



**DIVISION 9 - FINISHES
Section 09 60 00 Flooring
Acoustic Flooring**

Part 1 - General

1.01 Summary

- A. This specification describes the elastic bonding and acoustical dampening with a slotted foam mat, and a one-component, gun-grade, elastomeric polyurethane adhesive.

1.02 Quality Assurance

- A. Manufacturing qualifications: The manufacturer of the specified product shall be ISO 9001/9002 certified and have in existence a recognized ongoing quality assurance program independently audited on a regular basis.
- B. Contractor qualifications: Contractor shall be qualified in the field of wood floor installations with a successful track record of 5 years or more. Contractor shall maintain qualified personnel who have received product training by a manufacturer's representative.
- C. Install materials in accordance with all safety and application conditions required by the manufacturer or as modified by applicable rules and regulations of local, state and federal authorities having jurisdiction. Consult Material Safety Data Sheets for complete handling recommendations.

1.03 Delivery, Storage, and Handling

- A. All materials must be delivered in original, unopened containers with the manufacturer's name, labels, product identification, and batch numbers. Damaged material must be removed from the site immediately.
- B. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.
- C. Condition the specified product as recommended by the manufacturer.

1.04 Job Conditions

- A. Environmental Conditions: All applications are indoors. Minimum application temperature 60 ° F (15 ° C) and in case of radiant floor heating ≤ 70 ° F (20 ° C).
- B. Protection: Precautions should be taken to avoid damage to any surface near the work zone due to applying and handling of the specified acoustical system.
- C. Wood floor manufacturer's recommendations for installation, i.e. levelness, wood acclimation, wood moisture content, etc. must be followed.

1.05 Submittals

- A. Submit two copies of manufacturer's literature, to include: Product Data Sheets, and appropriate Material Safety Data Sheets (MSDS).

1.06 Warranty

- A. Sika warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Technical Data Sheet if used as directed within shelf life. User determines suitability of product for intended use and assumes all risks. Buyer's sole remedy shall be limited to the purchase price or replacement of product exclusive of labor or cost of labor.
No other warranties express or implied shall apply including any warranty of purpose. Sika shall not be liable under any legal theory for special or consequential damages. Sika shall not be responsible for the use of this product in a manner to infringe on any patent or any other intellectual property rights held by others.

Part 2 - Products

2.01 Manufacturers

- A. **SikaLayer-03**, as manufactured for Sika Corporation, 201 Polito Avenue, Lyndhurst, NJ 07071 is considered to conform to the requirements of this specification.

SikaBond-T53, as manufactured by Sika Corporation, 201 Polito Avenue, Lyndhurst, NJ 07071 is considered to conform to the requirements of this specification.

2.02 Materials

- A. **SikaLayer-03:**

1. The acoustical dampening membrane shall be a specially designed, proprietary polyethylene foam mat with symmetrically placed cutouts to insert adhesive to achieve a high sound dampening effect.

SikaBond-T53:

2. The wood floor adhesive shall be a unique permanently elastic, super strong, polyurethane adhesive that forms a tenacious bond to wood flooring, plywood subfloors, concrete and other common subfloor materials.
- B. Any primers, as required, recommended by the manufacturer of the specified product, approved by the engineer.

2.03 Performance Criteria

- A. Properties of slotted foam mat:

1. Chemical Base: Polyethylene foam
2. Color: grey
3. Density: 1.87 lbs/ ft³ (30 kg/ m³)
4. Thickness: 1/8 " (3 mm)
5. Cutouts: 5.6 cuts/ SF (60 cuts/ m²)
6. Heat Conductivity: 0.042 W/ mK
7. Footfall Sound Reduction: up to 16 dB
8. 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)

- B. Properties of the uncured polyurethane adhesive:

1. Tack-Free Time: 45 - 60 minutes at cured at 73° F (23° C) and 50 % RH
2. Consistency: non-sag – holds body after gunning
3. Color: tan
4. Density: 10 lbs/ gal (1.2 kg/ l)
5. Shelf Life: 12 months from date of productions 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)
6. VOC 48.3 g/ l (tested per EPA Method 24)

C. Properties of the cured polyurethane adhesive:

1. Tensile strength: 174 psi, cured at 73° F (23° C) and 50 % RH
2. Shear strength: 174 psi, 1 mm adhesive thickness at 73° F (23° C) and 50 % RH
3. Elongation at Break: 500 %, cured at 73° F (23° C) and 50 % RH
4. Shore "A" hardness: 40 after 28 days at 73° F (23° C) and 50 % RH
5. Service Temperature: -40 ° F to +158 ° F

D. Properties of the acoustical dampening system:

1. The acoustical dampening system shall provide a minimum rating of IIC 59 (ASTM E492) and STC 60 (E90) (6 " concrete slab, 5/8 " suspended gypsum ceiling)
2. The acoustical dampening system shall provide a minimum rating of FIIC 59 (ASTM E1007) and FSTC 59 (ASTM E336) (8" concrete slab, no suspended ceilings)
3. The acoustical dampening system shall provide a minimum rating of Impact Sound ΔL_w 16 dB (NF EN ISO 717/2)
4. The acoustical dampening system shall conform reduction of Impact Noise ΔL_w 3 dB (NF EN ISO 717/2)

Note: Tests were performed with material and curing conditions at 73° F (23° C) and 50 % RH

Part 3 - Execution

3.01 Surface Preparation

- A. The substrate must be clean, dry, sound and free of surface contaminants. Remove all traces of dust, laitance, grease, oils, curing compounds, form release agents and foreign particles by mechanical means, i.e. – shot blasting, grinding, sanding, etc., as approved by the engineer. Blow substrate free of dust using compressed air line equipped with an oil trap and vacuum.

