

INSTALLATION INSTRUCTIONS FOR GERFLOR HOMOGENEOUS VINYL TILES

These instructions are specifically written for the installation of the following products:

Product	Size	Thickness	Installation direction	Seam treatment
Mipolam Accord	24" x 24"	2mm	90°	Welded
Mipolam Elegance	24" x 24"	2mm	90°	Welded
Mipolam Esprit	24" x 24"	2mm	90°	Welded
Mipolam Symbioz ¹	24" x 24"	2mm	90°	Welded ¹
Mipolam Troplan	24" x 24"	2mm	90°	Welded

¹ Symbioz requires Bio-based weld rod only. Regular PVC welding rod will not properly fuse to Mipolam Symbioz.

Note: Mipolam tiles will need to be heat welded if the recommended adhesive is not used

1. **STANDARDS:** The guidelines detailed in this document are based upon industry accepted installation recommendations and reference the following standards:
 - 1.1. ACI 302.1R Guide for Concrete Floor and Slab Construction.
 - 1.2. ACI 302.2R Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials
 - 1.3. ASTM F710-17 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring
 - 1.4. ASTM F1869-16 Standard Test Method for Measuring Moisture Evaporation Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
 - 1.5. ASTM F2170-16 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using In-Situ Probes.
 - 1.6. ASTM F1516-13 Standard Practice for Sealing Seams of Resilient Flooring by the Heat Weld Method.
 - 1.7. ASTM F1482-15 Standard Practice for Installation and Preparation of Panel Type Underlayments to Receive Resilient Flooring
 - 1.8. ASTM F2419-11(2017) Standard Practice for Installation of Thick Poured Gypsum Concrete Underlayments and Preparation of the Surface to Receive Resilient Flooring
 - 1.9. ASTM F2678-16 Standard Practice for Preparing Panel Underlayments, Thick Poured Gypsum Concrete Underlayments, Thick Poured Lightweight Cellular Concrete Underlayments, and Concrete Subfloors with Underlayment Patching Compound
 - 1.10. ASTM F2873-13 Standard Practice for the Installation of Self-Leveling Underlayment and the Preparation of Surface to Receive Resilient Flooring
 - 1.11. ASTM F3010-13 Standard Practice for Two-Component Resin Based Membrane-Forming Moisture Mitigation Systems for Use Under Resilient Floor Coverings
 - 1.12. ASTM F3191-16 Standard Practice for Field Determination of Substrate Water Absorption (Porosity) for Substrates to Receive Resilient Flooring¹
 - 1.13. Recommended Work Practices for Removal of Resilient Floor Coverings of Resilient Floor Covering Institute (RFCI).

2. GENERAL INFORMATION

- 2.1. Gerflor Commercial Homogeneous Tiles are formulated to withstand high moisture conditions. To perform as designed, the concrete must be properly prepared to create a contaminate free and porous substrate.
- 2.2. **Gerflor Commercial Homogeneous Tiles are not designed to withstand hydrostatic or osmotic pressure.**
- 2.3. The guidelines offered within this document are not intended to be all inclusive. Only qualified, professional flooring technicians experienced in the field of resilient flooring should proceed with this installation system.
- 2.4. It is recommended to mechanically prepare the concrete via grinding or bead blasting the surface to achieve a clean and porous substrate.
- 2.5. Moisture and pH testing must be performed in accordance with ASTM F710-17.
- 2.6. Where patching is required to correct minor subfloor deviations/deficiencies use only **GerPatch**.
- 2.7. If a self-leveling material is required to achieve a flat, smooth and/or level surface, the use of a moisture tolerant, cementitious product that meets ASTM F2873-13 is required.
- 2.8. **Do not install material that has visible defects or damage. A contractor that installs material that has visible defects or damage assumes responsibility for the damaged material.**

