

SikaBond®-T21

All-in-One Wood Flooring Urethane Adhesive, Moisture Vapor and Sound Reduction Membrane

Description SikaBond-T21 is a one-component, low VOC, permanently elastic, super strong, very low permeability moisture-cure polyurethane adhesive, vapor retarding and sound reduction membrane all-in-one for full surface wood floor bonding.

Where to Use SikaBond-T21 may be used for solid and engineered wood floors (strips, long strips, planks, panels, boards), mosaic parquet, industrial parquet, wood paving (residential) as well as chip boards and plywood. Once cured, SikaBond-T21 will generate a super strong bond to a variety of substrates for glue down installations and at the same time form an elastomeric membrane especially formulated to reduce moisture vapor transmission from the subfloor.

- Advantages**
- 270% elongation
 - Extremely easy to trowel
 - Low odor
 - Excellent Green Grab
 - Suitable for common types of wood flooring
 - Creates sound reduction layer
 - Especially good for problematic woods such as beech and bamboo
 - Contains no water
 - Bonds solid wood flooring up to ¾" thick and 8" wide, and engineered planks up to 14" wide directly to concrete without length limitations.
 - Eliminates sleepers and plywood over concrete and gypsum substrates
 - Highly elastic – allows planks to expand and contract without damage to the adhesive
 - Tenacious bond

Green Rating

LEED® EQc 4.1 (100 g/L limit)	SCAQMD, Rule 1168 (100 g/L limit)	BAAQMD, Reg. 8, Rule 51 (120 g/L limit)
passes	passes	passes

Technical Data

RESULTS MAY DIFFER BASED UPON STATISTICAL VARIATIONS DEPENDING UPON MIX DESIGNS, MIXING METHODS AND EQUIPMENT, TEMPERATURE, APPLICATION METHODS, TEST METHODS, ACTUAL SITE CONDITIONS AND CURING CONDITIONS.

Shelf Life	12 months from date of production if stored in undamaged original sealed containers, in dry conditions and protected from direct sunlight at temperatures between 50°F and 77°F (10°C - 25°C)
Color	Light Brown
Packaging	4 gal. (15.14L)
Water Vapor Permeability	< 0.4 g/m ² -24hour-mmHG per ASTM E-96 Standard Test Method for Water Vapor Transmission of Materials.
Chemical Base	1-component polyurethane, moisture curing
Specific Gravity	9.85 lbs/gal (1.18 kg/L)
Skimming/Laying Time	~ 45 – 60 minutes at 73°F (23°C) and 50% RH
Curing Rate	4.0 mm/24 hrs. at 73°F (23°C) and 50% RH Floor may accept light foot traffic after at 45-50 SF/gal (P5 trowel): after 6-8 hrs. at 30-35 SF/gal (SC+MB trowel): after 12 hrs. (depending on climatic conditions and adhesive layer thickness)
Sag Flow	Consistency: Spreads very easily
Service Temperature	- 40°F to + 158°F (- 40°C - + 70°C)
Mechanical Properties	
Shear Strength	150 psi using 1 mm adhesive thickness at 73°F (23°C) and 50% RH
Tensile Strength	150 psi at 73°F (23°C)
Shore A Hardness	50 (after 28 days)
Elongation at Break	~ 270 % cured at 73°F (23°C) and 50% RH
Increase in Impact	21
Insulation Class (ΔIIC)	
VOC (g/L)	57

