



## Advanced Adhesive Technologies, Inc. E<sup>2</sup> Premium Hardwood Flooring Adhesive Specification Sheet

AAT's **E<sup>2</sup> Premium Hardwood Flooring Adhesive** is the latest innovation in high performance hardwood flooring adhesives. **E<sup>2</sup>** is the initial product offering in AAT's **ecologix**® family of 'Green' flooring adhesives. The **ecologix**® brand insures everyone that the adhesives used on the job site are the safest and offer the highest performance available in the industry. Formulated for the installation of engineered plank, acrylic impregnated wood flooring, bamboo, solid shorts, pre-finished solid plank and parquet wood flooring, **E<sup>2</sup>** is the premiere choice for a 0 VOC, solvent free, professional grade wood flooring adhesive. **E<sup>2</sup>**, and all **ecologix** adhesives, contribute to LEED credits in Commercial Interiors, New Construction, and Existing Buildings. **E<sup>2</sup>** is protected by our two-stage antimicrobial, Cleanguard®, and it contains no isocyanates or hazardous ingredients.

**E<sup>2</sup>** is formulated to offer quicker installations. This unique, high solids compound requires minimum open time and develops aggressive shear strength very quickly. **E<sup>2</sup>** is especially effective when installing hardwood flooring over nonporous substrates like "slip sheets", acoustical underlayments, and moisture emission sealers. In addition the **E<sup>2</sup>** provides assurance against elevated moisture emissions. **E<sup>2</sup>** can be used on concrete substrates with MVER as high as 5lbs when tested according to ASTM-1869-04.

The excellent re-bond characteristic minimizes call backs from "popping" or "hollow spots." After 10-14 days the adhesive transitions to a firm, elastomeric bond equal to moisture cure urethane (MCU) and modified silicone (MS) adhesives. The **E<sup>2</sup>** is easy to trowel, has excellent trowel ridge holding characteristics, and is easy to clean without damaging the wood's finish. A key benefit of the **E<sup>2</sup>** is a 24 month self life.

For assistance with specific bamboo products and other exotics please contact our Technical Services Department. DO NOT install solid wood flooring below grade. **E<sup>2</sup>** is not for use with wood flooring manufactured from Kempas. For a copy of the Limited Lifetime Warranty please visit [aatglue.com](http://aatglue.com).

Prior to the start of the installation the installer must determine that the job-site conditions meet or exceed all applicable standards of the wood flooring manufacturer and AAT. Installation of hardwood flooring should be one of the last jobs of any construction project. The sub-floor should be prepared according to the standards and practices set forth in the document ASTM F-710-08.

### Site Conditions:

The building should be completely enclosed. All outside doors and windows should be properly installed with latching mechanisms in place.

Landscaping should be sufficiently completed to direct water away from the building. Gutters and downspouts should be in place.

All concrete, masonry, plastering, drywall and other wet work should be completed and thoroughly dry prior to beginning the installation. Texturing and paint primer coats should be completed. Where possible the installation of the base molding should not take place until after the wood flooring has been installed.

Adequate ventilation should be available. The HVAC system for the building should be operating for a minimum of 72 hours prior to the start of the installation. The flooring should not be exposed to extremes of temperature, humidity or moisture. The installation site should have a consistent air temperature of 65°F-95°F and relative humidity levels should be between 35%- 60% for a minimum of 72 hours prior to the start of the installation. The temperature of the sub-floor should be between 65°F-85°F. These conditions must be maintained to ensure long term success and performance of the wood flooring installation.

Basements and crawl spaces should be dry and adequately ventilated. Sub-floors must be checked for moisture content and emissions using industry accepted methods. Crawl spaces should meet local building codes regarding minimum heights, cross ventilation and the use of vapor retarders.

Sub-floors must be free from dust, dirt, grease, wax, curing agents, sealers, oil and any other bond inhibiting substances. The sub-floor should be plumb and flat within 3/16" in 10' or 1/8" in 6'.

Concrete must dry with moisture emission rates that do not exceed 5 lbs. /1000 sq ft/24 hours for engineered flooring and 3 lbs. /1000 sq ft/24 hrs for solid and bamboo flooring, as measured by the Anhydrous Calcium Chloride Test (ASTM F-1869-04). Lightweight concrete should be tested according to the requirements of ASTM F-2170-02. *In situ* relative humidity should not exceed 75%. Concrete surface pH is required to be 7.0-9.0. Before any moisture testing begins, the slab must be cured for a minimum of 30 days and the HVAC system must be operating for a minimum of 72 hours. Fill low areas with a polymer-modified portland cement leveling or patching compound. Leveling and patching compounds must be tested to ensure they are properly cured and within the manufacturer's specified requirements before proceeding with the installation. Mechanical surface profiling is the preferred sub-floor preparation method. Mechanically profile the sub-floor to medium-grit sandpaper texture. Sanding or scouring with open paper or a titanium disk is preferred. Remove curing and parting compounds and other surface hardeners and floor coatings by mechanically profiling, bead blasting or other similar means. Very porous sub-floors, such as lightweight concrete and gypsum concrete, must be primed with AAT-570 Acrylic Primer before applying the adhesive.

