

MT MONTANA COLLECTION

ID IDAHO COLLECTION



ENGINEERED HARDWOOD COMPLETE TECHNICAL GUIDE

TG03

INSTALLATION | MAINTENANCE | WARRANTY

For the most accurate and updated information please check our online version at www.my-nfp.com.





NATIONAL
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ENGINEERED HARDWOOD INSTALLATION GUIDE

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Prop 65 Warning: Drilling, sawing, sanding, or machining wood products generates dust, a substance known to the state of California to cause cancer. Use caution during the removal or sanding of existing flooring or other building materials as these may contain hazardous fumes, chemicals, or generate harmful dust. Check the substrate for any health hazards. Always wear safety equipment an approved dust mask.

For the most up-to-date installation, maintenance, and warranty requirements, please visit www.my-nfp.com. All warranties are based on installation and maintenance guides published on our website at the time of installation.

The intended end user and the installer should have a clear understanding of the expectations of the color, installation, and layout of the flooring. Carefully inspect the products before installation for any milling, dimensional, or visual defects. If the flooring supplied does not satisfy the customer, do not proceed with the installation. The decision not to proceed must be made within the first 10% or 100 sq. ft. of the flooring boxes opened, whichever comes first. Open boxes exceeding this amount will not be eligible for return.

[01] GENERAL JOBSITE/HOME CONDITION

ONLY INSTALL FLOORING IN ROOMS UNDER ADEQUATE LIGHTING CONDITIONS. TAKING THIS IMPORTANT STEP ALLOWS FOR GREATER VISIBILITY AND WILL HELP AVOID COSTLY INSTALLATION MISTAKES.

Important: The requirements listed below are considered standard practices for the flooring industry and are required by most building codes. Following these simple guidelines will greatly extend the life of any fixture in the jobsite/home. Local building codes may vary and will prevail.

- It is the responsibility of the jobsite/homeowner's designated installer to inspect flooring prior to installation. Inspect every plank for inconsistency with the finish, texture, milling, color, graining, tongue and groove integrity and dimensions. Also, check the suitability of the flooring product to its environment. Flooring products installed with pre-existing defects or that were incorrectly acclimated CANNOT be claimed after installation.
- Verify there are enough materials to complete the job with a minimum of 2% extra for future plank replacements. The manufacturer is not responsible for supplying materials for plank replacements unless the defective boards exceed 5% of the total floor installed.
- Drainage from roofs, rain gutters, and other sources of moisture around the jobsite/home must be directed away from the site. Moisture from these sources can severely damage the wood floor if it comes in contact with it.
- All exterior doors, windows, drywall, painting, venting, heating, and cooling systems must be properly installed prior to the delivery of the wood flooring to the job site/home. Do not store wood in exterior sheds or garages that are not temperature controlled.
- To prevent excessive moisture buildup, all crawl spaces must have a minimum of 1.5 square feet of ventilation for every 100 square feet of crawl space at the exterior of the house for cross ventilation, or an air exchanger will be needed. It may be necessary to install temperature/humidity activated exhaust fans to create air movement in the crawl space.
- If there is a crawl space, make sure there is at least 18" clearance from the dirt to the bottom

of the beams. Remove all cardboard from the concrete walls, pillars, and footings, as it will trap and hold moisture. The entire crawl space must be covered with a minimum of 6 MIL plastic (puncture resistant) with all seams overlapped 18" and fully sealed with a moisture proof tape.

- All heating and cooling systems are required to be installed and functioning for at least 14 days before the installation of the wood flooring begins.
- Use a hygrometer that reads temperature and RH (relative humidity) to check jobsite/home heating and cooling systems. They must be able to maintain a minimum of 35 to 55% RH and 65 to 80°F before and during the flooring installation. Post installation, the temperature must be maintained between 60 to 80°F.
- Small humidifiers are not capable of properly maintaining the humidity levels in large jobsites/homes. Local heating and cooling air service contractors can provide information for automatic humidifiers/dehumidifiers that work with the pre-existing heating and cooling systems.
- Wood flooring must be acclimated in the temperature controlled room it is being installed in. The amount of time it takes to properly acclimate wood flooring is determined by many variables such as: the moisture content of the jobsite/home substrate, interior/exterior air temperature, and flooring material moisture content.
- Wood flooring is not recommended to be installed in any area of the jobsite/home that has extreme temperature and moisture fluctuations. For example: saunas, hot tub/pool rooms, green houses, exterior porches, or garages. The manufacturer does not warrant against these types of moisture related issues or related damage under their warranty.

[02] IN-FLOOR RADIANT HEAT SYSTEMS RADIANT HEAT REQUIREMENTS FOR ENGINEERED WOOD

Visit www.my-nfp.com for the current list of products that are approved for in-floor radiant heat. There are unique installation requirements for flooring installed over radiant heat. Prior to installation, it is the responsibility of the jobsite/homeowner's designated installer to check with the manufacturer for a current list of approved installation methods and underlayment requirements.

- Engineered wood flooring CANNOT be installed over in-floor radiant heat unless it is clearly marked as approved for in-floor radiant heat. It is the jobsite/home owner and installer's responsibility to check with the manufacturer for a current list of approved wood products that are warranted for in-floor radiant heat installations.
- Operate the in-floor radiant heat systems for at least 14 days prior to the wood flooring being installed. All moisture in the substrate must be evaporated off. This will also ensure all systems are in good running condition.
- In-Floor Radiant Heat Systems: At no time during the life of the floor should the boiler setting exceed 110 degrees Fahrenheit, or the sub-floor surface temperatures never exceed 85 degrees Fahrenheit. It is recommended that the surface temperature stickers (heat sensors) be installed under the wood floor, directly over the in-floor radiant heat source for every 300 ft² installed. These temperature stickers can be used to validate the surface temperature never exceeding 85 degrees.
- A humidistat control system (humidifier) must be installed and properly functioning two weeks before, during, and after the installation for the life of the floor. This helps prevent checking or shrinkage caused by the loss of moisture from the in-floor radiant heat system.
- The in-floor radiant heat systems CANNOT be installed directly below the wood flooring. It must be embedded at least 1/2" in the concrete, gypcrete, or installed under the wood sub-floor. This will ensure the radiant heat is evenly distributed across the substrate before the heat comes into contact with the wood flooring
- When installing engineered tongue and grooved flooring planks longer than 6ft (72in) over radiant heat, it is recommended to glue (wood glue) all end seams together on that row to reduce end joint gapping.

IN-FLOOR RADIANT HEAT MOISTURE RETARDER REQUIREMENTS:

Be sure to only use moisture retarders that are approved for in-floor radiant heat systems. Check with local building codes and the manufacturer of the radiant heat systems for recommendations. Important: Do not use any moisture retarder that is oil or tar based over any type of in-floor radiant heat substrate, unless it is clearly marked suitable for radiant heat as these may give off toxic fumes.

- Glued down method: If the glue down method is being used, follow the adhesive manufacturer installation guidelines. Make sure both the adhesive and moisture retarders are approved for in-floor radiant heat applications. Some brands of wood adhesive simplify this by having a moisture retarder built in. For example TuffGrip adhesive has moisture retarder capability and when installed correctly, will easily do the job. Be sure to closely follow the sealant and adhesive manufacturer application procedures. All moisture protection and bond warranties come solely from the adhesive and sealant manufacturers.
- Floating method: If the floating method is being used, properly cover the entire substrate with 6 Mil plastic with an approved quality underlayment padding installed over the top, or use an approved quality 2-in-1 or 3-in-1 underlayment pad with a moisture retarder built in.



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All seams must be fully sealed with moisture proof tape. Be sure to follow the underlayment manufacturer's installation guidelines.

- Nail/Staple down method: If the nail/staple down method is being used, cover the entire substrate with AQUABAR "B" underlayment paper. Follow AQUABAR "B" guidelines for in-floor radiant heat installations.
- **IMPORTANT:** Be extremely careful when nailing/stapling over radiant heating systems, as improper fasteners or usage of tools may pierce the sub-floor, puncturing the heating element.

TURN IN-FLOOR RADIANT HEAT ON OR OFF DURING INSTALLATION

- For glued down wood floors, it is normally recommended to reduce or turn off the in-floor radiant heat to prevent the adhesive from curing too fast. After the installation is complete and all adhesives are cured, or at the onset of colder weather conditions, gradually raise the temperature to its normal operating level over a period of five days. Never raise the temperature up or down more than five degrees in a 24 hour period. Important: Follow all of the adhesive and sealant manufacturer guidelines, trowel sizes, suggestions, and procedures.

[03] MOISTURE SPECS FOR ENGINEERED WOOD

Important: One of the leading causes of wood flooring failures is moisture level inconsistency and/ or rapid swings in temperature on the jobsite/home. Wood flooring performs best when installed in a room with moisture levels in the air between 35% to 55% relative humidity, with air temperatures ranging between 65 to 75 degrees Fahrenheit. The humidity level and temperature of the air will also greatly impact the performance life of your furniture, cabinets, doors, and trim work.

DUE TO WOOD'S UNIQUE GRAIN STRUCTURE AND DENSITY, SOME MOISTURE METERS WILL NOT PROPERLY TEST ALL TYPES OF WOOD FLOORING. IT IS CRITICAL TO USE ONLY APPROVED MOISTURE METERS THAT HAVE BEEN PROPERLY CALIBRATED FOR YOUR PARTICULAR WOOD FLOORING AND ENVIRONMENT. INEXPENSIVE LUMBER TESTERS ARE USUALLY NOT ADEQUATE FOR TESTING WOOD FLOORING. THESE TYPES OF METERS CAN GIVE AN INACCURATE READING. PLEASE CONTACT A PROFESSIONAL FLOORING INSTALLER TO VERIFY YOUR MOISTURE METER IS APPROVED FOR TESTING WOOD FLOORING. FOLLOW THE MOISTURE METER MANUFACTURER'S INSTRUCTIONS ON HOW TO PROPERLY CALIBRATE AND USE THE METER. IT IS HIGHLY RECOMMENDED THAT ALL MOISTURE TESTING BE DOCUMENTED WITH PHOTOGRAPHS.

HOW TO TEST MOISTURE CONTENT OF ENGINEERED WOOD FLOORING AND WOOD SUB-FLOORS:

Using an approved pin or electromagnetic moisture meter, test both the wood sub-floor and wood flooring for moisture content labeled in percentages. The wood sub-floor and wood flooring should test within the same ranges as the highlighted area on the EMC chart shown below (usually between 6% to 10%, but never exceeding 12% moisture content).

