



Advanced Adhesive Technologies, Inc. AAT-2000 Polyurethane Wood Flooring Adhesive

AAT-2000 is a one-part moisture cure urethane adhesive specifically formulated for the installation of all types of plank, strip, and parquet wood flooring specified for “glue-down” installations. To minimize hollow spots, AAT-2000 combines superior ridge retention and outstanding green strength with exceptional final bond strength and ease of troweling to produce an ideal adhesive for use over common sub-floor surfaces. AAT-2000 contains no water and is an excellent choice for green building projects. When fully cured, it maintains elastomeric qualities to allow for normal expansion and contraction of the flooring. AAT-2000 contributes to LEED® Qualification, is VOC compliant and meets the requirements of California Proposition 65.

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.

Site Conditions:

The building should be completely enclosed. All outside doors and windows should be properly installed with latching mechanisms in place. The sub-floor should be prepared according to the standards and practices set forth in the document ASTM F 710.

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.

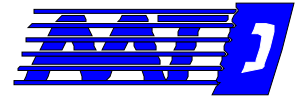
Adequate ventilation should be available. The HVAC system for the building should be operational. The flooring should not be exposed to extremes of temperature, humidity or moisture. The installation site should have a consistent temperature between 60EF and 90EF (air and sub-floor) and humidity levels should be between 40-70% for a minimum of 72 hours prior to and following the 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. Moisture content of the sub-floor and the wood flooring should vary no more than 4%.

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 smooth and flat within 3/16" in 10' or 1/8" in 6'.

Concrete must be dry with moisture emission rates that do not exceed 3 lbs/1000 sq ft/24 hrs as measured by the Anhydrous Calcium Chloride Test (ASTM-F-1869) and the slab's RH must be less than 75% as measured by ASTM F 2170, using *in situ* Probes. The concrete surface pH must be 5- 9. Before moisture testing begins, the slab must be cured for a *minimum* of 30 days. Fill low areas with a Portland Cement Based leveling compound or latex milk additive latex patch with minimum 3,000 psi compressive strength. Leveling 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. Acid etching is not recommended. Mechanically profile the sub-floor to medium-grit sandpaper texture. Remove curing and parting compounds and other surface hardeners and floor coatings according to the manufacturer's instructions. Lightweight or acoustical concrete, less than 3,000 psi, must be primed with a compatible primer, such as AAT-570 Primer/Sealer.

For Wood Joist Systems the sub-floor should be structurally sound, free of loose panels or boards, and free of protruding fasteners. Moisture content should be within normal industry standards for the areas average environmental conditions. . Moisture content of the sub-floor and the wood flooring should vary no more than 4%. Underlayment panels should be fastened according to the manufacturer's specifications. All panel seams should be sanded level and prepared according to the manufacturer's instructions. Minimum sub-flooring: 5/8" CDX plywood sub-floor/underlayment (Exposure 1), maximum 16" o.c. construction. Install the flooring perpendicular to the floor joists. Do not install flooring over existing glue-down wood flooring or nailed down wood flooring that is wider than 3 1/4". Wide plank floors must be covered with an acceptable underlayment.



Engineered wood flooring may be installed over existing full spread sheet vinyl and vinyl tiles (non-cushioned) 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 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 Portland Cement Based leveling compound or latex milk additive latex patch with minimum 3,000 psi compressive strength. 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. Cork floors must have all sealers and surface treatments removed prior to applying the adhesive. *Never sand any resilient flooring that may contain asbestos fibers.*

Wood flooring may be installed over existing ceramic tile and terrazzo floors. All grout joints and broken tiles must be filled with a Portland Cement Based leveling compound. Surfaces should be cleaned and abraded to ensure a proper bond. Ceramic tiles must be securely fastened to the sub-floor. Loose tiles must be replaced or repaired. Ceramic and terrazzo sub-floors must be free from dust, dirt, grease, wax, sealers, oil and any other bond inhibiting substances.

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 85EF 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.

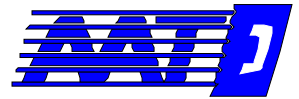
INSTALLATION:

1. Ensure the starter rows are firmly in place by wedging or face nailing. Once initial rows are secure, use the AAT-2000 in the wet lay method of installation.
2. Wet-lay method: Apply adhesive to the substrate with an appropriate trowel. Immediately place flooring into the wet adhesive.
3. After installing three or four rows of flooring, tape rows together with a removable masking tape, such as 3M Blue Removable Masking Tape, to prevent floor from moving.
4. Uneven flooring should be tacked, weighted, or rolled to ensure good contact between the flooring and the substrate. Excessively bowed or warped planks should be culled prior to installing the flooring.
5. Curing rate dependent on temperature and humidity. Below times are based on 75°F and 50% relative humidity. Higher temperatures and humidity shorten the cure rate, while lower temperatures and humidity lengthen the time required before use.

