

INSTALLATION INSTRUCTIONS

$\frac{3}{8}$ " $\frac{7}{16}$ " $\frac{1}{2}$ " $\frac{9}{16}$ " $\frac{5}{8}$ "
10mm 11.1mm 12.7mm 14.2mm 15.8mm

Engineered Flooring Glue Down Installation

GLUE DOWN INSTRUCTIONS

ATTENTION

Inspect **ALL** materials carefully **BEFORE** installation. Warranties **DO NOT** cover materials with visible defects once they are installed. It is recommended that all engineered products acclimate for 2 days.

Concrete or Plywood: Radiant Heat (Oak ONLY)

- Radiant Heat Subfloors on or above grade.
- The maximum temperature of subfloor under normal use should not exceed 80°F (Check with heat system manufacturer.)
- For correct water temperature inside heating pipes, check with manufacturer's suggested guidelines.
- Heating pipes must be covered with 1 $\frac{1}{4}$ " of concrete or minimum of 1/8" below bottom side of plywood subfloor.
- Before installation of hardwood flooring, heat system must be operated at normal living temperature for a minimum of 14 days. One to two days before the flooring is laid, switch off heating unit. (At time of installation, subfloor should be 64°F to 68°F)
- Room temperature should not vary more than 15°F season to season. Flooring manufacturer approved systems must not exceed 8 watts per square foot heating.

FOR UNFINISHED PRODUCTS

- Do not start sanding product until adhesive has cured.

FLOATING INSTALLATION

- $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{9}{16}$ " OR $\frac{5}{8}$ " product **3" width or wider** can be floated in some, not all, installations. If necessary call your supplier for details.

It is the responsibility of the installer/owner to determine if the job site Subfloor and job site conditions are environmentally and structurally acceptable for wood floor installation. Flooring manufacturer declines any responsibility for wood floor failure resulting from or connected with subfloor, subsurface, job site damage or deficiencies after hardwood flooring has been installed.

GLUE DOWN INSTALLATION

ADHESIVE: Using an appropriate, quality urethane adhesive is recommended.

TOOLS: The required tools for installation of these products include a hammer, hand power saw, chalk line, wood floor adhesive and recommended trowel.

Recommended Trowel: General $\frac{1}{2}$ " thick wood floor should use $\frac{3}{16}$ " wide $\frac{5}{32}$ " deep v-notch trowel to yield approximately 45 to 50 sq. ft. per gallon or $\frac{1}{4}$ " x $\frac{1}{4}$ " x $\frac{3}{16}$ " square notch. $\frac{5}{16}$ " thick wood flooring should use $\frac{3}{16}$ " x $\frac{1}{4}$ " x $\frac{1}{2}$ " contour v-notch to yield 60 sq. ft. per gallon. Follow adhesive manufacturer's guidelines.

General Installation Instruction:

Time at which to install hardwood flooring: Lay only after sheetrock and tile work are thoroughly dried and all but the final woodwork trim have been completed. The building interior should have been dried and seasoned and comfortable working temperature (at least 60°F) should exist during installation.

Preparation of subfloor:

Subfloor irregularities and undulation may cause any wood floor installation to develop hollow spots between the flooring and subfloor and/or lead to noise, i.e. speaking, popping or crackling. These hollow spots are NOT the result of any wood floor manufacturing defect and are NOT covered by the flooring manufacturer warranty.

As part of your subfloor preparation remove any existing base, shoe mold or doorway thresholds. These items can be replaced after installation, but should be replaced in such a way as to allow at least $\frac{1}{4}$ " room for expansion around the perimeter of the room. All door casings should be notched out or undercut to allow for $\frac{1}{4}$ " room expansion and to avoid difficult scribe cuts. This is easily done by placing a piece of the engineered product on the subfloor as a height guide for your handsaw or jamb saw.

Note: Normal expansion space around the room should be the same distance as the thickness of the hardwood flooring.

Thoroughly clean subfloor:

Remove paint, wax, oil, plaster, "sheetrock mud" and other foreign materials, as well as obvious surface irregularities. #3-1/2 grit open coat paper may need to be used to grind a concrete subfloor. This will loosen any dirt, loose concrete or contaminants. Sweep or vacuum thoroughly. All previous or existing glues or adhesives must be removed before installing new hardwood floor. Concrete subfloors must be clean, flat, sound and sufficient compression strength (3000 lbs. P.S.I.) being sure that the surface is NOT slick.

