

PRODUCT DATA SHEET

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WOOD FLOORING

SikaBond®-T21

ALL-IN-ONE, POLYURETHANE-BASED, WOOD FLOORING ADHESIVE, MOISTURE VAPOUR AND SOUND REDUCTION MEMBRANE

Description	SikaBond®-T21 is a one-component, low-VOC and permanently elastic polyurethane compound. It produces a moisture-cured, super strong and very low permeability adhesive, vapour retarding and sound reduction membrane.
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 particleboard and plywood. - Once cured SikaBond®-T21 forms a super strong bond to a variety of substrates for glue down installations and at the same time form a membrane to reduce moisture vapour transmission from the subfloor and acts as a sound reduction membrane.
Advantages	- Single material capable of operating as a wood floor adhesive, vapour retarding membrane and sound reduction layer. - Extremely easy to trowel. - Low odour - Contains no water; will not cause swelling of wood flooring. - Excellent 'green grab'. - Tenacious bond. 270 % elongation. - Suitable for common types of wood flooring. - Especially good for problematic woods such as beech and bamboo. - Bonds solid wood flooring up to 19 mm (3/4 in) thick and 20 cm (8 in) wide, and engineered planks up to 35.6 cm (14 in) wide directly to concrete with no length limitations. - Eliminates sleepers and plywood over concrete and gypsum substrates. - Permanently elastic – allows planks to expand and contract without damage to the adhesive. - Compatible with in-floor, radiant heating.

Technical Data

Packaging 15.14 L (4 US gal.) pail

Colour Light brown

Yield

For use as an adhesive only:

For proper coverage, use as a minimum a **P5 trowel**.

P5 Trowel: approx. 1.1 - 1.2 m²/L
(45 - 50 ft²/US gal.)

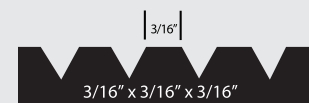
SikaBond®-T21 requires, as a minimum, a P5 trowel for application, with larger notch sizes also being acceptable.

For use as an adhesive and membrane:

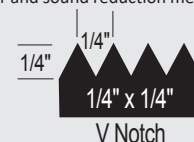
Use **All-in-One SC+MB trowel** or **1/4" x 1/4" V-notch trowel** (for moisture vapour and sound reduction membrane and bonding)



SC + MB



3/16" x 3/16" x 3/16"



V Notch

SC+MB Trowel or 1/4" x 1/4" V-notch: approx. 0.73 - 0.86 m²/L (30 - 35 ft²/US gal.) required for vapour and sound retarding membrane.

SikaBond®-T21 requires the use of an SC + MB or 1/4 x 1/4 V notch trowel for application, with larger notch sizes also being acceptable.

P5 trowels should be used at 90° angle to the subfloor to achieve the stated coverages, while a SC+MB trowel or 1/4" x 1/4" V-notch trowel should be used at 45° angle.

The Applicator is responsible for periodic inspection of the trowel to check for excessive wear. If the trowel is found to be a defective, it should be replaced immediately to assure recommended coverage. In cases of uneven substrates, it may be necessary to use a trowel with larger notches to increase the thickness of the adhesive layer. Avoid hollow sections or bare patches. Excessive amounts of adhesive may cause wood flooring to slide. Coverage must be monitored to ensure accuracy of application. Improper trowel angle may prevent proper coverage.

Shelf Life

12 months from date of manufacture, if stored in undamaged, original, sealed containers. Store dry at temperatures between 10 and 25 °C (50 and 77 °F) and protect from direct sunlight

Service Temperature

-40 to 70 °C (-40 to 158 °F)

Properties at 23 °C (73 °F) and 50 % R.H.

