

Engineered hardwood floors can be installed over most properly prepared subfloors and are engineered to be dimensionally stable, making them suitable for installation on all grade levels where excessive moisture conditions do not exist. We continuously make technological advancements that improve product performance or installation techniques and methods. To confirm you have the most recent installation instructions, please visit our website at MohawkFlooring.com or contact Technical Services at 888-387-9881.

Caution: Wood Dust

Cutting, sanding or machining wood products produces wood dust. While wood products are not hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200), the International Agency for Research on Cancer (IARC) and the State of California have classified wood dust as a human carcinogen.

Precautionary measures: Airborne wood dust can cause respiratory, skin and eye irritation. Power tools should be equipped with a dust collector. Use an appropriate NIOSH-designated dust mask. Avoid dust contact with skin and eyes.

First aid measures in case of irritations: In case of eye irritation, flush eyes with water. If needed, seek medical attention. If dermatitis occurs, seek medical attention. To request Safety Data Sheets, contact Technical Services at 888-387-9881.

WARNING: Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information, visit www.P65Warnings.co.gov/wood.

WARNING! DO NOT MECHANICALLY CHIP OR PULVERIZE EXISTING RESILIENT FLOORING, BACKING, LINING FELT, ASPHALTIC "CUTBACK" ADHESIVES OR OTHER ADHESIVES.

Previously installed resilient floor covering products and the asphaltic or cutback adhesives used to install them may contain either asbestos fibers and/or crystalline silica. These products DO NOT contain asbestos or crystalline silica. Avoid creating dust. Inhalation of asbestos or crystalline dust is a cancer and respiratory tract hazard. Smoking by individuals exposed to asbestos fibers greatly increases the risk of serious bodily harm. Unless absolutely certain that the product is a non-asbestos containing 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.

IMPORTANT HEALTH NOTICE FOR MINNESOTA RESIDENTS ONLY: These building materials emit formaldehyde. Eye, nose and throat irritation, headache, nausea and a variety of asthma-like symptoms, including shortness of breath, have been reported as a result of formaldehyde exposure. Elderly persons and young children, as well as anyone with a history of asthma, allergies or lung problems, may be at greater risk. Research is continuing on the possible long-term effects of exposure to formaldehyde. Reduced ventilation may allow formaldehyde and other contaminants to accumulate in the indoor air. High indoor temperatures and humidity raise formaldehyde levels. When a home is located in an area subject to extreme summer temperatures, an air conditioning system can be used to control indoor temperature levels. Other means of controlled mechanical ventilation can be used to reduce levels of formaldehyde and other indoor air contaminants. If you have any questions regarding the health effects of formaldehyde, consult your doctor or call your local health department.

Installer/Owner Responsibility

It is the responsibility of the installer/owner to ensure that jobsite environmental, subfloor, and subsurface conditions meet or exceed all requirements as outlined in installation instructions prior to installation. Manufacturer declines all responsibility for product performance or installation failure due to subfloor, substrate, or environmental deficiencies or jobsite conditions.

All wood continually expands and contracts until it reaches moisture equilibrium with the environment in which it's installed. As with all wood flooring, expansion and contraction will be minimized if the interior relative humidity is consistently maintained year-round. Humidification and/or dehumidification systems may be necessary to maintain your home environment to prescribed relative humidity conditions.

The owner/installer assumes all responsibility for final inspection of product quality. Examine flooring for color, finish, and style PRIOR TO INSTALLATION. If material is unacceptable, contact the seller immediately. Installation is acceptance of quality, grade and color. Wood is a natural product and contains characteristics such as variations in color, tone, and graining. Flooring is manufactured in accordance with industry standards, which allow manufacturing and natural deficiency tolerances up to 5% of the total installation.

Installer should work from minimum of three cartons at a time to ensure good color and shade blend. The installer must use reasonable selectivity and set aside or cut off pieces with deficiencies. Do not install undesirable pieces. Flooring warranties DO NOT cover materials with visible defects once they are installed. Installation is acceptance of product quality. Check carton labels for lot numbers. Lot numbers should not be mixed.

All work involving water or moisture (e.g., plumbing, masonry, painting, plastering, etc.) must be completed prior to flooring being delivered. Building envelope must be complete and exterior doors and windows installed. Exterior grading and gutter downspouts should be completed and permanent HVAC systems in operation.

Precautions should be taken to protect floors from other trade work. Do not cover floors with plastic, red rosin, felt or wax paper, or previously used cardboard. Instead, use a breathable material such as clean, dry, plain, uncoated cardboard or construction paper. Inks from printed cardboard could damage the hardwood floor. The floor should be thoroughly cleaned before covering to remove grit and debris that would damage the finish. The floor must be completely covered to eliminate uneven ambering from exposure to UV light. Do not allow flooring to remain covered for an extended period of time. The reduction in air exchange creates a greenhouse effect and will damage the flooring.

Permanent HVAC should be on and operational for a minimum of five days and maintained between 65°F and 75°F with a relative humidity of 35% to 55% prior to delivery and during and after installation of the flooring for the life of the product. If HVAC is not possible at time of installation, the environmental conditions must be at or near normal living conditions between 60°F and 80°F and at the average yearly relative humidity (RH) for the area.

Building interiors are affected by two distinct humidity seasons — heating and non-heating. Care should be taken to maintain humidity levels between 35% and 55% year-round.

Heating season — low humidity, dry: All heating methods create dry, low-humidity conditions. Humidifiers are recommended to prevent excessive shrinkage or permanent gapping in wood floors due to seasonal periods of low humidity.

Non-heating season and coastal or waterfront areas — high humidity, wet: During the non-heating season or in areas with high humidity year-round, proper humidity levels should be maintained through the use of an air conditioner or dehumidifier.

Manufacturer warranties do not cover natural expansion and contraction that results in separation between planks or damage caused by excessively low or high humidity. Seasonal gapping is not considered a manufacturing defect.

Purchase an additional 5% of flooring to allow for cuts and an additional 10% if installing diagonally. Any excess material should be left with the homeowner.

WARRANTY NOTE: Installer should provide owner with one carton end label from installed product along with the preinstallation moisture content readings for warranty purposes. Owner should retain carton end label and copy of invoice with product style name and style number for their records. Owner should retain excess flooring and store in a climate-controlled area for future repairs in the event of damaged flooring.

