

## PRODUCT DATA SHEET

# SikaBond®-T21

All-in-One Low VOC Wood Flooring Urethane Adhesive, Unlimited Moisture Vapour and Sound Reduction Membrane

### PRODUCT DESCRIPTION

SikaBond®-T21 is a one-component, low VOC, permanently elastic, super strong, very low permeability moisture-cure polyurethane adhesive, vapour retarding, crack bridging 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 a membrane which reduces moisture vapour transmission from the subfloor and sound reduction membrane.

### CHARACTERISTICS / ADVANTAGES

- 270 % Elongation
- Single material capable of operating as a wood floor adhesive, vapour retarding membrane and sound reduction layer
- Extremely easy to trowel
- No moisture testing required - a dry to touch substrate is the only requirement
- Crack bridging
- Low odour
- Excellent Green Grab
- Bonds solid wood flooring up to 19 mm (¾ in) thick and 203 mm (8 in) wide, and engineered planks up to 350 mm (14 in) wide directly to concrete without length limitations

- Suitable for common types of wood flooring
- Creates sound reduction layer
- Especially good for problematic woods such as beech and bamboo
- Contains no water
- Eliminates sleepers and plywood over concrete
- Permanently elastic – allows planks to expand and contract without damage to the adhesive
- Tenacious bond

### ENVIRONMENTAL INFORMATION

|   |  |  |
|---|--|--|
| LEED® EQc 4.1<br>CDPH Standard<br>Method v1.2<br>passes | SCAQMD, Rule<br>1168 (25 g/L<br>limit)<br>passes | BAAQMD, Reg. 8,<br>Rule 51-226 (20<br>g/L limit)<br>passes |
|---|--|--|

### APPROVALS / CERTIFICATES

- Independently tested to -STC 62 (ASTM E-90) 168 mm ((6 in.) concrete slab, 19 mm (5/8 in.) suspended gypsum ceiling
- Independently tested to FIIC 52 (ASTM E-989) (8 in. (203 mm) concrete slab, without ceiling
- Reduction of Impact Sound  $\Delta$  IIC = 21 (ASTM E-2179)

## PRODUCT INFORMATION

|                             |   |
|-----------------------------|---|
| Composition / Manufacturing | 1-component polyurethane, moisture curing   |
| Packaging                   | 15.14 l (4 US gal) pail   |
| Colour                      | Light Brown   |
| Shelf Life                  | 12 months from date of production   |
| Storage Conditions          | Store in undamaged original sealed containers, in dry conditions and protected from direct sunlight at temperatures between 10 °C (50 °F) and 25 °C ( 77 °F)  |
| Density                     | <b>Water Vapour Permeability</b> < 4 g/m <sup>2</sup> -24h-mmHg per ASTM E-96 (Standard Test Method for Water Vapor Transmission of Materials)<br>-<br><b>Specific Gravity</b> 1.18 kg/L (9.85 lbs/gal) |

## TECHNICAL INFORMATION

|                     |  |   |
|---------------------|--|---|
| Shore A Hardness    | 50   | (28 days at 73 °F (23 °C) and 50 % R.H.)  |
| Tensile Strength    | 1.03 MPa (150 psi)                               | (28 days at 23 °C ( 73 °F) and 50 % R.H.) |
| Elongation at Break | ~270 %   | (28 days at 23 °C (73 °F) and 50 % R.H.)  |
| Shear Strength      | 1.03 MPa (150 psi) using 1 mm adhesive thickness | (28 days at 23 °C (73 °F) and 50 % R.H.)  |
| Service Temperature | Between -40 °C (-40 °F) and 70 °C (158 °F)       |   |

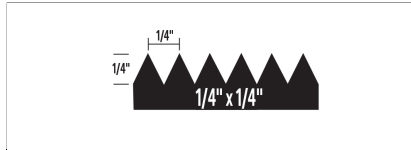
# APPLICATION INFORMATION

## Consumption

### FOR ALL-IN-ONE MOISTURE AND SOUND REDUCTION

#### ▪ For the installation of solid wood

Maximum thickness : 19 mm (3/4 in) \_ Max Width: 20 cm (8 in).

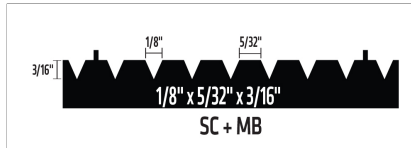


**6.3 mm x 6.3 mm x 6.3 mm V-notched trowel**

0.73 to 0.85 m<sup>2</sup>/l (30 to 35 ft<sup>2</sup>/ US gal)

#### ▪ For the installation of engineered wood

Maximum thickness : 19 mm (3/4 in) \_ Max Width: Unlimited



0.73 to 0.85 m<sup>2</sup>/l (30 to 35 ft<sup>2</sup>/ US gal)

