



Advanced Adhesive Technologies, Inc. AAT-535C Professional Wood Flooring Adhesive Specification Sheet

AAT-535C Professional Wood Flooring Adhesive utilizes proprietary solvent technology to produce an aggressive, easy troweling, no slump and VOC compliant adhesive. AAT-535C is intended for use in new construction projects by professional wood flooring installers. Our unique solvent technology produces a formula that develops tremendous green strength along with rapid development of shear strength to maximize the professional's efficiency. Our advanced formulation requires no dwell or open time. Rolling the flooring during or after the installation is not required. This adhesive is formulated for use when installing bamboo, solid wood and all types of engineered wood flooring over commonly encountered sub-floors.¹ With all of the performance benefits of traditional solvent-based adhesives the 535C achieves spread rates up to 90 sq.ft./gal. for engineered flooring. AAT proudly manufactures AAT-535C in the USA.

Our R&D staff has developed a superior performing adhesive that complies with all state and federal VOC regulations including those from the SCAQMD. AAT-535C meets requirements for sale in all fifty states across the USA. The formula contains no harmful chlorinated solvents, no isocyanates, and is ozone safe. Cleans easily and will not damage the finish of the wood flooring. AAT-535C is **EXTREMELY FLAMMABLE** and should be transported and stored in accordance with all local, state and federal regulations.

For assistance with specific bamboo products and other exotics please contact our Technical Services Department. DO NOT install solid wood flooring below grade. For a copy of the Limited Lifetime Warranty please visit the company website at www.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. Concrete sub-floors should be prepared according to the standards and practices set forth in the document ASTM F-710-11.

Site Conditions:

USE OF THIS PRODUCT REQUIRES ADEQUATE CROSS VENTILATION. Use of a properly fitting, air-purifying respirator with an organic vapor cartridge that complies with all applicable industry standards is required when applying this adhesive. *If effective cross ventilation is not available this product must not be used and another AAT adhesive should be selected.* All pilot lights, sources of spark and flame must be extinguished prior to opening the adhesive containers and until the installation is completed. Vents and air returns must be blocked, temporarily, to prevent the drifting of solvent vapors. Continue the ventilation for 24 hours after completion of the installation to remove any solvent vapors.

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.

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

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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 to within 3/16" in 10' and 1/8" in 6'. AAT-535C is intended for use over these sub-floors: concrete, properly prepared gypsum cement, plywood underlayment, OSB, AdvanTech® panels, sheet vinyl (no embossing and no cushion backings), acoustical cork, and radiant heated sub-floors. Very porous subfloors must be primed with AAT-570 before applying this adhesive. For sub-floors not specifically listed please contact Technical Services for usage information.

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.

Concrete must dry with moisture emission rates that do not exceed 5lbs. /1000 sq ft/24 hrs as measured by the Anhydrous Calcium Chloride Test (ASTM F-1869-10). Concrete, including lightweight concrete and gypsum cement, must be tested according to the requirements of ASTM F-2170-11. *In situ* relative humidity should not exceed 80%. Concrete surface pH is required to be 7-9.0. 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. Lightweight concrete and gypsum cement must be primed with AAT-570 Acrylic Primer before applying the adhesive.

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. 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. Sanded and other very porous substrates must be primed with AAT-570 Acrylic Primer. 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. Moisture content of the sub-floor must be less than 12% and the moisture content between the sub-floor and the wood flooring should vary no more than 4%.

Engineered wood flooring may be installed over existing full spread sheet vinyl (a single layer of non-embossed and non-cushion backed flooring) 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 substrate to dry before proceeding. Existing flooring that has any texture must be leveled with a latex fortified embossing leveler. Repair or replace loose flooring 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.

INSTALLATION:

1. Follow wood flooring manufacturer's instructions for layout, requirements for expansion space [around the perimeter and at any stationary objects] and any additional special precautions for installation. 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.
2. Apply adhesive with the recommended trowel. AAT-535C is formulated as a wet-lay adhesive and the open time allowed should be minimized. Working time for adhesive is approximately 30 minutes. If sub-floor is non-porous a slightly longer open time may be required. Temperature, air movement and relative humidity will determine the actual amount of open time needed and the adhesive's working time.
3. A 100% adhesive transfer rate to the wood flooring is required. 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.
4. 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.
5. Non-transferring tape should be used 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. AAT-535C 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.
6. Remove the adhesive with AAT-197 Adhesive Remover, acetone or mineral spirits. Test the solvent on a scrap piece of flooring to ensure solvent does not effect the floors finish. Do not apply the solvent directly to the wood flooring.
7. Continue the ventilation for 24 hours after completion of the installation to remove any solvent vapors.

TROWEL RECOMMENDATIONS: ²

Solid Plank Flooring ($\leq 3/4$ " thickness and maximum dimensions of 3" x 36")¹ and Solid Shorts ($\leq 3/4$ " thickness and length ≤ 24 ")¹.

3/16" x 3/16" x 3/16" V notch
40-50 sq. ft. /gal.

Bamboo ($\leq 5/8$ " thickness and maximum dimensions of 5" x 72")¹ and Engineered Plank.