Hardwood flooring may be installed over existing full spread sheet vinyl and vinyl tiles (non-embossed and non-cushion backed) if the existing flooring is well bonded. Clean the surface thoroughly and de-gloss the surface using an abrasive pad to create a suitable sub-floor. The wear layer must remain intact. Resilient sub-floors must be free from dust, dirt, grease, wax, sealers, oil and any other bond inhibiting substances. These substances must be removed with the appropriate stripper/removers. Vacuum the entire area, mop thoroughly and allow the floor to dry before proceeding. Existing flooring that has any texture must be leveled with a latex fortified embossing leveler. The substrate must be plumb and flat to within 3/16" in 10' and 1/8" in 6'. Imperfections and irregularities must be corrected before applying the adhesive. Fill low areas with a polymer-modified Portland cement based patching or leveling compound. Leveling compounds must be tested to ensure they are properly cured and within the manufacturer's specified requirements before proceeding with the installation. Repair or replace loose flooring products before applying this adhesive. ***Never sand any resilient flooring that may contain asbestos fibers.***

Wood flooring may be installed over full spread, permanently bonded acoustic cork. Cork thickness should not exceed 1/4"(6mm) with a density between 11.4 and 13 lb. /cubic foot. Install cork in accordance with manufacturer's recommendations. Acoustic cork should be pure cork with a polyurethane binder.

Slabs with a radiant heating system are acceptable sub-floors for installing wood floors with the following stipulations. The

heating system should be fully operational for a minimum of seven days prior to the installation. The system should be shut down to allow the slab to cool down to room temperature before applying the adhesive. Immediately after completing the installation turn the system back on and set to normal temperature. The sub-floor cannot exceed 85°F throughout the life of the installation. Check with the system manufacturer to determine that the system is designed for the desired R-rating for wood flooring. Failure to ensure proper system design can result in excessive heat damage and wood shrinkage.

*NOTE: Prior to the beginning of the installation the wood flooring, adhesive and sub-floor must be acclimated in an enclosed building with the HVAC operating for a minimum of 72 hours. Wood flooring must be exposed to the air when being acclimated.*

#### **INSTALLATION:**

1. Follow wood flooring manufacturer's instructions for layout, requirements for expansion space and any special precautions for installation.
2. Apply adhesive with the recommended trowel. (See below) Allow approximately 10 minutes open time before placing wood flooring. Working time for adhesive is approximately 60 minutes. If sub-floor is non-porous<sup>1</sup> and when installing solid wood flooring a longer open time will be required. Temperature and relative humidity will determine the actual amount of open time needed and the adhesive's working time. A 100% adhesive transfer rate to the wood flooring is required.
3. Occasionally lift a piece of flooring to assure that a 100% adhesive transfer is achieved. If proper transfer is not achieved, remove dried adhesive and re-apply the adhesive with the recommended trowel allowing the appropriate open time before proceeding. The use of non-transferring tape may be required to secure patterns and minimize movement until installation has been completed. Be sure to remove tape immediately after completion of the installation to avoid damaging the wood. Do not use masking tape.
4. Leave appropriate expansion space around the perimeter of the room and at any stationary objects.
5. If plank is bowed or warped, use weights or nails to ensure flooring is in full contact with the adhesive during the adhesive curing process. Excessively bowed or warped planks should be culled prior to installing the flooring.
6. Roll completed installation with a 100lb. roller in a north-south direction and then in an east-west direction to ensure adequate seating into the adhesive.
7. ***E<sup>2</sup> Premium Hardwood Flooring*** achieves a firm set in 8-10 hours. Light traffic can be allowed after this time. Furniture placement and heavy traffic should be restricted for a minimum of 12 hours.

## TROWEL RECOMMENDATIONS:

Engineered plank, bamboo plank and solid plank with a thickness of less than 1/2 inch<sup>2</sup>-- maximum dimensions for < 1/2" solid planks are 5"x72".

**3/16" X 1/4" x 5/16" V notch**  
**50-60 sq ft/gal**

Solid shorts ( $\leq 3/4"$  x 15") and 1/2" solid plank flooring<sup>2</sup>-- Maximum dimensions for 1/2 inch solid flooring are 3"x 36".

