



All Nydree Engineered Flooring Products Installation & Initial Maintenance Instructions Nydree Flooring UP-28-0VOC™ Adhesive

GammaPar
TECHNOLOGY

PermaGrain
TECHNOLOGY

This Installation Instruction covers all Engineered Flooring manufactured by Nydree Flooring, LLC (Nydree, PermaGrain and Gammapar). All glue down installations require the use of Nydree Flooring UP-28-0VOC Moisture Cured Urethane Adhesive. (Refer to label on container for complete details.)

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: 60-90 °F (16-32 °C) and Relative Humidity: 30-55%.
- Do not store flooring outside in non-ventilated 18-wheel truck trailers. Extreme heat developed during the summer months could distort the flooring.
- Nydree Flooring, LLC can 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 not been used within a day should be returned to the polybag until ready for installation. No acclimation time is needed or desired when installing flooring. Removing the polybag prior to installation could lead to plank distortion (bowing, crowning, twisting, cupping). Temperature of material and adhesives should be acclimated to 60° - 90°F (15° - 32°C).

DIRECT BOND INSTALLATION METHOD

Note: Install finished flooring from multiple cartons throughout a skid of material to obtain a random distribution of the natural color variation which is an inherent characteristic of genuine hardwoods. To prevent damage, the flooring should be installed as the last step 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) and permanent lighting must be provided prior to flooring installation. This is very important when performing any type of moisture test on a concrete slab. (Salamanders are not acceptable)
- Job site temperature should be 60° - 90°F (15° - 32°C). 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.
- Do not install flooring until all other significant 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 expansion 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 products which do not contain gypsum. Suggested patching products include: Bostik Fast Patch 102™, Bostik UltraFinish™ and Durabond Webcrete™ 95.
- Substrate must be clean, sound, and free of wax, dirt, dust, mold, mildew, loose material, grease, oil, coatings, paint, rust, cutback, old adhesives (carpet), weak powdery concrete, adhesive removers, gypsum-based materials, efflorescence (white soluble salt deposits on concrete surfaces) and other contaminants that will interfere with the bonding of the adhesive.
- Verify that substrate is flat to within 3/16" in 10 ft. (5mm per 3m). The substrate must be smooth, 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 10 mil (0.25mm) intact, polyethylene vapor retarding membrane beneath slab.
- Acrylic Impregnated Engineered Flooring should not be installed on any concrete subfloor where there is hydrostatic pressure or standing water.
- If a sealer, curing compound, bond breaker, densifier/hardener, prior adhesive or other surface coating has been applied, it must be "ground" off. Whenever possible, grind a concrete subfloor to tolerance rather than fill. Scour all concrete surfaces that does not have a moisture retardant coating using 3 ½ (20 grit) open coat sandpaper. Sweep and vacuum substrate after scouring or grinding. **DO NOT use sweeping compounds** as most contain oils or waxes which will interfere with the flooring adhesive bond.