- It is recommended to test multiple pieces of the wood flooring inside every box and every 100ft² of the wood sub-floor. Pay special attention to exterior walls and areas around plumbing fixtures. Never install wood flooring on any wood sub-floor that tests above 12% when using an approved meter.
- Engineered wood flooring moisture content must be dried down to within 3% of sub-floor moisture content before installation begins (follow the EMC chart below).
- If there are differences greater than 3% moisture content between the wood flooring and wood subfloor, check for possible sources of moisture from sources such as leaking plumbing fixtures or improper venting from the crawl space.
- How to read the EMC chart:
- Test the air for temperature and humidity levels in the room in which the flooring will be installed. The horizontal row on the top of the chart below is the humidity ranges. The vertical column on the far left is the temperature ranges. Where the two meet is what the general moisture content of your flooring should be. Important: This is only a guide, and is subject to change. Please consult a flooring professional for proper installation

		Equilibrium Moisture Content (EMC) Chart																			
		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	98
30° F	1.4	2.6	3.7	4.6	5.5	6.3	7.1	7.9	8.7	9.5	10.4	11.3	12.4	13.5	14.9	16.5	18.5	21.0	24.3	26.9	
40° F	1.4	2.6	3.7	4.6	5.5	6.3	7.1	7.9	8.7	9.5	10.4	11.3	12.4	13.5	14.9	16.5	18.5	21.0	24.3	26.9	
50° F	1.4	2.6	3.6	4.6	5.5	6.3	7.1	7.9	8.7	9.5	10.3	11.2	12.3	13.4	14.8	16.4	18.4	20.9	24.3	26.9	
60° F	1.3	2.5	3.6	4.6	5.4	6.2	7.0	7.8	8.6	9.4	10.2	11.1	12.1	13.3	14.6	16.2	18.2	20.7	24.1	26.8	
70° F	1.3	2.5	3.5	4.5	5.4	6.2	6.9	7.7	8.5	9.2	10.1	11.0	12.0	13.1	14.4	16.0	17.9	20.5	23.9	26.6	
80° F	1.3	2.4	3.5	4.4	5.3	6.1	6.8	7.6	8.3	9.1	9.9	10.8	11.7	12.6	14.2	15.7	17.7	20.2	23.6	26.0	
90° F	1.2	2.3	3.4	4.3	5.1	5.9	6.6	7.4	8.1	8.9	9.7	10.5	11.5	12.6	13.9	15.4	17.3	19.8	23.3	26.0	
100° F	1.2	2.3	3.3	4.2	5.0	5.8	6.5	7.2	7.9	8.7	9.5	10.3	11.2	12.3	13.6	15.1	17.0	19.5	22.9	25.6	

From the U.S. Dept. of Agriculture "Wood Handbook - Wood as an Engineering Material"

Accepted ranges for moisture content of wood sub-floors & flooring.

HOW TO TEST CONCRETE SUBSTRATES FOR MOISTURE CONTENT:

There are two widely accepted methods for testing moisture content of concrete, a Tramex Concrete Meter or a Calcium Chloride test. Always follow the manufacturer's instruction manual on how to properly use these methods.

- Concrete substrates must cure for a minimum of 60 days before flooring is ever installed.
- When using the Calcium Chloride test, the maximum acceptable moisture content is 3lbs. per 1000 ft² for a 24 hour period. One of these tests must be completed and documented for every 250 ft² being covered with wood flooring. When using the Tramex Concrete moisture meter, the maximum acceptable moisture content is 4.5 using the upper scale.

HOW TO TEST GYPCRETE SUBSTRATES FOR MOISTURE CONTENT:

- Gypcrete substrates must cure for a minimum of 60 days before flooring is ever installed.
- For gypcrete substrates, relative humidity testing is the only acceptable way to measure moisture content. The ASTM F2170-11 standard must be followed. For more information visit RHSPEC.com
- If the concrete or gypcrete substrates test above the maximum moisture content or RH levels, contact a flooring professional or visit NWFA.com for methods of how to reduce or control the moisture in the substrates.

[04] ACCLIMATION TIPS FOR ENGINEERED WOOD

Important: Wood flooring traditionally comes in two distinct construction types, solid and engineered. These different construction types can also be packaged and manufactured differently. Be sure to read the manufacturer's installation guides inside each box for particular requirements on acclimation. The information below is only a general guide until you receive the actual boxes of wood.

General acclimation tips: When the have the moisture content of the substrate is documented and it is acceptable for wood flooring, deliver the wood flooring to the jobsite/home. Test the wood flooring planks with an approved moisture meter. Write the wood flooring moisture content on the back of the planks, and then place the planks back in the box. After 48 hours, check the planks to see if the moisture content is increasing or decreasing. Document these changes on the back of the planks. Repeat these steps until the wood planks have achieved an equilibrium point, neither gaining nor losing moisture. Once the engineered wood planks test within the acceptable range (within 3% of the substrate), it can then be installed.

- Always acclimate the wood flooring in the temperature controlled room it will be installed in.
- Wide plank wood flooring generally takes longer to acclimate than narrower planks. Wide plank wood flooring has a greater chance of shrinkage or expansion issues if it is not properly acclimated.
- Run a humidifier/dehumidifier as needed to maintain proper humidity levels. Keep relative humidity in the air between 35% to 55% for at least one week before the delivery of the wood flooring.
- Wood flooring will usually acclimate while in the box if there is no plastic covering the wood flooring or the box. Some wood flooring products are wrapped in plastic to protect the materials from absorbing moisture in transit or in storage. If the wood flooring or the box is wrapped in plastic, remove it. This will allow the wood flooring to acclimate properly.
- Avoid loading wood flooring into the jobsite/home when it is raining. If the boxes of wood flooring get wet it can extend the amount of time it takes for the wood flooring to acclimate.
- Never cover wood flooring before, during, or after installation with any type of plastic or tar paper. It must be allowed to breathe. Use only breathable materials like construction paper to protect a wood floor.
- The boxes of wood flooring need to be elevated a minimum of 4" off the concrete substrate during the acclimation period.
- Keep the stacked boxes/loose planks of wood flooring a minimum of 3" apart to allow air circulation around the boxes.
- Installing wood flooring before it has properly acclimated will greatly increase the chances of checking, shrinkage, and/or squeaking and popping issues, and may void your warranty.
- Depending on the environment, engineered wood floors can acclimate within 2-4 days.
- A minimum of 48 hour acclimation period is required.
- Propane heaters are not an approved source of heat and can give off extreme amounts of moisture and do not provide a reliable and consistent source of heat. The manufacturer warranty will be void if the jobsite/home's heating and cooling system were not fully operational at least two weeks prior to installation.

[05] APPROVED VAPOR RETARDERS FOR ENGINEERED WOOD

FLOATED ENGINEERED WOOD FLOORS: THERE ARE TWO DIFFERENT SYSTEMS FOR FLOATING APPLICATIONS.

- Option #1 - Underlayment padding usually referred to as 2-in-1 or the upgraded 3-in-1 underlayment, has a moisture retarder built in. Follow underlayment installation instructions.
- Option #2 - 6 MIL plastic stretched over the entire substrate with seams overlapping a minimum of 6" and all seams fully taped with moisture proof tape, then a basic underlayment pad is installed over the top of the plastic.



GLUED DOWN ENGINEERED WOOD FLOORS:

- Use an approved, troweled-on, sealant or two-part epoxy coating that is compatible with the adhesive. Some brands of wood adhesive simplify this by having a moisture retarder built in. For example: Taylor MS-Plus Advance adhesive has moisture blocker properties when installed correctly and will easily do the job. Be sure to closely follow the sealant and adhesive manufacturer application procedures. All moisture protection and bond warranties come solely from the adhesive and sealant manufacturers.

NAILED/STAPLED DOWN WOOD FLOORS: THERE ARE TWO DIFFERENT SYSTEMS FOR NAIL/STAPLE DOWN APPLICATIONS.

- Option #1 - The easiest system to use is AQUABAR "B" underlayment paper. It is light, easy to install, and will not mark up the walls. Follow AQUABAR "B" installation instructions.
- Option #2 - 15lb. roofing felt. Some restrictions may apply with this system. Be sure to follow all local building codes. Tape all seams with moisture proof tape.

[06] APPROVED SUBSTRATES FOR ENGINEERED WOOD FLOORS:

3000 PSI CONCRETE, OSB/CHIPBOARD, PLYWOOD, PLANK SUB-FLOORING 3-1/4" AND UNDER

- Cured concrete, minimum 3000 PSI or cured gypcrete over 2500 PSI Both of these substrates must be free of any type of top coating, plaster, non approved sealers, paints, or curing compounds.
- Acceptable minimum wood sub-floor thickness is determined by the distance between the joists/trusses.
 - When joists are 16" o/c or less; minimum acceptable thickness is 5/8" CDX plywood or nominal 3/4" OSB 40lb. Minimum density, T&G, with a TECO or APA certification stamp.
 - When joists are 16" o/c up to 19.2" o/c; minimum acceptable thickness is 3/4" plywood or nominal 3/4" OSB 40lb. Minimum density, T&G, with a TECO or APA certification stamp.
 - When joists are 19.2" o/c up to 24" o/c; minimum acceptable thickness is 7/8" plywood or nominal 1" OSB 40lb. Minimum density, T&G, with a TECO or APA certification stamp.
- Wood plank sub-flooring under 3-1/4" wide. It must be properly installed with vertical deflection under 1/4" over a 6' span. Important: Do not glue any wood flooring down over a wood plank sub-floor. If the wood planking has lippage or any type of crowning or buckling, it must be sanded smooth and CANNOT have any dips or rises exceeding 3/16" over 10' or 1/8" over 6'. If there is, and it was not corrected prior to the wood installation, the manufacturer warranty will be void.
- **Important:** Never fasten or glue wood flooring down over particle board sub-floors. Either remove the particle board or install new 5/8" thick plywood over the particle board. Install the new wood floor over the new plywood. The only install method that can be used directly over particle board is the engineered floating method, as long as there are no current or future moisture concerns from below or above. If moisture comes in contact with the particle board it will swell and void the manufacturer warranty.