The use of stain, filler, or putty for correction is considered a normal practice and a routine part of installation and for touch-ups over the life of the product.

Basic Tools Needed

- | | | | | |
|-----------------------------------|--|--------------------------|----------------------------------|----------------------------|
| • Safety glasses | • Jamb saw | • Thick felt protectors | • Utility knife | • Carpenter’s square |
| • Wood pin moisture meter | • Table saw | • Putty knife | • Delicate surface,low tack tape | • NIOSH-approved dust mask |
| • Concrete in-situ moisture meter | • Appropriate adhesive trowel | • Broom or vacuum | • Plastic scraper | • 75 lb smooth roller |
| • Chalk line | • Coordinating stain, filler, or putty | • Starting row wedges | • Clean white cloths or towels | |
| • Uniclic tapping block | • Mineral spirits (odorless) | • Pry bar or trim puller | • Pull bar | |
| • Tape measure | | • Pencil | | |
| | | • Miter saw | | |

Preinstallation and Jobsite Conditions

Do not install wood flooring until appropriate temperature and humidity conditions have been achieved. Flooring should be delivered and stored inside the HVAC-controlled portion of the jobsite. Flooring should be stacked with at least a 4-inch airspace under the cartons. Remove any and all plastic wrap that may have been used to ship the material. Make certain that the room temperature is set to normal living conditions as described above.

All Mohawk wood floors must be acclimated a minimum of 72 hours before installation of the flooring and after the HVAC, windows, and building envelope have been completed and are in operation. The purpose of acclimation is to allow the moisture content of the wood to adjust to “normal living conditions” at the site; these are the temperature and humidity conditions that will typically be experienced once the structure is occupied.

For Wood Subfloors: To reduce the risk of moisture-related failures, the subfloor and wood flooring must be of similar moisture content. Test the subfloor by taking a minimum of 20 moisture content readings per 1,000 square feet of subfloor using a pin-type moisture meter. Average these readings and include on the data sheet on page 10 of these instructions. Likewise, check the wood flooring moisture content and record on the same sheet. These moisture readings are to be left as a permanent record of testing with the homeowner. When both the subfloor and flooring are below 12% moisture content and the flooring is within 4% of the subfloor moisture, the product can be installed.

NOTE: All products under 6 inches wide need to be within 4% of the subfloor and all products 6 inches or wider need to be within 2% of the subfloor when acclimating.

For Concrete Subfloors: A moisture test is strongly recommended to determine if high moisture exists in the subfloor. When using a calcium chloride moisture test for concrete subfloors (ASTM F1869-22), values must be less than or equal to 5 pounds / 1,000 square feet / 24 hours or less than 80% RH with an in-situ probe (ASTM F2170-19a). Moisture readings of wood subfloors must be less than or equal to 12%.

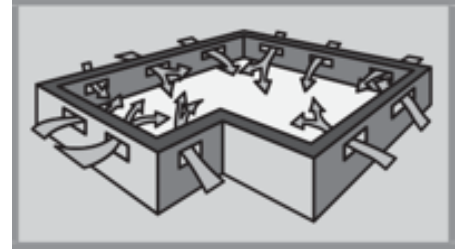
Mohawk does not recommend installing flooring under cabinets or other permanent fixtures. If islands, cabinets, or other permanent fixtures are installed on top of the flooring, it could cause gapping in the floor planks.

Subfloor Requirements On, Above, or Below Grade

These recommendations are not intended to supersede federal, state, or local building codes but, as with many other interior finish products, may require modifying existing structural components for a successful installation. Hardwood flooring is not a structural component. The product warranty does not protect against loss caused by inadequate subfloors, flooring substructures, or improper installation of said substructures.

Engineered hardwood floors may be installed over any structurally sound subfloor that is flat, clean, and dry on all grade levels. All subfloors should be:

- **Clean:** Subfloor must be clean and free of dirt, curing compounds, drywall mud, wax, paint, oil, sealers, adhesives, and other debris. These may be removed mechanically. Do not install glue-down floors over chemically cleaned substrates.
- **Flat:** Subfloor must be flat within 3/16 inch in a 10-foot radius (4.7 mm in 3 m) and 1/32 inch in 12 inches. Sand high areas or joints. Fill low areas with a high compressive strength (min. 3,000 psi) portland cement-based compound. Vertical deflection must not exceed 3/16 inch.
- **Dry:** Wood floor moisture should be evaluated using the guidance supplied above under the heading Jobsite Conditions. Concrete subfloors must be cured for a minimum of 60 days. When using a calcium chloride moisture test for concrete subfloors (ASTM F1869-23), values must be less than or equal to 5 pounds / 1,000 square feet / 24 hours or less than 80% RH with an in-situ probe (ASTM F2170-19a). Moisture readings of wood subfloors must be less than or equal to 12%. Test results must be recorded on page 10 of these instructions and left as a permanent record of testing with the homeowner. If moisture levels exceed these limits, **DO NOT INSTALL** the flooring until appropriate corrections are made or select the appropriate moisture mitigation adhesive listed on pages 5–6.



NOTE: Basements and crawl spaces must be dry. Use of a 6 mil black polyethylene membrane is required to cover 100% of the crawl space earth. Crawl space clearance from ground to underside of joist should be no less than 18 inches and perimeter vent spacing should be equal to 1.5% of the total square footage of the crawl space area to provide cross ventilation. To increase reliability, appropriate subfloor moisture testing should be performed after the HVAC system has been in operation for a minimum of five days. Excess moisture on any flooring substrate, if not identified and corrected prior to installation, will cause floor covering failure. Our warranties **DO NOT** cover any problems due to moisture levels that exceed these guidelines.

Structurally sound wood subfloor: Nail or screw any areas that are loose or squeak. Vertical deflection must not exceed 3/16 inch. Wood panels should exhibit an adequate fastening pattern — glued, screwed, or nailed as system requires — using an acceptable nailing pattern, typically 6 inches (15 cm) along bearing edges and 12 inches (31 cm) along intermediate supports. Flatten edge swell as necessary. Replace any water-damaged, swollen, or delaminated subflooring or underlayment.

Building codes establish requirements for structural support components of flooring systems that may not provide adequate rigidity and support for proper installation and performance of a hardwood floor. Whenever possible, install flooring perpendicular to the floor joists for maximum stability.