3. STORAGE AND HANDLING

- 3.1. Store boxes on clean, flat, and solid surfaces in a controlled environment.
- 3.2. Stack boxes of tiles or planks not higher than 36" with the edges of the boxes flush to one another. Overhanging edges may curl the tiles.
- 3.3. If the material will be stored for an extended period, remove the rolls from the skids and secure them upright as detailed above. Rolls that are displaced due to a broken skid or left on their side for an extended period will damage the flooring.
- 3.4. Caution should be used in the moving and lifting of the boxes. Allow for appropriate equipment and manpower to safely move materials. **Work safe and always follow the relevant safety protocols for the activity you are engaged in.**
- 3.5. **Do not store any material outdoor.**

4. JOB SITE CONDITIONS

- 4.1. The Commercial Homogeneous Tiles and adhesive must be acclimated in the installation area for 24 hours prior to installation. Allow additional acclimation time if the flooring has been exposed to excessive cold or hot temperatures for an extended period.
- 4.2. The concrete floor temperature shall be a minimum of 65°F before laying out the rolls of Commercial flooring.
- 4.3. Areas to receive flooring must be fully enclosed with the permanent HVAC system operational and set to a minimum of 65°F or a maximum of 85°F for a minimum of 48 hours prior to, during, and then maintained after the installation.
- 4.4. Prepare substrate in accordance with ASTM F710-17 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring. Floors should be smooth, permanently dry, clean and free of all foreign materials such as dust, wax, solvents, paint, grease, oils, old adhesive residue, curing compounds and sealers.

- 4.5. Areas to receive flooring should have adequate lighting during all phases of the installation.
- 4.6. Installation should not begin until all trades; painting, ductwork, drywall, etc. are complete. Once the installation begins, the area must be secured from all other trades and foot traffic.

5. SUBFLOORS – CONCRETE

- 5.1. The concrete must have been placed in accordance with ACI 302.1R Guide for Concrete Floor and Slab Construction and ACI 302.2R Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials.
- 5.2. Allow concrete to cure for a minimum of twenty-eight (28) days.
- 5.3. The slab flatness will have a tolerance of 1/8" in a 10' maximum plane variation.
- 5.4. Before proceeding with any work, inspect the subfloor surface and report in writing to the Project Manager and the General Contractor any visible defects on the surface such as cracks, bumps, rough areas or variations in flatness.
- 5.5. Check the subfloor for grease, oil, paint, marker, spills, dust or any contamination that may adversely affect the adhesion of the flooring. Mechanically clean the subfloor per the existing conditions. Petroleum products such as cutting oils and hydraulic fluid will penetrate the concrete and become a bond breaker. Areas affected by these oils must be bead-blasted to remove all contaminated concrete.
- 5.6. Mechanically remove any existing adhesive residues, paint over spray, sweeping compounds, dirt, debris or anything that may act as a bond breaker from the surface of the concrete. Where concrete sealers or curing compounds are present they must be completely, mechanically removed via grinding, bead-blasting, **Diamabrush** <http://www.diamabrush.com/> or similar. **Sanding is not sufficient to completely remove curing compounds.**
- 5.7. **The concrete slab, new or old, must be tested for moisture. We recommend having the tests performed by a recognized engineering firm. The ICRI website (International Concrete Repair Institute) has a list of certified technicians for the USA: <http://www.icri.org/Certification/Find-CCSMTTs.asp>**
- 5.8. To minimize the potential for telegraphing, all dormant or non-moving cracks should be repaired with a rigid, two-component, polyurethane crack injection product. Moving joints such as expansion or isolation joints must be honored up through the installation in accordance to ASTM F 710-17.
- 5.9. The moisture tests must be performed as per ASTM F1869-16 "Standard Test Method for Measuring Moisture Evaporation Rate of Concrete Subfloor Using Anhydrous Calcium Chloride" and/or ASTM F2170-16 "Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using In-Situ Probes".
- 5.10. Where the concrete has been hard-troweled to create a burnished finish, porosity should be determined through the water drop test as detailed in ASTM F3191-16 Standard Practice for Field Determination of Substrate Water Absorption (Porosity) for Substrates to Receive Resilient Flooring.
- 5.11. **Substrate moisture and pH levels shall not exceed:**