[07] GENERAL SUBSTRATE CONDITIONS FOR ENGINEERED WOOD

- Engineered wood flooring can be installed over wood sub-floors that are ON or ABOVE GRADE and over concrete or gypcrete substrates that are ON, ABOVE, or BELOW GRADE, as long as the installation method is approved.
- Do not fasten wood flooring directly over an ACQ grade plywood sub-floor. ACQ grade plywood has corrosive properties that will break down fasteners. To ensure proper sub-floor construction for nail/staple down installations, verify the plywood or OSB sub-floor is exterior grade with a TECO or APA certification stamp. • Wood sub-floors (when walked on) must not exceed 1/4" deflection over a 6' span. If it does, this condition must be corrected before the installation begins. The sub-floor will not stiffen up after the wood flooring is installed.
- Do not nail/staple or glue down new wood flooring over any existing wood plank flooring wider than 3-1/4". If the wood plank flooring is wider, properly fasten a new 5/8" thick plywood layer over the top. Install the wood floor directly over the new plywood.
- Fix all squeaks coming from the wood sub-floor prior to installation. Use wood screws, minimum of 2-1/2" lengths, fastened every 6" through the wood sub-floor into the joist. Squeaks in the sub-floor will not go away after the wood has been installed.
- All substrates must be flat and free of dust, loose particles, paint, drywall compound, and must be structurally sound.
- If leveling of the substrate is required, use only cement-based leveling compounds. Be sure to follow the leveling compound manufacturer's installation guidelines.
- Sand and/or flatten the substrate to within 3/16" dip or rise over 10' or 1/8" dip or rise over 6' for all nailed/stapled, floated, and glued down installations. Important: Hand held angle grinders with special cupped diamond grinding wheels and vacuum attachments can be rented

or purchased from your local rental or home building center. This system works well with any type of substrate. Use precautions when sanding any surface. Check the substrate for any health hazards. Always wear safety equipment an approved dust mask.

[08] APPROVED INSTALLATION METHODS FOR ENGINEERED WOOD T&G FLOORING

Most engineered wood floors can be installed using the nail/staple/glue down, or floating installation methods.

NAIL/STAPLE DOWN METHOD:

Never nail/staple down, or fasten flooring over the top of any underlayment pad, cushion, or foam.

- Approved fasteners to nail/staple down engineered wood floors up to 9/16" thick:
 - Staples, 1/4" crown, 18 Gauge, minimum 1-1/2" long.
 - Cleats, "T" or "L", 18 Gauge, minimum 1-1/2" long.
- When nailing/stapling down a wood floor, fastener spacing needs to be 1-1/2" from the ends of the plank and every 3" - 4" along the tongue. Fasten a minimum of two fasteners into every plank shorter than 10'.
- Adjusting the head of the fastener tool and/or air pressure will ensure the fastener is not set too deep or too high in the tongue. Failing to do so will create a loose, squeaky floor. Be careful not to break the tongue. If the tongue is broken during installation, replace the plank.
- When nailing/stapling down wood flooring, leave at least 1/4" expansion gaps around every row end, and 1/2" expansion gaps around the row widths.
- If the groove side exhibits excessive up/down movement, it will be necessary to use the glue down method. If the flooring is installed with this condition, the manufacturer warranty may be void.
- Working off the longest straight wall, snap a chalk line parallel with the wall that is equal to the width of the wood flooring plus enough room for the expansion gap. Use blocks of the flooring to maintain the proper expansion gap around all vertical objects coming off the floor (including walls). Keeping the tongue facing out, nail/staple down the first row while using the snapped line as a guide. This will ensure a solid and straight platform to install the next rows against. Once the wood floor installation is complete, remove all spacers or blocks that were used to maintain the expansion gap.
- Clean the nailer/stapler base plate regularly to ensure it does not damage the finish of the flooring.

GLUE DOWN METHOD:

Use only urethane-based adhesives approved for wood flooring. Never use any water-base adhesives. (Approved adhesives: Taylor MS-Plus, Bostik's Best, Dri-Tac 7600, Parabond 4002, and Sika Bond T55). All adhesive bond warranties come solely from the adhesive manufacturer. Follow all adhesive manufacturer guidelines, trowel sizes, and suggestions. Most flooring manufacturers require that the adhesive is adhered to a minimum of 98% of the bottom of the wood flooring. Periodically check to make sure the trowel notches are clean and are not worn out.

- Verify with the adhesive manufacturer to make sure the jobsite/home substrate is approved with their adhesives.
- When gluing over concrete or gypcrete substrates, remove any concrete sealers, paint, dust, or drywall compound.
- Follow adhesive manufacturer guidelines on alkalinity levels on concrete or gypcrete surfaces.
- During the wood installation, roll the new floor with a soft 100-150lb. roller while the adhesive is still active, and again within 45-60 minutes.
- Use only green/blue 3M/Scotch tape model #2080, or (preferably) a flooring clamp system to hold the engineered wood floor together while the adhesive is drying for a minimum of one hour. Remove tape within 6 hours to avoid damage to the finish. Allow the adhesive to dry 24 hours before heavy traffic begins. Never apply duct tape or packing tape directly to the surface of the wood finish. These tapes can damage the finish.
- Leave at least 1/4" expansion gap around every row end, and 1/2" expansion gap around the row widths.
- Glue the floor down working off the longest straight wall. Keep the tongues facing out. Use blocks of wood to keep the proper expansion gap around all vertical objects coming off the floor. Snap a chalk line parallel with the wall that is the width of the wood flooring, plus enough room for the expansion gap. Glue 3-5 rows down to the substrate using the line as a guide. Keep the planks tight using a clamp system and/or 2" green/blue 3M tape. Allow the first rows to dry for a minimum of one hour before installing successive rows. This will ensure a solid and straight platform to install up against the next rows. When the wood floor installation is completed, remove all spacers or blocks that were used to maintain the expansion gap.
- Clean all adhesive residue off the wood floor before it dries. Removing dried adhesive from the top of the wood surface may damage the finish. Be sure to follow the manufacturer guidelines on adhesive removers.

NEVER INSTALL CABINETRY, ISLANDS, OR OTHER PERMANENT FIXTURES ON TOP OF A FLOATED FLOOR. NEVER USE NAILS TO SECURE ANYTHING TO THE FLOOR. THE FLOOR MUST BE ALLOWED TO FLOAT.

FLOATING METHOD (T&G GLUE):

For T&G glued together floated engineered flooring, transition strips/breaks are required every 40 feet (lengthwise), every 30 feet (widthwise), and at each doorway.

- If the wood flooring has a tongue and groove and it is being floated, only use NFP Premium PVA (Poly Vinyl Acetate) Wood Glue (SKU# 72 PWA). This glue is non-toxic.
- Glue the upper inside portion of the grooves with a 3/16" bead. Always apply glue to the groove, not the tongue. To avoid plank separation do not over-apply glue. Pull boards apart at random intervals to make sure there is 98% glue coverage on the tongue. When using the floating method, stagger seams 12"-15".
- Working off the longest straight wall, snap a chalk line parallel with the wall that is equal to the width of the wood flooring, plus enough room for the expansion gap. Use blocks of the flooring to maintain the proper 1/2" expansion gap around all vertical objects coming off the floor (including walls). Keeping the tongue facing out, glue three to five rows together while using the snapped line as a guide. Keep the planks tight with a clamp system and/or green/blue 3M/Scotch tape model #2080. Clean all glue residue off the wood floor before it dries. Allow the first rows to dry for a minimum of one hour before installing the next rows. This will ensure a solid and straight platform to install the next rows against. Once the wood floor installation is complete, remove all spacers or blacks that were used to maintain the expansion gap.
- Remove any excess glue as you are installing the wood floor with warm soapy water on a clean terry cloth rag, and then dry immediately. Do not let the glue dry on the surface of the wood flooring. Removing glue after it has dried (even partially) may damage the wood's finish.
- Use only green/blue 3M/Scotch tape model #2080 or (preferably) a flooring clamp system to hold the wood flooring together while the glue is drying for a minimum of one hour. Remove tape within 6 hours to avoid damage to the finish. Allow the glue to dry 24 hours before heavy traffic begins. Never apply duct tape or packing tape directly to the surface of the finish. These tapes can damage the wood's finish.

[9] INSTALLATION GUIDELINES

- Before installation begins, use a jamb saw to undercut all door casings and vertical objects coming off the floor. To achieve the correct height, combine a piece of the underlayment padding and wood flooring together to use as a guide for the saw. Be sure to clean out all debris from under the jambs. This will allow the flooring to slide underneath the object for a clean professional look.
- When installing wood floors, try to avoid installing short boards in the middle of the floor. Use these boards for closets, under appliances, and starter/end cuts.
- When ready to install, open up and work with at least five boxes at a time. Check for any defects and thoroughly mix the planks to avoid groupings of similar colors, sizes, and graining. Be sure to stack the planks on a flat surface to reduce plank warping.
- Plank flooring generally shows fewer seams and imperfections if it is installed lengthwise into the light.
- Avoid "H-Seams" in the wood flooring for cosmetic and structural reasons. "H-Seams" are when two wood flooring end joints are laid parallel to each other within three rows.
- Stagger end joints more than 6" from each other for both cosmetic and structural reasons.
- The room will seem longer whichever direction the wood flooring is laid lengthwise.

[10] HOW MUCH WASTE IS GOING TO BE INCURRED?

The waste factors below are only a guide. Jobsite/home conditions and personal taste may vary. Always inspect every plank prior to installation. When practical, use cut pieces with at least one factory end joint to reduce waste. The recommended waste factor for first-quality flooring products is 5% of the total job.

Important: Adding additional materials to the total square footage of the entire job can allow you to be more selective with the actual wood flooring that is installed. The additional waste factors below are only recommendations. If you are concerned about:

- Color or graining: add an additional 2-4%
- Board lengths: add an additional 1-2%
- Small, cut up rooms with lots of vertical objects: add an additional 1-2%
- Installing on a diagonal: add an additional 5-10%

[11] INSTALLATION TIPS FOR HOW TO IMPROVE THE LOOK OF YOUR WOOD FLOOR

Important: Install your wood floor under good lighting conditions. Examine each plank carefully. Contact the dealer immediately if the material is not acceptable. Materials installed with visible defects are not covered under warranty. The manufacturer will not assume any responsibility for installed materials.

- To avoid trims not matching the shade or graining of the floor, match wood planks up to the trims before installation begins and set those pieces aside. Install these trims up against the matching wood planks.