NOTE: When joist spacing exceeds the traditional 16 inches on center, Mohawk recommends you apply a thin bead of Performance Accessories® Tongue & Groove D3 glue to the bottom side of the groove to lock the tongue-and-groove profile in place. This will reduce the potential for vertical movement of the tongue and groove, which may contribute to squeaking or crackle.

Structurally sound concrete subfloor: Concrete substrate should be at least 60 days old and constructed in accordance with ASTM E1745-2023. Level substrate and fill all cracks, holes, and low spots with a polymer-modified portland cement patch or leveling compound. Burnished or steel-troweled concrete substrates must be inspected for porosity by placing a few drops of water on the surface. If the water is not absorbed within three minutes, the substrate should be considered nonporous. Abrade the surface with 30-grit sandpaper until porosity is achieved. After abrading, remove all debris before proceeding with installation. Glue-down floors may be applied to concrete with a rating of 3,000 psi or greater. Glue-down application over lightweight concrete (less than 3,000 psi) is not permissible.

Wood Subfloors

Approved subfloor panels should meet or exceed the following guidelines:

- **Plywood:** Must be minimum (Exposure 1) grade and conform to U.S. Voluntary Product Standard PS1-22 performance standard or Canadian performance standard CSA 0325:21 (NIST PS2-18).
- **Oriented Strand Board:** Strand board (OSB) must conform to U.S. Voluntary Product Standard PS 2-18 or Canadian performance standard CSA 0325:21. The panels must be tongue and groove and installed sealed-side down.
- **Particleboard:** (Floating installation only.) Must be a minimum 40-pound density, stamped underlayment grade, and 3/4 inch (19 mm) thick.

Floor joist/truss spacing will determine the minimum acceptable thickness of the subfloor panels. Joist/truss spacing of 16 inches on center or less for single panel subflooring requires a minimum 5/8-inch (19/32 inch, 15.1 mm) CDX (EXP 1) 4-foot by 8-foot subfloor panels. Joist/truss spacing of greater than 16 inches, up to 19.2 inches (488 mm) on center, requires a minimum nominal 3/4-inch (23/32 inch, 18.3 mm) tongue-and-groove CDX (EXP 1) plywood or OSB PS2-18 4-foot by 8-foot subfloor panels, glued and mechanically fastened. Floor systems with joists/truss spaced greater than 19.2 inches (488 mm) on center up to a maximum of 24 inches (610 mm) require minimum 7/8-inch tongue-and-groove CDX (EXP 1) plywood or OSB PS2-18 4-foot by 8-foot subfloor panels, glued and mechanically fastened. Installation over joist spans greater than 24 inches on center is not recommended. For installation over joist spans greater than 24 inches on center, consult NWFA (National Wood Flooring Association) for panel thickness guidance.

Solid Wood Subfloor — Direct Glue

- Minimum 3/4 inch (19 mm) thick with a maximum width of 6 inches (15 cm) installed at a 45-degree angle to the floor joists.
- Group 1 dense softwood (pine, larch, Douglas fir, etc.), No. 2 Common, kiln dried with all board ends bearing on joists.
- For direct glue-down applications, add 3/8-inch (9.5 mm) approved floor panel underlayment.

Existing Wood Flooring — Direct Glue

- Existing engineered flooring must be well bonded/fastened. When gluing over existing wood flooring, the surface finish must be abraded or removed to allow adequate adhesive bond.
- Existing solid hardwood flooring that exceeds 6 inches (15 mm) in width must be covered with 3/8-inch (9.5 mm) approved underlayment and fastened as required.
- Do not install over solid or engineered flooring attached directly to concrete. Instead, remove existing wood flooring and follow instructions for installation over concrete.

Wood subfloors should be well nailed or secured with screws. Nails should be ring shank and screws need to be counter sunk. The wood subfloor must be structurally sound, without loose boards, vinyl, or tile. If subfloor panels are a single layer, less than 3/4 inch thick, add another single cross layer for strength and stability, minimum 3/8 inch.

Underlayment floor panels must be installed sealed-side down. When used as a subfloor, allow 1/8-inch (3.2 mm) expansion space between each panel. If spacing is inadequate, cut in with a circular saw. Do not cut an expansion space on tongue-and-groove panels. When installing parallel to the floor joists, it may be necessary to increase rigidity of the structural subfloor system by installing an additional minimum of 3/8-inch (9.5 mm) approved underlayment floor panel.

NOTE: Avoid subfloors with excessive vertical movement no more than 3/16-inch (4.7 mm) deflection. If the subfloor exhibits excessive vertical movement (deflection) before installation of the flooring, it will likely do so after installation of the flooring is complete. Indications of excessive deflection are uneven finish wear, fastener release, squeaking, compromised or damaged locking systems, sectional contours such as bowing or dipping in floors, and uneven flooring material.

Radiant Heat

Mohawk engineered flooring can be used in combination with many types of thermostatically controlled floor heating. The heating system can be cast in a concrete floor or in a thin layer of filler on the surface of a concrete subfloor. It can also be installed under a wood subfloor or installed on the surface of the subfloor as an electrical matting, provided it meets the floor flatness requirements.

- Follow the instructions from the supplier of the floor heating system.
- Concrete subfloors must be installed and cured with no heat transfer for a minimum of 60 days.
- The heating system must be in operation for at least two weeks before installation.
- Prior to flooring installation, the system should be set to a suitable installation temperature (65°F to 72°F).
- Following installation, temperature should be raised slowly, 2°F, every day until desired temperature is reached.
- The flooring surface temperature, which is the surface of the subfloor or the heat radiating from electric heating mats, should not exceed 84°F (29°C).
- Do not use area rugs on top of engineered flooring installed over radiant heat systems. Area rugs trap heat, creating elevated temperatures capable of damaging engineered flooring.

Lightweight concrete: Engineered wood flooring is not recommended for glue-down installation over lightweight concrete subfloors. To test for lightweight or acoustical concrete, scrape a coin or key across the surface of the subfloor. If the surface powders easily or has a dry density of 100 pounds per cubic foot, or less, the engineered flooring should not be installed using the glue-down method. Product can be installed using floating installation method. For leveling and repair of lightweight concrete, contact the lightweight concrete manufacturer to ensure correct methods are used.