	Concrete slab with an effective moisture vapor barrier	Concrete slab with radiant heating system
Styccobond F49 Adhesive	pH 6 to 11 / 8-lbs / 90% RH	pH 6 to 11 / 8-lbs / 90% RH

- 5.12. Sweep and vacuum the area following mechanical preparation to remove all dust and debris.
- 5.13. Where patching is required to correct minor subfloor deviations/deficiencies use only **GerPatch** and allow to cure from 4 to 24 hours depending on the type of adhesive used. Sand if necessary to smooth. If the use of a moisture tolerant, cementitious self-leveler is required, it must meet ASTM F2873-13.
- 5.14. Refer to ASTM F710-17 for additional considerations on concrete substrates that are to receive resilient floor coverings.

6. SUBFLOORS – CONCRETE WITH RADIANT HEATING SYSTEMS

- 6.1. Gerflor floor coverings can be installed over subfloors with radiant heating systems.
- 6.2. To ensure proper installation and enable proper adhesion, respect the following conditions:
- 6.3. In all cases, it is necessary to respect the curing time of the concrete slab.
- 6.4. Before the installation, the radiant heating system must have been turned on for at least 4 weeks to stabilize the moisture content of the concrete slab and to avoid any moisture peak when the system will be in service after the installation of the flooring.
- 6.5. A certified technician should turn on the system as per the manufacturer recommendation.
- 6.6. The temperature must be kept at its maximum 85°F for 8 days prior to the installation of the floor covering.
- 6.7. The maximum temperature shall not exceed 85°F at any time.
- 6.8. To install on a subfloor with a radiant heating system, the system must be turned off 48 hours before, during, and 72 hours after the installation. Always verify that the room temperature is not less than 65°F during that period.
- 6.9. The heating system should be turned on gradually starting 72 hours after the installation.
- 6.10. Turning on the heat gradually will allow the substrate and the flooring to adapt to the temperature change together.
- 6.11. A sudden temperature change could result in adhesion problems.
- 6.12. Setting the radiant heating system prior and during the installation:

10 days to 2 days prior at 85°F	48 hours prior to the installation turned-off	Turned-off during the installation	72 hours after installation the system remains turned-off	Gradually turn on the system
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- 6.13. **WARNING: NEVER COVER THE FLOORING WITH RUGS, MATS, RUNNERS, ETC. THESE WILL AFFECT THE HEAT TRANSFER OF THE RADIANT SYSTEM AND COULD DAMAGE THE FLOORING.**
- 6.14. During the drying period of the concrete slab, moisture tests shall be performed per the conditions stated in ASTM F1869-16, ASTM F2170-16 standards and substrate conditions will meet ASTM F710-11 standard.
- 6.15. When using Styccobond F49, moisture tests for subfloors with Radiant Heating Systems shall not exceed 8-lbs/ 1000 sq. ft./24hrs per ASTM F1869-16, 90% RH per ASTM F2170-16 and pH tests to range from 6 to 11.

7. SUBFLOORS – GYPSUM BASE SUBSTRATE

- 7.1. Prohibit circulation of other trades in the installation area.