Firm Set	4-6 Hours
Light Foot Traffic	8-12 Hours
Normal Traffic	24 Hours

CLEAN UP:

- * Clean up tip: Before troweling AAT-2000, cover the unused portions of the trowel with duct tape. After troweling, tear off the tape before material cures.
- * Clean all tools and excess AAT-2000 immediately after with mineral spirits and a soft cloth. Use proper precautions when handling solvents. The adhesive is very difficult to remove after it has cured.



FOR BEST PERFORMANCE:

- Be sure to achieve a minimum of 100% adhesive transfer when installing wood flooring.
- Wear gloves during application: AAT-2000 is difficult to remove from skin and clothing; if adhesive gets on skin, immediately wipe it off with a dry cloth.
- DO NOT apply on frozen surfaces or standing water.
- Avoid contact with water or alcohol before use and complete cure.
- DO NOT use in areas subject to hydrostatic head pressure.
- DO NOT use on wet, contaminated or friable substrates.
- To re-seal opened pails, cover the pail with several layers of plastic and tightly seal the pail lid. Carefully, turn the pail upside down. To re-open the pail, turn the pail right-side up and remove the lid. Cut and discard the plastic and any cured adhesive.
- Shelf life is one year from the date of manufacture. Store in a clean, dry area between 60-80°F.

TROWEL RECOMMENDATIONS:

Finger Block Parquet

1/8" x 1/8" x 1/8" square notch

80-90 sq. ft. /gal

Engineered Plank and Solid Plank < 3/4"

3/16" x 1/4" x 5/16" V notch

50-60 sq ft/gal

3/4" Solid Wood Planks and 3/4" Shorts or plywood

1/4" x 1/4" x 1/4" square notch

35-45 sq. ft. /gal

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

Contains isocyanates. Inhalation may be harmful. Prolonged or repeated skin exposure may cause skin irritation. Do not swallow and avoid eye contact. If AAT-2000 comes in contact with the skin, wash with soap and flowing water. Seek medical advice if irritation persists. If adhesive comes in contact with eyes, flush with water for 15 minutes and seek medical advice. If adverse respiratory effects occur, move to fresh air and seek medical advice. If swallowed, do not induce vomiting and seek medical advice. Additional information is available by referring to the Material Safety Data Sheet.

FOR PROFESSIONAL USE ONLY. KEEP OUT OF THE REACH OF CHILDREN.

December 2007



MATERIAL SAFETY DATA SHEET
FOR COATINGS, RESINS AND RELATED MATERIALS
(Approved by U.S. Department of Labor "Essentially Similar" to Form OSHA-20)

DATE OF PREP: January 14, 2008 (September 15, 2006)

Prepared By: Tim Brown

NPCA HMIS

H = 3

F = 0

PH = 1

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER: Advanced Adhesive Technologies, Inc.

STREET ADDRESS: 419 S. Glenwood Ave

CITY, STATE, AND ZIP CODE: Dalton, GA 30721

EMERGENCY TELEPHONE: Chemtrec (800)424-9300 24hrs.

GENERAL INFORMATION: (706)226-0610 (8a.m.-5p.m. ET)

PRODUCT CLASS: Aromatic Isocyanate Adhesive

TRADE NAME: Wood Flooring Adhesive

MANUFACTURER'S CODE IDENTIFICATION: AAT-2000

SECTION 2 - HAZARDOUS INGREDIENTS

INGREDIENT	% (W/W)	CAS NO.		
Di-ethylhexyl phthalate		N/A		117-81-7
Polymeric diphenylmethylen Diisocyanate			N/A	9016-87-9
C10-C13 Isoalkanes		N/A		68551-17-7

SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview: Light Brown, thick liquid. Sweet odor.
Toxic by inhalation
Harmful if swallowed
May cause eye, skin, and/or respiratory tract irritation

Potential Health Effect: Eyes - Irritant
Skin - Irritant. Sensitizer. Prolonged/repeated contact can cause severe irritation.
Inhalation - Irritant. Sensitizer. May cause nausea and/or headaches. Person with a history of respiratory problems should not be exposed to this product in a closed environment.
Ingestion - Will cause adverse health effects.
use lung irritation and allergic respiratory reaction. Effect s may be permanent.

SECTION 4 - FIRST -AID MEASURES

- Eyes:** Flush open eyes underwater for 15 minutes. Seek medical attention if irritation persists.
- Skin:** Remove affected clothing. Wash skin with soap and water immediately. Wash contaminated clothing before re-use. Seek medical attention if irritation persists.
- Inhalation:** Move to fresh air. Administer oxygen if necessary. Seek medical attention.
- Ingestion:** Seek medical attention immediately. Do not induce vomiting. Rinse mouth with water. Never give anything by mouth to an unconscious person.