Sections not flat due to waviness, trowel marks, etc. are to be flattened by grinding or the use of leveling compound. Especially along the walls, the subfloor flatness must be checked and if necessary improved. Flatten to $\frac{3}{16}$ " in 10' radius. In addition to cement subfloors, these wood flooring products can be installed over dry, flat subfloors such as plywood. No Particle board.

Time at which to install hardwood flooring: Lay only after sheetrock and tile work are thoroughly dried and all but the final woodwork trim have been completed. The building interior should have been dried and seasoned and a comfortable working temperature (at least 60° F) and a relative humidity of 35 – 55% should exist during installation. If subfloor is concrete, check for dryness see below. If moisture is present, do not lay. All concrete subfloors on or below grade need to be tested.

Concrete subfloor Moisture Testing (Minimum 3000 PSI):

Electrical Impedance Test and Electrical Resistance Test (Concrete Moisture Meters) Follow Moisture Meter MFG Guidelines. If Meter shows possibility of excess moisture further testing is required. Calcium Chloride Test. See below.

Relative Humidity Test (Standard test method for determining relative humidity on concrete floor slabs using Situ Probes. If test shows over 75% vapor retarder must be used or wait for further curing.

Calcium Chloride Test ASTM F-1869 Readings over 3 lbs and up to 7 vapor retarder needed.

See NWFA installation guidelines chapter 3 Moisture Testing for full information of testing.

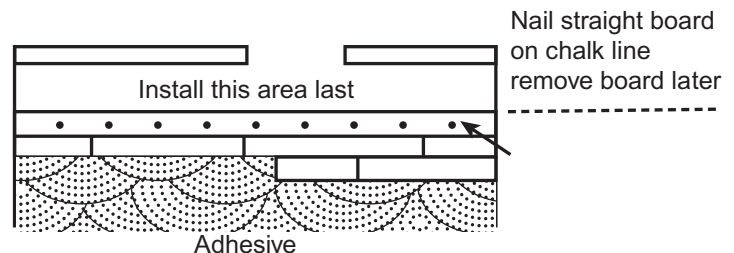
Check floor in several locations. Consult with your local flooring distributor for graphical variances.

Note: Normal expansion space around the room should be the same distance as the thickness of the hardwood flooring.

- The use of flooring putty to cover small cracks or face nail holes should be considered normal in hardwood flooring installation.

New wood type subfloors should also be checked for moisture using a moisture meter. In general, wood or plywood subfloors should not exceed 14% moisture content and no more than 4% MC difference between wood flooring and subfloor. Check with your local distributor for your geographical variances. If the plywood is used as an overlay over the existing subfloor, the thickness of the overlay material must be such as to yield a total $\frac{3}{4}$ " subfloor thickness.

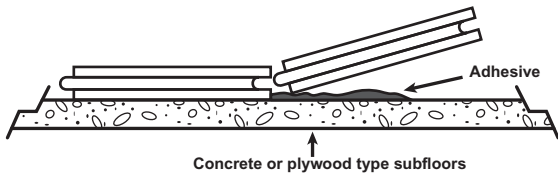
Suggested Layout Working Line: EXAMPLE: For 3" Material, snap a chalk line 30 $\frac{1}{4}$ " from the wall on the door side of the room. The small area will be your working space and the last to be installed. Temporarily nail straight board on chalk line.



Caution: Proper humidity must be controlled between 35 – 55% for successful performance before, during and after installation.

Installing the floor:

- The floor should be installed from several cartons at the same time to ensure color and shade mix.
- End joints should never be closer than 4 inches from each other.
- Install tongue into groove.
- Tongue and groove should be engaged by hand.
- Lift a plank periodically to check adhesive transfer.
- Remove nailed board and install remainder of flooring.
- Install base and mould after floor installation.
- Clean adhesive off surface of wood with cleaner and soft cloth. (see adhesive manufacturer's recommendations)



RADIANT HEAT (OAK ONLY) - See Below.

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- Heating pipes must be covered with 1 ¼" of concrete or minimum of 1/8" below bottom side of plywood subfloor.
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IMPORTANT HEALTH NOTICE FOR MINNESOTA RESIDENTS:

SOME OF THE BUILDING MATERIALS USED IN THIS HOME (OR 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 TO BE LOCATED IN AREAS 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 LOCAL HEALTH DEPARTMENT.

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 go to www.P65Warnings.ca.gov/wood

COMPLIES WITH EPA TSCA Title VI and CARB ATCM PHASE 2 COMPLIANT for FORMALDEHYDE