

AAT-696 4n1 Professional Polymer Wood Flooring Adhesive



AAT-696 is an advanced formula, unique polymer 4-in-1 adhesive designed for professional wood flooring installation. It replaces isocyanate-containing urethane adhesives that can etch flooring surfaces. The adhesive meets ASTM standards for sound and impact noise control [STC & IIC OF 72 AND 74 DB]. AAT-696 offers superior flexibility and moisture-mitigating capability. AAT-696's advanced polymer formula can provide a moisture and sound barrier in one step. This high-strength polymer adhesive is formulated for the professional installation of engineered wood, solid or engineered bamboo, eucalyptus, planks up to 7" wide, parquet, strip flooring and solid shorts.

AAT-696 has a long open time that allows for efficient installations. Because the formula contains no water, it will not cause cupping to the wood flooring during installation. It grabs, holds and keeps wood floors in place. This adhesive is waterproof when fully cured and ensures a strong water resistant bond. However, it will not prevent moisture-related damages to wood flooring. This adhesive can be used on most commonly found sub-floors and brands of wood flooring designed for "glue-down" installations.

The adhesive spreads easily and has a non-slump formula that will help insure contact and adhesive transfer. It allows fast installation even with complicated patterns due to its strong green grab. There is no flash time required, so the installation of wood flooring can begin immediately. The adhesive offers superior flexibility and is designed to keep the flooring in place, yet allow for normal movement during seasonal changes to the flooring.

AAT-696 does not contain any solvents or other hazardous materials and it is certified to meet some of the toughest "green" product requirements in Europe and the world. This adhesive qualifies for LEED credits.

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. For the best results, we suggest using a National Wood Flooring Association Certified Professional installer. 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 most recent version of the document ASTM F-710.

*For assistance with specific sub-floors and exotic wood species please contact our Technical Services Department. **DO NOT install solid wood flooring below grade.** AAT-696 is not for use with wood flooring manufactured from Kempas, strand woven Bamboo or Teak wood. AAT-696 cannot be used if adhesive removers, solvent or chemical cleaners have been used. For a copy of the Limited Lifetime Warranty please contact Customer Service.*

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 50°F-90°F and relative humidity levels should be 30% - 80% 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 flat within 3/16" in 10' or 1/8" in 6'. Please note that popping wood floors or a hollow spot(s) in a hardwood flooring installation is not an adhesive related issue. Rather, these conditions result from the lack of sufficient sub-floor preparation.

Prior to the application of AAT-696, concrete sub-floors must be tested in strict accordance to the most recent versions of ASTM F-1869 and F-2170. Both testing protocols must be performed in order to provide the most accurate view of the sub-floor's condition. Sub-floors of lightweight concrete and gypsum cement must be tested in strict accordance to the most recent version of ASTM F-2170. The placement of calcium chloride kits and humidity probes must follow the ASTM standards for proper locations and the correct quantity of test sites. These and other tests may be performed by AAT in the event of a warranty claim.

Sub-floors on and below grade must be protected from ground moisture with a functioning and intact Class A vapor retarder that conforms to the requirements of the most current version of ASTM E-1745. This vapor retarder must be directly beneath, and in contact with, the slab. *No moisture testing is required for installation of engineered wood floor as long as a new #12 clip-on blade is used for every pail, there is 100% coverage of the adhesive on the subfloor, the spread rate does not exceed 35 SF/gal and concrete floors are at least 30 days old.* Concrete must be dry with moisture emission rates 3 lbs. /1000 sq ft/24 hrs, as measured by the Anhydrous Calcium Chloride Test, ASTM F-1869. Lightweight concrete and gypsum cement can only be tested according to the requirements of ASTM F-2170. For gypsum cement, densified and lightweight concrete the *in situ* relative humidity should not exceed 75%. 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. All curing agents [topical and admix], adhesives, paints, varnishes, oils, waxes, dust, dirt and any other bond inhibiting substances must be removed. The removal of bond inhibiting substances must be by mechanical means: sanding, shot or bead blasting. AAT-696 cannot be used if adhesive removers, solvent or chemical cleaners have been used. Sub-floor priming is generally not required. If a primer is needed, AAT-570 Acrylic Primer should be used.

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 may 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 wood sub-floors should be below 6-9% when measured with a moisture meter for wood. Moisture content of the sub-floor and the wood flooring should vary no more than 4%. Do not use AAT-696 to install flooring over AdvanTech® plywood panels.

