, pull bar, scraper, roller (if specified), broom or vacuum.

Adhesive & Trowel Selection

Use only a premium-grade urethane or MS polymer wood flooring adhesive approved for engineered flooring. Trowel selection must comply with adhesive manufacturer specifications to ensure proper coverage and bond strength. Replace trowels regularly to maintain proper depth and notching.

- Full-spread adhesive application is required (spot-gluing is never permitted)
- Follow the adhesive manufacturer's open time, working time, and cure time
- Only use adhesives with integrated moisture control if slab moisture exceeds safe limits and if approved by both the adhesive and flooring manufacturers

Installation Procedure

Start by snapping a chalk line along the longest, straightest wall in the room. Spread adhesive in a small, manageable section using the recommended trowel. Do not spread more adhesive than can be covered within the working time.

Lay the boards into the adhesive with the tongue facing out, applying firm pressure to ensure full contact with the adhesive bed. Use a tapping block and pull bar as needed to secure tight joints. Immediately clean up any adhesive on the surface of the planks using the adhesive manufacturer's approved remover and a clean, dry cloth.

Do not walk on the flooring during installation unless using kneeboards. Use spacers to maintain a 1/4" to 1/2" expansion gap around all vertical obstructions.

If required by the adhesive manufacturer, roll the floor using a 75-100 lb. roller within the specified time window to improve adhesive transfer and bonding.

Installation



Expansion Space

Leave a 1/2" expansion gap at all vertical obstructions, including walls, cabinetry, columns, and doorframes. Do not install flooring tight to any fixed surface. Undercut door jambs to allow proper expansion clearance.

Cure Time

Allow adhesive to cure undisturbed for 12–24 hours (or as directed by adhesive manufacturer) before allowing foot traffic, placing furniture, or installing baseboards or trim.

Installer Responsibility

It is the installer's responsibility to:

- Verify subfloor and site conditions meet all requirements
- Use approved adhesive and trowel combination
- Apply adhesive properly with full coverage and contact
- Maintain clean installation, removing any surface residue immediately
- Follow acclimation and moisture testing protocols
- Maintain required expansion gaps

Failure to follow recommended glue-down procedures, improper adhesive selection or use, or failure to test and document site conditions may void all VOLO warranties.

Recommended Adhesives: LASTIK 1 Glue. If alternative adhesives are used, conduct a bond test to check for compatibility.

Tiles must be installed in a staggered pattern, with joints being no closer than 7".

Installation



Completion and Final Considerations

Proper installation is essential for ensuring the long-term performance, durability, and aesthetic quality of VOLO engineered hardwood flooring. All installation steps—including subfloor preparation, moisture testing, acclimation, fastening, and adhesive use—must be completed in strict accordance with VOLO guidelines and industry standards. Failure to do so may result in flooring failure and will void all applicable warranties.

Do not adhere tape directly to the flooring surface at any time, including during construction, renovation, or protection phases. Tape can damage the finish or leave permanent residue. Instead, always apply tape to the protective covering—such as plywood, OSB, Masonite, or Lastik™ floor protection—and secure it along the base molding or adjacent walls. This ensures the flooring remains protected without compromising the finish.

After installation is complete, thoroughly clean the flooring surface using a vacuum (with a soft brush head) and a microfiber mop to remove any dust, debris, or residue from the installation process. Avoid using water or cleaners not approved for wood flooring. This final cleaning step ensures the floor is ready for turnover and enhances the finished appearance.

Fill any nail holes or exposed fastener points with a color-matched wood filler for a clean, professional look. At transitions to tile or other hard surfaces, apply a high-quality, flexible caulk to bridge the materials and provide a smooth, finished transition that accommodates minor movement.

Finally, conduct a complete walkthrough to confirm that all planks are securely installed, expansion gaps are maintained, trim and transitions are properly fitted, and protection is in place if other work will continue on-site. Your attention to these final details will ensure the floor performs beautifully and lives up to the VOLO standard.