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- New slab cure min. 30 days, preferably 60.
 - Structural Lightweight Concrete must have a compressive strength equal to or greater than 2000 P.S.I.. **DO NOT use gypsum-based products.**
 - Temperature of concrete should be above 60°F(15°C), but should not exceed 90°F(32°C).
 - Concrete must be clean, sound, free from contaminants and dry regardless of concrete age, history or grade level. Concrete must be less than 8 lbs./1000sq.ft./24 hrs using the Calcium Chloride Test Method (ASTM F1869) or less than 85% insitu relative humidity (ASTM F2170). The protocol for either moisture test must be followed precisely for warranty consideration. Calcium Chloride Test kits are available from Nydree Flooring. If any Calcium Chloride test is equal to or greater than 8 lbs. or the insitu relative humidity is equal to or greater than 85%, Nydree Flooring OVR-8 Self Leveling Moisture Retarder must be used prior to installing the flooring with UP-28-0VOC adhesive. Also if there is concern over any excessive future subfloor moisture, OVR-8 should be used prior to installing the flooring with UP-28-0VOC.
 - Concrete ph level is not a concern using UP-28-0VOC adhesive or OVR-8 Self Leveling Moisture Retarder.
- C. Self-Leveling Underlayments
- If self-leveling underlayments are used, they must dry sufficiently (Run moisture tests) and dry hard (not dusty/powdery). Self-leveling underlayments must have a compressive strength equal to or greater than 2000 psi. Nydree Flooring, LLC can not be responsible for strength, adhesion, or general performance of underlayments as proper compounding and preparation of subsurface are the responsibility of the installer.
 - Suggested products include: Bostik SL-150™ and Durabond Durable™ 83P.
- 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. Do not intentionally leave spacing or gaps between panels. Gently butt panels together. 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.
 - Particleboard, flakeboard, chipboard, OSB, waferboard, masonite, hardboard and Meranti/Lauan are not approved substrates.
 - Verify that the plywood is clean, acclimated (24-48 hrs.) and dry. The reading on any wood moisture meter should be less than 12%.
- E. Structural Suspended Plywood Subfloors
- Use 5/8" (16mm) or 3/4" (19mm) APA-CDX grade (or better) underlayment plywood when joists on center are 16" or less. Use 3/4" (19mm) APA-CDX grade plywood or equivalent when joists on center are 19.2" or less. Allow 1/8"-1/4" (3.2-6.4mm) expansion space between sheets with staggered joints. When installing plywood, leave 1/4" (6.4mm) minimum 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 joints level.
 - Particleboard, flakeboard, chipboard, OSB, waferboard, masonite, hardboard, and Meranti/Lauan are not approved structural substrates.
 - Verify that the plywood is clean, acclimated (24-48 hrs.) and dry. The reading on any wood moisture meter should be less than 12%.
- F. Existing Engineered Wood Flooring
- Must be sanded smooth to 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, Bostik Natural Cork), Ecore-QTscu, Impacta ProBase (92% post consumer recycled content) and Dura-son 3.5mm provides a suitable sound barrier for all Nydree Engineered Acrylic Impregnated Hardwood Flooring products. Glue down acoustical underlayment according to manufacturer's installation instructions.
 - 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. Cork/Rubber acoustical underlayment manufacturers require that concrete be less than 3 lbs. calcium chloride or less than 75% insitu relative humidity.
- 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.
 - Turn off radiant heat system 4 hours prior to starting installation. After installation is completed, immediately turn radiant heat system back on. Flooring and adhesive should never come in direct contact with heating tubes.
 - Maximum boiler temperature of 110°F (43°C).
 - Maximum slab/floor temperature of 85°F (29°C).
 - It is important that the relative humidity be maintained between 30 and 55% when radiant heating is used to prevent splitting and gapping of the flooring.
 - Maxxon Therma-Floor radiant heating system is an acceptable subfloor.
