

SikaBond-T54

Product Data Sheet

09 64 00 WOOD BONDING 9-110

Description SikaBond-T54 is a one-component, no VOC, solvent-free, permanently elastic, strong polyurethane adhesive for full surface bonding of wood flooring. SikaBond-T54 is extremely easy to trowel - preventing arm strain and increasing applicator productivity.

Where to Use Solid and engineered wood flooring (strips, longstrips, planks, panels, boards) mosaic parquet, industrial parquet, wood paving (residential) as well as chipboards can be bonded.

Advantages Bonds solid wood flooring up to 20 cm (8 in) wide and engineered planks up to 35.6 cm (14 in) wide directly to concrete with no length limitations. Eliminate sleepers and plywood over concrete and gypsum substrates.

Extremely easy to spread.

Fast curing - unfinished wood flooring can be sanded after 18 hours of cure time.

Permanently elastic - allows planks to expand and contract without damage to the bond.

Footfall-sound-dampening adhesive.

Suitable for all common types of wood floors.

Especially for problematic wood such as beech and bamboo.

Suitable for bonding wood floors directly onto old ceramic tiles.

Reduces stress on the substrate: the elastic, material-compatible adhesive reduces transverse stress between the wood floor and the substrate.

Suitable for in-floor radiant heat installation.

Technical Data

Packaging 10 L unit (2.64 US gal.)

Color Beige

Yield P4 Trowel: approx. 1.35-1.5 m²/L (55-60 ft²/US gal.) with engineered boards less than 15 cm (6 in) wide and/or less than 1.8 m (6 ft) long.

P5 Trowel: approx. 1.23 m²/L (50 ft²/US gal.) with engineered boards greater than 15 cm (6 in) wide and/or greater than 1.8 m (6 ft) long. All solid wood applications should use the P5 trowel. For bonding of long, width boards or in case of uneven substrates, it could be necessary to use a notched trowel with bigger notches (avert hollow sections).

Shelf Life 12 months in original, unopened packaging. Store dry between 10° - 25°C (50° - 77°F). Protect from freezing.

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

Chemical Base 1-component polyurethane, moisture curing

Specific Gravity 1.3 kg/L (10.7 lb/US gal.)

Pot Life (max. open time) ~ 90 min

Skinning / Laying Time ~ 60-90 min

Curing Rate 3.0 mm (1/8 in)/24h. Floor may accept light foot traffic after 24 hours and sanded 48 hours after installation (depending on climatic conditions and adhesive layer thickness).

Sag Flow Consistency: Spreads very easily, holds ridges after trowelling.

Service Temperature -40° to 77°C (-40° to 170°F)

Shear Strength 0.7 MPa (102 psi) using 1 mm (3/64 in) adhesive thickness

Tensile Strength 1.3 MPa (189 psi)

Shore A Hardness 30 (after 28 days)

Elongation ~ 900%

How to Use

Substrate The sub-floor must be structurally sound, clean, dry, homogeneous, even, free from grease, dust

Preparation and loose particles, paint and other poorly adhering particles. SikaBond-T54 can generally be used without priming on properly prepared, structurally sound - concrete, cement floors, chipboards, ceramic tiles, plywood and hardwood. For on-grade sub-floors Sika recommends the use of Sika Primer MBCA for best protection against sub-floor moisture - moisture testing is required by the wood flooring manufacturer for best results with the wood flooring products. Below grade applications are generally not recommended unless proper precautions are taken to protect the wood flooring from sub-floor and in-room humidity extremes. Sika recommends the use of Sika Primer MBCA over any gypsum based sub-flooring to enhance surface strength. 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 sub-floors must be structurally sound, clean, dry, smooth; free of voids, projections, loose materials, oil, grease, sealers and other surface contaminants then thoroughly cleaned with an industrial vacuum. 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 MBCA - see technical 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 the Sika Primer MBCA to help promote adhesion to the subfloor - or use an industry approved levelling compound over the cutback residue. SikaBond-T54 will adhere to most common patching/levelling 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 Sika Primer MBCA or patch/level compound. For unknown substrates, please contact Sika Technical Services.