[12] HOW TO PROTECT THE FLOOR DURING & AFTER INSTALLATION

- After each section of flooring has been installed and thoroughly cleaned, cover the floor with breathable construction paper (FortiBoard). Do not apply the tape directly to the surface of the flooring. It may damage the finish.
- During construction, vacuum the floor as often as possible to keep the floor free of dirt and construction debris. Never use a beater brush.
- If drywall repairs or any type of sanding is needed, thoroughly cover the floor. These types of dust and grit can damage the floor's finish and are very difficult to remove if it gets into the joints. Do not wet mop these types of dust. Always use a vacuum without a beater brush to remove any construction dust if needed.
- Before furniture goes onto the new floor, apply approved 3/16" thick heavy-duty felt pads under all furniture feet.
- Furniture with metal or hard plastic rollers or casters are NOT APPROVED for use on engineered flooring.
- Never roll or drag anything heavy over the new floor. It will make indentations or scratches in the surface. Always use a soft-tire dolly when moving objects or a carpet piece turned upside down or an air-sled

ENGINEERED HARDWOOD CARE AND MAINTENANCE GUIDE

Please thoroughly review all care and maintenance guides before the new flooring is cleaned. Using the wrong type of floor cleaner can severely damage the floor's finish. These guides can be found online at www.my-nfp.com

GENERAL MAINTENANCE:

- The predominant cause of damage to a floor's finish is abrasion from dirt and grit. It is important to use walk off mats at entrances and doorways and non-staining floor protectors under heavy furniture, chairs, and tables.
- Visit www.rugpadusa.com for rug cushions. Use rugs that are made specifically for vinyl floors.
- Shake them out regularly. Place rugs in any area where water is in use, such as sinks or a pet's water dish.
- To prevent the floor from overheating or trapping moisture, never cover the flooring before, during, or after installation with any type of non-breathable or excessively thick rugs, mats, solid surface items, plastic, or a mattress that is laid directly onto the floor. It must be allowed to breathe.
- Always apply heavy-duty felt furniture pads (at least 3/16") to all furniture feet.
- Metal and hard plastic casters are not approved for use on floors and may void your warranty.
- Over time, floors may begin to lose their brilliance and require an application of floor polish.
- Frequency and location will depend on the traffic the floor undergoes. A good quality floor polish like "Hilway Direct" can provide up to a year of protection in high traffic areas. Please visit www.hilway.com for information.
- Oil or petroleum-based products can stain flooring surfaces. Do not track asphalt-driveway sealer, motor oil, wood stains, or similar products onto the vinyl floor covering.
- Any flooring may become slippery when wet. Immediately wipe up wet areas from spills and be careful walking on any newly cleaned floor while it is wet.

PET GUIDE:

Protecting the beauty of your floor can be easy, even with pets. Follow these simple guidelines to keep your flooring in good condition while having indoor pets.

- Clip your pet's nails regularly. If you can hear the nails clicking on the floor, they need to be trimmed.
- Wipe up any pet waste/vomit as quickly as possible. These accidents if not properly cleaned up and/or left for long periods of time are harsh and can damage the finish.
- It is recommended to use natural fiber rugs or a riser to keep water bowls off the floor.
- If your pets are hyper and like to run and slide across the floor, it is recommended to place rugs in these areas to protect the floor.

APPROVED CLEANING METHODS:

- Vacuum (WITHOUT BEATER BRUSH), dry mop, or sweep your floor at least once a week or more if needed. Do not let sand, dirt, or grit build up. It will act like sandpaper and abrade and dull the finish. ZEP Neutral Floor Cleaner applied with microfiber pads with a terry cloth cover is the recommended way to clean your floor. The best method of removing dirt and grit is vacuuming with a soft brush attachment on your vacuum.
- After all dirt and grit particles have been removed (using a vacuum, dry mop, or broom) lightly spray a mist of the cleaner over a 4' x 6' area of your floor or directly on the cleaning cloth. Thoroughly clean the floor surface and dry if needed. Finish one area before moving onto the next. Repeat the process until the floor is clean. When the ZEP cleaning cloth becomes soiled, rinse with water, thoroughly wringing out the cloth. Once the cleaning cloth becomes excessively soiled, launder and reuse. Excessively soiled cleaning cloths will cause streaking and can abrade the floor.
- Cleaning Vinyl flooring with any type of wood polishes, Murphy's Oil Soap, Mop & Glo, furniture polishes, acidic cleaners (ammonia/bleach) will damage the finish and will void the manufacturer warranties. Always follow the installation and maintenance located on our website.

ENGINEERED HARDWOOD LIMITED LIFETIME WARRANTY INFORMATION

WHO IS COVERED?

- All warranties in this Limited Warranty are given only to the original retail purchaser (end user) of the product. For the warranty to take effect, the wood flooring must be paid for in full and used for personal residential use. Wood purchased for resale is not covered. This warranty does not cover any wood products installed in rentals, nonresidential, or commercial locations. All warranties are non-transferable.

REGISTER AT WWW.MY-NFP.COM UNDER THE "REGISTER MY FLOOR" TAB

WHAT IS COVERED?

- The limited warranties are subject to the wood flooring product applications, limitations, disclaimers, and exclusions described below and are effective for floors purchased after May 1, 2008. All warranties begin from the date of retail purchase.

STRUCTURAL

- We warrant to the original retail purchaser that the wood flooring in its original manufactured condition will be free from defects in lamination and assembly for the warranty period. Please see the warranty found in every box of the wood flooring. Warranty durations will vary depending on the wood flooring products purchased.

FINISH

We warrant to the original retail purchaser that the wood flooring in its original manufactured condition will be free from defects in lamination and assembly for the warranty period. Please see the warranty found in every box of the wood flooring. Warranty durations will vary depending on the wood flooring products purchased.

QUALITY ASSURANCE

- We warrant that the covered wood flooring products meet our quality standards. You or your installer should carefully inspect the products before installation for any milling, dimensional,

or visual defects. Since wood is a natural product, there will be natural variations in color, tone, hardness, texture, and graining that are not covered by this warranty. This pre-installation warranty expires upon installation.

WHAT ARE THE CONSUMER'S RESPONSIBILITIES UNDER THIS WARRANTY?

- To be covered under the manufacturer warranty you need to retain your sales slip and all documents related to the flooring purchase.
- The wood flooring purchase. The wood flooring must be properly installed in accordance with our installation instructions. The manufacturer strongly advocates the use of licensed, experienced installers for best results. If using a professional wood flooring licensed installer, you may be asked for the name and license number when submitting a claim. You must also keep your proof of pre-installation moisture test results as we may request this information from you when submitting a claim under this warranty.
- The installer/owner of the pre-finished wood flooring has the final inspection responsibilities as to the grade, manufacturing, texture, color, graining, dye lot, and factory finish. They must use reasonable selectivity and hold out or cut off pieces with glaring defects, whatever the cause. Use of the manufacturer care products or wax sticks for defect correction during installation should be accepted as normal procedure. When pre-finished flooring is ordered, 5% must be added to the actual footage needed as allowance for cutting, waste, and mismanagement. Should an individual piece be doubtful as to grade, manufacturing, texture, color, graining, dye lot, shipping damage, factory finish, those defect materials shall not be more than 5% of total. Wood flooring color variations or darkening are a natural occurrence and may be due to exposure to sunlight. Wood samples will not always exactly match the wood flooring received. Inherent variations in grain or color are not considered as manufacturing defects.
- Maintenance must be properly performed as needed in accordance with the manufacturer care and maintenance guidelines.
- To ensure repairs can be made in the future it is required a minimum of 2% of the floor or one box, (whichever is great) be kept in unopened boxes in a temperature-controlled room. This 2% can be used by the manufacture for plank replacement as needed.

WHAT IS THE MANUFACTURER'S RESPONSIBILITY UNDER THIS WARRANTY?

- PRE-INSTALLATION - If any of the covered events occur within the warranty period, the manufacturer will recoat, refinish, fill, or furnish comparable flooring (manufactured by us and of similar pricing, and quality) for either the repair of the defective area or the replacement of the floor, at manufacturer's sole discretion. Wood floors that were professionally installed correctly will be eligible for labor cost reimbursement up to \$3.50 per square feet. On wood floors that need to be repaired or replaced, the manufacturer may hire an installer/repairman of the manufacturer's choice and pay all reasonable labor costs up to the maximum allowable per square foot limit for direct repairs within the first five (5) years of the warranty period or the length of the warranty period, whichever is less. If the wood floors were installed incorrectly by a non-licensed installer, the manufacturer assumes no responsibility for any labor cost associated with such repairs or replacement. In the event that we are unable to correct the problem after a reasonable number of attempts or if the replacement or repairs fail in the same manner a second time, we will refund the portion of the purchase price for the section of failed flooring. These warranties do not include removal or replacement of cabinets, electrical fixtures, plumbing fixtures, handrails, transitions above 4" in height, furniture, or any other fixtures of the job site/home. These are the exclusive remedies under this warranty if a defect or other warranted condition occurs. We reserve the right to verify any claims or defect by inspection and have samples removed for technical analysis.

WHAT IS NOT COVERED UNDER THIS WARRANTY?

- Wood flooring installed in full bathrooms with a shower or tub.
- Damage caused by fire, flooding, and other natural disasters.
- Damage caused by negligence, accidents, misuse, abuse, or man-made disasters.
- Damage caused by vacuum cleaner beater bar or hard heads (see care and maintenance guidelines).
- Damage caused by appliances, furniture, and casters (see care and maintenance guidelines).
- Damage caused by cutting from sharp objects (see care and maintenance guidelines).
- Damage caused by the use of NON-APPROVED cleaning products or methods such as: wax, oil soaps, wood polish, alkaline products, any abrasives, wet or steam mopping, etc.
- Construction or installation related damage. (EX: chips, dents, scratches, or fastener bulging)
- Reduction in gloss, scratches, or indentation due to sand, pebbles, other abrasives, pets, insects, construction traffic, or failure to maintain the floor as required (see care and maintenance guidelines).