Existing perimeter-glued resilient vinyl and rubber tiles are unacceptable underlayments and must be removed. Terrazzo, vinyl, resilient tile, cork, and linoleum or hard surfaces that are dry, structurally sound, and level are suitable as a subfloor. As above, the surface must be sound, tight, and free of paint, oil, existing adhesives, wax, grease, and dirt. Terrazzo and ceramic tile must be scuffed to ensure proper adhesion.

WARNING: Do not sand existing resilient tile, sheet flooring, backing, or felt linings. These products may contain asbestos fibers that are not readily identifiable. Inhalation of asbestos dust can cause asbestosis or other serious bodily harm. Check with local, state, and federal laws for handling hazardous material before attempting the removal of these floors.

Direct-glue installation: Make sure the floor-covering materials are well bonded to the subfloor or underlayment with full-spread adhesive and no more than two layers thick, not to exceed 3/16 inch (4.7 mm). With approved wood or wood-composite subfloors, if vinyl or tiles are loose, broken, or in poor condition, install a 3/8-inch (9.5 mm) approved underlayment-grade subfloor panel directly over the flooring materials. Clean the flooring materials as necessary to remove waxes, sealers, or cleaning residues to allow a good adhesive bond. Cork floor sealers and surface treatments must be removed. Always perform a bond test prior to beginning direct-glue installation.

Before You Start Any Installation Method

To correct any subfloor conditions concerning moisture, either wait until the subfloor dries to meet specifications or use an appropriate moisture barrier. For more information concerning moisture conditions, contact Mohawk Technical Services Department at 888-387-9881.

NOTE: DO NOT INSTALL FLOORING IF MOISTURE TEST RESULTS EXCEED RECOMMENDED LIMITS.

- Plan your layout and determine the direction of the installation in the room. Planks installed parallel to windows accent the hardwood best.
- To achieve a uniform installation appearance, preselect and set aside hardwood planks that blend best with all trims and moldings. Install these planks next to best-blended moldings.
- Remove all wall-mounted moldings such as base and quarter round.
- Floor should be installed blending planks from a minimum of three cartons to ensure good color and shade blend throughout the installation.
- Be attentive to staggering the ends of the boards at least 6 inches, or longer for wider-width products, in adjacent rows.

NOTE: USE OF A RUBBER Mallet to install flooring is not recommended as striking the surface with a rubber mallet may cause irreparable damage to the plank.

Glue-Down Installation Guidelines

Adhesive Selection

Selection of your adhesive (Silent Bond®, M92X™, or TimberStrong™), will vary depending on the subfloor moisture condition. Adhesive moisture requirements are not interchangeable between adhesives and vary depending on the subfloor type and conditions. The subfloor moisture requirement and test for each adhesive is outlined in the following guidelines.

Concrete: If an excess subfloor moisture situation exists, it is recommended that Silent Bond Ultratack Advanced 3-in-1 Adhesive be applied using the 1/4" x 1/4" V-notch trowel designated on in the chart for adhesive, moisture, and sound control. Use of these products or products with equal or greater specifications is necessary for warranty compliance.

Silent Bond® Ultratack Advanced 3-in-1 Adhesive:

A low-VOC, silane-terminated polymer adhesive designed for use over on-grade or above-grade concrete substrates where excessive moisture may be present.

- Up to 99% RH levels in concrete. When the “Moisture Control” installation method is not used, moisture tests must be performed on all concrete subfloors regardless of grade level or age. Moisture testing must be performed in accordance to ASTM F1869 (calcium chloride test), or ASTM F-2170 (in-situ RH probe test).
- Test for sealers and curing compounds as they will limit bond and cause the adhesive to take longer to cure.
- Trowel should be replaced every 3,000 square feet or sooner as wear dictates.
- Product must be used in its entirety when opened. Lid cannot be resealed.
- Temperature and humidity will affect the curing time. The higher the temperature and humidity, the faster the cure.

FLOORING	MVER OR RH%	TROWEL	COVERAGE
5/16" Fingerblock parquet	< 3 lbs / 1,000 sq ft / 24 hrs or 75% RH	1/8" x 1/8" x 1/8" Square-Notch	55–65 Sq Ft / U.S. Gal
Engineered plank or bamboo < 1/2" and less than 7" wide	< 3 lbs / 1,000 sq ft / 24 hrs or 75% RH	1/4" x 1/2" x 3/16" V-Notch	60–70 Sq Ft / U.S. Gal
Engineered plank or bamboo > 1/2" or wider than 7"	< 3 lbs / 1,000 sq ft / 24 hrs or 75% RH	3/16" x 3/16" x 3/16" Square-Notch	35–45 Sq Ft / U.S. Gal
Solid wood plank, shorts, or plywood	< 3 lbs / 1,000 sq ft / 24 hrs or 75% RH	1/4" x 1/4" x 1/4" Square-Notch	25–30 Sq Ft / U.S. Gal
Parquet, engineered plank, bamboo, or solid plank	Adhesive, moisture adhesive, moisture	1/4" x 1/4" V-Notch	30–35 Sq Ft / U.S. Gal

IMPORTANT: Only the above specified trowels and application methods are to be used with this adhesive; otherwise, the product performance warranties and liabilities will be made void. Use of these products or products with equal or greater specifications is necessary for warranty compliance.

Wood

Wood substrates should test less than 12% using a pin moisture meter.

Concrete

Coverage is based on application to a clean, smooth, concrete substrate. Application rate may vary depending on substrate conditions.

Uses

- Will not etch the finish on a prefinished board.
- May be used on properly prepared concrete or wood substrates.

M92X™ Modified Moisture Cured Urethane Adhesive:
A trowel-applied, moisture-curing adhesive for the installation of glue-down flooring installations over concrete and wood substrates.

Wood
Wood substrates should test less than 12% using a wood moisture meter.

- Concrete**
- Up to 90% RH levels in concrete using in-situ probes in accordance with the latest version of ASTM F2170-19a.
 - Test for sealers and curing compounds.
 - Use the trowel from the below chart based on the conditions of the job.