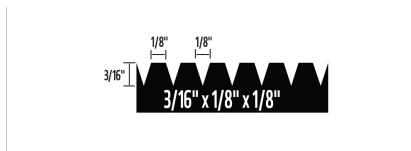
### FOR USE AS AN ADHESIVE ONLY

#### ▪ For the installation of solid wood

Maximum thickness : 19 mm (3/4 in) \_ Max Width: 20 cm (8 in)

#### ▪ For the installation of engineered wood

Maximum thickness : 19 mm (3/4 in) \_ Max Width: Unlimited

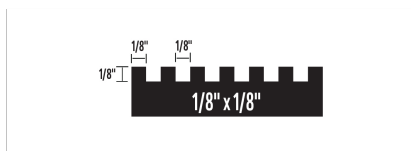


**4.7 mm x 3 mm x 3 mm V-notched trowel**

1.10 to 1.22 m<sup>2</sup>/l (45 to 50 ft<sup>2</sup>/ US gal)

### FOR USE WITH SELECTED UNDERLAYMENTS

Cork or rubber underlayments <sup>A</sup>



**3 mm x 3 mm x 3 mm square notched trowel**

1.95 m<sup>2</sup>/l (80 ft<sup>2</sup>/ US gal)

- 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. 4.7 mm (3/16 in) x 3 mm (1/8 in) x 3 mm (1/8 in) V-notch trowels should be used at 90° angle, SC+MB trowel or 6.3 mm (1/4 in) x 6.3 mm (1/4 in) V-notch. 6.3 mm (1/4 in) x 6.3 mm (1/4 in) V-notch trowels should be used at 45° angle to subfloor to get stated coverages.
- Trowel size is recommended to obtain proper coverage larger sizes are acceptable. Excessive amounts of adhesive may cause wood flooring to slide while placing. Coverage should be checking periodically during installation.

<sup>A</sup> SikaBond®-T21 is not compatible with rubber underlayment containing EPDM or similar substitutes.

|                                   |  |
|-----------------------------------|--|
| <b>Sag Flow</b>                   | Consistency: Spreads very easily   |
| <b>Relative Air Humidity</b>      | Between 40 % and 70 % during installation is best for adhesive. See wood floor manufacturer for wood requirements.   |
| <b>Substrate Temperature</b>      | During laying and until SikaBond®-T21 has fully cured, substrate temperature should be greater than 15 °C (60 °F) and in case of radiant floor heating, less than 20 °C (70 °F). For substrate temperatures, the standard construction rules are relevant.   |
| <b>Substrate Moisture Content</b> | <p><b>For use as an adhesive and moisture membrane:</b></p> <p>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. When properly applied in accordance with Sika® guidelines, SikaBond®-T21 provides unlimited moisture vapour protection.</p> <p><b>For use as an adhesive only:</b></p> <p>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 All-in-One. See Technical Data Sheet for proper instruction.</p> |
| <b>Curing Rate</b>                | 4.0 mm/24 h (at 23 °C (73 °F) and 50 % R.H.)<br><br>Floor may accept light foot traffic:<br>After 6–8 hours at 1.10 to 1.22 L/m <sup>2</sup> (45 to 50 ft <sup>2</sup> /gal) (6.3 mm (1/4 in) x 6.3 mm (1/4 in) V-notch. 6.3 mm (1/4 in) x 6.3 mm (1/4 in) V-notch):<br>Floor can be sanded after 18 hours at 0.73 to 0.86 L/m <sup>2</sup> (30 to 35 ft <sup>2</sup> /gal) (SC+MB trowel): after 12 hours (depending on climatic conditions and adhesive layer thickness).  |
| <b>Skin Time / Laying Time</b>    | ~ 45–60 minutes (at 73 °F (23 °C) and 50 % R.H.)   |

## BASIS OF PRODUCT DATA

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

## LIMITATIONS

- SikaBond®-T21 is suitable for experienced applicators. Follow the wood floor manufacturer's installation instructions.
- Maximum wood size: solid wood < 203 mm (< 8 in) wide and engineered wood < 355 mm (< 14 in) wide.
- SC+MB or 6.3 mm (1/4 in) x 6.3 mm (1/4 in) x 6.3 mm (1/4 in) V-notch trowel must be used for use as an adhesive and vapour retarder membrane.
- 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 to 28 days, depending on curing and drying conditions.
- Do not use in areas subject to hydrostatic head or in areas subject to secondary source of moisture.
- This adhesive will not prevent moisture related damage to wood flooring installations.
- This membrane does NOT reduce issues originating from the ends, sides or top of flooring, i.e. puddles, water leaks, etc.

