All Nydree Engineered Flooring Products
Installation & Initial Maintenance Instructions
SB1587 Moisture Retarding Adhesive

This Installation Instruction covers all Engineered Flooring manufactured by Nydree Flooring, LLC. It is recommended that all glue down installations use Nydree Flooring SB1587 Moisture Cured Adhesive. (Refer to label on container for complete details.) Nydree highly recommends the use of NWFA certified professionals to install all Flooring.

PLANK STORAGE PRIOR TO INSTALLATION

- Flooring must be stored in an enclosed and well-ventilated building. Never store flooring outdoors. Do not store flooring directly on warehouse floors. KEEP FLOORING WRAPPED IN POLYETHYLENE BAG AND ON SKIDS. The storage area within the building should be clean and dry. Ideally the warehouse will be temperature and humidity controlled. Temperature range: 60-80 ºF (15-26 ºC) and Relative Humidity: 30-55%.
- Do not store flooring outside in non-ventilated facilities such as garages, 18-wheel truck trailers, etc.. Extreme heat developed during the summer months could distort the flooring.
- Nydree Flooring, LLC will not be responsible for damage to flooring caused by improper storage.

ACCLIMATION

Each pallet of Nydree Engineered Hardwood Flooring will arrive to the job site wrapped in a polyethylene bag and typically shrink-wrapped to maintain the flooring at its most desirable installation moisture content. If material needs to be inspected prior to flooring installation, carefully remove the shrink-wrap and lift off polybag. After inspecting, put polybag back over pallet of flooring and secure with tape until installation. DO NOT REMOVE NYDREE ENGINEERED HARDWOOD FLOORING FROM THE POLYBAG UNTIL THE DAY OF INSTALLATION. Flooring that has been removed for installation and not used within the day should be returned to the polybag until ready for installation. Remember, no acclimation time is needed or desired when installing Nydree Engineered flooring. Removing the polybag prior to installation could lead to plank distortion (bowing, crowning, twisting, cupping). Temperature of jobsite, material and adhesives should be acclimated to 60º - 80ºF (15º - 26ºC), before, during and after installation.

DIRECT BOND INSTALLATION METHOD

Note: Install finished flooring from multiple cartons throughout all skids of material to obtain a random distribution of the natural color/sheen variation which is an inherent characteristic of genuine hardwood floors. To prevent permanent damage to the flooring, the hardwood flooring should be installed as one of the last steps of the construction project.

Preparation

A. All Subfloors

- Nydree Engineered Hardwood Flooring can be installed on, above, or below grade.
- Permanent HVAC must be in operation (2 weeks minimum). Portable propane heaters (Salamanders) are not acceptable. Permanent lighting must be provided prior to flooring installation to ensure proper flooring inspection during installation. This is very important when performing any type of moisture test on a concrete slab.
- The ideal relative humidity for flooring installation is between 30 and 55%, prior, during and after installation is completed. Keep in mind that if the relative humidity drops below 30% for extended periods, the flooring could shrink causing surface splits and gaps and is site related and not a manufacturing defect. Job site temperature should be 60º - 80ºF (15º - 26ºC).
- Do not install flooring until all other significant wet construction work (dry-wall) is complete. Moisture producing activities such as drywall, concrete, masonry, painting and grouting must be complete and cured.
- Use Portland cement-based filler to patch saw-cut control joints (score marks in concrete), cold/construction seams(concrete), cracks, holes, voids, low spots, depressions, grooves, indentations and defects of small areas. Fill level with the surrounding surface. Do not fill or bridge concrete slab moving joints. These joints must be carried through the flooring surface using an expansion joint covering system**. DO NOT skim coat large areas with extremely thin layers of patching compound.** Sand and/or scour patched areas smooth after material is fully cured according to manufacturer's instructions. Use only quality materials and Portland cement-based patching products. Suggested patching products include: Ardex Feather Finish®, Ardex SD-P®, Bostik UltraFinish™ Pro, and Bostik Webcrete ® 95.
- Substrate must be clean, sound, and free of wax, dirt, dust, mold, mildew, loose material, grease, oil, coatings, paint, rust, cutback asphalt, old adhesives (carpet), weak powdery concrete, weak powdery gypsum, adhesive removers, efflorescence (white soluble salt deposits on concrete surfaces) and other contaminants that will interfere with the bonding of the adhesive. Scouring using 3 ½ (20 grit) open coat sandpaper can remove most of these materials.
- Verify that the substrate is flat to within 3/16" in 10 ft. (5mm per 3m) for straight lay flooring. For pattern floors including herringbone and chevron the substrate must be flat to within 1/8" in 10 ft. (3.2mm per 3m). The substrate must be free from cracks, holes, voids, ridges, projections and other defects impairing performance or appearance.