- Color, shade, or texture variations between samples, printed color photography, or replacement flooring and the actual material.
- Color variations between flooring and/or samples and other flooring or wood products which you wish to match such as: cabinets, stair railings, or trim.
- Fading or color change due to UV rays from natural sunlight (see care and maintenance guidelines).
- Any wood flooring cleaned with steam or wet mops.
- Deficiencies related to sub-floor/floor joist assemblies, sub-floor preparation materials, and fasteners including, but not limited to, uneven sub-floor surfaces, floor deflection, or voids in the sub-floor.
- Noises (squeaking, popping, crackling, etc.) associated with sub-floor movement.
- Staple or nail pullout from sub-flooring.
- Naturally occurring wood characteristics such as variations in grain, color, mineral streaks, and knots.
- When you receive the wood flooring products, you must thoroughly inspect all flooring products in each carton ordered before permanent installation. The manufacturer is not responsible for any labor or damages incurred by delivery delays, wood product not matching samples, wrong product, dye lot (mismatch), installation, or job site conditions. The installer/owner is the final inspector and assumes the responsibility to determine if the product is correct and acceptable before installation begins.
- The wood flooring must have always been stored and acclimated properly in the temperature-controlled room where it is to be installed. For example: No long-term storage in pool rooms, unheated garages, out-house, shed, enclosed trailers, or attics.
- The wood products must be installed in accordance with all manufacturer installation guidelines.
- Seasonal checking caused by natural expansion and contraction resulting in cracks, checks, separation between boards, or damage caused by low or excessive humidity. Due to inherent characteristics of exotic wood, fine cracks may develop in the face of the wood. These cracks will not take away from the beauty and performance of your floor but can be minimized by following the relative humidity guidelines of 35% - 55% maintained year-round inside your home.
- Wood floors installed without an approved moisture barrier on excessively moist substrates with a moisture content above 3 pounds per 24 hours per 1,000 square feet are not covered under the warranty. In addition, prior to installation, the installer should make certain that sub-floors are properly inspected for moisture conditions according to the NWFA guidelines. (www.nwfa.org) All moisture testing must be documented with photos.
- The warranty does not apply if the wood products are installed with NON-APPROVED wood floor adhesives. DO NOT use any adhesives that contain any water. All bond and moisture related warranties comes solely from the manufacturer of the adhesive and moisture retarders. The wood manufacturer is not liable for bonding or moisture related warranted failures.
- The warranty DOES NOT cover wood flooring products installed over in-floor radiant heating systems unless the product has been specifically approved and the correct installation method was used for over in-floor radiant heating systems. The in-floor radiant heating system must meet all requirements specified in the NFP and manufacturer installation guidelines. Seasonal checking (small cracks in the finish) or gapping between boards may occur on any wood floor installed over an in-floor radiant heating system and is not considered a defect.
- All wood flooring damage caused by in-floor heating element not embedded in the substrate.
- The warranty does not apply to products designated as "BARGAIN," "CABIN GRADE," "SECONDS," "CLOSEOUT," "DISCONTINUED," OR "NON-STANDARD." SUCH PRODUCTS ARE SOLD "AS IS."
- Commercial installations, unless otherwise notated pre-installation.
- Damage caused from excessive moisture coming from any source that exceeds the substrate/subfloor maximum moisture content levels set by the manufacturer in this guide.
- Motorized wheeled objects or wheelchairs Exceeding total 300 pounds of rolling weight, which are not covered under the terms of this warranty.
- Floors damaged or adhesive breakdown caused by subfloor moisture or water damage, including without limitation, due to broken or leaking water pipes, ground moisture, flooding, wet mopping, steam mopping, damage, or unapproved cleaning agents.
- Installation defects, including but not limited to, installations made: (I) upon improper acclimation; (II) in violation of applicable state or local housing or building codes, or (III) by non-licensed installers, (IV) contrary to written instructions furnished with the product.
- NOTE: THE PURCHASER AND THE INSTALLER CHOSEN TO INSTALL THE FLOOR ARE RESPONSIBLE TO INSPECT THE FLOORING PRIOR TO INSTALLATION. WE ACCEPT NO RESPONSIBILITY FOR LIABILITIES, CLAIMS OR EXPENSES, INCLUDING LABOR COSTS, WHERE FLOORING WITH VISIBLE DEFECTS HAS BEEN INSTALLED.

EXCLUSIONS FROM THIS WARRANTY INCLUDE

- NO RETAILER, DISTRIBUTOR, MANUFACTURER, EMPLOYEE, OR SALES AGENT REPRESENTATIVE HAS THE AUTHORITY TO ALTER THE OBLIGATIONS, LIMITATIONS, DISCLAIMER, OR EXCLUSIONS UNDER ANY OF OUR WARRANTIES. WE EXCLUDE AND WILL NOT BE LIABLE FOR OR PAY INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES UNDER OUR WARRANTIES. MEANING ANY LOSS, EXPENSE, OR DAMAGE OTHER THAN TO THE FLOORING ITSELF THAT MAY RESULT FROM A DEFECT IN THE FLOORING. OUR LIMITED WARRANTIES CONSTITUTE THE ONLY EXPRESSED WARRANTIES FOR THE PRODUCT PURCHASED.
- YOUR EXCLUSIVE REMEDY AND MANUFACTURER'S SOLE LIABILITY OF ANY CLAIM, WHETHER IN TORT, CONTRACT, OR BREACH OF WARRANTY, SHALL BE LIMITED TO THE REPAIR, REPLACEMENT, OR REFUND OF THE APPLICABLE PURCHASE PRICE OF THE DEFECTIVE GOODS AS SPECIFIED HEREIN. IN NO EVENT AND FOR NO CAUSE WHATSOEVER, INCLUDING ANY BREACH OR DEFAULT BY NEGLIGENCE, SHALL MANUFACTURER HAVE ANY OTHER LIABILITY (INCLUDING WITHOUT LIMITATION INCIDENTAL, CONSEQUENTIAL, OR PUNITIVE DAMAGES) OR ANY MONETARY LIABILITY TO YOU IN EXCESS OF THE CONTRACT PRICE OR PRICES OF THE PERTINENT PRODUCTS IN QUESTION.
- FOR CERTAIN PRODUCTS ANY OR ALL DISPUTES ARISING OUT OF MANUFACTURER'S WOOD FLOORING

PRODUCTS OR THIS WARRANTY SHALL BE SUBJECT TO MANDATORY AND BINDING ARBITRATION IN LOS ANGELES, CALIFORNIA, PURSUANT TO THE RULES OF AMERICAN ARBITRATION ASSOCIATION. ANY TRIALS BY JURY ARE EXPRESSLY WAIVED.

- THIS WARRANTY DOES NOT APPLY TO DISCONTINUED ITEMS, CLOSE OUT ITEMS, OR ITEMS SOLD "AS IS" ALL SUCH PRODUCTS ARE SOLD "AS IS" AND SHALL NOT HAVE ANY WARRANTY OF ANY KIND, INCLUDING, BUT NOT LIMITED TO, ANY EXPRESS WARRANTIES, IMPLIED WARRANTIES, WARRANTIES OF MERCHANTABILITY (EXPRESS OR IMPLIED), WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE (EXPRESS OR IMPLIED), OR ANY OTHER WARRANTIES REQUIRED BY LAW OR FACT.
- SOME JURISDICTIONS DO NOT ALLOW EXCLUSION OR LIMITATIONS OF INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LIMITATIONS ON HOW LONG IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.
- THESE WARRANTIES GIVE YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM JURISDICTION TO JURISDICTION.

TO THE EXTENT PERMITTED BY LAW AND FOR ALL NON-CONSUMER PRODUCTS, ALL WARRANTIES OTHER THAN OUR LIMITED WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE DISCLAIMED. IF ANY IMPLIED WARRANTY ARISES UNDER STATE LAW, ANY AND ALL IMPLIED WARRANTIES (INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) ARE LIMITED IN DURATION TO THE DURATION OF THIS WRITTEN WARRANTY, TO THE EXTENT ALLOWED BY LAW.

WHAT SHOULD THE CONSUMER DO IF THERE IS AN ISSUE WITH THEIR WOOD FLOOR?

- In the event of a claim please contact the retailer where the wood flooring products were purchased. The retailer will fill out all claim forms and notify National Flooring Products. Claims may take up to 90 days to process. A National Flooring Products representative will contact the homeowner to schedule any inspections and repair work if the manufacturer deems the claim warranted. Please keep all your pre-installation and post-installation receipts including but not limited to your sales receipt, pre-installation moisture test, photos, installer's name, phone number, and license number. Information regarding the claimed defect, date, and proof of purchase must be provided.

PRODUCT DISCLAIMER











Real wood flooring is a natural product with resulting variations in graining, hardness, color, tone, sheen levels, and texture. Tuffcore Vinyl and Laminated products are made to look like wood flooring and are manufactured to resemble natural products with the same variations in graining, color, tone, sheen levels, and texture. National Flooring Products has attempted to the best of its ability to provide reliable representation of all of its products and their features, but cannot be held liable for these variations. National Flooring Products has provided pictures as a courtesy to our customers and due to the nature of photography and digital representations we cannot guarantee that the physical product will look exactly like the pictures or the images contained within the website or on any printed media. It is recommended to obtain an actual sample of the product prior to ordering. It is the customer's responsibility to inspect all flooring prior to installation for any visible natural variations or pre-installation manufacturer defects. Installations of the flooring with any visible defects constitutes acceptance of these defects and cannot be claimed under any warranty after installation. All warranties are provided solely by the manufacturer of the product, not all products are manufactured by National Flooring Products. In the event of a claim, National Flooring Products' customer service team will assist the customer, but it is ultimately between the customer and the manufacturer to resolve. All transitions, vents, stair treads, and risers have a one-year finish manufacturer warranty from the date of purchase. Any transitions, vents, or special items that are installed or altered in any way are not eligible for return or credit. All sales of special-order items are final.

GENERAL DISCLAIMER

National Flooring Products has attempted to the best of its ability to provide accurate information on all marketing media and informational documents. To our knowledge, the information contained within the website and all published documents are correct. By exploring and using this information, you agree not to hold National Flooring Products liable for using this information. National Flooring Products shall in no way be held liable for any damages resulting from, coming out of, or in relation to the use of the information. Pictures and related documents may contain technical inaccuracies or typographical errors. National Flooring Products reserves the right to make changes, additions, and removal of any documents, information, or graphics in this website at any time without notice. All information provided on this website is copyrighted and may not be reproduced without written consent. © 2024

TUFFGRIP UNLIMITED

UNLIMITED MOISTURE VAPOR BARRIER, WOOD ADHESIVE

RH	pH	MVER	OPEN TIME	WORKING TIME	CURE TIME	LIGHT TRAFFIC	HEAVY TRAFFIC	STC	IIC
									
100%	NTR* 5-14	NTR*	0 MIN	45 MIN	12 HRS	6 HRS	6 HRS	62 dB**	68 dB**

APPROVED FLOORING TYPES

- WOOD:** Acrylic Infused Plank, Bamboo, Cork (flooring, cork-backed hard surface, underlayment) Hardwood (engineered, parquet, solid)
- RESILIENT:** Rubber (crumb)

WHY USE

- Unlimited moisture protection (porous slab)
- Cost savings potential
- No moisture or pH testing required
- Permanent, waterproof bond
- Solvent and isocyanate-free
- Non-staining and easy to clean
- 1-step installation (no stirring/mixing)
- High-strength, elastomeric membrane
- Rapid occupancy times
- Faster construction timeline
- Sound control (IIC, STC)
- Warranted over cutback residue (see TDS)
- Protects flooring from alkali attack
- Extremely low VOC, extremely low odor
- Antimicrobial technology



CERTIFICATIONS



COVERAGE: 20-70 ft²/gal
AVAILABLE IN: 4 gal
SHELF LIFE: 1 year

APPROVED FLOORING TYPES

WOOD: Acrylic Infused Plank, Bamboo, Cork (flooring, cork-backed hard surface, underlayment), Hardwood (engineered, parquet, solid) **RESILIENT:** Rubber (crumb)

PRECAUTIONARY NOTE:

- Solid hardwoods must be approved/designed for glue down.