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- This membrane does NOT eliminate all possible moisture related or install related issues, i.e. improper acclimation of jobsite temperature, flooring, relative humidity, etc.
- Solid wood and bamboo flooring cannot be used below grade due to their lack of dimensional stability.
- Do not apply or cure in the presence of uncured silicone sealants, alcohol and other solvent cleaners.
- Do not use on wet, contaminated or friable substrates.
- Do not use over concrete with curing compounds, sealers or other surface treatments that could impact the adhesion performance.
- Cutback or other asphaltic based residue must be completely eliminated.
- The substrate should meet the maximum acceptable floor variation (see SUBSTRATE PREPARATION) do not use adhesive as a levelling agent. When needed, Sika recommends the use of Sika® Level patching and levelling compounds for best results.
- 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.
- 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 21 °C (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.
- 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.
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## ENVIRONMENT, HEALTH & SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS

provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

## APPLICATION INSTRUCTIONS

### NOTES ON INSTALLATION

Wood floor manufacturer's requirements for room humidity levels and environmental control along with wood flooring acclimatization requirements must be strictly followed.

SikaBond®-T21 should be kept above 15 °C (59 °F) for best workability. Room temperatures should be between 15 °C (59 °F) and 32 °C (89 °F) during installation unless otherwise specified limitations by wood flooring manufacturer. Sufficient ambient moisture is necessary for proper curing. This said, if jobsite conditions are outside of flooring manufacturer's recommendations, take necessary corrective actions as recommended by the floor manufacturer to address these issues.

### SUBSTRATE PREPARATION

SikaBond®-T21 can generally be used without priming on properly prepared, structurally sound concrete, chipboards, ceramic tiles, plywood and hardwood. 20.6 MPa (3 000 psi) compressive strength is the minimum requirement needed for SikaBond wood floor installations, including glue-down wood floors, or glued/mechanically anchored subfloors. Concrete substrate must have a concrete surface profile of CSP 1-3. Maximum acceptable floor variation is 4.7 mm in 3 m (3/16 in, in 10 ft). Preparation is a critical step in the installation process and will ensure a successful long-term tenacious bond. All concrete, cement screed substrates 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 with a brush attachment.

### APPLICATION METHOD / TOOLS

Read and understand data sheet completely before beginning installation. Follow all industry standards, as well as hardwood and bamboo flooring manufacturer's recommendations for floor flatness, acclimation, design, layout, application, etc. of wood flooring material.

SikaBond®-T21 is applied to the properly prepared substrate directly from the pail and uniformly distributed by using the proper trowel as described in the COMSUMPTION section on this Product Data Sheet.

Press the wood floor elements firmly into the adhesive

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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. 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 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 the wood floor manufacturer. Spacers should be used to ensure perimeter space is maintained. The wood flooring manufacturer's laying instructions, acclimation requirements, room humidity/environmental control requirements as well as standard construction rules must be observed.

**Reminder:** Wood floor manufacturer's requirements for room humidity levels and environmental control along with wood flooring acclimatization requirements must be strictly followed. For solid wood installations, Sika Canada recommends the use of clamps to keep joints tight and weights to rest on the wood while the adhesive cures.

### **Plywood over concrete**

Use a minimum 19 mm (3/4 in) subfloor panel cut to smaller 60 cm x 243 cm (2 ft x 8 ft) or 120 cm x 120 cm (4 ft x 4 ft) sections. Kerf the back of the panels 1/2 the thickness of the material 9 mm (3/8 in) on a 30 cm x 30 cm (12 in x 12 in) grid. Lay sections in a staggered joint pattern in the adhesive, with 3 mm (1/8 in) spacing between sheets, and 3/4" minimum expansion space at walls and all vertical obstructions. Flatness tolerances should be to within 4.7 mm (3/16 in) in 1.83 m (6 ft) or 6 mm (1/4 in) in 3.09 m (10' ft) for nail down over the wood subfloor. Do not use flooring fasteners longer than 3/4" to be certain not to puncture the moisture control membrane. Using a 4.7 mm (3/16 in) x 3 mm (1/8 in) x 3 mm (1/8 in) V-notch trowel, apply adhesive/membrane to substrate and then set plywood into the wet adhesive/membrane. For adhesion only, ensure at least 90% coverage and transfer. For moisture protection, ensure 100% coverage and transfer. Allow the adhesive/membrane to fully cure before nailing or using

the SikaBond adhesive/ membrane to install flooring. Make sure that nails do not penetrate through the adhesive membrane.

### **Joint and Crack Preparation**

All moving joints and moving cracks must be honoured up through the floor preparation and floor covering installation, finishing with an appropriate Sika flexible sealing compound. Dormant hairline cracks must be pre-filled in strict accordance with the installation instructions provided by the Sika Technical Service Department.

### **CLEAN UP**

All tools must be cleaned immediately after use with SikaBond® Remover or standard industry cleaning solvent. Any adhesive that is permitted to cure on the tool will need to be removed by mechanical means.

### **LOCAL RESTRICTIONS**

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

### **LEGAL NOTES**

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 in accordance with Sika's recommendations. 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

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Edmonton (Alberta)  
Surrey (British Columbia)

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