B. Concrete Slabs

- On-grade/Below-grade slabs: Subslab moisture retarder - Minimum 6 mil (0.15mm), preferred 10 mil (0.25mm) intact, polyethylene vapor retarding membrane beneath slab.
- Acrylic Infused Engineered Flooring should not be installed on any concrete subfloor where there is hydrostatic pressure or standing water (must be dry to the touch).
- Test concrete for surface contaminants such as sealers and curing compounds, etc., by performing a water absorption test. Place a few drops of water on the concrete surface. If the water beads up like water on a recently waxed car, then surface contaminant currently exists. This surface contaminate must be mechanically removed prior to installing flooring. Determine the depth of the contaminant by sanding or grinding the concrete surface until it freely absorbs water. A ¼" drop of water should absorb within 1 minute.
- If a sealer, curing compound, bond breaker, densifier/hardener, prior adhesive or other surface coating has been applied, it must be completely "ground" off by diamond grinding, shot blasting or scarifying to a CSP1-3. Whenever possible, grind a concrete subfloor to tolerance rather than fill. Sweep and vacuum substrate after grinding or scouring. **DO NOT use sweeping compounds** as most contain oils or waxes which will interfere with the flooring adhesive bond.

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- Concrete substrates should NOT be glassy smooth and reflective. Concrete should have a minimum surface profile of ICRI CSP1-3, similar to that of a broom finished concrete floor for SB1587 to properly penetrate and bond.
- New slab cure min. 30 days, preferably 60.
- Temperature of concrete should be above 60ºF(15ºC), but should not exceed 80ºF(26ºC).
- Concrete must be clean, sound, free from contaminates and dry regardless of concrete age, history or grade level. Slab concrete moisture test results determine the application rate of the SB1587 adhesive.

Calcium Chloride results up to 15 lbs./1000 sf/24 hrs and in-situ Relative Humidity results up to 87%. The adhesive is applied with the standard 1/4" x 1/4" x 7/16" V-Notch trowel at a rate that does not exceed 55 square feet per gallon.

Calcium Chloride results up to 18 lbs./1000 sf/24 hrs and in-situ Relative Humidity results up to 95%. The adhesive is applied with a 5/16" x 5/16" x 7/16" V-Notch trowel with Moisture Plus spacers at a rate that does not exceed 35 square feet per gallon. Any result greater than 18 lbs. or 95% in-situ Relative Humidity is considered standing water.

The protocol for Calcium Chloride testing (ASTM F1869) and in-situ relative humidity testing (ASTM F2170) must be followed precisely and documented for warranty consideration. If both tests are performed, the in-situ RH test is always the qualifying standard. If there is concern over any excessive future subfloor moisture, always use the 5/16" x 5/16" x 7/16" V-Notch trowel with Moisture Plus spacers.