- 7.2. The General Contractor shall patch and repair all cracks, voids and other imperfections of the gypsum base subfloor with high strength gypsum base patching compounds compatible with the gypsum base product.
- 7.3. After completion of patching and leveling, vacuum or sweep entire surface of the gypsum base subfloor to remove loose dust and dirt.
- 7.4. Apply an acrylic base primer per the manufacturer's instructions.
- 7.5. Once the Primer has set, install the flooring following the installation instructions
- 7.6. Do not use Gerflor T-111 polyurethane adhesive over this type of substrate. Refer to Gerflor Technical Service for further instructions

8. SUBFLOORS – WOOD

- 8.1. Do not install over OSB, particle board, chipboard, lauan or composite type underlayments.
- 8.2. Wood subfloors must have a minimum of 18" of cross-ventilation space between the bottom of the joist and the ground.
- 8.3. Any exposed earth crawl space must be sealed with a polyethylene moisture barrier.
- 8.4. Wood subfloors must meet local and national building codes, trade associations (e.g. The APA – The Engineered Wood Association) that offers guidelines to meet the building codes.
- 8.5. Always refer to ASTM F1482-15 Standard Practice for Installation and Preparation of Panel Type Underlayments to Receive Resilient Flooring.
- 8.6. Any subfloor that has a single layer must be covered with a ¼" or more of APA approved underlayment plywood to achieve a total thickness of 1 inch minimum.

9. SUBFLOOR PREPARATION

- 9.1. The General Contractor will supply a smooth, flat concrete finish ready to receive the new resilient sheet flooring in accordance with ACI 302.1R Guide for Concrete Floor and Slab Construction and ACI 302.2R Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials.
- 9.2. The concrete subfloor will be cured for a minimum of at least thirty (30) days.
- 9.3. The slab flatness will have a tolerance of 1/8" in a 10' maximum plane variation.
- 9.4. Prepare substrate as per ASTM F710-17 "Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring".
- 9.5. The concrete floor temperature must to be maintained at a minimum of 65°F for 48 hours prior, during, and 48 hours after the installation.
- 9.6. **The concrete slab, new or old, must be tested for moisture. We recommend having the tests performed by a recognized engineering firm. The ICRI website (International Concrete Repair Institute) has a list of certified technicians for the USA: <http://www.icri.org/Certification/Find-CCSMTTs.asp>**
- 9.7. The moisture tests must be performed as per ASTM F1869-16 "Standard Test Method for Measuring Moisture Evaporation Rate of Concrete Subfloor Using Anhydrous Calcium Chloride" and/or ASTM F2170-16 "Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using In-Situ Probes".

9.8. Substrate moisture levels shall not exceed:

	Concrete slab with an effective moisture vapor barrier	Concrete slab with radiant heating system
Styccobond F49 Adhesive	pH 6 to 11 / 8-lbs / 90% RH	pH 6 to 11 / 8-lbs / 90% RH

- 9.9. Prohibit circulation of other trades in the installation area.
- 9.10. Before proceeding with any work, inspect the subfloor surface and report in writing to the Project Manager and the General Contractor any visible defects on the surface such as cracks, bumps, rough areas or variations in evenness.
- 9.11. Check the subfloor for grease, oil, paint, marker, spills, dust or any contamination that may adversely affect the adhesion of the flooring. Clean the subfloor per the existing conditions.
- 9.12. Prohibit circulation of other trades in the installation area.
- 9.13. Sanding of the subfloor will be mandatory in many cases; especially in areas where the subfloor has been contaminated with foreign products. It may be necessary to scarify or bead-blast concrete surface to remove existing adhesives, paint, concrete sealers or other surface applied materials.
- 9.14. **Curing compounds** of all types must be completely removed by means of sanding, scarification or bead-blasting. Self-dissipative curing compounds must be removed using the same methods.
- 9.15. The General Contractor shall patch and repair all cracks, voids and other imperfections of concrete with GerPatch patching compound. **Do not use gypsum-based patching materials.**
- 9.16. After completion of sanding, patching and leveling, vacuum or sweep entire surface of concrete to remove loose dust and dirt before starting the installation of material.