Specific Gravity	1.16 kg/L (9.67 lb/US gal.)
Skinning/Laying Time	~ 45 - 60 minutes
Curing Rate	4.0 mm/24 hrs Floor may accept light foot traffic after: 6 - 8 hrs at 1.1 - 1.2 m ² /L (45 - 50 ft ² /US gal.) (P5 trowel) 12 hrs at 0.73 - 0.86 m ² /L (30 - 35 ft ² /US gal.) (SC+MB trowel) (depending on climatic conditions and adhesive layer thickness)
Sag Flow	Consistency: Spreads very easily
Shear Strength	1.03 MPa (150 psi) using 1 mm (1/25 in) adhesive thickness
Tensile Strength	1.03 MPa (150 psi)
Elongation at Break	Approx. 270 % cured
Water Vapour Permeability ASTM E96 (Water Vapour Transmission)	< 0.4 g/m ² - 24 hour-mmHG
Sound Reduction Ratings	
ASTM E-90-04/E413-04	STC 62 (RAL™ Test # TL10-147a) - 150 mm (6 in) concrete slab with suspended gypsum ceiling
ASTM E-492-04/E989-06	IIC 65 (RAL™ Test # IN10-005a) - 150 mm (6 in) concrete slab with suspended gypsum ceiling
ASTM E2179-03/E989-06	ΔIIC 21 (RAL™ Test # IFC10-001)
ASTM E2235-04/E-989-06	FIIC 59 (SONAR 16-024) - 250 mm (10 in) concrete slab
VOC content	57 g/L

Product properties are typically averages, obtained under laboratory or predefined conditions. Reasonable variations can be expected on-site due to local factors, including environment, preparation, application, curing and test methods.

HOW TO USE**Surface****Preparation**

The subfloor must be structurally sound, clean, dry, level and free from oils, bituminous materials, curing compounds, grease, dust, loose particles, paint and other poorly adhering material.

SikaBond®-T21 can generally be used without priming on properly prepared, structurally sound concrete, cement floors, particleboards, ceramic tiles, plywood and hardwood. Sika recommends the use of Sika® Primer MB^{CA} over any dry, gypsum based subflooring to enhance surface strength. Maximum acceptable floor variation is 5 mm in 3.05 m (3/16" in 10').

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 Sika® Primer MB^{CA} – see Sika® Primer MB^{CA} data sheet for installation instructions and proper details.

If surface contains asphalt (cutback) adhesive, follow the Resilient Floor Covering Institute's *Recommended Work Practices* for removal. When the asphalt (cutback) adhesive is sufficiently removed, use the Sika® Primer MB^{CA} to help promote adhesion to the sub-floor or use a Sika® Level primer and levelling compound over the cutback residue. SikaBond®-T21 will adhere to most common patching/levelling compounds. Due to differences in asphalt based adhesive types and performance capabilities, the applicator must verify that preparation of the surface is sufficient prior to using Sika® Primer MB^{CA} or the Sika® Level compound. For unknown substrates, please contact your Sika Canada Technical Sales Representative.

Substrate Temperature: During laying and until SikaBond®-T21 has fully cured, substrate temperature should be greater than 15 °C (59 °F) and in case of in-floor heating systems, less than 20 °C (68 °F). For substrate temperatures, the standard construction rules are relevant.

Air Temperature: Room temperature must be between 15 °C (59 °F) and 35 °C (95 °F). For ambient temperatures, the standard construction rules are relevant.

Substrate Humidity: For use as an adhesive only: SikaBond®-T21 is not affected by moisture or vapour 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 an All-in-One system or use Sika® Primer MB^{CA}. See Sika® Primer MB^{CA} Product Data Sheet for proper instruction.

For use as an adhesive and membrane: Concrete must be visibly dry. Inspect for any visible signs of moisture on concrete or wetness at details and junctures, i.e at base of drywall. Concrete and cement-based underlayments must be fully cured and free of any hydrostatic and/or moisture problems.

Relative Air Humidity: Between 40 % and 70 % during installation is best for adhesive. See wood floor manufacturer for wood requirements.

Application

Read this Product Data Sheet completely prior to starting installation. SikaBond®-T21 is applied to the properly prepared substrate directly from the pail and uniformly distributed with a notched trowel. Take care to place only enough adhesive to allow sufficient time to place wood into the adhesive while the adhesive is still very wet. Press the wood floor elements firmly into the adhesive so that the wood floor underside is sufficiently wetted. A general rule is to apply the wood flooring within 20 to 25 minutes of applying the adhesive under normal temperature and humidity conditions. The SikaBond®-T21 is a moisture curing adhesive and will cure faster in more humid environments - **Do not let a skin form on the adhesive prior to applying the wood flooring.**

The elements can then be joined together using a 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. The wood floor manufacturer's laying instructions, 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 acclimatization requirements, must be strictly followed.