FOR CRACK ISOLATION, SOUND REDUCTION, AND WOOD ADHESION		
FLOORING TYPE	TROWEL	COVERAGE
For solid flooring up to 3/8" thick and engineered flooring greater than 9/16" thick; for wide/long plank	1/2" x 15/32" V-Notch (12.7 mm x 11.9 mm V-Notch)	Up to 20 Sq Ft/Gal
For solid flooring up to 3/8" thick and engineered flooring less than 9/16" thick	1/4" x 1/4" V-Notch (6.35 mm x 6.35 mm V-Notch)	Up to 30 Sq Ft/Gal
FOR ONLY WOOD ADHESION		
FLOORING TYPE	TROWEL	COVERAGE
Dry-back wood parquet flooring	1/8" x 1/8" x 1/8" Square-Notch (3.2 mm x 3.2 mm x 3.2 mm Square-Notch)	60–70 Sq Ft/Gal
For solid and engineered flooring	3/16" x 1/4" x 5/16" V-Notch (4.8 mm x 6.4 mm x 7.9 V-Notch)	50–60 Sq Ft/Gal

Coverage is based on application to a clean, smooth, concrete substrate; therefore, application rate may vary depending on substrate conditions. Please contact Technical Services at 888-387-9881 with any questions.

NOTE: Do not apply over self-stick tile, sheet vinyl, old adhesives, metal, linoleum, laminate, particleboard, or strip-wood subfloors without first covering with an approved wood or wood composite underlayment. Air temperature must be between 50°F and 100°F for applying M92X Urethane Adhesive.

- Product must be used in its entirety when opened. Lid cannot be resealed.
- Temperature and humidity will affect the curing time. The higher the temperature and humidity, the faster the cure.

TimberStrong™ Urethane Adhesive:
A low-VOC urethane adhesive designed for use over on-grade or above-grade concrete substrates where excessive moisture may be present.

- Up to 99% RH levels in concrete when the "Moisture-Vapor Membrane" installation method is used.
- Test for sealers and curing compounds as they will limit bond and cause the adhesive to take longer to cure.
- Trowel should be replaced every 3,000 square feet or sooner as wear dictates.
- Product must be used in its entirety when opened. Lid cannot be resealed.
- Temperature and humidity will affect the curing time. The higher the temperature and humidity, the faster the cure.

ADHESIVE & MOISTURE-VAPOR MEMBRANE INSTALLATION METHOD		
FLOORING TYPE	TROWEL	COVERAGE
Engineered hardwood flooring >5/8" thick or plywood	1/2" x 15/32" V-Notch 1/4" x 3/8" x 1/4" Square-Notch	20 Sq Ft/Gal

ADHESIVE-ONLY INSTALLATION METHOD

FLOORING TYPE	TROWEL	COVERAGE
Engineered hardwood flooring	3/16" x 5/32" V-Notch	50 Sq Ft/Gal
Plywood >1/2" thick	1/4" x 1/4" x 1/4" Square-Notch	40 Sq Ft/Gal
Plywood >1/2" thick	1/4" x 1/4" x 1/4" Square-Notch	35 Sq Ft/Gal

IMPORTANT: Only the above specified trowels and application methods are to be used with this adhesive; otherwise, the product performance warranties and liabilities will be made void. Use of these products or products with equal or greater specifications is necessary for warranty compliance.

Wood

Wood substrates should test less than 12% using a pin moisture meter.

Concrete

Coverage is based on application to a clean, smooth, concrete substrate. Application rate may vary depending on substrate conditions.

Uses

- Etching of the finish on a prefinished board will occur if the adhesive is not cleaned off completely and rapidly with mineral spirits.
- May be used on properly prepared concrete or wood substrates.

Glue Application

- Regulate temperature and humidity 72 hours before, during, and after installation.
- Spread adhesive using recommended trowel, ensuring 95% to 100% adhesive contact.
 - Wet lay method: Press flooring firmly into adhesive immediately after troweling.
 - Walk-on method: Press flooring firmly into adhesive after it has developed its initial grab, typically after 15 to 20 minutes.
- Remove any adhesive smudges or drops immediately, as adhesive is very difficult to remove once allowed to dry. Clean tools while adhesive is fresh using a urethane adhesive remover or mineral spirits.
- Avoid light/regular foot traffic for at least 12 hours. Avoid heavy foot traffic for at least 24 hours.

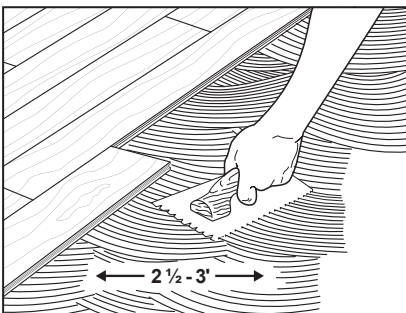
Use a clean white cloth with mineral spirits to clean as you go. Adhesive that has cured on the surface of the flooring can be difficult to remove.

Getting Started — Direct Glue

CAUTION: Follow all guidelines set by the adhesive manufacturer as well as the flooring manufacturer. Failure to adhere to the guidelines may void your flooring warranties.

General Information for Glue-Down Installations

- Use portland cement-based patch and skim-coat leveling products to correct substrate imperfections. Do not use on lightweight concrete unless instructed by that manufacturer.
- Regulate temperature and humidity 72 hours before, during, and after installation.



- Install and secure starter row.

- Spread adhesive using recommended trowel, ensuring 95% to 100% adhesive contact. Wet lay method: Press flooring firmly into adhesive immediately after troweling. After the flooring is in place, follow the rolling instructions of the adhesive being used.

- Inspect the installation and remove any adhesive smudges or drops immediately. For modified urethanes and silanes, a wet rag with water or mineral spirits can be used. For urethane adhesives, only mineral spirits can be used. NOTE: Urethane adhesive will chemically etch prefinished wood surfaces. Make every effort to prevent adhesive from getting on the flooring surface. For best results, keep a urethane adhesive cleaner or mineral spirits nearby to remove any adhesive smudges or drops during installation.

- Clean tools while the adhesive is still wet with the appropriate cleaner defined by the instructions of

the adhesive used.

- Avoid light/regular traffic for at least 12 hours. Avoid heavy traffic for at least 24 hours.
- See adhesive manufacturer's guidelines for open time on the adhesive container.
- Proper ventilation within the room must be provided. An electric fan is helpful.

Wet Lay Method

Step 1: Select a starter wall. It is recommended to start the installation along an exterior wall. An exterior wall is more likely to be straight and square with the room. Measure out from the wall the width of two planks plus the plank thickness, mark each end of the room, and snap your chalk line.