Wood 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 it to dry before proceeding. 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 any loose flooring products before applying this 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 polymer-modified, portland cement leveling or patching 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) and should have 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 acclimation, layout, requirements for expansion space and any special precautions for the installation.
2. Apply adhesive with the recommended trowel. (See below) A 100% adhesive transfer rate to the wood flooring is required. There is no flash time, so installation should begin immediately. Lay the flooring into the adhesive, correctly position it and press down firmly. Rolling is neither required nor recommended.
3. Occasionally lift a piece of flooring to assure that a 100% adhesive transfer is achieved.

Open Times	+50°F	+70°F	+90°F
30% Relative Humidity	150 minutes	105 minutes	60 minutes
50% Relative Humidity	120 minutes	75 minutes	50 minutes
80% Relative Humidity	90 minutes	60 minutes	40 minutes

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. AAT-696 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 48 hours.

TROWEL RECOMMENDATIONS:**

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

Plank*, Strip Flooring and Solid Shorts
3/16" x 3/16" x 3/16" U notch
30-40 sq. ft./gal. *max. width 7"

Parquet
1/8" x 1/8" x 1/8" U notch
70-80 sq. ft. /gal.

As Moisture Barrier with #12 Trowel Blade
1/8" x 5/32" x 3/16" x 5/64" V notch with pins
30-35 sq. ft./gal.

Acoustical Underlayments
3/32" x 3/32" x 3/32" V notch
100-110 sq. ft./gal.

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

SPECIFIC TECHNICAL DATA:

1. VOC compliant, LEED qualified formula; no chlorinated solvents, nonflammable
2. Clean-Up: Remove uncured adhesive with acetone. Do not apply the acetone directly to the flooring material. Test on a scrap piece of flooring to ensure that the solvent does not affect the floor's finish. Cured adhesive can be removed with a plastic scrapper and a clean towel.
3. Packaging: 3 gallon pails
4. Shelf-Life: 12 months from date of manufacture in un-opened container when stored at 70°F.
5. Freeze-Thaw Stable.
6. Water Vapor Permeability [ASTM E-96]: 0.1 g/24h * m² * mmHg, 0.1 perms* inches
7. Shear Strength: 363 psi [2.5 N/mm²]

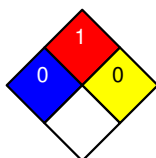
September 16, 2019

01 Identification

- **1.1 Product identifier**
- **Trade name:**
AAT-696
- Article number:
126122
- Product Group
1-component SMP wood flooring adhesive
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- Product category
PC1 Adhesives, sealants
- Application of the substance / the preparation
Adhesives
- Remark:
Restricted to professional users.
- **1.3 Details of the supplier of the safety data sheet**
- Distributor:
Advanced Adhesive Technologies
424 South Spencer Street
Dalton, GA 30721
1-800-228-4583
www.aatglue.com
- **1.5 Emergency telephone number:**
CHEMTREC 1-800-424-9300 (USA) 1-703-527-3887 (International)

02 Hazard(s) identification

- **2.1 Classification of the substance or mixture**
Void
- **2.2 Label elements**
- GHS label elements
- Hazard pictograms
Void
- Signal word
Void
- Hazard statements
Void
- Precautionary statements
P102 Keep out of reach of children.
- **NFPA ratings (scale 0 - 4)**



Health = 0
Fire = 1
Reactivity = 0

Health = 0
Fire = 1
Reactivity = 0

- **HMS-ratings (scale 0 - 4)**

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Health	0
Fire	1
Reactivity	0

Health = 0
Fire = 1
Reactivity = 0


Health = 0
Fire = 1
Reactivity = 0

- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- PBT:
Not applicable.
- vPvB:
Not applicable.

03 Composition/information on ingredients

- **3.2 Mixtures**
- **Description:**
1-component adhesive based on silane-terminated polyether and filler

- **Dangerous components:**

CAS Number		%
25322-69-4	Polypropyleneglycol	5,00- 12,50
	 Acute Tox. 4 - H302	

- **Additional information:**
For the wording of the listed risk phrases refer to section 16.

04 First-aid measures

- **General information:**
No special measures required.
- **After inhalation:**
Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Wash with water and soap.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult a doctor.
Remove contact lenses, if present and easy to do.
- **After swallowing:**
Do not induce vomiting; immediately call for medical help.
- **Information for doctor:**
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

05 Fire-fighting measures

- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:**
Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
- **5.3 Advice for firefighters**
No special measures required.
- **Protective equipment:**

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Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.

- **Additional information**

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

06 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation
Wear protective clothing.

- **6.2 Environmental precautions:**

Prevent seepage into sewage system, workpits and cellars.
Do not allow to enter sewers/ surface or ground water.