Floor Maintenance



Overview

VOLO Floors are only to be cleaned with VOLO cleaning solution.

Formulated with natural components, this is an ideal product to clean the toughest grit and grime yet be safe for a living environment.

Understanding realistic expectations of wood floor maintenance up front is important. Hardwood floor owners who realize that their floors aren't impervious to an onslaught of spills, grit, and water will be happier with their floors. As Preventative maintenance and clean practices will significantly reduce future damage. You can prevent most problems before they occur by following the below care and maintenance, keeping a hardwood floor looking its best and lasting longer.

All wood/vinyl flooring products sold by VOLO Floors are to use the correct cleaning products & procedures. Using PH-neutral cleanings such as VOLO cleaning systems is the best for wood/vinyl flooring care. These mentioned cleaning products are well-known and acceptable for all hard and soft finish wood floors (Natural Oil, Polyurethane, and Water-based finishes) and also all LVP floors.

Using any non-listed floor cleaners may result in major issues.



IMPORTANT

**READ PAGES 19-24
carefully and
attentively**

Floor Maintenance



Taping, Cure Time, Moving Furniture & Rugs

Guidelines for Sand/Stain/Finish and Prefinished Wood Floors

Prefinished Floors

Prefinished floors arrive from the factory already coated and fully cured under UV or heat-cure processes, so they're ready to use right after installation. While they don't require on-site curing, they still need careful handling to prevent surface damage.

Walk-On & Covering

- Light foot traffic is allowed immediately after installation.
- If covering the floor during construction or painting, use only breathable protection such as paper-backed felt, Ram Board, or Lastik™—never plastic or non-breathable coverings that trap moisture.
- Use 3/4" MDF, Plywood/OSB, Thermal Ply, Ram-Board or dense floor protection in high traffic areas and areas of cutting if work is present after installation.
- Proper floor covering after installation is imperative and a dual to tri covering typically yields best results.

Example: Lastik Floor Felted Covering, then on top in all areas covered with Thermal-Ply, then main walkways, cutting areas, and areas of scaffolding + ladders use 2x layers of 3/4" plywood.

Curing & Performance

- Prefinished floors are already fully cured at the factory, so there's no extended curing time required.
- They are immediately scratch- and burnish-resistant but still need proper care to avoid surface damage.

Rugs & Furniture

- Rugs: can be placed immediately after installation; however, use only hardwood-safe, non-staining rugs (avoid rubber or latex backing).
- Furniture: can be set immediately but avoid sliding or dragging pieces—always lift them into place and install felt pads under all chair and furniture legs.

Taping Guidelines

- Adhesive in the tape can bond permanently to the finish.
- Avoid: duct tape, white masking tape, packing tape, or any tape adhesive directly on the wood.

Moving Heavy Items

- When moving heavy appliances or large furniture, use a professional moving company equipped with air movers, sliders, and protective floor coverings to protect both the floor and main walkways.
- Never slide appliances or furniture across the wood surface—always lift or use proper moving equipment to avoid scratching or denting.

Floor Maintenance



PREVENTATIVE MAINTENANCE

- Use clean & dirty tank mop buckets. If you do not use a dual system, you will just continually move existing dirt around the floor, and it will not be cleaned off the floor surface.
- Using chair felts and protective pads when sliding anything is imperative. This is the most common wear/damage to wood floors.
- Bi-annually check for felts and replace them immediately.
- Placemats in high-traffic/wet areas inside and outside entrances.
- Placemats in kitchen areas to protect against dropped utensils, water spills, and other accidents.
- Make sure wet rugs are taken off the floor to fully dry.
- It is important to shake out rugs or door mats, clean them periodically, and make sure they are removed from the floor and completely dried if become wet.
- Wipe and clean liquid spills immediately when they happen.
- Make sure to vacuum often. Pebbles and dirt will scratch the floor.
- Make sure the vacuum head/wheels are not sharp and can scratch the floor.
- Clean as needed. Do not overdo it.
- Considering another coat of finish every 3-5 years can remedy scratches and cause floors to have maximum longevity.
- Replace plastic casters with wide rubber wheels.
- Avoid exposing the floor to sunlight and intense artificial light constantly which can change the wood color. This is completely natural; proper windows, shades, and exposure can help this effect to be minimized.
- Use proper moving blankets & protection before moving furniture.
- Keep pet claws trimmed to prevent scratching and indentation.
- UV rays and the sun accelerate the aging of wood, paint, and fabrics. Window UV treatments can greatly help with such patina. This natural occurrence can be minimized by periodically moving rugs and furniture.
- Dull marks and wear in high-traffic areas are normal.