Substrate Temperature: During laying and until SikaBond-T54 has fully cured substrate temperature should be greater than 15°C (59°F) and in case of floor heating less than 20°C (68°F). For Substrate temperatures the standard construction rules are relevant

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

Substrate Humidity: Moisture requirements are set forth to protect the wood flooring products that can expand and contract with different moisture levels in the room. SikaBond-T54 is not affected by moisture or vapor transmission. The below guidelines are included to provide the best practices in moisture vapor testing that exists today. Permissible substrate moisture contents are listed on the below chart.

Application	Moisture level requirements using Tramex method (%)
19 mm (3/4 in) Solid or Engineered over concrete	4%
19 mm (3/4 in) Solid or Engineered over concrete with Sika Primer MB ^{CA} layer	6%
19 mm (3/4 in) Solid or Engineered over in-floor heating over concrete	3%
19 mm (3/4 in) Solid or Engineered over gypsum based	System will not measure moisture content
19 mm (3/4 in) Solid or Engineered over in-floor heating over gypsum based	System will not measure moisture content

The National Wood Flooring Association recommends the use of moisture testing devices that identify actual moisture content in percentages (%). For best results in measuring the moisture levels in cement based sub-floor use the Tramex measuring device to find the highest reading in the application area. As a general guideline for floors with no in-floor heating if the Tramex is below 4% the Sika Primer MB^{CA} will not be necessary and between 4% and 6% Sika Primer MB^{CA} will be required. Use chart above. For moisture content and quality of substrates the guidelines of wood floor manufacturer should be observed.

Relative Air Humidity: Between 40% and 70%

Application

Read this product data sheet completely prior to starting installation. SikaBond-T54 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 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. Fresh, uncured adhesive remaining on the wood floor surface must be removed immediately with Sika Equipment Cleaner/Epoxy Thinner or Sika Hand Cleaner towels. 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.

Clean Up

All tools should be cleaned immediately after use with Sika Equipment Cleaner/Epoxy Thinner or Sika Hand Cleaner towels. Any adhesive that is permitted to cure on the tool will need to be removed by mechanical means. Use a dry towel and Sika Hand Cleaner towels to removed adhesive from pre-finished wood surface before it cures. Finger prints or small amounts of adhesive residue can be removed from pre-finished wood using the Sika Hand Cleaner 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

Protect product from freezing. Maximum wood size: Solid wood < 20 cm (< 8 in) wide and Engineered wood < 35.6 cm (< 14 in) wide.

Room temperatures should be between 15°C (59°F) and 32°C (89°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 leveling 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.

Below grade installations are typically more difficult to control moisture and room humidity levels - if this cannot be done sufficiently then below grade applications should use structurally sound Engineered hardwood only.

Do not use in areas subject to hydrostatic head or in areas subject to secondary source of moisture.

Do not use over concrete with curing compounds, sealers or other surface treatments that could impact the adhesion.

This adhesive will not prevent moisture related damage to wood flooring installations.

Sub-floor should be level - do not use adhesive as a levelling agent.

Cutback or other asphaltic based residue should be removed.

Chemically treated woods (ammonia, wood stain, timber preservatives, etc.) and woods with high oil content must be tested for adhesive prior to application.

Adhesive should be kept above 15°C (59°F) for best workability.

Sufficient ambient moisture is necessary for proper curing.

Solid wood applications are best performed by an experienced installer.

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 (Max. allowed temperature is 29°C (84°F)). Sika recommends raising floor temperature 1°C (2°F) every 48 hours until desired temperature is reached.

SikaBond-T54 is suitable for experienced applicators. For the proper curing of the adhesive sufficient ambient moisture is necessary. Wood floors in non insulated areas such as basements, or other areas without a damp proof membrane, must only be installed after the application of Sika Primer MBKA to control the moisture, if within product limitations. For detailed instructions consult the Technical Data Sheets or contact our Technical Service. In case of chemically pre-treated types of wood floors (e.g. ammonia, wood stain, timber preservative) and woods with high oil content SikaBond-T54 should only to be used after adhesion tests are run by applicator 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-T54 (pre trials suggested).

Caution Avoid contact with skin. Wash hands thoroughly with warm water and soap. According to FHSLS toxicity rating, SikaBond System is a skin irritant, an eye irritant, not toxic orally, not toxic by inhalation and not toxic dermally. Consult product label for additional information.

First Aid In case of skin contact, wash with soap and water. For eye contact flush immediately with plenty of water for at least 15 min. Contact a physician. For respiratory problems, transport victim to fresh air. Remove contaminated clothing and wash before re-use.