APPROVED SUBSTRATES & SURFACES

- APA underlayment grade plywood and OSB
- Association grade particleboard
- Cement backer board
- Cementitious and anhydrite screeds
- Concrete and radiant heated subfloors that do not exceed 85°F (30°C)
- Existing well-bonded non-cushion-backed vinyl, tile and sheet flooring
- Fully secured cork underlayments
- Gypsum and lightweight concrete (primed with a universal primer)
- Terrazzo (properly prepared with all waxes and surface finishes removed)
- Well-bonded residue from cutback adhesives

SUBSTRATE TESTING

RH - No testing required: 100% [ASTM F2170]

pH - No testing required: 5-14 [ASTM F710]

MVER - No testing required [ASTM F1869]

POROSITY - CSP 1+, must pass [ASTM F3191]

PRECAUTIONARY NOTE:

- Moisture protection available only when using moisture barrier trowels.

SUBSTRATE & SURFACE PREPARATION

Follow flooring manufacturer's guidelines. Substrate must be prepared per ASTM F710 standards including, but not limited to the following:

- Concrete floors must be dry, clean, smooth and structurally sound. They shall be free of any foreign materials that might prevent adhesive bond, including dust, dirt, solvent, paint, wax, oil, grease, contaminants from sweeping compounds, residual adhesive, adhesive removers, incompatible sealers, fire-retardant chemicals, fungicides, release agents, alkaline salts, excessive carbonation, laitance, mold, mildew, and curing, sealing, hardening or parting compounds.
- Fill all surface cracks, grooves, depressions, control joints and non-moving joints with moisture resistant patching and self-leveling compounds, allow to fully cure and correct high spots before applying adhesive.
- The substrate, adhesive and flooring must be acclimated in an enclosed building with the HVAC operational at service temperature, between 60-95°F (15-35°C), and between 30-65% relative humidity, for at least 72 hours prior to, during, and permanently after installation.
- When installing over radiant heated subfloors, turn the heat off for 24 hours before, during and after installation. Failure to turn the heat off may result in shortened working time of the adhesive. When turning radiant heat back on, raise it incrementally, not to exceed a change of more than 5 degrees per hour to a maximum of 85°F (29°C).
- Wood underlayments must have a moisture content below 12% using a Tramex or Delmhorst moisture meter.

PRECAUTIONARY NOTES:

- When installing thin-gauge wood (solid or engineered), irregular substrates may telegraph through as adhesive pulls wood down during curing stages. Therefore, substrates must be properly leveled (see ASTM F710) to prevent telegraphing.
- Concrete must be placed in strict accordance with applicable standards and specifications. An intact moisture vapor retarder must be present below the concrete (see ASTM E1745), must be fully cured (at least 45 days), porous (see ASTM F3191), without hydrostatic pressure, without pressurized liquid from any source, and free of surface alkaline salt crystallization.
- When used as a concrete moisture vapor barrier, substrate must be porous per ASTM F3191.
- Flooring must be acclimated per manufacturer's guidelines.

APPLICATION INSTRUCTIONS

Follow flooring manufacturer's guidelines for layout, design and any special precautions for installation.





1. Spread adhesive using required tools (not all tools offer moisture protection).
2. Install flooring immediately after adhesive is spread, per the instructions below, dependent upon desired application method. Working time ~45 minutes under acceptable temperature and humidity. Periodically lift flooring material to verify proper transfer of adhesive (if transfer is not achieved, remove dried adhesive and reapply).
 - **Acrylic infused plank, bamboo, cork-backed hard surface, Hardwood (engineered, parquet, solid)**
 - Secure initial row with approved blue tape to limit movement and hold patterns (tape strap joints as needed). When installing near a solid object or wall, use wedges to allow for expansion (allow 2 hours before removing wedges).
 - **Cork (flooring, underlayment), crumb rubber**
 - Use hand roller to work out trapped air (center to edge). Do not walk, kneel, or work directly on top of flooring without the proper use of knee-boards for at least 60 minutes after flooring is installed.
3. Immediately roll and cross roll floor with 75-100 lb roller within 2 hours to ensure proper adhesive transfer.

PRECAUTIONARY NOTES:

- Moisture protection applications must have 100% adhesive transfer.
- For installation instructions on wood over 5" wide or 6' long, call Technical at 877-238-3225.
- When installing unfinished wood, wait 72 hours before sanding.
- Reseal lid when not in use to protect product.

REQUIRED TOOLS AND COVERAGE

*Trowel dimensions are width X depth X spacing. Coverage is approximate and may vary depending on porosity of substrate and the angle at which the trowel is held.

FLOORING TYPES	TOOL* (IMAGES NOT TO SCALE)	ESTIMATED COVERAGE
BOND ONLY		
WOOD: Cork (flooring, cork-backed hard-surface, underlayment), Hardwood (parquet)	1/8" x 1/8" x 1/8" Sq Notch	 60-70 ft ² /gal
WOOD: Acrylic Infused Plank, Bamboo, Hardwood (engineered, solid) RESILIENT: Rubber (crumb)	3/16" x 1/4" x 5/16" V Notch	 Up to 50 ft ² /gal
MOISTURE BARRIER & SOUND CONTROL		
WOOD: Acrylic Infused Plank, Bamboo, Hardwood (engineered, solid [planks less than 6' long and 5" wide])	1/4" x 1/4" V Notch	 25-30 ft ² /gal
WOOD: Acrylic Infused Plank, Bamboo, Hardwood (engineered, solid [planks greater than 6' long and 5" wide])	1/2" x 15/32" V Notch	 Up to 20 ft ² /gal

*It is the sole responsibility of the contractor/installer to determine the proper porosity of the subfloor, apply the correct amount of adhesive for the job conditions and ensure that all instructions, procedures and practices are strictly adhered to.

CLEANING INSTRUCTIONS

While product is still wet: Use a damp cloth and water to remove.

While product is still soft: Use denatured alcohol, mineral spirits, or an adhesive remover/stripper. Always check compatibility on a piece of scrap flooring.

STORAGE

This product should be stored at temperatures between 50-90°F (15-32°C). While this product is freeze-thaw stable, it is necessary to protect it from freezing. Freeze/thaw stable to 10°F (-12°C).

CAUTION

DO NOT take internally. If swallowed, DO NOT induce vomiting. Call a physician immediately. KEEP OUT OF REACH OF CHILDREN.

WARRANTY INFORMATION

For warranty information, call Technical Services at 877-238-3225, visit us on the web at www.my-nfp.com or e-mail us at customerservice@nationalflooringproducts.com. Flooring manufacturer's and National Flooring Products written pre-installation and installation instructions must be strictly followed or the National Flooring Products warranty will be void.

PRODUCT INFORMATION

PRODUCT CHARACTERISTICS	Product Classification	Unlimited moisture barrier, elastomeric adhesive
	Base Chemistry	Modified urethane (isocyanate free)
	Curing Method	Moisture cure
	Appearance/Color	Off-white
	Odor	Extremely low
	Consistency	Smooth, medium viscosity liquid
	Application	Easy troweling
	Flammability	Non-flammable
	Freeze/Thaw	Stable to 10°F (-12°C) [3 cycles]
	Shelf Life [Unopened Container at 70°F]	1 year
TESTING	Moisture Control	Protects flooring from unlimited (100% RH) substrate moisture vapor
	RH [ASTM F2170]	No testing required (100%)
	pH	No testing required (5-14)
	MVER [ASTM F1869]	No testing required
	Porosity [ASTM F3191]	Must pass (CSP 1+)
TIME	Open Time	0 min
	Flash Time	N/A
	Working Time	45 min
	Cure Time	12 hrs
	Pot Life	N/A
TRAFFIC	Light Traffic	6 hrs
	Heavy Traffic	6 hrs
	Rolling Loads	N/A
ACOUSTICS*	STC	62 dB
	IIC	68 dB
	Delta IIC	N/A
SUSTAINABILITY	Solvents	No
	Isocyanates	No
	VOC Wet Applied [g/L] [SCAQMD Rule #1168]	< 0.1 g/L
	Bio-Based Content	No
	Post-Consumer Recycled Content	No
	Mineral Abundant Content	Yes
	LEED v4/4.1 Points	Contributes to low emitting materials
	Certifications	FloorScore®, Green Label Plus®, GREENGUARD®
Transparency	N/A	
WARRANTY**	Duration	10-Year Performance Warranty
	Coverage	Bond, 100% Substrate Moisture Vapor

*IIC (delta) and STC (delta) ranges are flooring assembly specific based on third party testing and verification in a controlled environment. For any questions or further information, please contact National Flooring Products Technical at 877-238-3225.

