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**PRODUCT DATA SHEET**
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ACOUSTIC FLOORING

# Sika® AcouBond

## ELASTIC BONDING AND ACOUSTICAL DAMPENING FOR WOOD FLOORS

**Description**

The Sika® AcouBond System incorporates Direct Bond Technology with acoustic performance. The system consists of SikaLayer®-03, a 3 mm (1/8 in) proprietary, specially-slotted foam mat and SikaBond®-52 Wood Floor, a unique, permanently elastic, super strong, sound dampening adhesive that forms a tenacious bond to wood flooring, concrete and common subfloor materials, including plywood. With a one-step installation method, this system has been proven to reduce total installation costs by over 30 %.

**Where to Use**

The Sika® AcouBond system is used to bond structurally-sound solid and engineered hardwood in new construction and renovation projects such as residential, office, civic and industrial buildings as well as sales and show-rooms. The Sika® AcouBond System is commonly used over in-floor radiant heating and on suspended concrete slabs, cement screeds or gypsum underlays and field testing demonstrates unmatched sound reduction.

**Advantages**

- Extremely easy to install.
- Fast curing; unfinished wood flooring can be sanded after 24 hours.
- Structurally bonds wood flooring to subfloor.
- Bonds solid wood flooring up to 200 mm (8 in) wide and engineered planks up to 360 mm (14 in) wide directly to concrete substrates with Sika's exclusive Direct Bond Technology.
- Eliminates the installation of installing cork and other underlayments.
- No need for sleepers and plywood over concrete and gypsum based subfloors.
- Can be walked on during installation provided sub-floor is level.
- Can reduce overall installation costs by up to 30 %.
- Suitable for bonding wood floors directly onto old, properly-prepared ceramic tiles.
- Reduces stress on the substrate and the wood flooring.
- Approvals for Sika® AcouBond System with SikaLayer®-03 include:
- Independent lab tested to - IIC 59 (ASTM E492) and STC 60 (ASTM E90) (6 in concrete slab, 5/8 in suspended gypsum ceiling).
- Independent field tested to - FIIC 59 (ASTM E1007) and FSTC 59 (ASTM E336) (8 in concrete slab, no suspended ceilings).
- Reduction of Impact Sound Ä Lw 16 dB (NF EN ISO 717/2): Report 00A730e.
- Reduction of Impact Noise DLw -3 dB (NF EN ISO 717/2): Report 00A731e.

# SikaLayer®-03

**Where to Use**

Specially designed, proprietary polyethylene foam mat with symmetrically placed cut-outs to insert adhesive and achieve a high sound dampening effect.

**Advantages**

- Dimensionally stable and pressure resistant.
- Defined amount of adhesive consumption.
- Low weight for transport.

**Technical Data**

| | |
|---|---|
| **Packaging** | 16.7 m x 1.5 m roll = 25 $m^2$ (54.7 ft. x 4.92 ft. roll = 269 $ft^2$).<br>12 rolls per pallet<br>12,5 $m^2$ or 134 sq. ft |
| **Colour** | Grey |
| **Shelf Life** | Unlimited if stored in dry conditions and protected from direct sunlight at temperatures between 10 and 25 °C (50 and 77 °F). |

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

| | |
|---|---|
| **Density** | 30 kg/$m^3$ (1.87 lb/$ft^3$) |
| **Thickness** | 3 mm (1/8 in) |
| **Cut-Outs** | 60 cuts/$m^2$ (5.6 cuts/$ft^2$) |
| **Heat Conductivity** | 0.042 W/mK |
| **Footfall Sound Reduction** | Up to 16 dB |

*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.*

# SikaBond®-52 Wood Floor

**Description**

SikaBond®-52 Wood Floor is a fast curing (for early green strength and superior holding power), one-component and high performance polyurethane adhesive for wood-floor bonding and used with sound dampening systems.

**Where to Use**

SikaBond®-52 Wood Floor is a gun-applied adhesive which can be inserted into the cut outs of the SikaLayer®-03 mat to produce the Sika® AcouBond elastic bonding and acoustical dampening system for wood floors.