**3/16" x 3/16" x 3/16" □ notch**  
**35-40 sq. ft. /gal.**

Parquet

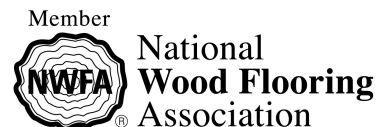
**1/8" x 1/8" x 1/8" □ notch**  
**80-100 sq. ft. /gal.**



**\*\*Note:** Notch dimensions are Width x Depth x Separation\*\*

## SPECIFIC TECHNICAL DATA:

1. Solvent free, 0 VOC
2. Clean-Up: Remove wet adhesive with water and mild soap solution. Use AAT-197 Adhesive Remover to remove dried adhesive. Dried adhesive may be more difficult to remove, therefore, take care to remove adhesive from the surface of the flooring before it dries. Do not apply the AAT-197 directly to the flooring material. Test AAT-197 on a scrap piece of flooring to ensure that the solvent does not affect the floor's finish.
3. Packaging: 4 gallon pails and one gallon pails (four per case)
4. Shelf-Life: twenty-four months from date of manufacture in un-opened container when stored at 70°F.
5. Freeze-Thaw Stable to 15°F. Stability and spread-ability can be affected if allowed to freeze. Frozen material should be allowed to thaw at room temperature. DO NOT agitate or stir while frozen



<sup>1</sup> Determining whether the sub-floor is porous or non-porous is the responsibility of the user. You can check the subfloor by placing two drops of water in several areas across the sub-floor. The sub-floor is porous if the water is absorbed within a few seconds. If the water beads and is not absorbed within a few seconds the sub-floor is nonporous

<sup>2</sup> DO NOT install solid wood flooring below grade.



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# MATERIAL SAFETY DATA SHEET

## NPCA HMIS

H = 1  
F = 0  
PH = 1

Prepared by: Howard Burchett Jr.  
Date of Prep: March 30, 2009

## SECTION I

**Manufacturer's Name:** Advanced Adhesive Technologies, Inc.  
**Street Address:** 419 S. Glenwood Ave Dalton, GA. 30720  
**Emergency Telephone No.:** Chemtec 1-800-424-9300  
**General Information No.:** 1-800-228-4583  
**Product Class:** Floor Covering Adhesive  
**Manufacturer's Code Identification:** E<sup>2</sup> Premium  
**Trade Name:** Premium Hardwood Flooring Adhesive

## SECTION II — HAZARDOUS INGREDIENTS

None

## SECTION III — PHYSICAL DATA

**Boiling Range:** > 212°F  
**Vapor Density:** Lighter than Air  
**Evaporation Rate:** Slower than Ether  
**Percent Volatile by Volume:** 19 ± 2.0%  
**VOC Emission:** 0 g/l (calculated per SCAQMD Rule 1168)

## SECTION IV — FIRE AND EXPLOSION HAZARD DATA

**DOT Category:** Non-flammable  
**Flash Point:** N/A  
**LEL:** Not Known  
**Extinguishing Media:** Water mist, dry chemical, or mechanical foam, CO<sup>2</sup>  
**Unusual Fire and Fighting Hazards:** None  
**Special Fire Fighting Procedures:** None

## SECTION V — HEALTH HAZARD DATA

**Threshold Limit Value:** Non-Established  
**Effects of overexposure:** Wet-light headedness, nausea, and mild dermatitis. Dry –None. Acute – eye, nose and throat irritation.  
**Emergency and First Aid Procedures:** Eye Contact: Wash with plenty of cold water for at least 15 minutes. Wash skin with soap and water. If ingested treat symptomatically and contact a physician.

## SECTION VI — REACTIVITY DATA

**Stability:** Stable  
**Incompatibility:** None  
**Conditions to avoid:** Closed area with open container  
**Hazardous Decomposition Products:** None  
**Hazardous Polymerization:** Will not occur  
**Conditions to avoid:** Strong acids or oxidants, temperatures below 35°F.

## SECTION VII — SPILL OR LEAK PROCEDURES

**Steps to be taken in case material is released or spilled:** Collect in suitable container, wash area with plenty of water.  
**Waste Disposal Method:** Dispose in accordance with local, state, and federal regulations.

## SECTION VIII — SPECIAL PROTECTION INFORMATION

**Respiratory Protection:** None required with adequate ventilation  
**Ventilation:** Open windows, exhaust fan, open air area  
**Protective Gloves:** May be desirable for people with sensitive skin  
**Eye Protection:** Safety glasses or goggles.  
**Other Protective Equipment:** None required

## SECTION IX — SPECIAL PRECAUTIONS

**Precautions to be taken in handling and storing:** Store in a cool, dry place. Optimum storage temperature 70°F. Keep sealed when not in use. Shelf life: One year from date of manufacture in an unopened container.  
**Other precautions:** Follow good housekeeping practices. Keep from freezing. If frozen allow to thaw at room temperature. Do NOT agitate or stir while frozen.