NOTE: The planks along the wall may have to be scribed and cut to fit in order to maintain a consistent expansion space since most walls are not straight. Try to maintain at least 2 inches on the scribed plank.

Step 2: Spread adhesive from the chalk line to the starter wall using the recommended trowel size. It is important to use the correct trowel at a 45-degree angle to get the correct adhesive spread rate to produce a proper and permanent bond. Improper bonding can cause loose or hollow spots.

NOTE: Change the trowel every 2,000 to 3,000 square feet, or sooner as needed, due to trowel wear. This ensures the proper adhesive spread rate.

Step 3: Install the first row of starter planks with the tongues facing the starter wall and secure into position. Alignment is critical and can be achieved by securing a straight edge along the chalk line (a two-by-four works well) or by top nailing the first row with finishing nails (wood subfloor) or adjustable spacers (concrete subfloor). This prevents slippage of the planks that can cause misalignment.

Step 4: Once the starter rows are secure, spread 2-1/2 to 3 feet of adhesive the length of the room. Never lay more adhesive than can be covered in approximately one hour. Place tongue into groove of plank or strips and press firmly into adhesive. Never slide planks or strips through adhesive.

Use a Uniclic® tapping block if necessary to fit planks snugly together at side and butt ends. Clean any adhesive off the surface of the flooring with a damp cloth before it cures.

NOTE: Never work on top of the flooring when installing. If you must work on top of the newly laid flooring, use a kneeling board.

Step 5: Secure your starter rows with a straight edge. Once the remainder of the floor has been installed, go back to the beginning and remove the straight edges and spread adhesive on the remainder of the open subfloor. Remember, planks closest to the wall may have to be scribed and cut to fit due to irregularities along the wall.

NOTE: After 6–8 rows are completed, floor must be rolled with a 75 lb roller to ensure good adhesion.



Take care to clean roller and avoid transfer of adhesive to floor finish.

Final Touches

Install or reinstall any transition pieces, reducer strips, T-moldings, thresholds, bases, and/or quarter round moldings. Trims and moldings should be nailed into the wall or subfloor, not the floor. Install the proper trim molding at the doorways to achieve the transition and along the walls to cover the edges of any gaps along the wall due to irregularity.

Complete the job by using the InstaMatch wood filler kit that coordinates with the installed engineered flooring for minor corrections or areas where brad nails were used in the trim or the flooring. Clean the finished floor with Performance Accessories FloorCare Essentials® Hardwood and Laminate Floor Cleaner.

To prevent surface damage, avoid rolling heavy furniture and appliances on the floor. Use plywood or appliance lifts if necessary. Use protective castors/castor cups or felt pads on the legs of furniture to prevent damage to the flooring.

IMPORTANT: If the floor is to be covered, the floor should be thoroughly cleaned prior to covering to prevent grit damage to the finish. Do not cover with plastic, red rosin, felt or wax paper, or previously used cardboard. Inks from printed cardboard could damage the hardwood floor. Instead, use a breathable material such as clean, dry, plain, uncoated cardboard or Kraft paper. A common reinforced builder's paper is a good choice. Any covering should be taped with a low-adhesion tape to base or shoe moldings. Avoid taping to finished flooring. When taping paper or sheets together, tape them to each other, not to the floor. The floor must be completely covered to eliminate uneven ambering from exposure to UV light.

Floating Installation Guidelines (Preparation)

Undercut Door Casings

Undercut all door casings 1/16 inch higher than the thickness of the flooring materials to be installed. Use a scrap piece of flooring as a guide. Lay the scrap on the substrate and cut the casing with a handsaw or use a power jamb saw set at the correct height. Remove all moldings and wall base and undercut all door casings.

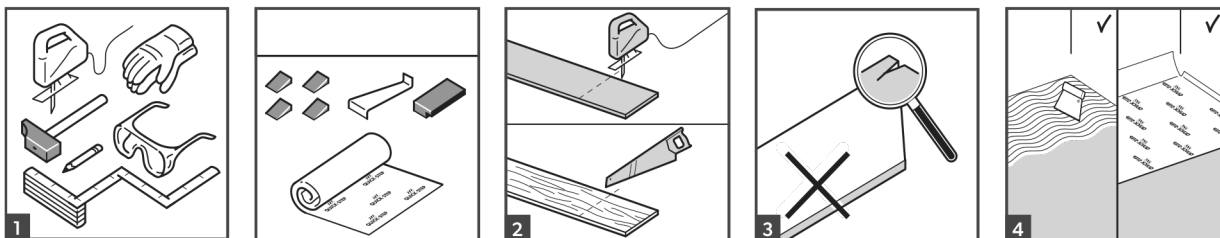
Underlayment

Use Performance Accessories underlayment or equivalent with equal or better specifications. Underlayment requirements are critical to a floating installation. Excessive pad compression or compaction is a common cause of seam failure. Lay the underlayment on the floor with the moisture barrier facing down. The direction of the underlayment should lie parallel to the direction of the floor being installed.

For the first row of flooring, the underlayment should be placed so that approximately 1 inch overlaps onto all perpendicular walls. Place the following row next to the first row on top of the lower moisture barrier overlap. Remove the adhesive strip and fold back the upper overlap on the second row. Make sure the underlayment fits together tightly; don't leave gaps. On the last row, place the underlayment 1 inch up the wall. To join rolls on the short side of the underlayment, use a moisture-resistant tape to connect the two pieces so water cannot penetrate the underlayment.

Expansion Space

An expansion space equal to the plank thickness must be maintained around the perimeter of the room and all pipes, counters, cabinets, fireplace hearths, doorframes, and any other fixed vertical objects in the room. Doorways or archways 48 inches or less require T-moldings.



