**Sika® AcouBond®-System**

**Elastic Bonding and Acoustical Dampening for Wood Floors**

### Description

The Sika® AcouBond®-System incorporates Direct Bond Technology with acoustic performance. The Sika® AcouBond®-System consists of SikaLayer®-03, a 1/8” (3 mm) proprietary specially slotted foam mat, and the SikaBond®-T53, unique permanently elastic, super strong, sound dampening adhesive that form a tenacious bond to wood flooring, plywood subfloors, concrete and other common subfloor materials.

### Uses

The Sika® AcouBond®-System is used to bond structurally sound solid and engineered hardwood in new construction and renovations in residential, office, and industrial buildings as well as sales and show rooms. It is commonly used over in-floor radiant heating and on grade cement and gypsum-based slabs. Field testing demonstrates unmatched sound reductions.

### Advantages

- Independently tested to – IIC 59 and STC 60 (see below)
- Independently tested to – FFIC 59 and FSTC 59 (see below)
- Extremely easy to install
- Structurally bonds wood flooring to subfloor
- SikaBond®-T53 bonds solid wood flooring up to 8 in. (18 cm) wide and engineered planks up to 14 in. (36 cm) wide directly to concrete substrates. No limitations on maximum wood length.
- Eliminates the extensive labor of installing cork underlayments
- No need for sleepers and plywood over concrete- and gypsum-based subfloors
- Innovative walk-on work method
- Can reduce overall installation costs up to 30%
- Suitable for bonding wood floors directly onto old ceramic tiles
- Reduces stress on the substrate

### Green Rating

<table>
<thead>
<tr>
<th>LEED® EQc 4.1 (100 g/L limit)</th>
<th>SCAQMD, Rule 1168 (100 g/L limit)</th>
<th>BAAQMD, Reg. 8, Rule 51 (120 g/L limit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>passes</td>
<td>passes</td>
<td>passes</td>
</tr>
</tbody>
</table>

### Tests

**Approvals/Standards**

Sika® AcouBond®-System with SikaLayer®-03:
- Independently tested to - IIC 59 (ASTM E 492) and STC 60 (ASTM E 90) (6” concrete slab, 5/8” suspended gypsum ceiling)
- Independently field tested to - FFIC 59 (ASTM E 1007) and FSTC 59 (ASTM E 336) (8” concrete slab, no suspended ceilings)
- Reduction of Impact Sound Δ IIC = 24 (ASTM E 2179)

### Product Description - SikaLayer®-03

**Uses**

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

**Advantages**

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

**Colors**

Gray

**Packaging**

54.7 ft. x 4.92 ft. rolls = 269 ft² (25 m²). 12 rolls per pallet

**Storage Conditions/Shelf Life**

Unlimited if kept in dry conditions and protected from direct sunlight at temperatures between +50°F and +77°F (+10°C and +25°C).

### Technical Data

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

<table>
<thead>
<tr>
<th>Chemical Base</th>
<th>Polyethylene foam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>1.87 lbs/ft³ (30 kg/m³)</td>
</tr>
<tr>
<td>Thickness</td>
<td>1/8 in. (3 mm)</td>
</tr>
<tr>
<td>Cut-Outs</td>
<td>5.6 cuts/ft² (60 cuts/m²)</td>
</tr>
<tr>
<td>Heat Conductivity</td>
<td>0.042 W/mK</td>
</tr>
<tr>
<td>Footfall Sound Reduction</td>
<td>up to 24 dB</td>
</tr>
</tbody>
</table>

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Construction

**Product Description - SikaBond®-T53**

**Uses**
Bonds solid wood flooring up to 8" (18 cm) wide and engineered planks up to 14" (36 cm) wide directly to concrete substrates. No limitations on maximum wood length.

**Description**
- 1-component, ready-to-use polyurethane adhesive
- SikaBond-T53: Fast curing for early green strength and superior holding power

**Color**
White

**Packaging**
20 oz (600 ml) unipacs, 20 unipacs per box

**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 and +25°C)

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**Technical Data**

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Specific Weight</strong></td>
<td>10 lbs/gal (1.2 kg/l)</td>
</tr>
<tr>
<td><strong>Tack-free Time</strong></td>
<td>45-60 minutes at 73°F (23°C) and 50% RH</td>
</tr>
<tr>
<td><strong>Curing Rate</strong></td>
<td>1/8 inch (3.0 mm) in 24 hours at 73°F (23°C) and 50% RH. For proper curing of the sealant, sufficient ambient moisture is necessary (this can be from substrate or air). Floor may be sanded 24 hours after installation and light foot traffic only is acceptable after 6-8 hours (depending on climatic conditions and adhesive layer thickness).</td>
</tr>
<tr>
<td><strong>Sag</strong></td>
<td>No Sag – holds body after gunning</td>
</tr>
<tr>
<td><strong>Service Temperature</strong></td>
<td>-40°F to +158°F, suitable for in-floor radiant heating</td>
</tr>
</tbody>
</table>