**For warranty information, view Product Warranty Certificate.

TUFFGRIP WGA GLUE ASSIST

WOOD FLOORING GLUE ASSIST ADHESIVE

OPEN TIME



0 MIN

WORKING TIME



45 MIN

CURE TIME



12 HRS

APPROVED SUBSTRATES & SURFACES

- **WOOD:** Acrylic Infused Plank, Hardwood (engineered, parquet)

WHY USE

- ANSI Type II water-resistance
- Permanent, water-resistant bond
- Non-staining, easy-to-clean
- Solvent and isocyanate-free
- Zero VOC, extremely low odor
- Attractive price point
- Easy application
- Antimicrobial technology



CERTIFICATIONS



COVERAGE: Dependent on user
AVAILABLE IN: 28 oz
SHELF LIFE: 1 year

APPROVED FLOORING TYPES

WOOD: Acrylic Infused Plank, Bamboo, Hardwood (engineered, parquet, solid)

APPROVED SUBSTRATES & SURFACES

- APA underlayment grade plywood and OSB
- Association grade particleboard
- Cement backer board
- Cementitious and anhydrite screeds
- Concrete and radiant heated subfloors that do not exceed 85°F (30°C)
- Existing well-bonded non-cushion-backed vinyl, tile and sheet flooring
- Fully secured cork underlayments
- Gypsum and lightweight concrete (primed with a universal primer)
- Terrazzo (properly prepared with all waxes and surface finishes removed)
- Well-bonded residue from cutback adhesives

SUBSTRATE & SURFACE PREPARATION

Follow flooring manufacturer's guidelines. Substrate must be prepared per ASTM F710 standards including, but not limited to the following:

- Substrate must be dry, clean, smooth and structurally sound. They shall be free of any foreign materials that might prevent adhesive bond, including dust, dirt, solvent, paint, wax, oil, grease, contaminants from sweeping compounds, residual adhesive, adhesive removers, incompatible sealers, fire-retardant chemicals, fungicides, release agents, alkaline salts, excessive carbonation, laitance, mold, mildew, and curing, sealing, hardening or parting compounds.
- Fill all surface cracks, grooves, depressions, control joints and non-moving joints with Portland based patching and self-leveling compounds, allow to fully cure and correct high spots before applying adhesive.
- The substrate, adhesive and flooring must be acclimated in an enclosed building with the HVAC operational at service temperature, between 60-95°F (15-35°C), and between 30-65% relative humidity, for at least 72 hours prior to, during, and permanently after installation.
- When installing over radiant heated subfloors, turn the heat off for 24 hours before, during and after installation. Failure to turn the heat off may result in shortened working time of the adhesive. When turning radiant heat back on, raise it incrementally, not to exceed a change of more than 5 degrees per hour to a maximum of 85°F (29°C).
- Wood underlayments must have a moisture content below 12% using a Tramex or Delmhorst moisture meter.

PRECAUTIONARY NOTES:

- When installing thin-gauge wood (solid or engineered), irregular substrates may telegraph through. Therefore, substrates must be properly leveled (see ASTM F710) to prevent telegraphing.
- Concrete must be placed in strict accordance with applicable standards and specifications. An intact moisture vapor retarder must be present below the concrete (see ASTM E1745), must be fully cured (at least 45 days), without hydrostatic pressure, without pressurized liquid from any source, and free of surface alkaline salt crystallization.
- Flooring must be acclimated per manufacturer's guidelines.

APPLICATION INSTRUCTIONS

Follow flooring manufacturer's guidelines for layout, design and any special precautions for installation.

1. Using an approved applicator gun, apply product to either the back of the plank or to the substrate in a serpentine pattern, making sure to apply a sufficient amount of adhesive for proper bond.
2. Install flooring immediately after adhesive is applied.
 - Working time ~ 45 minutes under acceptable temperature and humidity conditions.
 - When used to install wood transitions, the use of approved blue tape to temporarily hold the transition in place may be necessary until installation is complete.

PRECAUTIONARY NOTES:

- When installing unfinished wood flooring, wait a minimum of 72 hours before sanding.
- Reseal cap when not in use to protect product.

REQUIRED TOOLS AND COVERAGE

FLOORING TYPES	TOOL* (IMAGES NOT TO SCALE)	ESTIMATED COVERAGE
BOND ONLY		
WOOD: Acrylic Infused Plank, Bamboo, Hardwood (engineered, parquet, solid)	Tip Applicator Included	Dependent on user

*It is the sole responsibility of the contractor/installer to determine the proper porosity of the subfloor, apply the correct amount of adhesive for the job conditions and ensure that all instructions, procedures and practices are strictly adhered to.

CLEANING INSTRUCTIONS

While product is still wet: Use a damp cloth and water to remove.

While product is still soft: Use a remover/stripper, denatured alcohol or mineral spirits. Always check compatibility on a piece of scrap flooring.

STORAGE

This product should be stored at temperatures between 50-90°F (15-32°C). While this product is freeze-thaw stable, it is necessary to protect it from freezing. Freeze/thaw stable to 10°F (-12°C).

CAUTION

DO NOT take internally. If swallowed, DO NOT induce vomiting. Call a physician immediately. KEEP OUT OF REACH OF CHILDREN.

WARRANTY INFORMATION

For warranty information, call Technical Services at 877-238-3225, visit us on the web at www.my-nfp.com or e-mail us at customerservice@nationalflooringproducts.com. Flooring manufacturer's and National Flooring Products written pre-installation and installation instructions must be strictly followed or the National Flooring Products warranty will be void.

PRODUCT INFORMATION









PRODUCT CHARACTERISTICS	Product Classification	Wood flooring, glue assist adhesive
	Base Chemistry	Modified urethane (isocyanate free)
	Curing Method	Moisture cure
	Appearance/Color	Off-white
	Odor	Extremely low
	Consistency	Smooth, medium viscosity liquid
	Application	Easy application
	Flammability	Non-flammable
	Freeze/Thaw	Stable to 10°F (-12°C) [3 cycles]
	Shelf Life [Unopened Container at 70°F]	1 year
TESTING	Moisture Control	No
	RH [ASTM F2170]	N/A
	pH	N/A
	MVER [ASTM F1869]	N/A
	Porosity [ASTM F3191]	N/A
TIME	Open Time	0 min
	Flash Time	N/A
	Working Time	45 min
	Cure Time	12 hrs
	Pot Life	N/A
TRAFFIC	Light Traffic	6 hrs
	Heavy Traffic	6 hrs
	Rolling Loads	N/A
ACOUSTICS*	STC	N/A
	IIC	N/A
	Delta IIC	N/A
SUSTAINABILITY	Solvents	No
	Isocyanates	No
	VOC Wet Applied [g/L] [SCAQMD Rule #1168]	< 0.1 g/L
	Bio-Based Content	No
	Post-Consumer Recycled Content	No
	Mineral Abundant Content	Yes
	LEED v4/4.1 Points	Contributes to low emitting materials
	Certifications	FloorScore®, Green Label Plus®, GREENGUARD®
Transparency	N/A	
WARRANTY**	Duration	10-Year Performance Warranty
	Coverage	Bond

*IIC (delta) and STC (delta) ranges are flooring assembly specific based on third party testing and verification in a controlled environment. For any questions or further information, please contact National Flooring Products Technical at 877-238-3225.

**For warranty information, view Product Warranty Certificate.

TUFFGRIP WF-90

90% MOISTURE VAPOR BARRIER, WOOD ADHESIVE

RH	pH	MVER	OPEN TIME	WORKING TIME	CURE TIME	LIGHT TRAFFIC	HEAVY TRAFFIC
							
90%	NTR 5-14	10 LBS	0 MIN	45-60 MIN	12 HRS	6 HRS	6 HRS

APPROVED FLOORING TYPES

- **WOOD:** Acrylic Infused Plank, Bamboo, Cork (flooring, cork-backed hard surface, underlayment) Hardwood (engineered, parquet, solid)
- **RESILIENT:** Rubber (crumb)

WHY USE

- 90% moisture protection (porous slab)
- Attractive price point
- Permanent, waterproof bond
- Solvent and isocyanate-free
- Non-staining and easy to clean
- 1-part installation (no stirring/mixing)
- Rapid occupancy times
- High-strength, elastomeric membrane
- Sound control
- Warranted over cutback residue (see TDS)
- Protects flooring from alkali attack
- Extremely low VOC, extremely low odor
- Antimicrobial technology



CERTIFICATIONS



COVERAGE: 20-70 ft²/gal
AVAILABLE IN: 4 gal
SHELF LIFE: 1 year

APPROVED FLOORING TYPES

WOOD: Acrylic Infused Plank, Bamboo, Cork (flooring, cork-backed hard surface, underlayment), Hardwood (engineered, parquet, solid) **RESILIENT:** Rubber (crumb)

PRECAUTIONARY NOTE:

- Solid hardwoods must be approved/designed for glue down.

APPROVED SUBSTRATES & SURFACES

- APA underlayment grade plywood and OSB
- Association grade particleboard
- Cement backer board
- Cementitious and anhydrite screeds
- Concrete and radiant heated subfloors that do not exceed 85°F (30°C)
- Existing well-bonded non-cushion-backed vinyl, tile and sheet flooring
- Fully secured cork underlayments
- Gypsum and lightweight concrete (primed with TAYLOR 2025 or Zephyr®)
- Terrazzo (properly prepared with all waxes and surface finishes removed)
- Well-bonded residue from cutback adhesives

SUBSTRATE TESTING

RH - 90% [ASTM F2170]

pH - No testing required: 5-14 [ASTM F710]

MVER - 10 lbs [ASTM F1869]

POROSITY - CSP 1+, must pass [ASTM F3191]

PRECAUTIONARY NOTE:

- Moisture protection available only when using moisture barrier trowel.

SUBSTRATE & SURFACE PREPARATION

Follow flooring manufacturer's guidelines. Substrate must be prepared per ASTM F710 standards including, but not limited to the following:

- Concrete floors must be dry, clean, smooth and structurally sound. They shall be free of any foreign materials that might prevent adhesive bond, including dust, dirt, solvent, paint, wax, oil, grease, contaminants from sweeping compounds, residual adhesive, adhesive removers, incompatible sealers, fire-retardant chemicals, fungicides, release agents, alkaline salts, excessive carbonation, laitance, mold, mildew, and curing, sealing, hardening or parting compounds.
- Fill all surface cracks, grooves, depressions, control joints and non-moving joints with moisture resistant patching and self-leveling compounds, allow to fully cure and correct high spots before applying adhesive.
- The substrate, adhesive and flooring must be acclimated in an enclosed building with the HVAC operational at service temperature, between 60-95°F (15-35°C), and between 30-65% relative humidity, for at least 72 hours prior to, during, and permanently after installation.
- When installing over radiant heated subfloors, turn the heat off for 24 hours before, during and after installation. Failure to turn the heat off may result in shortened working time of the adhesive. When turning radiant heat back on, raise it incrementally, not to exceed a change of more than 5 degrees per hour to a maximum of 85°F (29°C).
- Wood underlayments must have a moisture content below 12% using a Tramex or Delmhorst moisture meter.

PRECAUTIONARY NOTES:

- When installing thin-gauge wood (solid or engineered), irregular substrates may telegraph through as adhesive pulls wood down during curing stages. Therefore, substrates must be properly leveled (see ASTM F710) to prevent telegraphing.
- Concrete must be placed in strict accordance with applicable standards and specifications. An intact moisture vapor retarder must be present below the concrete (see ASTM E1745), must be fully cured (at least 45 days), porous (see ASTM F3191), without hydrostatic pressure, without pressurized liquid from any source, and free of surface alkaline salt crystallization.
- When used as a concrete moisture vapor barrier, substrate must be porous per ASTM F3191.
- Flooring must be acclimated per manufacturer's guidelines.