C. Self-Leveling Underlayments

- If self-leveling underlayments are used, they must dry sufficiently and dry hard (not dusty/powdery). Self-leveling underlayments must have a compressive strength equal to or greater than 2000 psi.
- Gypsum-based self-leveling underlayments must be dry, lightly abraded, "above-grade" installations where the gypsum has dried hard (not dusty/powdery), and the Gypsum has a compressive strength equal to or greater than 2000 psi.
- Suggested products include: Concrete up to 15 lbs.Calcium Chloride /87% insitu-RH use Ardex K 15®,and Bostik SL-150™. Concrete greater than 15 lbs. Calcium Chloride/87% insitu-RH use Ardex K-60™.
- Nydree Flooring, LLC will not be responsible for strength, adhesion, or general performance of underlayments as proper compounding and preparation of subsurface are the responsibility of the installer.

D. Plywood Overlays

- Good quality plywood, properly secured, makes an excellent subfloor.
- When using plywood as an underlayment ¼" (6.4mm) or thicker APA-CDX grade plywood is recommended.
- Follow underlayment manufacturer's installation instructions for spacing and fastening. Stagger plywood underlayment joints avoiding subfloor seams and leave ¼" (6.4mm) expansion space at all vertical obstructions. Ensure that all nail/staple/screw heads are set flush with or below surface. Sand high edges of plywood underlayment joints level.
- Verify that the plywood is clean, acclimated (24-48 hrs.) and dry. The reading on any wood moisture meter should be 12% or less.

E. Structural Suspended Plywood or AdvanTech® T&G Subfloors

- Use 5/8" (16mm) or 3/4" (19mm) APA-CDX grade (or better) underlayment plywood when joists on center are 16" (40.6cm) or less. Use 3/4" (19mm) APA-CDX grade plywood or 23/32" (18.3mm) AdvanTech when joists on center are 19.2" (48.8cm) or less. Allow 1/8"-1/4" (3.2-6.4mm) expansion space between sheets with staggered joints. When installing, leave 1/4" (6.4mm) minimum expansion space at all vertical obstructions. Always install panels with long dimension perpendicular to floor trusses. **It is necessary to lightly abrade and vacuum all AdvanTech subfloors prior to adhesive application or apply one coat of Bona® R540 primer prior to installation**.
- OSB Exposure 1(underlayment grade) also makes a suitable structural substrate for glue down installation. Be sure the underlayment is thoroughly fastened.
- Ensure that all nail/staple/screw heads are set flush with or below surface. Sand high edges of plywood or underlayment to level out high spots and to also remove any contaminates.
- Verify that the underlayment is clean, acclimated(24-48hrs.) and dry. The reading on a wood moisture meter should be less than 12%.

F. Existing Engineered Wood Flooring

- Must be sanded smooth to completely remove varnish or urethane finish, high edges, chips, or other contaminants.
- Must be clean, structurally sound, well bonded, flat to within 3/16" in 10 ft. (5mm per 3m), well nailed and/or glued, free of voids and with joints that do not exceed 1/4" (6.4mm). Ensure that all nail heads are set flush with or below surface.
- Install perpendicular to existing engineered wood flooring, whenever possible.
- Verify that the existing wood subfloor is dry. The reading on any wood moisture meter should be less than 12%.

G. Acoustical Underlayments

- Glued Down Cork Underlayment (AcoustiCORK, WECU Soundless), Ecore-QTscu, Impacta ProBase (92% post consumer recycled content) and Dura-son 3.5mm provides a suitable sound barrier for all Nydree Engineered Flooring products. Glue down acoustical underlayment according to manufacturer's installation instructions.
- <u>If any Calcium Chloride test is equal/greater than 3 lbs. or any insitu relative humidity test is equal/greater than 75%, then acoustical underlayment can not be used unless an approved moisture mitigation system is applied first. Bona R540 is highly recommended moisture protection up to 18 lbs. Calcium Chloride and 95% Relative Humidity.</u>

H. Radiant Heated Floors (Hydronic)

- All concrete should be dry (Run moisture tests).
- System should be running for at least one week prior to flooring installation regardless of the season. Make sure there are no leaks in the system that could damage the flooring.
- Turn off radiant heat system at least 4 hours prior to starting installation and wait at least 3 days after the flooring installation to turn the radiant heat system back on.
- Maximum boiler temperature of 110ºF (43ºC). Maximum slab/floor temperature of 80ºF (26ºC).
- It is important that the relative humidity be properly maintained between 30 and 55% when radiant heating is used to prevent face splitting nd gapping of the flooring. This condition is site related and not a manufacturer defect.
- Maxxon Therma-Floor radiant heating system is an acceptable subfloor.