**Typical Mechanical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shear Strength</strong></td>
<td>174 psi, 1 mm adhesive thickness at 73°F (23°C) and 50% RH</td>
</tr>
<tr>
<td><strong>Tensile Strength</strong></td>
<td>174 psi, cured at 73°F (23°C) and 50% RH</td>
</tr>
<tr>
<td><strong>Shore “A” Hardness</strong></td>
<td>40 after 28 days at 73°F (23°C) and 50% RH</td>
</tr>
<tr>
<td><strong>Elongation at Break</strong></td>
<td>500%, cured at 73°F (23°C) and 50% RH</td>
</tr>
<tr>
<td><strong>VOC (g/l)</strong></td>
<td>48.3</td>
</tr>
</tbody>
</table>

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**Application Details - Sika® AcouBond®-System:**

**Consumption**
Approximately 13.4 ft² per sausage (1 box of 20 sausages cover 269 ft²). All cut-outs must be filled. Use application tip with triangular cut out to a 0.32 x 0.4 inch (8 x 10 mm) opening. **Tips are included in the shipping carton.** Tips can be reused. Do not discard. Allow adhesive residue to cure in the tip in min. 24 hours and then remove.

**Substrate Quality**
Clean and dry, homogeneous, even, free from grease, dust and loose particles. Paint, laitance and other poorly adhering particles must be removed by mechanical means.

**Substrate Preparation**
SikaBond®-T53 can generally be used without priming on properly prepared, structurally sound substrates - concrete, cement floors, chipboards, ceramic tiles, plywood and hardwood. For on-grade subfloors Sika® recommends the use of Sika® MB 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 subfloor and in room humidity extremes. Sika recommends the use of Sika® MB over any dry, 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. The surface must be prepared by mechanical means, e.g. sanding, grinding, shotblasting, and clean thoroughly with an industrial vacuum. 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® MB. See Sika® 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 the Sika® MB to help promote adhesion to the subfloor – or use an industry approved levelling compound over the cutback residue. SikaBond®-T53 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 Sika® MB or patch/level compound. For unknown substrates please contact Sika® Technical Services for best practices at 800-933-SIKA.

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**Application Conditions/Limits**

**Substrate Temperature**
During laying and until SikaBond®-T53 has fully cured substrate temperature should be greater than 60°F (15°C) and in case of floor heating, less than 70°F (20°C).

**Air Temperature**
Room temperature between 60°F (15°C) and 90°F (35°C). For ambient temperatures the standard construction rules are relevant. Follow all wood floor manufacturer’s 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. SikaBond®-T53 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. For more information on the use of the CM method please contact Troy Corporation at 973-443-4200.

<table>
<thead>
<tr>
<th>Application</th>
<th>Moisture level requirements using Tramex method (%)</th>
<th>Moisture level requirements using CM method (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4” solid or engineered over concrete</td>
<td>4%</td>
<td>2.5%</td>
</tr>
<tr>
<td>3/4” solid or engineered over concrete with Sika® MB layer</td>
<td>6%</td>
<td>4.0%</td>
</tr>
<tr>
<td>3/4” solid or engineered over in-floor heating over concrete</td>
<td>3%</td>
<td>1.8%</td>
</tr>
<tr>
<td>3/4” solid or engineered over gypsum-based</td>
<td>Tramex should not be used to measure gypsum</td>
<td>0.5%</td>
</tr>
<tr>
<td>3/4” solid or engineered over in-floor heating over gypsum-based</td>
<td>Tramex should not be used to measure gypsum</td>
<td>0.3%</td>
</tr>
</tbody>
</table>

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 subfloor use the Tramex measuring device to find the highest reading in the application area and then run the CM method at that highest point to determine the worst case. As a general guideline for floors with no in-floor heating if the Tramex is below 4% the Sika® MB will not be necessary and between 4% and 6% Sika® MB will be required - however, the CM method must be used to make final determination of concrete moisture levels - use chart above. For moisture content and quality of substrates the guidelines of wood floor manufacturer must be observed.

**Relative Air Humidity**
Between 40% and 70%

**Application Instructions**

**Application Method/Tools**
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 3⁄4” away from walls and approximately 3⁄4” away to 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 nozzle. 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. The nozzle must be held vertical to the substrate - 90 degree angle. Take care not to apply adhesive on top of the mat.

