

INSTALLATION INSTRUCTIONS FOR GERFLOR TARASAFE ULTRA VINYL SHEETGOODS

This document refers to the following products:

Product	Width	Thickness	Installation direction	Seam treatment
Tarasafe Geo	Approximately 6' 6"	2mm	Same	Heat Welded
Tarasafe Ultra	Approximately 6' 6"	2mm	Same	Heat Welded

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 Tarasafe products 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 Tarasafe products 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. Rolls may be shipped laying down. If shipped in this manner, place them in an upright position on a clean, flat, solid surface in an interior, controlled space. Do not store rolls laying down for extended periods.
- 3.2. Store rolls of Commercial products on clean, flat, and solid surfaces in a controlled environment. Place rolls in an upright position. Do not stack rolls on top of each other.
- 3.3. Follow sequence number while storing. It will be easier to follow the sequence while unrolling.
- 3.4. 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.
- 3.5. Caution should be used in the moving and lifting of rolls. 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.**
- 3.6. **Do not store any material outdoor.**

4. JOB SITE CONDITIONS

- 4.1. The Commercial product rolls 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. 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".
- 5.9. 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.
- 5.10. 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 with ASTM F 710-17.
- 5.11. **Substrate moisture and pH levels shall not exceed:**

	Concrete slab with an effective moisture vapor barrier	Concrete slab with radiant heating system
Gerfix Spray Adhesive	pH 6 to 11 / 8-lbs / 95% RH	pH 6 to 11 / 8-lbs / 95% RH
Gerfix TPS+ Adhesive	pH 6 to 11 / 10-lbs / 95% RH	pH 6 to 11 / 8-lbs / 90% RH
Gerflor T-111 P.U. Adhesive	pH 6 to 11 / 8-lbs / 85% RH	pH 6 to 11 / 5-lbs / 80% 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 Gerfix TPS+, 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.
- 6.16. When using Gerfix Spray, moisture tests for subfloors with Radiant Heating Systems shall not exceed 8-lbs/ 1000 sq. ft./24hrs per ASTM F1869-16, 95% RH per ASTM F2170-16 and pH tests to range from 6 to 11.
- 6.17. When using Gerflor T-111, moisture tests for subfloors with Radiant Heating Systems shall not exceed 5-lbs/ 1000 sq. ft./24hrs per ASTM F1869-16 and 80% 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
Gerfix Spray Adhesive	pH 6 to 11 / 8-lbs / 95% RH	pH 6 to 11 / 8-lbs / 95% RH
Gerfix TPS+ Adhesive	pH 6 to 11 / 10-lbs / 95% RH	pH 6 to 11 / 8-lbs / 90% RH
Gerflor T-111 P.U. Adhesive	pH 6 to 11 / 8-lbs / 85% RH	pH 6 to 11 / 5-lbs / 80% 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

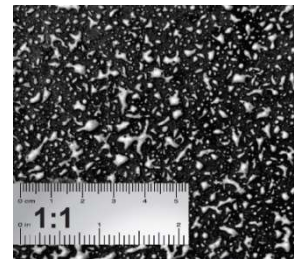
- 10.1.** The rolls and adhesive must be acclimated in the installation area for 24 hours prior to installation. Allow additional acclimation time if the flooring has been exposed to excessive cold or hot temperatures for an extended period.
- 10.2.** The concrete floor temperature shall be a minimum of 65°F before laying out rolls.
- 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 roll and verify that the rolls are being installed in the same direction and in sequential order.
- 10.5.** Unroll flooring following the roll number sequence.
- 10.6.** Mark a control/starting line. Unroll the first roll along this line.
- 10.7.** Unroll successive rolls leaving a minimum ¼" gap left between sheets.
- 10.8.** Allow material to relax overnight before proceeding with the installation.

11. INSTALLATION OF SHEETGOODS

- 11.1. Per the previous section (Section 10 – Acclimation), the material must acclimate and properly relax prior to installation.
- 11.2. Reposition sheets to allow for no more than a 1/32" gap between them to allow for proper heat welding. **Wider gaps will compromise the integrity of the weld.**
- 11.3. Material that may have minor edge damage or distortion must be trimmed and removed prior to installation of the sheets.
- 11.4. Leave material 4"-6" longer on each end for trimming after placement. *Do not net cut material to the final trim until the application of the adhesive.*
- 11.5. Before applying the adhesive, ensure gap between the sheets to a uniform 1/32" along the entire length. This gap will act as a guide for the groover.