Clean Up	All tools should be cleaned immediately after use with Sika® Urethane Cleaner and Thinner. Any adhesive that is permitted to cure on the tools will need to be removed by mechanical means. Use a dry cloth and Sika® Hand Cleaner towels to remove adhesive from pre-finished wood surfaces before it cures. Finger prints or small amounts of adhesive residue can be removed from pre-finished wood using the towels. Sika® Hand Cleaner towels use a citrus based cleanser that will not harm the floor finish. Remove any adhesive residue from hands using the Sika® Hand Cleaner towels.
Limitations	▪ SikaBond®-T21 must cover 100% of subfloor in order to operate as moisture vapour and sound reduction membrane. ▪ Chemically treated woods (ammonia, wood stain, timber preservatives, etc), woods that have been pre-sealed on the back side) or woods with high oil content must be tested with SikaBond®-T21 by the applicator and verified as suitable prior to proceeding with works. ▪ Maximum warranted wood size: solid wood < 20.3 cm (8") wide, engineered wood < 35.5 cm (14") wide. ▪ Follow the wood floor manufacturer's installation instructions. ▪ Minimum age of concrete before application is 21 - 28 days, depending on curing and drying conditions. ▪ On-or below-grade substrates must have appropriate vapour barrier (< 6 mil) properly installed below slab. ▪ Do not use on PE, PP, TEFLON, and certain plasticized synthetic materials. Some primers can also negatively influence the bond of SikaBond®-T21 (Carry out pre-start trials on unusual substrates and where existing primers remain to assess compatibility and adhesion.) ▪ Do not use on wet, contaminated or friable substrates. ▪ This membrane reduces moisture vapour emissions that originate from below the membrane only. It will not prevent all possible moisture related or install related issues such as improper acclimation of flooring, jobsite temperature and relative humidity, etc. ▪ This membrane does NOT reduce issues originating from the ends, sides or top of flooring, i.e. puddles, water leaks, etc. ▪ Cutback or other asphaltic based residue must be removed. ▪ Subfloor should be level – do not use adhesive as a levelling agent. ▪ When needed, Sika recommends the use of Sika® Level patching mortars and levelling compounds for best results. ▪ Gypsum based subfloors are very susceptible to excess moisture and will be degraded if exposed to excess moisture from below or above. ▪ Do not use in areas subject to hydrostatic head or in areas subject to secondary source of moisture. ▪ Do not apply or cure in the presence of uncured silicone sealants, alcohol and other solvent cleaners. ▪ Do not use over concrete with curing compounds, sealers or other surface treatments that could impact the adhesion. ▪ Room temperatures should be between 15 °C (59 °F) and 32 °C (89 °F) during installation unless otherwise specified by the wood floor manufacturer. ▪ Adhesive should be kept above 15 °C (59 °F) for best workability. ▪ P5 trowels or larger must be used with all solid woods and when applying over gypsum based sub-floors (for use as an adhesive only) ▪ SC+MB or 1/4" x 1/4" trowels must be used for use as an adhesive, vapour retarder and sound reduction membrane. ▪ Periodically check coverage of adhesive during installation. ▪ 100 % substrate coverage, at the stated yield and adhesive transfer is required to protect against damages from subfloor moisture. ▪ Sufficient ambient moisture is necessary for proper curing. ▪ 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 in-floor radiant heat require that slab temperature be kept below 20 °C (68 °F) during installation and for 48 hours thereafter; the temperature should then be raised slowly (raise the floor temperature 1 °C (2 °F) every 48 hours until desired temperature is reached). Maximum allowable temperature is 29 °C (84 °F). Follow wood floor manufactures' temperature guidelines.. ▪ SikaBond®-T21 is recommended for use by experienced applicators, especially where the material is being used as an adhesive, vapour retarder and sound reduction membrane.

**Health and Safety
Information**

For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the most recent SAFETY DATA SHEET containing physical, ecological, toxicological and other safety-related data.

KEEP OUT OF REACH OF CHILDREN
FOR INDUSTRIAL USE ONLY

The Information, and in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions, within their shelflife. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any recommendations, or from any other advice offered. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request or may be downloaded from our website at: www.sika.ca

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