Position wood boards and firmly press into the adhesive until they lay tight on the SikaLayer® 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. Spacers should be used to ensure perimeter space is maintained. When working at or near room perimeters, door ways 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.

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Construction

Fresh, uncured adhesive remaining on the wood floor surface must be removed immediately with Sika® Equipment Cleaner, mineral spirits, or a standard industry cleaning solvent. 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.

Note: For Solid and Wide Engineered Hardwood applications: Sika® recommends the use of clamps to keep joints tight – for most projects a set of 5 will be adequate. If bowed boards are expected, Sika® recommends placing several rows of straight boards across length of room and allow to cure overnight – these will form starter rows that will act as anchor for the clamps. For moderately bowed boards – clamp boards from the starter row. Clamp each individual row or several rows – if clamping several rows this must be done while adhesive is still wet. Clamps can then be loosened until successive rows are place and clamped accordingly. Be careful not to over-tighten. Best practice is to leave clamps in place when work is stopped for the day. For severely bowed boards – cut boards down to shorter pieces so that bow is removed. For situations where wood flooring does not rest flat - Sika recommends as a best practice the use of weights to ensure intimate contact between the wood-adhesive-substrate. Leave clamps and/or weights on critical areas for a minimum of 12 hours.

Removal

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. SikaBond® Remover can be used to remove uncured or cured adhesive and fingerprints from wood surface.

Limitations

- Sika® AcouBond®-System should be used with 2” (5 cm) wide or larger structurally sound solid hardwood and structurally sound engineered hardwood that can be either floated or nailed or stapled.
- SikaBond®-T53: Bonds solid wood flooring up to 8” (18 cm) wide and engineered planks up to 14” (36 cm) wide directly to concrete substrates.
- Minimum wood length 1’ (one foot) is required to ensure that wood spans 3 (three) adhesive strips for standard placement. No maximum wood length.
- Structurally sound sufficient tongue and groove stability is necessary for this system.
- Minimum application temperature 50°F
- Sika® recommends following the wood floor manufacturer’s recommendations, as to acclamation, maximum moisture content and application conditions.
- Do not use on wet, contaminated or friable substrates.
- Sika recommends the use of Portland Cement based patching and leveling 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 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.
- Subfloor should be level - do not use adhesive as a leveling agent.
- Cutback or other asphalt 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 60°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 - 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 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.

Wood floors in noninsulated areas or areas without a damp proof membrane, must only be installed after the application of Sika® MB to control the moisture, if within product limitations. For detailed instructions consult the Product Data Sheets or contact our Technical Service Department. In case of chemically pre-treated types of wood floors (eg. 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 prior to starting application. Do not use on PE, PP, TEFOLON, and certain plasticized synthetic materials. (Carry out pretrials). Some primers can negatively influence the adhesion of SikaBond® (pretrials suggested). Do not expose SikaBond® to alcohol; this will impact the curing of the SikaBond®.

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### Health and Safety Information

#### Caution

**WARNING. COMBUSTIBLE, IRRITANT, SENSITIZER.** Contains 1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich (CAS:68515-49-1), Polysicycylamputrepreoploymer TDI based (CAS:57451-08-8), titanium dioxide (CAS:13463-67-7), xylene (CAS:1330-20-7), ethylbenzene (CAS:100-41-4), and quartz (SiO2) (CAS:14808-60-7). Keep away from heat, sparks, electrical equipment, and open flame. DO NOT SMOKE. Use in well-ventilated areas. Harmful if inhaled at 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

**Keep away from heat, sparks, sunlight, electrical equipment or flame. VAPORS MAY IGNITE AND EXPLODE. DO NOT SMOKE.** Open doors and windows during use. Use adequate local and mechanical ventilation. Wear protective equipment (chemically resistant gloves/goggles/clothing) to prevent direct contact with skin and eyes. Use properly fitted NIOSH vapor cartridge respirator if ventilation is poor. Wash thoroughly with soap and water after use. Remove contaminated clothing after use. Store product in tightly sealed containers in a cool, dry well ventilated area at temperatures between 50°F and 73°F away from ignition sources.

Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material.

#### Clean Up

In case of spill, eliminate all ignition and heat sources, if safe to do so. Ventilate area. Open doors and windows. Wear chemical resistant gloves/goggles/clothing. In absence of proper ventilation use properly fitted NIOSH respirator. Confine spill, collect using noncombustible absorbent material and place in properly sealed container. Dispose of excess product in accordance with applicable local, state and federal regulations.

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**SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties for each Sika product as set forth in the current Product Data Sheet, product label and Safety Data Sheet prior to product use.**

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