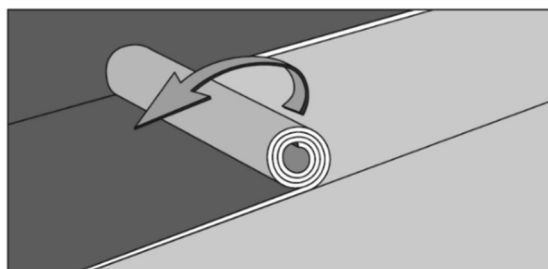
12. GERFIX SPRAY ADHESIVE INSTALLATION METHOD

- 12.1. Per the previous section (Section 10 – Acclimation), the material must acclimate and properly relax prior to installation.
- 12.2. Use only Gerflor's Gerfix Spray adhesive.
- 12.3. Coverage of 150 – 185 sq. ft. per can.
- 12.4. Follow the guidelines indicated on the container of adhesive.
- 12.5. Recommended spray pattern:
- 12.6. Ensure substrate, flooring and surrounding areas are clean and dust free.
- 12.7. Damp-mop substrate if dust is present.
- 12.8. Only use GerPatch patching compounds.
- 12.9. Wipe hand across surface to verify for dust.
- 12.10. If dust transfers, substrate is not clean.
- 12.11. Protect from overspray with a spray shield, drop cloths, paper or masking.
- 12.12. Starting from the center line and working outward, fold back the sheets (width) halfway and apply the adhesive to the subfloor.
- 12.13. Installer may also use the "roll back" method.
- 12.14. Never pre-cut material to final trim until it is applied into the adhesive. Leave material 2"-3" longer for trimming after placement.

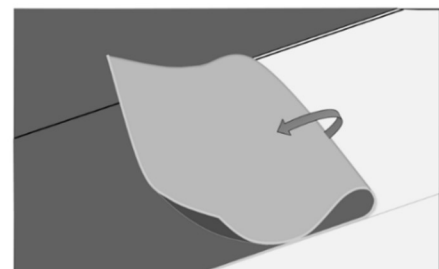


Note: Fold back and roll back methods are preferred to the fold lengthwise method (as used for rolls of carpet). Some areas will dictate the fold lengthwise method.

Roll back method



Fold back method



- 12.15. Shake aerosol can well. Remove white cap.
- 12.16. To ensure uniform adhesion of the entire surface, spray a workable amount of adhesive at one time.
- 12.17. Stand straight up to spray. Hold can upside down, approximately 20-30 inches horizontally from the substrate, aim at floor and press tip with finger.
- 12.18. Walk right to left smoothly to achieve results as seen on photo.
- 12.19. Adhesive should spray out in a wide mist and fall like snow.



13. GERFIX SPRAY ADHESIVE TIPS

- 13.1. Spraying in a sweeping motion may result in an inconsistent spray pattern.
- 13.2. Excess buildup or inconsistent spray pattern on substrate may cause telegraphing.
- 13.3. Avoid extremely heavy application.
- 13.4. To ensure optimal spray pattern, remove any adhesive build up that may occur during the application process.
- 13.5. If overspray occurs, it may be removed with a damp cloth while the adhesive is still wet.
- 13.6. Allow adhesive to dry until there is no adhesive transfer when lightly touched. (10-20 min)
- 13.7. High humidity and/or low temperature increases tack time.
- 13.8. Open time after application is 3 hours. While open, ensure that adhesive is not contaminated by dust.
- 13.9. Roll flooring with a 3 section 100-lbs roller within 1 hour after installation to complete the bonding process.
- 13.10. After rolling, floor is ready for all access.
- 13.11. Flooring may be heat-welded 1 hour after installation.
- 13.12. Floor is open to all traffic immediately after installation.



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.