Floor Maintenance



PRECAUTIONS

- Do not use or slide furniture without felt pads. This is the most common wear to floors.
- Pick up and move heavy furniture. DO NOT slide heavy items on floors.
- Do not use a steam mop. This puts excessive moisture in the floor.
- Do not use chemical cleaning agents, other than advised cleaning products. This includes soap, harsh disinfectants, or other household detergents.
- Do not use vinegar, alcohol, or any ammonia-based cleaners. Repetitive use of these will result in the acidic chemicals degrading the floor finish.
- Do not walk on the floor with heels. Heels can have concentrated pressure and easily reach 3,500 pounds per square inch.
- Do not allow the house climate to be at improper climate ranges. The house should have 40-55% humidity, and 60-80 degrees.
- Do not use rugs or rug pads which may potentially leech oils or residue. Ask your rug supplier about the proper options.
- Do not use steel wool, abrasive pads, cleaners, or detergents on a lacquer finish.
- Do not apply any tape or adhesive to the wood surface.



IMPORTANT

The relative humidity and temperature should have 40-55% humidity and be 60-80 degrees Fahrenheit.

If you do not maintain this your floor may have issues.

Check your humidifier/dehumidifier status every month or to ensure you are maintaining proper climate.

Floor Maintenance



Daily cleaning

The first step in maintaining your floor is sweeping or vacuuming it regularly. To avoid damaging a floor, turn off the beater brush if your vacuum does not have a suction-only floor attachment. Less water is ideal. Daily, using a spray mop kit is the best way to clean flooring. As needed, using a well-wrung-out mop is a viable option as well. The mop must be damp and only lightly wet.

A wood floor should never be steam cleaned.

Weekly/Bi-weekly Cleaning

The ideal floor cleaner is Volo Floor Cleaner or another similar no-rinse hardwood floor cleaner. A PH-neutral cleaning product with ample evaporation properties is necessary. Your floor will be dulled, damaged, and void your warranty if you use oil soaps, liquid or paste wax products, or other household cleaners that contain lemon oil, tung oil, silicone, or ammonia.

Mopping is a practice commonly seen; it is acceptable; but spin mops and less damp applications are suggested. Excessive mopping/moisture on the floor is not recommended.

Annual/Bi-annual Maintenance

Regularly check chairs for felts and replace them as needed, this is the most common damage to wood floors that can be avoided.

The best Annual/Bi-Annual cleaning procedure is a wood floor scrubber. Recommended scrubbers use a very soft wire brush wheel, solution, and two vacuum heads to fully remove debris from flooring. Depending on the environmental conditions and amount of traffic, if wear is showing we recommend having a flooring contractor evaluate the floor if areas wearing to potentially conduct touch ups or apply an additional coat of finish applied to limit further damage. Consult with your local flooring company for such service.



IMPORTANT

Use clean & dirty tank cleaning process. If you do not use a dual system, you will just continually move existing dirt around the floor, and it will not be cleaned off the floor surface.