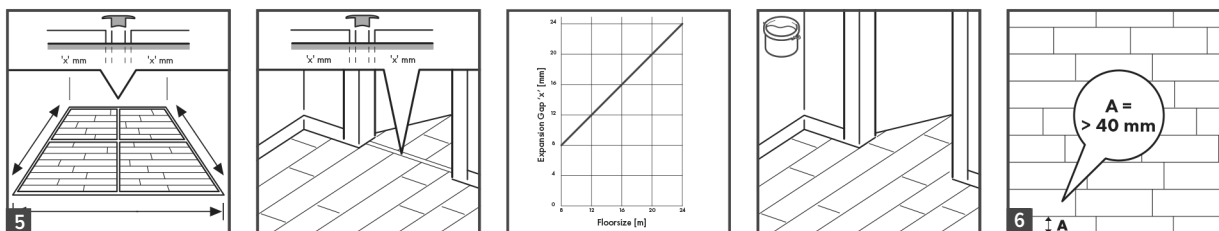
Installation

Step 1: The Performance Accessories installation kit makes installation easy, requiring no expensive tools. In addition to a few common DIY tools (folding rule, pencil, hammer, handsaw or jigsaw, carpenter's square, possible power drill, and hand gloves) only the Performance Accessories installation kit — containing a tapping block, pull bar, and spacers — is necessary for installation. Be sure you have all tools available before starting the installation.

Step 2: When cutting the TecWood™ Enhanced wood plank be sure you are not creating splinters or chipping when cutting. If using a handsaw, keep the decorative surface face up. If using a jigsaw, keep decorative surface down (except for a jigsaw with down-stroke blades).

Step 3: Every TecWood Enhanced wood plank is methodically checked for any imperfections before being packed. Still, packs can be damaged during transportation or when the packs are opened. Do not install a plank with a damaged surface, edge, or click joint. Carefully inspect each plank before installing. The number of shorter pieces per carton may vary between two and three with a cumulative length equal to the length of one standard plank. Cumulative length of all shorter pieces will always be equal to the length of one standard plank. Be aware of the fact that wood is not a homogeneous material. There will be differences from plank to plank as there are differences from tree to tree. These aspects provide you with the warm, natural look and feel a wood floor has to offer. Knots and cracks will also appear depending on the grading and the chosen range. This is natural and will not be considered as a product fault. Therefore, always be sure you have the right impression of the floor and information from the dealer before installation. An installed plank is considered as accepted and cannot be claimed. We recommend mixing the planks, taking planks out of different cartons at the same time when installing.

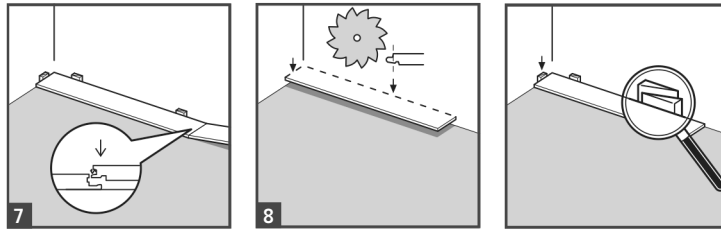
Step 4: If you choose to install a floating floor, you must lay the first section of underlay parallel to the length of the planks to be installed. Gradually add the next sections of underlay as you lay the wood planks. It is vital that you use a leveling underlay to smooth away any unevenness in the floor base. In most cases a vapor-tight foil should be used to protect the floor against rising damp or condensation.



Step 5: In a floating installation, it is important not to exceed the maximum room dimensions. With room dimensions of more than 65 feet by 65 feet, an intermediate expansion gap should be fitted. An expansion gap must be used in typical doorways and room angles. Expansion and contraction are linear, so the greater the surface, the larger the expansion gap needs to be. As a general rule, you can calculate the expansion gap as 1 mm/m floor width.

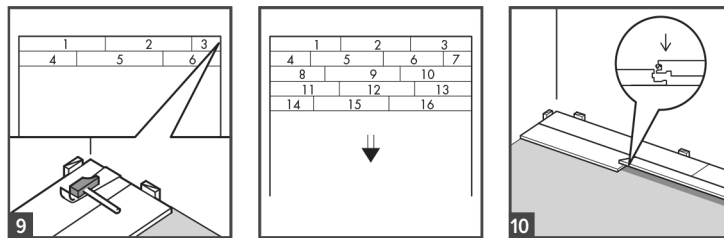
Be aware of the fact that for large room dimensions, the normal skirtings are not covering the expansion gap anymore. To cover the expansion gap, another type of skirting or a combination of several skirting types should be used. A combination of a standard skirting and a quarter round is often used in these situations.

Step 6: Before starting, carefully measure the length and the width of the room to pan a precise layout and achieve a balanced appearance of the floor. This will ensure also you won't end up with the last row being too narrow. If the last row would be less than 1-9/16 inches, the installation will be easier if you cut down the planks of the first row in the width. A minimum of a 5/16-inch expansion gap is recommended.



Step 7: Often the installation is done parallel to the long walls of the room. The most common direction of installation of all types of wood floors is from left to right with the tongue side facing the starting wall. Always remember the spacers to ensure your expansion gap. The Multifit patented click system makes installation easy for both floating and glue-down applications. This system makes it very simple to dismantle a plank, if needed, without destroying the connection mechanism. The end joint can be assembled in different ways by folding down, angling, sliding, or tapping in horizontally. The quickest, easiest, and most secure way is by folding down. A hammer and tapping block can be a handy tool to double-check the joints and gently tap them if needed.

Step 8: Narrow down the width on the first row or, at minimum, cut off the tongue to achieve the first distance to the wall. If the wall is curved or uneven, the first row has to be cut and coped to the contour of the wall. Use a minimum of two spacers per plank length. The short plank will then have the plastic tongue in the end to the right.



Step 9: Install the first two rows in accordance with the illustration. We recommend the overlap/staggering between end joints to be about 12 inches or greater than the plank length but never less than 300 mm. Installing the first two rows as shown will help keep a straight line to start the rest of the installation. The cut-off from the first and second row should normally be perfect as starting planks in the third and fourth row. Always remember to use the spacers to keep the correct distance to the walls.

Step 10: Lift the connecting plank up in an angle of about 20–30 degrees, push it into the long-side groove, and slide it gently towards the left until the plank ends meet. Push the plank firmly downward to the floor, and the Multifit system will lock the joint perfectly into the end. Always check every joint before continuing (gently tap with rubber hammer and tapping block if needed).

Final Touches

Trim excess underlayment (floating installation only) and install or reinstall any transition pieces, reducer strips, T-moldings, thresholds, bases, and/or quarter round moldings. Trims and moldings should be nailed into the wall or subfloor, not the floor. Install the proper trim molding at the doorways to achieve the transition and along the walls to cover the edges of any gaps along the wall due to irregularity.