- 13.13. Continue laying sheets by keeping the edges spaced 1/32", trimming each side with a straight edge or scribing when needed. The goal is to produce a uniform 1/32" spaced seam for welding.
- 13.14. The width of the gap has to be even and may be less than 1/32" depending on the guide of the groover used.
- 13.15. **Leaving a wider gap to weld directly into the gap without grooving is not recommended and will lead to a welded seam failure**
- 13.16. Leaving a wider gap for welding directly into the gap without grooving is prohibited and will directly lead to heat welded seam failure.
- 13.17. During the installation, always double check the flooring for bubbles with the lights on and off.

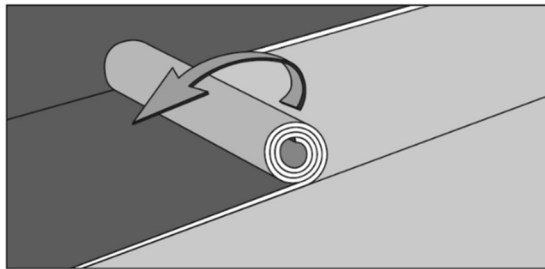


14. GERFIX TPS+ ACRYLIC ADHESIVE INSTALLATION METHOD

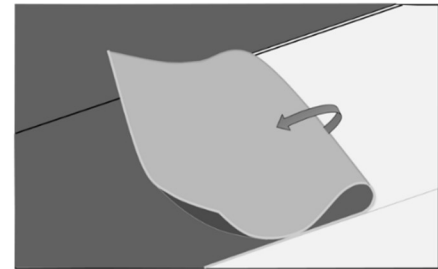
- 14.1. Per the previous section (Section 10 – Acclimation), the material must acclimate and properly relax prior to installation.
- 14.2. Use only Gerflor’s Gerfix TPS+ adhesive.
- 14.3. Always refer to the Gerfix TPS+ Adhesive Technical Data Sheet.
- 14.4. Follow the guidelines indicated on the pail of adhesive.
- 14.5. Only use GerPatch patching compounds.
- 14.6. Recommended trowel size is 1/32” x 1/16” x 1/32”, covering 200 – 245 sq. ft. per US gallon.
- 14.7. Starting from the center line and working outward, fold back the sheets (width) halfway and apply the adhesive to the subfloor.
- 14.8. Installer may also use the “roll back” method.
- 14.9. Never pre-cut material to final trim until it is applied into the adhesive. Leave material 2”-3” longer for trimming after placement.



Roll back method



Fold back method



- 14.10. To ensure uniform adhesion of the entire surface, apply a workable amount of adhesive at one time.
- 14.11. Maintain a uniform spread rate. Replace trowel (or trowel blade) with every pail used.
- 14.12. 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.**
- 14.13. Once the adhesive is applied, fold back or roll back the flooring into the still wet adhesive for **4”-6”**. This will ease the fold-back or roll back of the second half and it will help avoid an overlap of the glue-line. **Should this method not be followed, the glue-line mark will telegraph through the flooring.**
- 14.14. **Open time is the combination of flash time and working time.**
- 14.15. “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*.

Application Characteristics over Porous Substrates		
	Flash Time*	Working Time**
Gerflor Homogeneous & heterogeneous Floorings	20 to 40 minutes (to reach a tacky*** state)	Up to 1.5 hours

- * Flash Time is the waiting time required before installing flooring.
- ** Working time is the window of time for the adhesive to accept flooring.
- *** Tacky: When the adhesive is very sticky without transferring to fingers when touched.

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

- 14.16. When installing, always work to have complete sheets glued at the end of the day.
- 14.17. To reduce the risk of bubbles, the roll back method is the most recommended method of installation.
- 14.18. By keeping the roll tight and maintaining constant pressure while unrolling into the adhesive, the risk for bubbles will be minimal.
- 14.19. The fold back method is acceptable, but care must be taken to not unfold it back too quickly.
- 14.20. Once flooring is placed into the adhesive, immediately roll thoroughly with a 3 section 100-lbs roller in both directions.



Note: In addition to rolling the flooring in both directions with a 3 section 100-lbs roller, use a 14" to 16" cork board or a piece of 2" x 4" wrapped with a piece of carpet to remove air bubbles.