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I. Terrazzo, Marble/Ceramic/Clay Tile and Epoxy Poured Floors

- Terrazzo, marble, ceramic tile, clay tile and epoxy poured floors provide a suitable surface provided they are flat and structurally firm and dry. (Remove a piece of material to allow moisture tests to be run).
- Any waxes, sealers, or polishes present must be entirely removed by stripping, rinsing and scouring before installing finished flooring. NOTE: Scouring, screening or sanding, by itself, is NOT effective for wax removal. These surfaces must be stripped.
- If surface is irregular, grind smooth and fill holes, chips, and seams (only as necessary).
- Any glazed or very smooth surfaces should be scoured with 3 ½ (20 grit) open coat sandpaper.

J. Existing Vinyl Tile or Sheet Vinyl Floors

- **SB1587 should never be used over any type of vinyl/VCT, plastic and PVC.**

K. Metal Subfloors (Aluminum, Steel and Stainless Steel)

- Scour all paint, dirt, contaminants and the surface of the metal with 3 ½ open coat (20 grit) paper using a floor machine or equivalent. The steel should have a faint metallic sheen. Sweep and vacuum clean.
- Wash the metal with one of the following properly diluted neutral cleaners: Clean Scrub® (Hillyard), Once n' Done (Armstrong), **or** Stride (Johnson).
- Rinse three times with clear water. Allow to dry thoroughly.
- As steel is not a conventional substrate, we strongly recommend testing a small area with the above procedure.
- Test adhesion of the flooring to the steel after at least 7 days. Nydree Flooring, LLC can not be responsible for inadequate adhesion to metal as proper preparation of the substrate is the responsibility of the installer.

Installation – SB1587 Glue Down

"Installation Warrants Acceptance"

Note: Prior to spreading SB1587, it is mandatory to "dry lay" a portion of the initial course to verify proper layout and to visually inspect the flooring. Verify that the flooring is the correct species, color, width, grain, finish (gloss level) and quality (fit) prior to installation. If there is any doubt, do not install the flooring. Contact Nydree Flooring immediately. Nydree Flooring will not be responsible for installation of the wrong type of flooring or for installing obvious defects.

A. Snap a chalk line at plank width plus recommended expansion spacing off of wall. The recommended expansion spacing is 1/4" (6.4mm) at all vertical obstructions when flooring run is less than 25 feet (7.6m). 1/2" (12.7mm) expansion spacing at all vertical obstructions when flooring run is >25 to 50 feet (7.6 to 15.2m). For runs >50 feet (15.2m) in either the length or width direction allow 1" (25.4mm) expansion spacing at all vertical obstructions. Keep in mind that these expansion spacing recommendations are provided solely to help prevent catastrophic flooring failure in the event of flooding or long periods of relative humidity beyond 55%. If it is expected that the relative humidity in the installation environment never exceeds 55% RH, the correct application of SB1587 is used based on concrete moisture test results and there is never any wet mopping of the flooring, then an expansion spacing of more than ½" at all vertical obstructions is not necessary. Adjust line accordingly if wall is not square and straight in relation to the rest of the area.