**Advantages**

- One-component.
- Ready-to-use
- SikaBond®-52 Wood Floor is virtually solvent-free, odourless and fast-curing.

**Technical Data**

| | |
|---|---|
| **Packaging** | 600 mL sausage/20 per box;<br>1800 mL sausage/6 per box |
| **Colour** | Parquet Brown |
| **Yield** | Approx 1.24 m² (13.4 ft²) per 600 mL sausage (1 box of 20 x 600 mL sausages covers 25 m² (269 ft²). 1 box of 20 x 600 mL SikaBond®-52 Wood Floor sausages is required for every 1 roll of SikaLayer®-03. All cut-outs must be filled. Use application tip with triangular cut-out to an 8 x 10 mm (0.32 x 0.4 in) opening. |
| **Shelf Life** | 12 months*<br>*From date of production, if stored dry, away from direct sunlight, in undamaged, original, sealed containers at temperatures between 10 and 25 °C (50 and 77 °F). |
| **Service Temperature** | -40 to 70 °C (-40 to 158 °F); suitable for sub-floor heating |
| **Properties at 23 °C (73 °F) and 50 % R.H.** | |
| **Curing Rate** | ~ 4 mm/24 hours<br>Floor may be walked on or sanded 24 hours after installation (depending on climatic conditions and adhesive layer thickness). |
| **Chemical Base** | 1-part, moisture-curing polyurethane |
| **Skinning/Laying Time** | ~ 60 minutes |
| **Sag Flow** | Consistency – Easily applied with gun |
| **Shear Strength** (at 1 mm adhesive thickness) | 1.3 MPa (188 psi) |
| **Tensile Strength** | 1.5 MPa (217 psi) |
| **Shore A Hardness** (after 28 days) | 34 |
| **Elongation at Break** (after 28 days) | ~ 600 % |
| **VOC Content** | 0 g/L |
| **Chemical Resistance** | Consult Sika Canada |

*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.*

## HOW TO USE

**Surface Preparation**

The subfloor must be 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®-52 Wood Floor can generally be used without priming on properly prepared, structurally sound substrates - concrete, cement floors, chipboard, ceramic tiles, plywood and hardwood. For on-grade sub-floors, Sika Canada recommends the use of Sika® Primer MB$^{CA}$ for best protection against subfloor 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 Canada recommends using of Sika® Primer MB$^{CA}$ 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 subfloors 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 MB$^{CA}$ - see Product 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 subfloor, or use an industry approved levelling compound over the cutback residue. SikaBond®-52 Wood Floor 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 MB$^{CA}$ or patch/level compound. For unknown substrates, contact Sika Canada.

**Substrate Temperature:** During laying and until SikaBond®-52 Wood Floor has fully cured, substrate temperature should be greater than 15 °C (59 °F) and in case of in-floor heating less than 20 °C (68 °F). For substrate temperatures, the standard construction rules are relevant.

**Air Temperature:** Room temperature between 15 and 35 °C (59 and 95 °F). For ambient temperatures, the standard construction rules are relevant. Follow all wood floor manufacturers acclimation and room temperature requirements.

**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®-52 Wood Floor is not affected by moisture or vapour transmission. The guidelines below are included to provide the best practices in moisture vapour testing that exist today. Permissible substrate moisture content is listed on the chart below.

| 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 base | System will not measure moisture content |
| 19 mm (3/4 in) solid or engineered over in-floor heating over gypsum base | 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-floors, 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 the wood floor manufacturer should be observed.

Relative Air Humidity: Between 40 and 70 %

## Application

Read this Product Data Sheet in its entirely prior to starting installation. Roll out SikaLayer®-03 mat on the properly prepared substrate, parallel to the laying direction of the wood floor. The mat does not get glued to the subfloor, unless adhesive is used to keep the mat from sliding. The foam mat should be placed approximately 25 mm (1 in) away from walls and approximately 13 mm (1/2 in) away from any adjacent mat. This will allow for placement of both a perimeter adhesive bead and an adhesive bead between any two adjacent mats. To apply the adhesive, a sausage-gun is required.