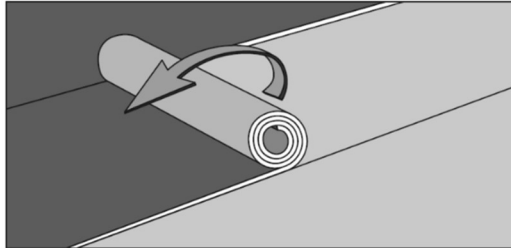
- 14.21. Continue laying sheets by keeping the edges spaced 1/32", trimming each side with a straight edge or scribing when needed. The goal is to produce a uniform 1/32" spaced seam for welding.
- 14.22. The width of the gap has to be even and may be less than 1/32" depending on the guide of the groover used.
- 14.23. **Leaving a wider gap to weld directly into the gap without grooving is not recommended and will lead to a welded seam failure.**
- 14.24. During the installation, with the lights on and off, always double check the flooring for bubbles with portable, ambient, and/or fixed lighting.
- 14.25. Avoid adhesive displacement by prohibiting traffic for a period of 48 hours and 72 hours for rolling loads.

15. GERFLOR T-111 POLYURETHANE ADHESIVE METHOD

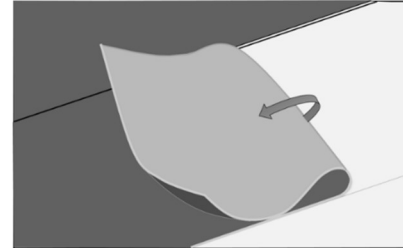
- 15.1. **Per the previous section (Section 10 – Acclimation), the material must acclimate and properly relax prior to installation.**
- 15.2. Use only a Gerflor T-111 Polyurethane adhesive.
- 15.3. Always refer to the Gerflor T-111 Polyurethane Adhesive Technical Data Sheet.
- 15.4. Respect the guidelines indicated on the pail of adhesive.
- 15.5. Only use GerPatch patching compounds.
- 15.6. Recommended trowel size is 1/32" x 1/16" x 1/32", covering 200 - 245 sq. ft. per US gallon.
- 15.7. Mix polyurethane adhesive part A and part B as recommended by the adhesive manufacturer.
- 15.8. Installers **must** be familiar with the use of polyurethane adhesives.
- 15.9. Starting from the center line and working outward, fold the sheets back halfway and apply the adhesive to the subfloor.
- 15.10. Installer may also use the "roll back" method.

- 15.11. Never pre-cut material to final trim until it is applied into the adhesive. Leave material 2"-3" longer for trimming after placement.

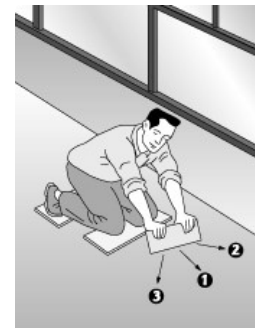
Roll back method



Fold back method



- 15.12. To ensure uniform adhesion of the entire surface, apply a workable amount of adhesive at one time.
- 15.13. Maintain a uniform spread rate. Replace trowel (or trowel blade) with every pail used.
- 15.14. There is no 'open time' with this type of adhesive, therefore once the adhesive is applied, immediately install the flooring into the wet adhesive.
- 15.15. When installing, always work to have complete sheets glued at the end of the day.
- 15.16. To reduce the risk of bubbles, the roll back method is the most recommended method of installation.
- 15.17. By keeping the roll tight and maintaining constant pressure while unrolling into the adhesive, the risk for bubbles will be minimal.
- 15.18. The fold back method is acceptable, but care must be taken to not unfold it back too quickly.
- 15.19. Once flooring is placed into the adhesive, immediately roll thoroughly with a 3 section 100-lbs steel roller in both directions.



Note: Rolling and pushing the air out are critical with this type of adhesive. Gerflor T-111 two-part polyurethane adhesive will never emit gases while setting; therefore, any bubble that will appear is caused by entrapped air under the flooring, a direct cause of improper rolling.

Note: In addition to rolling the flooring in both directions with a 3 section 100-lbs roller, use a 14" to 16" cork board or a piece of 2" x 4" wrapped with a piece of carpet to remove air bubbles.