B. Depending on concrete slab moisture content use the appropriate V-notched trowel supplied in every pail of adhesive. To ensure proper coverage use a new clip-on trowel for every pail of adhesive. Spread adhesive either using the standard 1/4" x 1/4" x 7/16" V-notched trowel, held at a 90 degree angle (15 lbs. or less, 87% in-situ RH or less) or the 5/16" x 5/16" x 7/16" V-notched trowel with Moisture Plus spacers (up to 18 lbs. or up to 95% in-situ RH). Trowel adhesive perpendicular to flooring installation to help prevent glue squeeze-up. All non-concrete based substrates, where moisture is not an issue, utilize the standard 1/4" x 1/4" x 7/16" V-notched trowel. 100% of the substrate must be covered with SB1587 to protect against damage from subfloor moisture. Adhesive open time is 40 to 60 minutes depending on relative humidity, but it is best to install the flooring immediately into the "wet" adhesive. Do not let adhesive dry to the touch. Occasionally lift a piece of flooring to assure vapor retarding adhesive is achieving 85% transfer between the substrate and flooring. If not, use the larger 5/16" x 5/16" x 7/16" V-notch trowel with Moisture Plus spacers or patch/level the uneven subfloor. Spread adhesive only over surface that can be finished within open time of adhesive. Adhesive that has over-cured not allowing 85% transfer to the flooring must be removed and new adhesive applied.

C. Aligning carefully along the strike line, lay 3 pieces of flooring lengthwise in the first course. Begin the second course by cutting off the first piece to an appropriate length or utilize the random length pieces included in each box to establish random butt joint location. End joints should be staggered at least 6" (15cm).

D. Complete four courses by placing all pieces in the fresh adhesive. When placing a piece, lower the flooring into position as close to the adjacent plank as possible. Fit into place the remaining distance. Begin the next course by offsetting the butt joints 6" or more. As described above, fit the ends tightly without gaps. Again, stagger the butt joint location when beginning the third and fourth course.

E. Take an 8 foot (2.5m) straight edge and check the alignment (straightness) along the whole lay just completed. Tap the straight edge lightly with a block of wood and hammer to adjust. It is not necessary to jam the flooring tightly. Use wood wedges (remove later) at walls to prevent shifting.

F. Keep trowel clean when not in use. This will prevent cured adhesive from plugging trowel notches. If trowel notches become clogged with adhesive or become worn, clean to allow proper coverage or replace clip-on trowel.

G. To keep Nydree Engineered Hardwood Flooring in place during installation, we suggest using removable wedges, tack down strips, flooring clamps or 3M™ #2080 Blue Adhesive Tape. **WARNING!!! Do not let the 3M #2080 Blue Adhesive Tape on the flooring surface for any longer than 24 hours. Tape may leave a residue on the finish upon removal.**

H. Prior to cure, clean any SB1587 from the surface of the flooring with a clean, non-abrasive, microfiber cloth. Odorless mineral spirits can be used to facilitate clean-up. If there is any cured adhesive left on the flooring surface use a clean, non-abrasive, microfiber cloth and stiff plastic putty knife. Be careful not to damage the flooring finish.

I. If there are concerns that the flooring is not in complete contact with the adhesive, weighting the floor while the adhesive cures is very effective.

J. Flooring should be protected from traffic for minimum of 24 hours. Finished flooring must be protected from abuse by other trades. Use FortiBoard™ Floor Protector Paper, heavy kraft paper, cardboard, or equivalent. Do not use plastic or poly. Make sure the floor has been cleaned thoroughly (swept, vacuumed and dust mopped) prior to protecting, so that the flooring surface will not be scratched or dented by debris. Avoid covering the installation with protective paper or equivalent for at least 24 hours as the adhesive is curing. If the floor is covered, consider covering the entire flooring installation, since some species are light-sensitive and uncovered areas may change color. When taping paper or sheets together, tape them to each other, not to the floor. Some flooring material (attic stock) should be set aside in case future repairs are needed. Some installers say ordering an additional 5% is helpful.