Apply the adhesive with manual- or air-pressure-gun into all cut-outs with the supplied triangular nuzzle. Also apply adhesive beads at room perimeters and between adjacent mat as mentioned above. Take care to place only enough adhesive to allow sufficient time to place wood into adhesive while the adhesive is still very wet. Filling of all cut-outs is a must. Over-filling will result in excess material being consumed. The nozzle must be held vertical to the substrate at a 90 degree angle. It is not recommanded to apply adhesive on top of the mat.

Position wood boards and firmly press into the adhesive until they lay tight on the SikaLayer®-03 mat. The wood boards can then be joined together using a rubber mallet or hammer and an impact block. Follow the required distance from the wall to the wood floor in the laying instruction from the wood floor manufacturer. For solid wood installations, Sika recommends the use of clamps to keep joints tight and weights to rest on the wood while the adhesive cures.

When working at or near room perimeters, doorways or tight areas, additional slots may be needed in the SikaLayer®-03 mat to accommodate short edge pieces and to ensure enough adhesive to securely hold wood down. Use razor knife to make cut outs in mat the same size as existing pre-cut openings. Fresh, uncured adhesive remaining on the wood floor surface must be removed immediately with Sika® Hand Cleaner towels. Failure to do so could result in a dulled finish. The laying instructions of the wood floor manufacturer as well as standard construction rules must be observed throughout the installation process.

## Limitations

- The Sika® AcouBond system is designed for use with 50 mm (2 in) wide or larger structurally sound, solid hardwood (8 to 19 mm / 5/16 to 3/4” in thickness) and structurally sound, engineered hardwood that can be either floated, nailed or stapled.
- Maximum wood size: solid wood < 200 mm (8 in) wide and engineered wood < 360 mm (14 in) wide.
- Minimum wood lengths of 300 mm (1 ft) (except for the perimeter board) is required to ensure that wood spans three (3) adhesive strips for standard placement.
- Structurally sound, sufficient tongue and groove stability is necessary for this system.
- Room temperature should be between 15 and 32 °C (59 and 89 °F) during installation, unless otherwise specified by the wood flooring manufacturer.
- Do not use on wet, contaminated or friable substrates.
- Sika Canada recommends the use of Portland Cement-based patching and levelling compounds such as Sika® Level-125$^{CA}$ 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. Sika Canada recommends the use of Sika® Primer MB$^{CA}$ for this application.
- Do not use in areas subject to hydrostatic head or in areas subject to secondary sources of moisture.
- Do not use over concrete with curing compounds, sealers or other surface treatments that could impact the adhesion.
- These adhesives will not prevent moisture related damage to wood flooring installations.
- Subfloor should be level; do not use adhesive as a levelling compound.
- Provided the substrate is level, the Sika AcouBond system may be walked upon during installation; where the substrate is not level, walking on the uncured floor may compromise the integrity of the bond.
- Cutback-based adhesives should 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 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 Canada recommends the use of straps to fully connect tongue and groove, especially when wood pieces are not perfectly straight. A starter row may be appropriate to form a fixed location to tighten straps.
- Installations over radiant heat require that slab temperature be kept below 20 °C (68 °F) during installation and for 48 hours after installation, then raised slowly up to final desired temperature (maximum allowed temperature is 29 °C / 84 °F). Sika recommends raising floor temperature 1 °C (2 °F) every 48 hours until desired temperature is reached.
- Wood floor installation in uninsulated areas, basements and slab on grade must use the moisture regulator Sika® Primer MB$^{CA}$. For detailed instructions, consult the Product Data Sheets or contact Sika Canada.
- In case of chemically pre-treated types of wood floors (e.g. ammonia, wood stain, timber preservative) and woods with high oil content, SikaBond® is only to be used after a written recommendation from Sika Canada.
- Do not apply or cure in the presence of uncured silicone sealants, alcohol and other solvent cleaners. Some primers can negatively influence the adhesion of SikaBond® (pre-trials recommended).

**Clean Up**

All tools should be cleaned immediately after use with Sika® Urethane Thinner and Cleaner 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 remove 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.

**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.

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FOR INDUSTRIAL USE ONLY



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