- **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

- **6.4 Reference to other sections**

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

07 Handling and storage

- **Handling:**

- **7.1 Precautions for safe handling**

Use only in well ventilated areas.
Avoid contact with the eyes and skin.

- **Information about protection against explosions and fires:**

No special measures required.

- **Storage:**

- **Requirements to be met by storerooms and receptacles:**

No special requirements.

- **Information about storage in one common storage facility:**

Not required.

- **Further information about storage conditions:**

Keep receptacle tightly sealed.
Protect from heat and direct sunlight.

- **7.3 Specific end use(s)**

No further relevant information available.

08 Exposure controls/personal protection

- **Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- **Additional information:**

The lists that were valid during the creation were used as basis.

- **Personal protective equipment:**

- **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

- **Breathing equipment: Not necessary if room is well-ventilated.**

- **Protection of hands:**

- Material of gloves
 - Butyl rubber, BR
 - Nitrile rubber, NBR
 - Natural rubber, NR

- Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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- **Eye protection: Safety glasses**
- **Body protection: Protective work clothing**

09 Physical and chemical properties

General Information

Appearance:

Form:	Fluid
Color:	Brown
Odor:	Weak, characteristic
Odor threshold:	Characteristic
pH-value:	Not determined.

Change in condition

Boiling point/Boiling range:	240 °C
Flash point:	224 °C
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	330 °C
Decomposition temperature:	Not determined.
Auto igniting:	Not determined.
Danger of explosion:	Not determined.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapor pressure:	Not determined.
Density:	1,6000 - 1,7000 g/cm ³
Solubility in / Miscibility with	
Water:	Not miscible or difficult to mix.
Viscosity:	
Dynamic:	at 20 °C 65 - 100 Pa.s
Solvent content:	
VOC content:	0,00 %
Solids content:	~ 83,00 %
9.2 Other information	No further relevant information available.

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**
No dangerous reactions known.
- **10.4 Conditions to avoid**
No further relevant information available.
- **10.5 Incompatible materials:**
No further relevant information available.
- **Dangerous reactions**
No dangerous reactions known.
- **10.6 Hazardous decomposition products:**
Does not decompose when used like intended.
- **Additional information:**
On contact with water (or humidity), small amounts of methanol.

USA

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11 Toxicological information

- **11.1 Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**
25322-69-4 Polypropyleneglycol
 Oral, LD50: 1000-2000 mg/kg (rat)
 Dermal, LD50: >10000 mg/kg (Rabbit)
- **Primary irritant effect:**
- on the skin:
No irritant effect.
- on the eye:
Direct contact to eyes can be irritating.
- **Sensitization:**
No sensitizing effects known.
- OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

12 Ecological information

- **12.1 Aquatic toxicity:**
25322-69-4 Polypropyleneglycol
 LC50/ 96h: > 100 mg/l (fish)
 EC50/72h: > 100 mg/l (alga)
- **12.2 Persistence and degradability**
No further relevant information available.
- **Behavior in environmental systems:**
- **12.3 Bioaccumulative potential**
No further relevant information available.
- **12.4 Mobility in soil**
No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:**
Not applicable.
- **vPvB:**
Not applicable.
- **12.6 Other adverse effects**
No further relevant information available.

13 Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:**
Disposal must be made according to official regulations.

14 Transport information

- **14.1 UN-Number**
- DOT** Void
- ADR** Void
- IMDG** Void
- IATA** Void

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- **14.2 UN proper shipping name**

DOT	Void
ADR	Void
IMDG	Void
IATA	Void

- **14.3 Transport hazard class(es)**

DOT	
Class	Void
ADR	
Class	Void
IMDG	
Class	Void
IATA	
Class	Void

- **14.4 Packing group**

DOT	Void
ADR	Void
IMDG	Void
IATA	Void

- **14.5 Environmental hazards:**

Not applicable.

- **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

15 Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

- **Sara**

- Section 355 (extremely hazardous substances):

None of the ingredients is listed.

- Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

- **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

- **Proposition 65**

- Chemicals known to cause cancer:

None of the ingredients is listed.

- Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

- Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

- Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

- **Carcinogenic categories**

- TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

- NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

- **National regulations:**

- **Water hazard class:**

Water hazard class 1 (Self-assessment): slightly hazardous for water.

- **Pennsylvania Special Hazardous Substance List:**

None of the ingredients is listed.

- **15.2 Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

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This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing MSDS:**

quality management

- **Date of preparation / last revision**

12.10.2020

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

- *** Data compared to the previous version altered.**