Floor Maintenance



Standard cleaning procedure

1. Before cleaning the floor, vacuum or sweep it thoroughly.
 2. Make sure the cleaner bottle is well shaken.
 3. Add 1 cup (240ml) of floor cleaner to a lukewarm warm gallon of water and mix well.
 4. Administer the soap mixture to the floor using a moderately damp mop in a 15' X 15' area or smaller. Water should not be soaked on the floor, as this can damage it or cause dimensional changes.
 5. Spread the solution on the floor for 30-60 seconds to dissolve any foreign substances, and to bring dirt to the surface.
 6. Wipe the floor with a second well-wrung mop or cloth and clear warm water to remove the dirty soapy solution. Using this method, dirt is removed with the cleaner evenly, resulting in a streak-free finish. Make sure the solution does not dry before cleaning with a dry mop.
- It is imperative to remove contaminated water, and if not, dirt is just pushed around. After cleaning with the mop, rinse it thoroughly with warm, clear water. For each bucket of cleaner solution used, the rinse bucket should be changed four to five times.
7. Continue to the next area and repeat steps 4 through 6.
 8. Allow one hour for the floor to dry after it has been thoroughly cleaned.

Cleaning Concentrate Mixing Ratio

Mix 1 Gallon of water to 1 Cup (240ml or 8oz) of Volo Cleaning Concentrate

Touch Ups and Damaged Flooring Procedure

If the cleaning solution and rag is not cleaning the issue, please contact your hardwood flooring professional. The use of mineral spirits on damp cloths is generally effective for removing grease, tar, lipstick, and crayons. Start by testing on an inconspicuous corner or leftover piece of flooring, it is recommended a flooring professional preforms this. If further touch ups are needed, a hardwood flooring professional should be experienced with acrylic pigments or similar topical repair methods for scratches or damages, and or epoxy and hard wax fill kits for dents.

Radiant Heating Considerations

Radiant heating, when first turned on, needs to be gradually raised by a few degrees at a time per day. Wood flooring performs best with subtle changes in temperature. The floor should not fluctuate by more than 5°F per day. Items such as area rugs, mattresses, exercise mats, pet beds, bean bags, or other highly insulating products that cover the floor will trap heat and increase the temperature of the floor it is covering, which can result in irreversible damage to any type of floor. All radiant heating systems should be fully operational, regardless of season, for a minimum of 5 days. Follow the national wood flooring association's guidelines with radiant floor heating.

Floor Maintenance



Touch Ups and Damaged Flooring Procedure

If the cleaning solution and rag is not cleaning the issue, please contact your flooring installation professional. The use of small amounts of mineral spirits on a clean cloth is generally effective for removing grease, tar, lipstick, and crayons. Start by testing on an inconspicuous corner or leftover piece of flooring, it is recommended a flooring professional preforms this. If further touch ups are needed, a hardwood flooring professional should be experienced with acrylic pigments or similar topical repair methods for scratches or damages, and or epoxy and hard wax fill kits for dents.

Radiant Heating Considerations

Radiant heating, when first turned on, needs to be gradually raised by a few degrees at a time per day. Wood flooring performs best with subtle changes in temperature. The floor should not fluctuate by more than 5°F per day. Items such as area rugs, mattresses, exercise mats, pet beds, bean bags, or other highly insulating products that cover the floor will trap heat and increase the temperature of the floor it is covering, which can result in irreversible damage to any type of floor. All radiant heating systems should be fully operational, regardless of season, for a minimum of 5 days. Follow the national wood flooring association's guidelines with radiant floor heating.

Climate

The environment of the home should be stable and maintained throughout the life of the floor. Engineered floors as a whole are less prone to moisture damage due in comparison to solid wood flooring, due to its engineered substrate, large swings in humidity and temperature ca cause floors to fail.

Although it is common for all wood floors to shrink and expand as seasonal changes occur. To minimize these changes, maintain a consistent temperature and humidity for your floor to perform as designed. These conditions should be between 60° and 80° and 40% to 55% relative humidity. Installers take many steps to make sure the flooring is installed in the correct conditions. In extreme high or low moisture conditions, a floor can start to go through unsightly and unexpected changes and in worst cases, cause irreparable damage.