10. ACCLIMATION

- 10.1. The boxes of tiles and adhesive must be acclimated in the installation area for 24 hours prior to installation. Allow additional acclimation time if the flooring has been exposed to excessive cold or hot temperatures for an extended period.
- 10.2. The concrete floor temperature shall be a minimum of 65°F before laying out tiles.
- 10.3. Areas to receive flooring must be fully enclosed with the permanent HVAC system operational and set to a minimum of 65°F or a maximum of 85°F for a minimum of 48 hours prior to, during, and then maintained after the installation.
- 10.4. Keep the identification tags of each boxes and verify that Tiles must be installed in a checkerboard pattern (90°).
- 10.5. Follow the lot numbers of the boxes of tiles.
- 10.6. To achieve a more homogeneous look, mix tiles from different boxes
- 10.7. Mark a control/starting line. Dry lay the first rows along this line.
- 10.8. Dry lay successive rows of tiles.
- 10.9. Allow material to relax overnight before proceeding with the installation.

11. INSTALLATION OF TILES

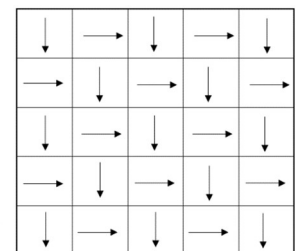
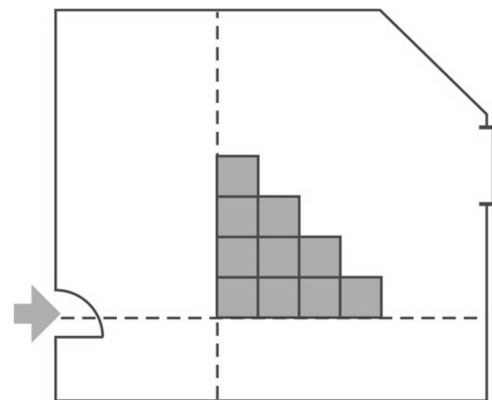
- 11.1. **Per the previous section (Section 10 – Acclimation), the material must acclimate and properly relax prior to installation.**

- 11.2. Boxes are clearly marked with batch numbers and the product should be checked for match before installing.
- 11.3. Inspect all materials carefully to verify that correct colors, lot number, patterns, quality and quantities have been shipped as ordered. Do not install, cut, or fit any material that has visible defects.
- 11.4. **A contractor that installs material that has visible defects or damage without prior consent of Gerflor deems the product acceptable for installation and therefore accepts full responsibility for said material.**

Note: Tiles have directional arrows and should be installed by alternating the arrows 90° forming a “checkerboard” pattern. Should the tiles be installed in the same direction, the seams will then be more visible, this is an observable fact inherent to the product. Remove tiles from the cartons 16-24 hours prior to installation.

12. TILES LAYOUT

- 12.1. Chalk the center lines of the work area in both directions so that one line is parallel to the length of the room and that the second line is on a 90° angle to the first line.
- 12.2. Position center lines to allow the perimeter tiles to be \geq to 1/2 tile.
- 12.3. Before spreading adhesive, it is recommended to lay one or two rows of tiles along both center lines to check for proper alignment.
- 12.4. Mix tiles from different boxes to obtain a consistent layout.
- 12.5. Be certain this tile is installed on the lines to fit the 90° angle.
- 12.6. After the first tile is in place, begin laying tiles outward along both guide lines.
- 12.7. Press tiles firmly against adjoining tiles and press into the adhesive.
- 12.8. Begin stair-stepping the tiles into the field area.
- 12.9. Tiles **must** be installed in a checkerboard pattern (90°).



13. STYCCOBOND F49 ADHESIVE INSTALLATION METHOD

- 13.1. **Per the previous section (Section 9 – Acclimation), the material must acclimate and properly relax prior to installation.**
- 13.2. **F. Ball Styccobond F49 Adhesive** is the **only** approved adhesive for use with the Gerflor Homogeneous Tiles. Any other adhesive will void the adhesion warranty.
- 13.3. Follow the guidelines indicated on the Technical Data Sheet of adhesive.
 - 13.3.1. F, Ball Styccobond F49 is a 2-part acrylic adhesive that has a 90 minutes pot life once mixed and 2 hours working time once the adhesive has tack-up and does not transfer to the touch. Adhesive open time and working time will vary based upon site condition.
 - 13.3.2. The use of fans is acceptable to speed up the drying time. Be sure to not let debris get into the adhesive.