- 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
- Existing synthetic flooring, such as vinyl tile or sheet vinyl must be well bonded to the subfloor and show no signs of moisture. The vinyl also must be stripped and abraded with a butyl-based stripper using a coarse (green or black) buffing pad. Stripping will remove waxes, coatings and foreign materials. The green or black pad will abrade the surface and provide increased bond strength. **CAUTION! Do Not Sand, Scrape, Drill, Saw, or Beadblast Vinyl Asbestos Tile (VAT).** If the vinyl or tiles are loose, damaged or in poor condition, completely remove them and clean the vinyl adhesive from the subfloor. If the vinyl can not be removed and the subfloor is concrete, shooting down 5/8" (16 mm) or 3/4" (19mm) APA-CDX grade plywood or equivalent will provide an acceptable subfloor. If the subfloor is wood, 1/4" (6.4mm) CDX grade Underlayment plywood or thicker is recommended.
- 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 properly diluted Nydree Flooring All Purpose Cleaner or one of the following neutral cleaners: Once n' Done (Armstrong), Clean Scrub® (Hillyard) and 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 - UP-28-0VOC Glue Down *Note: Prior to spreading UP-28-0VOC, 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 can 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 1/4" (6mm) off of wall. This provides for a required 1/4" (6mm) expansion space. Adjust line accordingly if wall is not square and straight in relation to the rest of the area. Additionally, allow a 1/4" (6mm) expansion space around the perimeter of the room and at all vertical obstructions.
- B. Spread adhesive using a 3/16" x 5/32" (4.8mm x 4.0mm) V-notched trowel, held at a 45 degree angle. Coverage will vary depending on substrate condition (smoothness, porosity, etc.) and job site temperature. Expected coverage is 50-55 sq.ft. /gal. (1.33 sq. m/liter). Install flooring immediately: Do not allow adhesive to remain "open" more than 20 minutes. Do not let adhesive dry to the touch. Occasionally lift a piece of flooring to assure adhesive is achieving 80-100% adhesive transfer. Spread adhesive only over surface that can be finished within cure time of adhesive.
- 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. 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 along the whole lay just completed. Tap the straight edge lightly with a 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 trowel blade.
- 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. **It is extremely important to immediately remove excess adhesive while it is still fresh.** Use mineral spirits and a clean, white, cotton cloth as the flooring is being installed or use Bostik Ultimate® Adhesive Remover Wipes (available thru customer service). If solvents are used to facilitate partially cured mastic removal (under 24 hours), they must be wiped off surface promptly when mastic softens. Approved solvents to remove partially cured adhesive include Goof Off®, mineral spirits, or equivalent. Do not use acetone, ketones, ethyl acetate, methylene chloride, or lacquer thinners to remove mastic as they will damage the flooring. A stiff plastic putty knife may be helpful to remove large globs of glue. **Cured adhesive (over 24 hours) is almost impossible to remove. As a last resort, Oil Flo 141 available through Taylor Tools (www.taylortools.com) or a local distributor has been found to effectively dissolve cured UP-28-0VOC adhesive.**
- I. Roll floor with 150 pound (70kg) roller (100 pound plus 50 pound attachment) one hour after spreading adhesive, but not later than 2.5 hours. Be sure to roll in both directions (with plank grain and across grain). Make sure that the roller is clean and free of debris.
- J. Flooring should be protected from traffic for 24 hours. Finished flooring must be protected from abuse by other trades. Use 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 by debris. Avoid covering the installation with protective paper or equivalent for at least 24 hours. Some flooring material (attic stock) should be set aside in case future repairs are needed.