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CLEAN-UP & MAINTENANCE

A. Guidelines

- Remove protective covering following completion of work by other trades. It is important to follow good housekeeping policies.
- Sweep, vacuum and dust mop flooring on a regular basis to keep unwanted sand particles and debris from scratching the flooring surface.
- Place mats or throw rugs at doorway exteriors, interiors & pivot areas to help prevent the tracking and grinding of grit, dirt, sand and moisture into the finish. Dirt can be ground into the floor surface and scratch the finish. Excess moisture can damage the wood fiber. Rugs and mats must be made of a breathable material and non-marking rubber to prevent moisture entrapment and finish discoloration.
- Commercial entryway systems are highly recommended to help remove excess dirt/grit/sand and moisture from foot traffic. This will help prevent damage to the flooring finish.
- Never use excessive amounts of water for cleaning. Never pour any cleaner directly onto flooring. Never wet mop with any type of string mop. Continually wet mopping a hardwood floor means the floor is continually expanding, buckling and shrinking. The resulting stresses and movement of the flooring can cause abnormal and unsightly checking and cracking.
- Never use wax, oil-based soap, multi-purpose cleaners, window cleaner, vinegar, furniture polish or other household cleaning detergents on Nydree Engineered Hardwood Flooring. Remember to wipe up spills immediately.
- Use fabric-faced glides or large (at least 2" in diameter), broad surfaced (at least ¾" in width), barrel-type, double wheel casters (non-marking rubber or soft polyurethane) on chairs and furniture legs to prevent scratching, scuffing and other damage. Keep glides and casters clean by inspecting regularly to prevent scratching. Replace fabric-faced glides as needed.
- Keep in mind that high heels, cleats, and sports shoes can indent any wood floor surface.
- When moving heavy furniture, equipment, etc., use roller casters and be sure to protect the wood flooring with heavy cloth or cardboard.
- Maintain consistent year-round HVAC system settings at 60-80ºF (16-27ºC) and 30-55% relative humidity. Use a humidifier and or dehumidifier in the heating or cooling seasons to maintain a consistent relative humidity. This will minimize the expansion and contraction of Nydree flooring.
- The suns UV rays and strong artificial lighting can discolor some hardwood flooring species over time. If possible, periodically rearrange rugs and furniture to allow for even aging of the flooring. Some species darken (Cherry) and some species will amber or lighten over time (Oak).

B. Maintenance Products

Sealed with Standard Pedestrian 2.0 Urethane Finish

Bona® Professional Hardwood Floor Cleaner

Carefully follow the label directions of all maintenance and remedial products. Use only serviceable and clean equipment.

C. Maintenance Procedures

Sealed with standard Pedestrian 2.0 Urethane Finish

- Routine daily maintenance should include sweeping, vacuuming or dust mopping with a commercially available microfiber dust mop. DO NOT use string mops or dust mop treatments as these will leave a contaminating oily residue on the floor. Walking on a dusty or dirty floor is the fastest way to cause premature wear or damage to the floor finish.
- Periodically clean the floor with Bona Professional Hardwood Floor Cleaner.

  Small Installations

  Lightly mist a small 3' x 10' area and immediately wipe clean with damp microfiber cleaning pad, periodically rinsing pads as they get soiled (THOROUGHLY wring out wet pads before placing back on the floor): and replacing with clean pads as needed. Microfiber cleaning pads are machine washable. *Important – Always wash in a separate load on warm/cold setting. Use liquid detergent with no dyes or scents. Never use bleach or fabric softener. Dry microfiber pads on low/no heat option or hang dry. Do not use dryer sheets.*

  Large Installations

  Pour Bona Professional Hardwood Floor Cleaner into a bucket. Soak several large towels in the solution, making sure they are thoroughly wet. THOROUGHLY wring out the towels to remove excess moisture. Wrap towel around a push broom and tack a section of the floor. (Tacking means to clean until no dirt/dust is being picked up on the towel). To prevent redeposit of dirt and oil, refold towel using clean sides as needed. Clean corners, sides, and detail areas by hand. Repeat the tacking process section by section until the entire floor has been cleaned.

  Commercial Installations Vacuum floor to remove loose dust and debris. Use Bona PowerScrubber or an appropriate auto scrubber using Bona Professional Hardwood Floor Cleaner or Bona Deep Clean Solution®. Make sure that the water setting is on low. Clean corners, sides, detail areas, and or spot clean by hand or with the Bona Hardwood Floor Cleaner and microfiber cleaning pad method as described above.