Floor Maintenance



Here are a few things that can be done to help maintain the correct conditions in a home:

- Have a way to monitor temperature and humidity in the home.
- If the HVAC thermostat does not have the ability to read humidity, inexpensive tabletop units can be purchased at most big box stores. If the levels start to go outside the zone; use a humidifier or dehumidifier to control the moisture levels.
- Standard heating and air conditioning systems may not be effective at controlling humidity levels. Additional humidity controlling devices may be necessary such as atomization units for very large residences over 5,000 SF. As standard pass though humidifiers may not be enough.
- Make sure humidity control devices are maintained and always working properly.
- Expect some seasonal changes with a floor. To minimize this normal behavior, maintain the recommended range of humidity and temperature as suggested by the National Wood Flooring Association www.nfwa.org
- Do not allow the humidity level in your home to drop below 40% for an extended period, the following can occur. Your hardwood floor will lose some of its moisture, and shrinking of the planks may occur as a result. Shrinking is a natural reaction to the loss of moisture and should not be of concern if it only occurs to a minor extent. However, more severe cases indicate a serious lack of moisture which may result in splits and checks in the flooring.
- House settlement and gapping from poorly insulated ducts can cause areas of trouble in wood floors. It is best to consult with a flooring professional to fix.
- If you allow the humidity level in your home to exceed 55% for an extended period of time the follow can occur. Your floor will absorb moisture from the air, swelling and expanding may occur as a result. This expansion can create pressure between the boards, which can cause the boards to warp, cup or crack. Both cupping and crowning are natural reactions to moisture and should not be of concern if they occur only to a minor extent. However, more severe cases indicate a serious moisture problem which may result in buckling and cracking in the flooring.

RECCOMENDED CLEANING SOLUTIONS

Premixed or Concentrated cleaning solutions to degrease and clean floors thoroughly.



VOLO Floor Cleaner



Basic Coating Squeaky Clean



ProCare Floor Cleaner (Procoat)



Loba Floor Cleaner

RECCOMENDED LIGHT CLEANING EQUIPMENT

For Daily or Weekly light cleanings.



Broom + Dustpan



Vacuum



Spray Mop

RECCOMENDED DEEP CLEANING EQUIPMENT

For Weekly, Bi-Weekly, or monthly deep cleanings.