SECTION 5 - FIRE FIGHTING MEASURES

- Flammable Properties:** Isolate from heat and open flame. Closed container may pressurize and explode when exposed to extreme heat. Material releases CO² on contamination with moisture, and may pressurize and explode.
- Extinguishing Media:** CO², chemical foam, dry chemical
- Protection of firefighters:** Self contained breathing apparatus and full protective clothing should be worn by firefighters.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

- Personal Precautions:** Use personal protective equipment as recommended in Section 8.
- Environmental Precautions:** Obey relevant federal, provincial and municipal laws.
- Methods for Containment:** Cover spill with absorbent material. Place in an open-top container and remove to a ventilated area. Allow to sit in an open container for 24 hours.
- Methods for Clean-Up:** Decontaminate absorbent and spill area with a solution of 8% ammonia, 2% detergent and 90% water.

SECTION 7 - HANDLING AND STORAGE

- General Warning to Prevent Exposure:** Do not breathe fumes or vapors. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.
- General Storage Information:** Store in tightly-sealed containers in a cool, dry area. Keep away from moisture. Do not open containers till ready to use. Inspect containers regularly to ensure that product is not building pressure. If containers show signs of pressurization, place a tarpaulin over the container and relieve the pressure by puncturing the lid with the long-handled spike. (Only those required for this operation should be in the area.)

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Ingredient	Exposure Limit	Unit
Di-2-ethylhexyl phthalate	5 (TLV-TWA)	mg/m ³
Polymeric diphenylmethane diisocyanate	0.05 (ACGIH TLV)	mg/m ³

Engineering Controls: Outdoor application: None Required.
Indoor/enclosed areas: Use local exhaust ventilation to keep vapor concentrations below TLV.

Personal Protective Equipment: Eyes: Safety glasses with side shields or goggles.
Skin: Chemical resistant rubber or plastic.
Inhalation: NIOSH approved organic respirator if TLV is exceeded.
(Respirator not required for outdoor applications).

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Thick, light brown colored liquid.
Odor:	Sweet
Melting Point:	N/E
Boiling Point:	N/E
Flash Point and Method:	>61°C
Evaporation Rate: (Butyl acetate =1)	N/E
Upper/Lower Flammable Limits:	N/E
Vapor Pressure @ 77°F:	N/E
Vapor Density:	N/E
Specific Gravity @ 77°F:	1.26

SECTION 10 - STABILITY AND REACTIVITY

Chemical Stability:	Stable
Conditions to Avoid:	Moisture, excessive heat
Incompatible Materials:	Water, strong bases and alcohols
Hazardous Decomposition Products:	Carbon dioxide and carbon monoxide will form at temperatures exceeding 500°F.
Possibility of Hazardous Reactions:	Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute Dose Toxicity:	Di-ethylhexyl phthalate	Oral, LD ₅₀ : (rat)	30000 mg/kg
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		Dermal, LD ₅₀ 25000 mg/kg (rabbit)
		Inhalation, LD ₅₀ N/E
	Polymeric Diphenylmethane Diisocyanate	Oral, LD ₅₀ : >5000 mg/kg (rat)
		Dermal, LD ₅₀ : >5000 mg/kg (rabbit)
		Inhalation, LD ₅₀ : 490 mg/kg/4 hrs (rat)
	C10-C13 Isoalkanes	Oral, LD ₅₀ : 34,600 mg/kg (rat)
		Dermal, LD ₅₀ : 15,400 mg/kg (rabbit)
		Inhalation, LD ₅₀ : >1277 ppm/6hr (rat)
Repeated Dose Toxicity:	N/E	
Sensitization:	May cause sensitization by skin contact or by inhalation. May be an irritant to eyes, skin and/or lungs.	
Carcinogenicity:	N/E	
Neurological Effects:	N/E	
Genetic Effects:	N/E	
Reproductive Effects:	N/E	
Developmental Effects:	N/E	
Target Organ Effects:	Lungs– chronic inhalation can cause respiratory distress and respiratory impairments.	

SECTION 12 - ECOLOGICAL INFORMATION

Biodegradability Not readily biodegradable.

SECTION 13 - DISPOSAL CONSIDERATIONS

Recover or recycle if possible.

Uncured product is hazardous waste. Incinerate in accordance with federal, state, and local environmental controls/regulations. Dispose of cured non-hazardous product in accordance with the same regulations.

All provided information only applies to the material as supplied to the user. The characteristics outlined may not apply if the material has been used or otherwise contaminated. It is the responsibility of the user to determine the proper waste identification and disposal methods in compliance with applicable regulations.

SECTION 14 - TRANSPORT INFORMATION

NOT REGULATED FOR TRANSPORT