FLOATING INSTALLATION METHOD

Preparation

- A. Existing subfloors should be sound, dry, and flat to within 3/16" in 10 ft. (5mm per m). The floating method uses Nydree Flooring Underlayment Felt and existing floors. Old resilient tile and mastic do not require removal prior to installation of Nydree Engineered Hardwood Flooring. Additionally, the Floating Method is acceptable for general installations when so specified.
- B. For the floating installation method, concrete must be visibly dry and **less than 3 lbs./1000sq.ft./24 hrs** using the Calcium Chloride Test method (ASTM F1869) or **less than 75% insitu relative humidity** (ASTM F2170). The protocol for either moisture test must be followed precisely for warranty consideration. Calcium Chloride Test kits are available from Nydree Flooring. **If any Calcium Chloride test is equal/greater than 3 lbs. or any insitu relative humidity test is equal/greater than 75%, then the floating installation method can not be used.**

Installation

- A. The Underlayment Felt is 50" wide (127cm) and it should be rolled out over the area to be covered. The underlayment felt should be placed so that it is perpendicular to the finished flooring. Seams are butted without overlaps. Use masking tape or equivalent on the underside of the felt to keep it in place. Do not glue Underlayment Felt to the substrate.

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- B. The required expansion space for floating installations is at **least ½" (13mm)** around the perimeter of the room. In areas larger than 24 lineal feet (7.3m), use ¼" (6.4mm) expansion for each additional 12 lineal feet (3.7m). For example, a 48' x 48' (14.6m x 14.6m) room leaves 1" (25mm) expansion around the perimeter of the room.
- C. Install the Nydree Engineered Hardwood Flooring on the Underlayment Felt. Follow **Installation - UP-28-0VOC Glue Down** section for "Installation" (with the exception of the expansion space covered in letter B above).
- D. Never nail any type of trim or molding to the flooring. Always nail moldings to the walls. Allow the flooring to float freely beneath the molding.

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 particles 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.
- Never use excessive amounts of water for cleaning. Never pour any cleaner directly onto flooring. Never wet mop with string type mop. Continually wet mopping a hardwood floor means the floor is continually expanding 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 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 the floor surface.
- When moving heavy furniture, equipment, etc., use roller casters and be sure to protect the wood flooring with heavy cloth or cardboard.
- Keep HVAC systems set at 70°F (21°C) and 30-55% relative humidity. Use a humidifier in the winter months to keep all wood movement and shrinkage to a minimum.
- 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 over time (Oak).
- Select proper initial maintenance procedures and products for the finish selected for the flooring (Standard Pedestrian Urethane Finish / Optional: UV-Oil Finish)

B. Maintenance Products

Sealed with Standard Pedestrian Urethane Finish
 Nydree Flooring Urethane Finish Cleaner
 Nydree Flooring Dust Mop Treatment

Sealed with Optional 'UV-Oil Finish'
 Nydree Flooring Spray Buff Cleaner
 Nydree Flooring Dust Mop Treatment
 Remedial Product: Nydree Flooring Oil Finish Conditioner

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

C. Maintenance Procedures

Sealed with standard Pedestrian Urethane Finish

- Routine, regular maintenance, daily if necessary, should include sweeping, vacuuming or dust mopping with Nydree Flooring Dust Mop Treatment. Walking on a dusty or dirty floor is the fastest way to damage the finish.
- Periodically clean the floor with Nydree Flooring Urethane Finish Cleaner.

Small Installations

Lightly mist a small area and immediately wipe clean with a terry cloth or microfiber mop. Replace terry cloth or microfiber mop covers whenever they become heavily soiled. *Important Tip:* To avoid redistributing dirt and contaminants back onto the floor, rinse the mop head with clean water periodically. THOROUGHLY wring out before using on the floor.

Large Installations

Pour Nydree Flooring Urethane Finish 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 a towel around a push broom and tack the floor. (Tacking means to clean until no dirt/dust is left on the floor or towel). To prevent redeposit of dirt and oil, refold towel using clean sides as needed. Pay special attention to corners. Repeat the procedure in each area of the floor until the entire floor has been cleaned.

Commercial Installations – Use Basic's Dirt Dragon™ cleaning machine with Basic's Squeaky Cleaner.

Spot Cleaning Apply cleaner to a clean cloth and scrub the area by hand.

Sealed with optional 'UV-Oil Finish'

- Routine, regular maintenance, daily if necessary, should include sweeping, vacuuming or dust mopping with Nydree Flooring Dust Mop Treatment. Walking on a dusty or dirty floor is the fastest way to damage the finish.
- Periodically spray buff using Nydree Spray Buff Cleaner, a red cleaning pad and a heavy (100lb./45kg) low speed (175-250 rpm) buffing machine. Follow all label directions carefully. (Note: For an extremely dirty floor, use a green scrubbing pad as required. If a green pad is used, Nydree Flooring Oil Finish Conditioner may be required to rejuvenate color intensity.
- If a higher degree of gloss is desired after the floor has been cleaned, use a white polishing pad, Spray Buff Cleaner and a low speed buffing machine. Note: After the Spray Buff has been applied with a low-speed floor machine, the acrylic surface may be burnished (polished) with up to a 2000 RPM burnisher. This will allow a higher gloss level in a short time.

Clean Scrub® is a registered trademark of Hillyard.

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Dirt Dragon™ is a trademark of Basic Coatings.

Bostik's Ultimate® is a registered trademark of Bostik Findley.

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