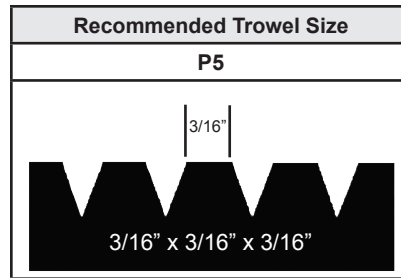
Construction



Application Details

Consumption

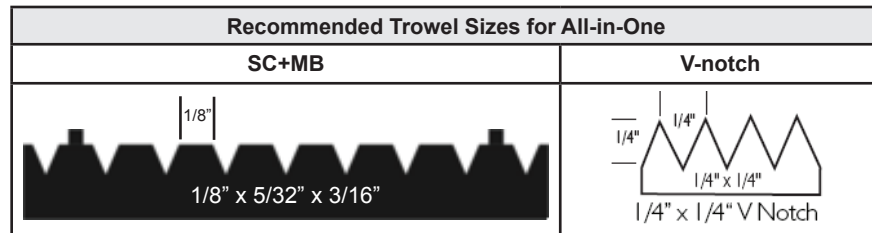
- **For use as an adhesive only:**
SikaBond-T21 can be used as an adhesive only. For proper coverage use the P5 trowel.
- **P5 Trowel:** approx. 45-50 SF/gal
- Coverage must be monitored to ensure accuracy of application. Trowel angle may prevent proper coverage.
- **For use as an adhesive and membrane:**
Refer to All-in-One SC+MB Trowel or 1/4" x 1/4" V-notch recommendations (for moisture vapor and sound reduction membrane and bonding)
- **SC+MB Trowel or 1/4" x 1/4" V-notch:** approx. 30-35 SF/gal required for vapor and sound retarding membrane
Applicator is responsible for periodic inspection of the trowel to check for excessive wear. Worn trowels must be replaced immediately.
- In case of uneven substrates, it may be necessary to use a notched trowel with bigger notches (avert hollow sections).
- Coverage must be monitored to ensure accuracy of application. Trowel angle may prevent proper coverage.
- Trowel size is recommended to obtain proper coverage larger sizes are acceptable. Excessive amounts of adhesive may cause wood flooring to slide while placing check coverage during installation.
- P5 trowels should be used at 90° angle, SC+MB trowel or 1/4" x 1/4" V-notch at 45° angle to subfloor to get stated coverages.



Coverage of approximately: 45-50 sq. ft./gal

Substrate Quality

Structurally sound, clean, dry, homogeneous, even, free from grease, dust and loose particles, paint, laitance, and other poorly adhering particles must be removed.



Coverage of approximately: 30-35 sq. ft./gal

The P5 and SC+MB trowel are available from Sika, the 1/4" x 1/4" V-notch trowel is available from leading tool manufacturers such as Marshalltown (www.marshalltown.com).

Substrate Preparation

SikaBond-T21 can generally be used without priming on properly prepared, structurally sound concrete, cement floors, chipboards, ceramic tiles, plywood and hardwood. Sika recommends the use of SikaPrimer MB over any dry, gypsum based subflooring to enhance surface strength. Maximum acceptable floor variation is 3/16" in 10 feet. Preparation is a critical step in the installation process and will ensure a successful long term tenacious bond. All concrete, cement screed and gypsum based subfloors must be structurally sound, clean, dry, smooth, free of voids, projections, loose materials, oil, grease, sealers and other surface contaminants. Remove laitance or weak areas mechanically. For application over ceramic tiles it is necessary to grind tile surfaces and clean thoroughly with an industrial vacuum. For substrates with old well bonded adhesive or adhesive residue use SikaPrimer MB – see SikaPrimer MB data sheet for installation instructions and proper details. If surface contains asphalt (cutback) adhesive follow the Resilient Floor Covering Institute "Recommended Work Practices" for removal. When the asphalt (cutback) adhesive is sufficiently removed use SikaPrimer MB to help promote adhesion to the subfloor – or use and industry approved leveling compound over the cutback residue. SikaBond-T21 will adhere to most common patching/leveling compounds. Due to differences in asphalt based adhesive types and performance capabilities applicator must verify that preparation of the surface is sufficient prior to using SikaPrimer MB or patch/level compound. For unknown substrates please contact Sika Technical Services for best practices at 1-800-933-SIKA.