APPLICATION INSTRUCTIONS

Follow flooring manufacturer's guidelines for layout, design and any special precautions for installation.





1. Spread adhesive using required tools (not all tools offer moisture protection).
2. Install flooring immediately after adhesive is spread, per the instructions below, dependent upon desired application method. Working time ~45 minutes under acceptable temperature and humidity. Periodically lift flooring material to verify proper transfer of adhesive (if transfer is not achieved, remove dried adhesive and reapply).
 - **Acrylic infused plank, bamboo, cork-backed hard surface, Hardwood (engineered, parquet, solid)**
 - Secure initial row with approved blue tape to limit movement and hold patterns (tape strap joints as needed). When installing near a solid object or wall, use wedges to allow for expansion (allow 2 hours before removing wedges).
 - **Cork (flooring, underlayment), crumb rubber**
 - Use hand roller to work out trapped air (center to edge). Do not walk, kneel, or work directly on top of flooring without the proper use of knee-boards for at least 60 minutes after flooring is installed.
3. Immediately roll and cross roll floor with 75-100 lb roller within 2 hours to ensure proper adhesive transfer.

PRECAUTIONARY NOTES:

- Moisture protection applications must have 100% adhesive transfer.
- For installation instructions on wood over 5" wide or 6' long, call Technical at 877-238-3225.
- When installing unfinished wood, wait 72 hours before sanding.
- Reseal lid when not in use to protect product.

REQUIRED TOOLS AND COVERAGE

*Trowel dimensions are width X depth X spacing. Coverage is approximate and may vary depending on porosity of substrate and the angle at which the trowel is held.

FLOORING TYPES	TOOL* (IMAGES NOT TO SCALE)	ESTIMATED COVERAGE
BOND ONLY		
WOOD: Cork (flooring, cork-backed hard-surface, underlayment), Hardwood (parquet)	1/8" x 1/8" x 1/8" Sq Notch 	60-70 ft ² /gal
WOOD: Acrylic Infused Plank, Bamboo, Hardwood (engineered, solid) RESILIENT: Rubber (crumb)	3/16" x 1/4" x 5/16" V Notch 	Up to 50 ft ² /gal
MOISTURE BARRIER & SOUND CONTROL		
WOOD: Acrylic Infused Plank, Bamboo, Hardwood (engineered, solid [planks less than 6' long and 5" wide])	1/4" x 1/4" V Notch 	25-30 ft ² /gal
WOOD: Acrylic Infused Plank, Bamboo, Hardwood (engineered, solid [planks greater than 6' long and 5" wide])	1/2" x 15/32" V Notch 	Up to 20 ft ² /gal

*It is the sole responsibility of the contractor/installer to determine the proper porosity of the subfloor, apply the correct amount of adhesive for the job conditions and ensure that all instructions, procedures and practices are strictly adhered to.

CLEANING INSTRUCTIONS

While product is still wet: Use a damp cloth and water to remove.

While product is still soft: Use denatured alcohol, mineral spirits, or an adhesive remover/stripper. Always check compatibility on a piece of scrap flooring.

STORAGE

This product should be stored at temperatures between 50-90°F (15-32°C). While this product is freeze-thaw stable, it is necessary to protect it from freezing. Freeze/thaw stable to 10°F (-12°C).

CAUTION

DO NOT take internally. If swallowed, DO NOT induce vomiting. Call a physician immediately. KEEP OUT OF REACH OF CHILDREN.

WARRANTY INFORMATION

For warranty information, call Technical Services at 877-238-3225, visit us on the web at www.my-nfp.com or e-mail us at customerservice@nationalflooringproducts.com. Flooring manufacturer's and National Flooring Products written pre-installation and installation instructions must be strictly followed or the National Flooring Products warranty will be void.

PRODUCT INFORMATION

PRODUCT CHARACTERISTICS	Product Classification	90% Moisture vapor barrier, wood adhesive
	Base Chemistry	Modified urethane (isocyanate free)
	Curing Method	Moisture cure
	Appearance/Color	Off-white
	Odor	Extremely low
	Consistency	Smooth, medium viscosity liquid
	Application	Easy troweling
	Flammability	Non-flammable
	Freeze/Thaw	Stable to 10°F (-12°C) [3 cycles]
	Shelf Life [Unopened Container at 70°F]	1 year
TESTING	Moisture Control	Protects flooring from 90% substrate moisture vapor
	RH [ASTM F2170]	90%
	pH	No testing required (5-14)
	MVER [ASTM F1869]	10 lbs
	Porosity [ASTM F3191]	Must pass (CSP 1+)
TIME	Open Time	0 min
	Flash Time	N/A
	Working Time	45-60 min
	Cure Time	12 hrs
	Pot Life	N/A
TRAFFIC	Light Traffic	6 hrs
	Heavy Traffic	6 hrs
	Rolling Loads	N/A
ACOUSTICS*	STC	N/A
	IIC	N/A
	Delta IIC	N/A
SUSTAINABILITY	Solvents	No
	Isocyanates	No
	VOC Wet Applied [g/L] [SCAQMD Rule #1168]	< 0.1 g/L
	Bio-Based Content	No
	Post-Consumer Recycled Content	No
	Mineral Abundant Content	Yes
	LEED v4/4.1 Points	Contributes to low emitting materials
	Certifications	FloorScore®, Green Label Plus®, GREENGUARD®
	Transparency	N/A
WARRANTY**	Duration	10-Year Performance Warranty
	Coverage	Bond, 90% Substrate Moisture Vapor

*IIC (delta) and STC (delta) ranges are flooring assembly specific based on third party testing and verification in a controlled environment. For any questions or further information, please contact National Flooring Products Technical at 877-238-3225.

**For warranty information, view Product Warranty Certificate.

TUFFGRIP TG ADHESIVE

FLOATING FLOOR TONGUE AND GROOVE ADHESIVE

OPEN TIME



0 MIN

WORKING TIME



5-10 MIN

CURE TIME



12 HRS

LIGHT TRAFFIC



24 HRS

HEAVY TRAFFIC



24 HRS

WHY USE

- **WOOD:** Acrylic Infused Plank, Hardwood (engineered, parquet)

WHY USE

- ANSI Type II water-resistance
- Permanent, water-resistant bond
- Non-staining, easy-to-clean
- Solvent and isocyanate-free
- Zero VOC, extremely low odor
- Attractive price point
- Easy application
- Antimicrobial technology



CERTIFICATIONS



COVERAGE: 400 lf/16oz
AVAILABLE IN: 16 oz
SHELF LIFE: 2 years

APPROVED FLOORING TYPES

WOOD: Acrylic Infused Plank, **Hardwood** (engineered, parquet)

APPLICATION INSTRUCTIONS

Prepare substrate per ASTM F710.

1. Apply 1/8" bead per flooring manufacturers installation guidelines.
2. Secure joints (straps/clamps) until dry (3+ hours).

PRECAUTIONARY NOTES:

- Do not allow adhesive to dry on flooring surface.
- Reseal lid when not in use.

REQUIRED TOOLS AND COVERAGE

*Trowel dimensions are width X depth X spacing. Coverage is approximate and may vary depending on porosity of substrate and the angle at which the trowel is held.

FLOORING TYPES	TOOL* (IMAGES NOT TO SCALE)	ESTIMATED COVERAGE
BOND ONLY		
WOOD: Acrylic Infused Plank, Hardwood (engineered, parquet)	Applicator tip	400 lf/16 oz

*It is the sole responsibility of the contractor/installer to determine the proper porosity of the subfloor, apply the correct amount of adhesive for the job conditions and ensure that all instructions, procedures and practices are strictly adhered to.

CLEANING INSTRUCTIONS

While product is still wet: Use a dry cloth immediately to remove any excess adhesive from the surface of the wood.

While product is still soft: Use a remover/stripper, denatured alcohol or mineral spirits. Always check compatibility on a piece of scrap flooring.

STORAGE

This product should be stored at temperatures between 50-90°F (15-32°C). While this product is freeze-thaw stable, it is necessary to protect it from freezing. Freeze/thaw stable to 10°F (-12°C).

CAUTION

DO NOT take internally. If swallowed, DO NOT induce vomiting. Call a physician immediately. KEEP OUT OF REACH OF CHILDREN.

WARRANTY INFORMATION

For warranty information, call Technical Services at 877-238-3225, visit us on the web at www.my-nfp.com or e-mail us at customerservice@nationalflooringproducts.com. Flooring manufacturer's and National Flooring Products written pre-installation and installation instructions must be strictly followed or the National Flooring Products warranty will be void.

PRODUCT INFORMATION

PRODUCT CHARACTERISTICS	Product Classification	Floating Floor Tongue And Groove Glue
	Base Chemistry	Poly-vinyl Acetate Emulsion
	Curing Method	Evaporation
	Appearance/Color	Off-white
	Odor	Extremely low
	Consistency	Liquid
	Application	Squeeze bottle
	Flammability	Non-flammable
	Freeze/Thaw	Stable to 10°F (-12°C) [3 cycles]
	Shelf Life [Unopened Container at 70°F]	2 years
TESTING	Moisture Control	No
	RH [ASTM F2170]	N/A
	pH	N/A
	MVER [ASTM F1869]	N/A
	Porosity [ASTM F3191]	N/A
TIME	Open Time	0 min
	Flash Time	N/A
	Working Time	5-10 min
	Cure Time	12 hrs
	Pot Life	N/A
TRAFFIC	Light Traffic	24 hrs
	Heavy Traffic	24 hrs
	Rolling Loads	N/A
ACOUSTICS*	STC	N/A
	IIC	N/A
	Delta IIC	N/A
SUSTAINABILITY	Solvents	No
	Isocyanates	No
	VOC Wet Applied [g/L] [SCAQMD Rule #1168]	0 g/L
	Bio-Based Content	No
	Post-Consumer Recycled Content	No
	Mineral Abundant Content	No
	LEED v4/4.1 Points	Contributes to low emitting materials
	Certifications	FloorScore®, Green Label Plus®, GREENGUARD®
Transparency	N/A	
WARRANTY**	Duration	10-Year Performance Warranty
	Coverage	Product performance

*IIC (delta) and STC (delta) ranges are flooring assembly specific based on third party testing and verification in a controlled environment. For any questions or further information, please contact National Flooring Products Technical at 877-238-3225.

**For warranty information, view Product Warranty Certificate.