- 15.20. Keep on installing sheets by keeping the edges spaced 1/32", trimming each side with a straight edge or scribing. The goal is to produce a uniform 1/32" spaced seam for welding.
- 15.21. During the installation, with the lights on and off, always double check the flooring for bubbles with portable, ambient, and/or fixed lighting.
- 15.22. Avoid adhesive displacement by prohibiting traffic for a period of 48 hours and 72 hours for rolling loads.
- 15.23. The use of knee boards and walking boards are mandatory to protect from adhesive displacement during installation.



16. HEAT WELDING (Refer to our document: Verification of Heat Welded Seams)

16.1. ROUTING:

- 16.1.1. An electric routing machine is **NOT recommended** unless a diamond blade is used.
- 16.1.2. The use of a straight edge and a heated hand groover (Janser 224 800 009 as shown on this picture) is recommended for this type of flooring. Maintain a uniform width and depth of groove for a uniform welded seam.
- 16.1.3. A hand groover for safety floors is also recommended:
- 16.1.4. **Rout 2/3 of the total thickness of the COMPACT multi-layered flooring.**



16.2. ROUTING TIPS

- 16.2.1. Set the depth of the groover on scrap material first before deploying the unit on the finished floor. Adjustments to the groover should be performed daily and always on scrap material (Diagram 5).
- 16.2.2. When grooving, it is highly recommended that the installer practice on scrap material until they are comfortable with the use of the selected groover.
- 16.2.3. Ensure that the groover blades are of the correct size and sufficiently sharp to create a clean and uniform groove.

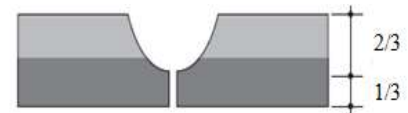


Diagram 5

16.3. MANUAL WELD

- 16.3.1. **Verification of welder temperature and speed must be performed daily. Confirm temperature and speed by practicing on scrap material first before deploying the welder to the finished floor. Doing so will prevent failures.**
- 16.3.2. Grooving and welding may proceed after the adhesive has been permitted to cure a minimum of 16 hours.
- 16.3.3. Use a heat welding gun with variable temperature control and a speed weld nozzle by Leister or equal.
- 16.3.4. Turbo Precision Nozzle # 22-3 <http://turboheatweldingtools.com> or Romus Rapid Nozzle 95027 (5mm) is also highly recommended for proper welding.
- 16.3.5. The use of a non-recommended tip may jeopardize proper welding and could damage the flooring.
- 16.3.6. Always remember to keep the nozzle tip clean and free of debris.



Turbo Precision Nozzle # 22-3

Romus Rapid Nozzle 95027

16.4. AUTOMATIC WELDERS

- 16.4.1. **Automatic welders are highly recommended particularly on large projects.**
- 16.4.2. **Verification of welder temperature and speed must be performed daily. Confirm temperature and speed by practicing on scrap material first before deploying the welder to the finished floor. Doing so will prevent failures.**
- 16.4.3. Do not let the robot operate unattended.
- 16.4.4. **Turbo Welding Gun #25** is the recommended welding robot as it is supplied with the correct welding tip. <http://turboheatweldingtools.com>



- 16.4.5. Should another type of welding robot be used, such as the Leister robot, care must be observed in nozzle selection as it is common for tip openings to be wider than 2mm (see photograph). A wider opening can damage the flooring and lead to a seam failure. If a Leister Robot is used, Gerflor recommends the use of Romus 95253 2mm Unifloor Anti Glaze Nozzle.

Do not weld the flooring using the Leister robot without the proper tip.

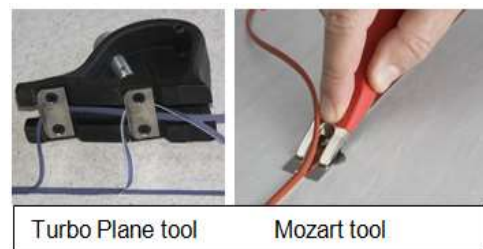
16.5. HEAT WELDING TIPS:

- 16.5.1. Avoid the use of long extension cords as they can lead to voltage drops that could affect the weld integrity.
- 16.5.2. Where possible, have a dedicated electrical source for the welder. Having multiple electrical devices powered off the same outlet could also lead to voltage drop.
- 16.5.3. The ambient temperature as well as open windows and doors can affect welding with regard to the temperature and speed of the welder.
- 16.5.4. Regularly verify the integrity of the weld. For help in confirming weld integrity, refer to Gerflor document Verification of Heat Welded Seams: <https://www.gerflorusa.com/media/17-usa-website/7-technical-doc/verification-of-heat-welded-seams.pdf>
- 16.5.5. Refer to ASTM F1516-13 "Standard Practice for Sealing Seams of Resilient Flooring by the Heat Weld Method" for additional information.