O-Cedar Flat Mop



O-Cedar Spin Mop with dirty/clean tank



Tineco Wet / Dry Vacuum Mop



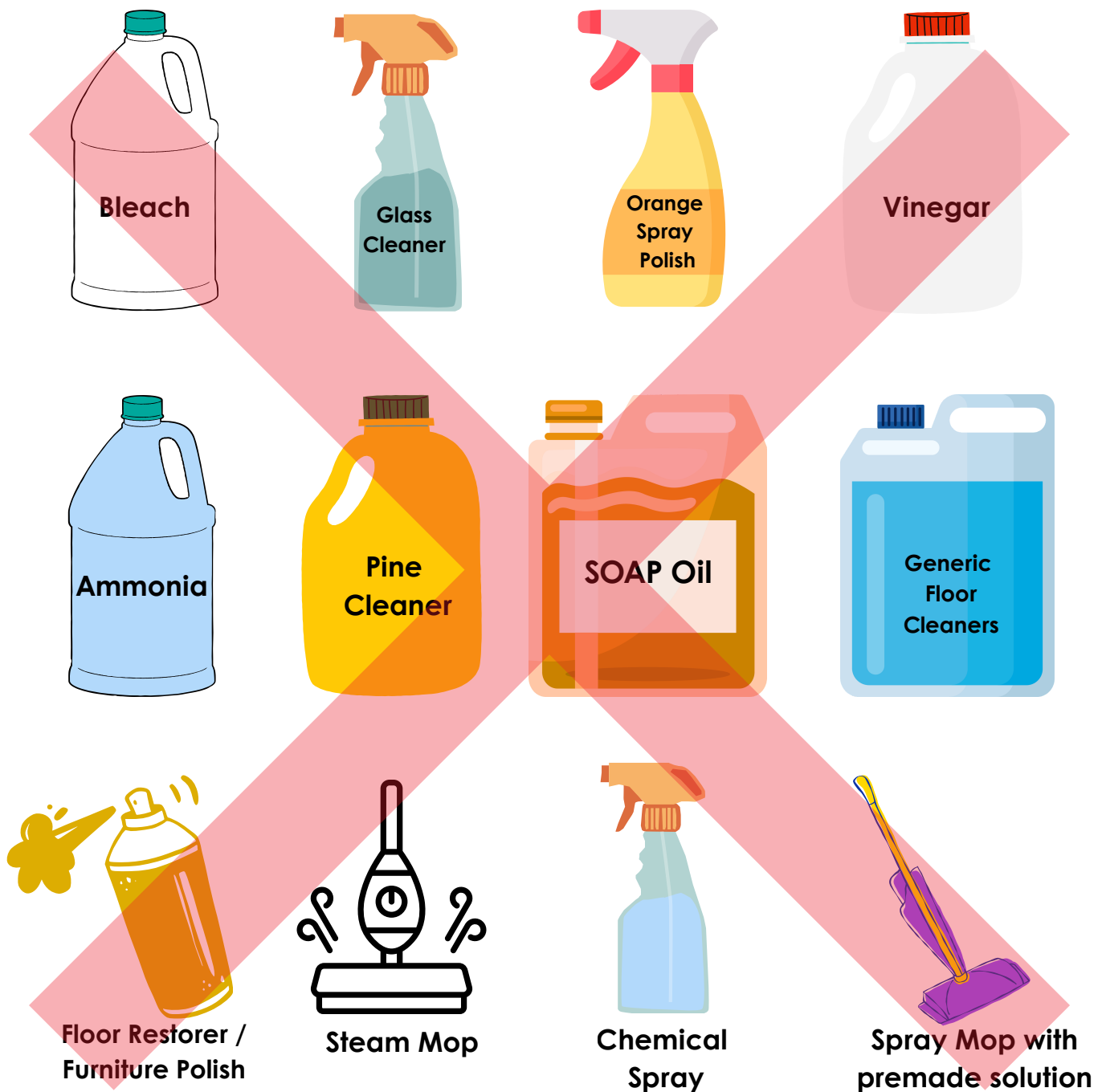
roborock Qrevo Edge Robot Vacuum and Mop Clean + Dirty Tank

DO NOT USE THESE PRODUCTS ON YOUR WOOD FLOOR

These cleaning products will damage your floor and possibly void your warranty.
Here are some examples of products not to use on your wood floors as they will leave contaminant oils or degrade finish.

Some examples of things to not use on your floor, but not limited to are the following:

JET MOPS, PINE CLEANERS, OIL SOAPS, AMMONIA, VINEGAR, FLOOR RESTORER or FLOOR POLISH, ORANGE WOOD SPRAY, BLEACH DISINFECTANT, STEAM MOP, BLEACH, ENHANCING POLISH, OR ANY OTHER GENERIC FLOOR CLEANERS SOLD AT HARDWARE STORES.



Recommended Felt Protectors

This is the most common damage to floors! Check current felts every few months to prevent damage.



Gorilla Felts



Stick On Floor Felts



Chair Sled Floor Glides
Tubing Protectors



Screw-On Felt
Pads X-Protector



Screw-On Felt Pads
X-Protector



Dual Balde Chair
Castor



Silicone Cap Felt



Piano / Caster
Protection



Heavy Furniture
Felt

Thank you for trusting Volo Floors with your new flooring!

We appreciate your business and are honored to be part of your home transformation. Our team takes great pride in delivering high-quality flooring and we hope you love your new floors for years to come.

If you have any questions about care and maintenance, don't hesitate to reach out. We're always here to help! And if you ever need additional flooring solutions in the future, we'd love the opportunity to work with you again.

Enjoy your beautiful new floors, and thank you for choosing Volo Floors!

From,
Volo Floors



volofloors.com