Application Conditions/Limits

Substrate Temperature	During laying and until SikaBond-T21 has fully cured, substrate temperature should be greater than 60°F (15°C) and in case of radiant floor heating, less than 70°F (20°C). For substrate temperatures, the standard construction rules are relevant.
Air Temperature	Room temperature between 60°F (15°C) 90°F (35°C). For ambient temperatures the standard construction rules are relevant. Follow all wood floor manufacturers' acclimation and room temperature requirements.
Substrate Humidity	<p>For use as an adhesive only: SikaBond-T21 is not affected by moisture or vapor transmission. For protection of the wood, follow the wood floor manufacturer's requirements for subfloor moisture. If substrate is not acceptable, use SikaBond-T21 at recommended coverage rate as All-in-One or SikaPrimer MB. See Technical Data Sheet for proper instruction.</p> <p>For use as an adhesive and membrane: Concrete must be visibly dry. Inspect for any wetness at base of drywall or visible signs of moisture on concrete. Concrete and cement-based underlayments must be fully cured and free of any hydrostatic and/or moisture problems.</p>
Relative Air Humidity	Between 40% and 70% during installation is best for adhesive. See wood floor manufacturer for wood requirements.
Application	Read and understand data sheet completely before beginning installation. Follow industry standards, as well as hardwood and bamboo flooring manufacturer's recommendations for acclimation, design, layout and application of wood flooring material. If jobsite conditions are outside of flooring manufacturer's recommendations take necessary corrective actions as recommended by the floor manufacturer to address floor levelness, moisture content, surface condition. The installer always needs to follow the wood floor manufacturer's recommendations as to floor levelness, acclimation, equilibrium moisture content, wood floor moisture content, spacing, etc., of the wood floor. If these requirements are not met the installer needs to take necessary actions, e.g. level the floor, etc. Whether the moisture content of substrate exceeds or is within the manufacturer's recommendations, to address current or possible future subfloor moisture, apply SikaBond-T21 as directed. SikaBond-T21 is applied to the properly prepared substrate directly from the pail and uniformly distributed by notched trowel. Press the wood floor elements firmly into the adhesive so that the wood floor underside is sufficiently wetted. The elements can then be joined together using a rubber hammer and an impact block and/ or rubber mallet. Many types of wood floors have to be tapped from the top. Leave gaps at room perimeters and at any floor wall partition to allow wood flooring to move naturally – follow recommended guidelines from wood floor manufacturer. Spacers should be used to ensure perimeter space is maintained. Fresh, uncured adhesive or fingerprints remaining on the wood floor surface must be removed immediately using a clean cloth and mineral spirits (be careful not to harm finish). The laying instructions of the wood floor manufacturer as well as standard construction rules must be observed. Note: Wood floor manufacturer's requirements for room humidity levels and environmental control along with wood flooring acclimation requirements must be strictly followed.
Area Clean Up	All tools must be cleaned immediately after use with Sika Equipment Cleaner, mineral spirits, or standard industry cleaning solvent. Any adhesive that is permitted to cure on the tool will need to be removed by mechanical means. Use a dry towel and mineral spirits to remove adhesive from wood surface before it cures. Fingerprints or small amounts of adhesive residue can be removed from prefinished wood using a clean cloth with mineral spirits.
Limitations	<ul style="list-style-type: none"> ▪ Maximum warranted wood size: Solid wood < 8" wide, engineered wood < 14" wide ▪ P5 trowel or larger must be used with all solid woods and when applying over gypsum based sub floor (for use as an adhesive only) ▪ SC+MB or 1/4" x 1/4" trowel must be used for use as an adhesive and vapor retarder membrane. Follow the wood floor manufacturer's installation instructions. ▪ Periodically check coverage of adhesive during installation: 100% substrate coverage and adhesive transfer is required to protect against damages from subfloor moisture. ▪ Minimum age of concrete before application is 21-28 days, depending on curing and drying conditions. ▪ Room temperatures should be between 50°F and 90°F during installation unless otherwise specified limitations by wood flooring manufacturer. ▪ Do not use on wet, contaminated or friable substrates. ▪ When needed Sika recommends the use of Portland cement based patching and levelling compounds for best results. ▪ Gypsum based sub-floors are very susceptible to excess moisture and will be degraded if exposed to excess moisture from below or above. ▪ Solid wood and bamboo flooring can not be used below grade due to their lack of dimensional stability. ▪ Do not use in areas subject to hydrostatic head or in areas subject to secondary source of moisture. ▪ On-or below-grade substrates must have appropriate vapor barrier (≤ 6 mil) properly installed below slab. ▪ Do not use over concrete with curing compounds, sealers or other surface treatments that could impact the adhesion. ▪ This adhesive will not prevent all possible moisture related or installation related issues such as im proper acclimation of flooring, jobsite temperature and relative humidity, etc. ▪ Sub-floor should be level – do not use adhesive as a levelling agent. ▪ Cutback or other asphaltic based residue must be removed.

- Chemically treated woods (ammonia, wood stain, timber preservatives, etc) and woods with high oil content must be tested for adhesion prior to application.
- Adhesive should be kept above 60°F for best workability.
- Sufficient ambient moisture is necessary for proper curing.
- This membrane reduces moisture vapor emissions that originate from below the membrane only.
- This membrane does NOT reduce issues originating from the ends, sides or top of flooring, i.e. puddles, water leaks, etc.
- This membrane does NOT eliminate all possible moisture related or install related issues, i.e. improper acclimation of jobsite temperature, flooring, relative humidity, etc.
- When bonding solid wood Sika recommends the use of straps to fully connect tongue and groove – especially when wood pieces are not perfectly straight – ensure starter rows are set and properly cured to handle tension from straps.
- Installations over radiant heat require that slab temperature be kept below 70°F during installation and for 48 hours after installation – then raised slowly up to final desired temperature. Follow wood floor manufacturer's temperature guidelines.