16.6. TRIMMING WELDED ROD

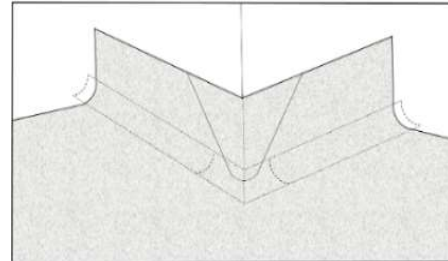
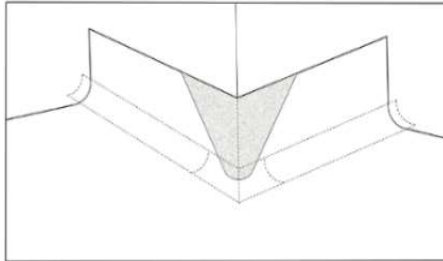
- 16.6.1. Trimming is done once the welding rod and material have **completely cooled**.
- 16.6.2. Trimming is done in two passes with the Mozart tool.
- 16.6.3. The Mozart tool utilizes a blade that is sharp only at the center thereby preventing damage to the flooring beyond the weld.
- 16.6.4. Using the Mozart tool, make an initial pass with the thickness guide in place.
- 16.6.5. Gerflor does not recommend the use of a quarter moon skiving tool to trim the weld.
- 16.6.6. After completing the first pass, a final pass must be made after the weld has completely cooled. Make the final pass without the thickness gauge deployed using the trimmer blade only.
- 16.6.7. Alternatively, the **Turbo Plane**: <http://turboheatweldingtools.com> may be used to trim the weld in one pass.
- 16.6.8. Verify weld integrity to ensure that the welding rod is bonded properly and is flush with the top wear layer. Refer to Gerflor document **Verification of Heat Welded Seams**: <https://www.gerflorusa.com/media/17-usa-website/7-technical-doc/verification-of-heat-welded-seams.pdf>



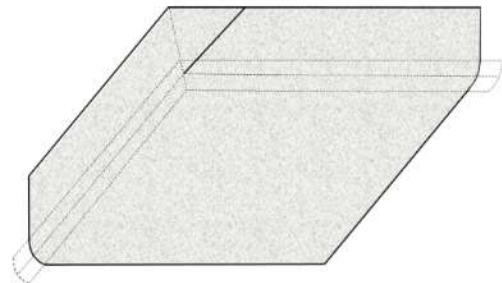
17. FLASH COVING

Note: For better results with flash coving, the walls must be built sound and solid down to the subfloor. There must not be any voids present at the bottom of the wall.

NOTICE: Gerflor does not recommend flash coving Comfort backing (3mm thick flooring)



- 18.1. Metal capping is preferred to vinyl cap.
- 18.2. Miter all corners cleanly.
- 18.3. Outside corners should be cut and shaped from a solid piece of aluminum cap.
- 18.4. Affix cove stick to the floor and wall.
- 18.5. The flooring material can be either pattern scribed or cut in by hand.
- 18.6. Outside corners are formed using the "butterfly" method.
- 18.7. While installing the outside corners, it may be necessary to heat to shape the material.
- 18.8. Always install the outside corner piece first.
- 18.9. Inside corners are typically cut at a 45° angle on the wall.
- 18.10. Corners and straight walls are adhered with a good quality acrylic adhesive or a good quality solvent free contact cement.
- 18.11. On dusty walls, it will often be necessary to apply two coats.
- 18.12. Coat wall entirely and overlap past the cove stick and onto the substrate approximately 1"-2".



19. ONCE THE INSTALLATION IS COMPLETED

- 19.1. Clean the area to verify there are no imperfections, adhesive residue, scuff marks, etc. Verify every welded seam.
- 19.2. 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.).
- 19.3. 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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