- 13.4.** Trowel the adhesive onto the substrate using a 1/32" x 1/16" x 5/64", 'U' notched trowel covering from 500 to 600 sq. ft. per pail. Proper adhesive coverage is required to effectively bond the material. As such, it is imperative to use the proper trowel as well as maintaining the proper notch size over the course of the entire floor. Replace trowel blades often. **Inadequate application of adhesive will void the warranty.**



Note: It is important to let the adhesive dry to the point there is no transfer to the touch before installing.

- 13.5.** Apply the Styccobond F49 adhesive to the subfloor. Always start gluing from the center line out. Do not apply too much adhesive. Always figure enough time to install the tiles while the adhesive is still tacky.
- 13.6.** To ensure uniform adhesion of the entire surface, apply a workable amount of adhesive at one time.
- 13.7.** Avoid overlapping adhesive or creating a buildup at all start and stop points. Excess adhesive can leave a ridge that will telegraph into the finished floor. Glue and roll the entire area (wall to wall) before proceeding to the next run of material. Use a wet-soapy rag or denatured alcohol to immediately clean up any fresh adhesive that gets on the vinyl surface. Clean any dried adhesive with denatured alcohol.
- 13.8.** Immediately after troweling the adhesive onto the concrete use a medium napped paint roller saturated with adhesive to flatten out visible trowel marks and even out the adhesive. A double arm roller frame is recommended to ensure an even coat of adhesive.
- 13.9.** Maintain a uniform spread rate. Replace trowel (or trowel blade) with every pail used.
- 13.10.** Open time is the combination of flash time and working time.
- 13.11.** "Open time" of the adhesive is dependent upon porosity of the substrate, temperature, and humidity. It is important that the installers familiarize themselves with the adhesive before starting the installations. Insufficient open time for acrylic adhesive will cause bubbling. An insufficient open time will result in poor adhesion.
- 13.12.** Application Characteristics over Porous Substrates:

<i>Application Characteristics over Porous Substrates</i>		
	<i>Flash Time*</i>	<i>Working Time**</i>
Gerflor Homogeneous Tiles	15 to 30 minutes (to reach a tacky*** state)	120 minutes

* Flash Time: It is the waiting time required before installing flooring.

** Working time: It is the window of time for the adhesive to accept flooring.

*** Tacky: When the adhesive is clear sticky and does not transfer to the touch.

Note: Flash time and working time may vary based on temperature, humidity, substrate porosity, trowel size and jobsite conditions.

- 13.13.** Once flooring is placed into the adhesive, immediately roll thoroughly with a 3 section 100-lbs roller in both directions rolling sideways first.

Note: Use a 14" to 16" cork board or a piece of 2" x 4" wrapped with a piece of carpet to remove air bubbles.



- 13.14. During the installation, always double check the flooring for bubbles with the lights on and off.
- 13.15. Avoid adhesive displacement by prohibiting traffic for a period of 48 hours and 72 hours for rolling loads.

14. ONCE THE INSTALLATION IS COMPLETED

- 14.1. Clean the area to verify there are no imperfections, adhesive residue, scuff marks, etc. Verify every welded seam.
- 14.2. Make sure that the vinyl is well trimmed and sealed with a silicone sealer (or equivalent) around all fixed, vertical objects (e.g. doorways, posts, etc.).
- 14.3. To maximize the aesthetic appearance and serviceability of the newly installed flooring, provide your customer with a copy of the **Gerflor USA Maintenance Instructions:**
<https://www.gerflorusa.com/media/gerflor-usa-maintenance-instructions-commerical-sheetgoods-2017.pdf>

For any information, please refer to Gerflor Technical Services.



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