For detailed instructions consult the Product Data Sheets available at www.sikausa.com or contact our Technical Service at 1-800-933-SIKA. In case of chemically pre-treated types of wood floors (e.g. ammonia, wood stain, timber preservative or woods that have been pre-sealed on the back side) and woods with high oil content SikaBond should only be used if adhesion tests are run by applicator to verify bond prior to starting application. Do not use on PE, PP, TEFLON, and certain plasticized synthetic materials. (Carry out pre-trials). Some primers can negatively influence the adhesion of SikaBond (pre-trials suggested). **Do not expose SikaBond to alcohol; this will impact the curing of the SikaBond-T21.**

Health and Safety Information

Caution

WARNING: IRRITANT, SENSITIZER. Contains 1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich (CAS:68515-49-1), Naphtha (petroleum), hydrotreated heavy (CAS:64742-48-9) and quartz (CAS:14808-60-7). Harmful if inhaled in high concentrations. May cause skin/eye irritation. May cause allergic respiratory reaction. May cause gastrointestinal disturbance if swallowed. Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain, liver, kidney and nervous system damage. **Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.**

WARNING! This product contains a chemical known in the State of California to cause cancer and birth defects or other reproductive harm.

First Aid

Eyes – Hold eyelids apart and flush thoroughly with water for 15 minutes. **Skin** – Remove contaminated clothing. Wash skin thoroughly for 15 minutes with soap and water. **Inhalation** – Remove to fresh air. **Ingestion** – Do not induce vomiting. Dilute with water. Contact physician. **In all cases contact a physician immediately if symptoms persist.**

Handling & Storage

Avoid direct contact. Wear personal protective equipment (chemical resistant goggles/gloves/clothing) to prevent direct contact with skin and eyes. Use only in well ventilated areas. Open doors and windows during use. Use a properly fitted NIOSH respirator if ventilation is poor. Wash thoroughly with soap and water after use. Remove contaminated clothing and laundry before reuse.

Clean Up

Use personal protective equipment (chemical resistant gloves/goggles/clothing). Without direct contact, sweep up spilled or excess product and place in suitable container. Dispose of excess product and container in accordance with applicable local, state, and federal regulations

KEEP CONTAINER TIGHTLY CLOSED • KEEP OUT OF REACH OF CHILDREN • NOT FOR INTERNAL CONSUMPTION • FOR PROFESSIONAL USE ONLY
 All information provided by Sika Corporation ("Sika") concerning Sika products, including but not limited to, any recommendations and advice relating to the application and use of Sika products, is given in good faith based on Sika's current experience and knowledge of its products when properly stored, handled and applied under normal conditions in accordance with Sika's instructions. In practice, the differences in materials, substrates, storage and handling conditions, actual site conditions and other factors outside of Sika's control are such that Sika assumes no liability for the provision of such information, advice, recommendations or instructions related to its products, nor shall any legal relationship be created by or arise from the provision of such information, advice, recommendations or instructions related to its products. The user of the Sika product(s) must test the product(s) for suitability for the intended application and purpose before proceeding with the full application of the product(s). Sika reserves the right to change the properties of its products without notice. All sales of Sika product(s) are subject to its current terms and conditions of sale which are available at www.sikausa.com or by calling 800-933-7452.

Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's most current Technical Data Sheet, product label and Material Safety Data Sheet which are available online at www.sikausa.com or by calling Sika's Technical Service Department at 800-933-7452. Nothing contained in any Sika materials relieves the user of the obligation to read and follow the warnings and instruction for each Sika product as set forth in the current Technical Data Sheet, product label and Material Safety Data Sheet prior to product use.

LIMITED WARRANTY: Sika warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Technical Data Sheet if used as directed within shelf life. User determines suitability of product for intended use and assumes all risks. Buyer's sole remedy shall be limited to the purchase price or replacement of product exclusive of labor or cost of labor. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKASHALL NOT BELIEABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKASHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

Visit our website at www.sikausa.com

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