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

Engineered wood ($< 1/2$ " thickness), Parquet ($\leq 3/4$ " thickness)

1/8" x 1/8" x 1/8" □ notch
80-90 sq. ft. /gal.

¹ DO NOT install solid wood flooring below grade.

² Notch dimensions are Width x Depth x Separation

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: April 25, 2012

Howard Burchett, Jr.

NPCA HMIS

H = 1

F = 3

R = 0

SECTION I

MANUFACTURER'S NAME: Advanced Adhesive Technologies, Inc.

STREET ADDRESS: 419 South Glenwood Ave

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

EMERGENCY TELEPHONE: 1-800-228-4583 (8a.m.-5p.m. Eastern) 800-424-9300 Chemtrec (24 hours)

PRODUCT CLASS: Flammable Solvent Base Adhesive TRADE NAME: Professional Wood Flooring Adhesive

MANUFACTURER'S CODE IDENTIFICATION: AAT-535C

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	NTP, IARC/ OSHA CARC	PERCENT	VAPOR PRESSURE
Cyclohexane CAS # 110-82-7	N/A	2-5%	12.9 KPA @ 20°C
Methyl Acetate CAS # 79-20-9	N/A	7-11%	173 mm of HG @ 20°C
Acetone CAS # 67-64-1	N/A	5-10%	24 KPA @ 20°C
(tert) Butyl Acetate	N/A	.5-1.0%	N/A

SECTION III - PHYSICAL DATA

BOILING RANGE: 56°C TO 98°C VAPOR DENSITY: ~ HEAVIER LIGHTER THAN AIR

EVAPORATION RATE: ~ FASTER SLOWER THAN ETHER

PERCENT VOLATILE BY VOLUME: 26-28 %

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

DOT CATEGORY: Flammable Liquid FLASH POINT: -10°F Closed Cup LEL.: 1.1%

EXTINGUISHING MEDIA: USE WATER SPRAY, DRY CHEMICAL, FOAM OR CO2.

UNUSUAL FIRE AND EXPLOSION HAZARDS: DO NOT STORE OR MIX WITH STRONG OXIDANTS LIKE CHLORINE OR CONCENTRATED OXYGEN.

SPECIAL FIRE FIGHTING PROCEDURES: USE WATER SPRAY TO COOL CONTAINERS. A SELF CONTAINED BREATHING APPARATUS SHOULD BE USED WHEN FIGHTING FIRES. AVOID BREATHING FUMES OR VAPORS.

SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE: INHALATION: CAN CAUSE DIZZINESS, HEADACHES, AND UNCONSCIOUSNESS.

CALIFORNIA PROPOSITION 65: None of the ingredients are on Prop. 65 list

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SECTION VI - REACTIVITY DATA

STABILITY: ~ UNSTABLE STABLE

CONDITIONS TO AVOID:

INCOMPATIBILITY: (MATERIALS TO AVOID) STRONG OXIDANTS (CHLORINE, O, NA OR K HYPOCHLORITE).

HAZARDOUS DECOMPOSITION PRODUCTS: FUMES, SMOKE, AND CARBON MONOXIDE, IN THE CASE OF COMPLETE COMBUSTION.

HAZARDOUS POLYMERIZATION: ~ MAY OCCUR WILL NOT OCCUR

CONDITIONS TO AVOID: NONE KNOWN

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: REMOVE ALL IGNITION SOURCES. KEEP PEOPLE CLEAR. RECOVER FREE LIQUID. ADD ABSORBENTS (SAND, SAWDUST, EARTH, ETC.) TO SPILL AREA. AVOID BREATHING VAPORS. VENTILATE CONFINED AREAS. OPEN WINDOWS AND DOORS. SCOOP MATERIAL INTO SEALABLE CONTAINERS.

WASTE DISPOSAL METHOD: ASSURE CONFORMITY WITH APPLICABLE DISPOSAL REGULATIONS. DISPOSE ONLY AT APPROVED DISPOSAL SITES.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: USE HYDROCARBON VAPOR CANISTER OR SUPPLIES-AIR RESPIRATORY PROTECTION IN CONFINED OR ENCLOSED SPACES.

VENTILATION: THIS PRODUCT IS DESIGNED FOR EXTERIOR USE ONLY. NO SMOKING OR OPEN LIGHTS WITHIN IMMEDIATE AREA.

PROTECTIVE GLOVES: USE CHEMICAL-RESISTANT GLOVES IF NEEDED TO AVOID REPEATED OR PROLONGED SKIN CONTACT.

EYE PROTECTION: USE SAFETY GLASSES OR GOGGLES.

OTHER PROTECTIVE EQUIPMENT: WEAR LONG-SLEEVES OR CHEMICAL PROTECTIVE APPAREL.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: KEEP CONTAINER CLOSED WHEN NOT IN USE. DO NOT STORE NEAR HEAT, SPARKS, OR OPEN FLAME OR STRON OXIDANTS. ADEUATE VENTILATION REQUIRED.

OTHER PRECAUTIONS: AVOID BREATHING VAPORS. AVOID PROLONGED CONTACT WITH SKIN. REMOVE CONTAMINATED CLOTHING. LAUNDRER BEFORE REUE. WASH SKIN THOROUGHLY WITH SOAP AND WATER AFTER CONTACT.