3.02 Mixing and Application

- A. Substrate:
 - 1. Placement Procedure: Prime substrate if necessary based upon the recommendations of the manufacturer of the specified product, when field testing indicates need, and for a substrate with old well bonded adhesive or adhesive residue, as approved by the Engineer.
 - 2. Roll out SikaLayer-03 mat on the properly prepared substrate, parallel with the slots perpendicular 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 the placement of both a perimeter adhesive bead and an adhesive bead between any two adjacent mats.
 - 3. Apply the adhesive with manual- or air-pressure-dispensing-gun into all cutouts with the supplied triangular nozzle. Also, as mentioned above, apply adhesive beads at room perimeters and between adjacent mats. 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.
 - 4. 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 cutouts in mat the same size as pre-cut openings.
 - 5. **For Solid and Wide Engineered Hardwood applications:**
The use of clamps to keep joints tight is recommended. 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 claps. 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 be loosened until successive rows are placed 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 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.

3.03 Cleaning

- A. Fresh, uncured adhesive, or fingerprints remaining on the wood floor surface must be removed immediately using a clean cloth and an appropriate approved urethane adhesive remover (be careful not to harm finish) or SikaHand Cleaner Wipes.
- B. Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

SC-09 SikaAcouBond-System

Acoustical dampening System

Figure 1 – Filling/ Refilling dispensing gun

1. Place the opened sausage or cartridge of SikaBond-Adhesive together with a cut nozzle in the dispensing gun.



Fig. 1

Figure 2 – Placing SikaLayer Mat

1. Place the SikaLayer Mat approx. 1 “ from the wall.



Fig. 2

Figure 3 – Roll out direction

1. Roll out the SikaLayer Mat, so open slots are perpendicular to the direction of the wood.



Fig. 3

SC-09 SikaAcouBond-System

Acoustical dampening System

Figure 4 – How to apply

1. Dispense adhesive into all cut outs. Apply an additional bead of adhesive in the space between two SikaLayer mats (approx. 1"). A perimeter bead is also required in the one (1) inch space between the mat and wall. Application of the adhesive should be done at 90 degrees to floor.

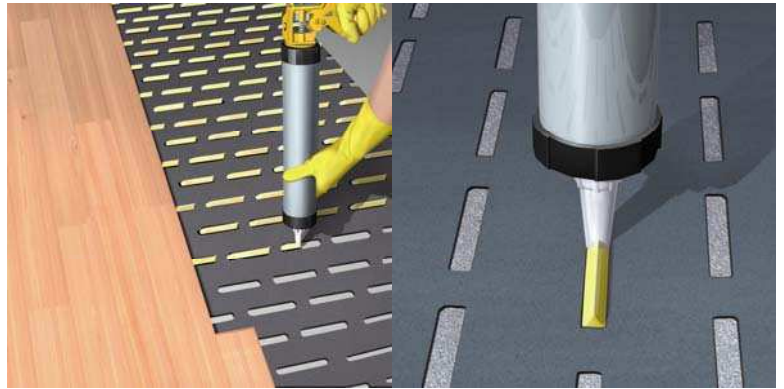


Fig. 4

Figure 5

2. Press wood pieces firmly into the adhesive. Be aware of open time.



Fig. 5

Figure 6

3. The wood should be firmly butted together with a hammer using an impact block. A gap of $\frac{1}{4}$ - $\frac{1}{2}$ " between wood and wall hat to be observed.

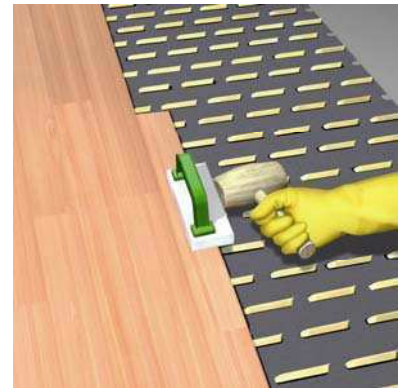


Fig. 6

SC-09 SikaAcouBond-System

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Figure 7 – Weighing of the wood flooring

1. Use straps and weights to hold the wood floor in place until the adhesive is fully cured. (typically when laying hardwood floors).

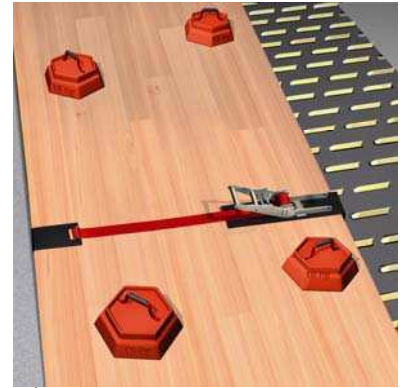


Fig. 7

Figure 8 – Clean up

1. Fresh uncured adhesive remaining on the wood floor surface (and the tools or hands) must be removed immediately with a clean cloth or with Sika Equipment Cleaner or Sika Hand Cleaner.



Fig. 8

Figure 9 – Finishing

1. After a minimum of 24 – 36 hours waiting time the wood can be grinded and finished as required.



Fig. 9