Complete the job by using the InstaMatch wood filler kit that coordinates with the installed engineered flooring for minor corrections or areas where brad nails were used in the trim or the flooring. Clean the finished floor with Performance Accessories FloorCare Essentials Hardwood and Laminate Floor Cleaner.

To prevent surface damage, avoid rolling heavy furniture and appliances on the floor. Use plywood or appliance lifts if necessary. Use protective castors/castor cups or felt pads on the legs of furniture to prevent damage to the flooring.

IMPORTANT: If the floor is to be covered, the floor should be thoroughly cleaned prior to covering to prevent grit damage to the finish. Do not cover with plastic, red rosin, felt or wax paper, or previously used cardboard. Inks from printed cardboard could damage the hardwood floor. Instead, use a breathable material such as clean, dry, plain, uncoated cardboard or Kraft paper. A common reinforced builder's paper is a good choice. Any covering should be taped with a low-adhesion tape to base or shoe moldings. Avoid taping to finished flooring. When taping paper or sheets together, tape them to each other, not to the floor. The floor must be completely covered to eliminate uneven ambering from exposure to UV light.

Cleaning and Maintenance

Engineered hardwood floors are very easily maintained. No wax, no mess.

The best way to care for your new floor is to schedule routine maintenance, which includes sweeping the entire floor at least once a week to remove dirt and debris that may scratch the floor. High-traffic areas such as entrances and doorways will require cleaning more frequently, depending upon the amount of concentrated foot traffic. Following these easy steps is the key to keeping your new floor looking beautiful for years to come.

Step 1: Routinely sweep your floor with a soft bristle broom or use a vacuum designed for use on hardwood floors.

WARNING: Vacuums with a beater bar or power rotary brush head can damage a wood floor and should never be used.

Step 2: Apply Performance Accessories FloorCare Essentials Hardwood and Laminate Floor Cleaner to a clean cloth or microfiber mop; do not spray directly onto the floor. **DO NOT USE CLOTHS THAT HAVE BEEN EXPOSED TO FABRIC SOFTENER. IT COULD CAUSE STREAKING.** Use a back and forth motion with the mop. When the cloth or microfiber cover becomes soiled, simply replace it with a clean one. Cleaning the floor with a soiled cover could cause streaking.

Most microfiber mop covers are reusable and can be cleaned using a standard washer and dryer. Refer to the manufacturer's cleaning instructions when washing cloth or microfiber covers. **DO NOT USE CLOTHS THAT HAVE BEEN EXPOSED TO FABRIC SOFTENER. IT COULD CAUSE STREAKING.**

Tips and Warnings

- Sweep regularly with a soft bristle broom.
- Remove spills promptly and use Performance Accessories FloorCare Essentials Hardwood and Laminate Floor Cleaner.
- Use felt protectors under heavy pieces of furniture and chairs.
- Use transition mats at all exterior entrances.
- Never use rubber or latex-backed rugs on your floor. Rug pads should extend all the way to the edges of the rug to work properly. Any rug pad selected should be soft, nonstaining, and nonabrasive. Regularly clean under rugs and rug pads.
- Spiked heels, shoes in need of repair, or cleated athletic footwear can severely damage floor.
- Replace hard plastic or metal casters or wheels on furniture with soft rubber casters or use a protective mat under the casters.
- Never wet mop or use damp mop methods that allow moisture to puddle on the floor surface.
- Never use steam cleaners on your floor. This will force moisture into the finish and cause damage to your floor.
- Never use oil soaps, wax, liquid, or any other household products, surface cleaners, or polish not formulated specifically for use with hardwood flooring to clean your floor. Don't use 2-in-1 cleaners that contain acrylics or urethane polish to restore gloss. These products could damage your floor.
- Keep pet nails trimmed as recommended by your veterinarian.
- Protect your floor by using a dolly with clean, soft rubber tires when moving furniture or appliances.
- Use protective window coverings to protect hardwood floors from excessive heat during periods of direct sunlight.

Avoiding Scratches and Dents

With today's active lifestyles, it is important to note that hardwood flooring can, and will, scratch and dent. See Tips and Warnings for protecting your hardwood floor. In order to prevent excessive abuse, the use of strategically placed mats and area rugs as well as floor protectors on chair and table legs is a must.

Transition Mats

Non-rubberized transition mats should be used at all exterior entrances to minimize tracked-in soil and reduce moisture during inclement weather. Ideally, the purchase of two sets of transition mats for each exterior entrance will allow a fresh mat to replace the soiled mat during routine weekly cleaning. This will prevent the transition mat from becoming a soil source.

Exterior mats should be placed at all exterior entrances. Exterior mats should be constructed of dual fibers: soft fibers capable of absorbing moisture and coarse fibers to remove dirt and grime from shoe soles. Purchase two sets of exterior mats for each exterior entrance. Place one mat into service at all exterior entrances to reduce the amount of dirt, grit, and moisture tracked in the home. During routine cleaning, remove the first mat for cleaning and replace with second mat. Routinely clean exterior mats to prevent them from becoming a soil source.

Protection From Sunlight

Hardwood contains certain types of acids in its cellular structure. With exposure to sunlight, these acids begin to amber. The color change is referred to as patina. The wood will reach its own natural warm patina level and stop ambering. The amount of patina is directly related to the species, amount of acids, and the level of sunlight. This effect is often noticed after a rug is removed and the floor underneath is noticeably different in color. If you remove the rug and expose the entire floor to the same amount of light, it will even out over time and become uniform in color.

Warranty

Mohawk warrants that the factory-applied finish will not wear through or will not lack finish adhesion as a result of normal use. Additional structural warranty and moisture warranty may be applicable to this engineered hardwood. See your retailer for specific details and duration of warranty.

Preinstallation Subfloor Moisture Testing

Installer should use this section to record preinstallation moisture content readings. This completed form along with at least one carton end label, receipt of purchase, and the floor care maintenance instructions should be provided to the owner for owner’s records.

Wood Subfloor

Date:	
Installation company:	
Moisture readings taken by:	
Moisture content:	% Average moisture content of subfloor
	% Average moisture content of hardwood
	% Difference between subfloor and flooring

Concrete Subfloor

Date:	
Company performing concrete moisture readings:	
Moisture readings taken by:	
Test method used:	Calcium Chloride (ASTM F1869-23)
	RH (ASTM F2170-02)
	Electronic Meter
Moisture readings:	