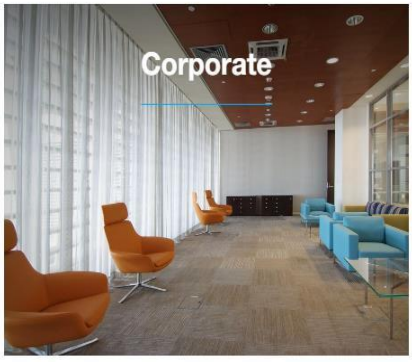
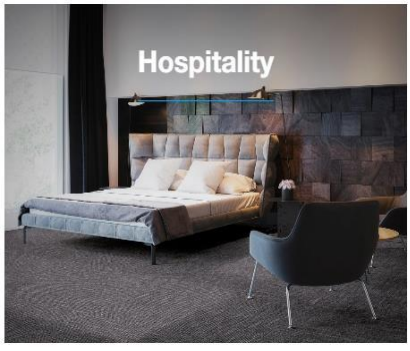
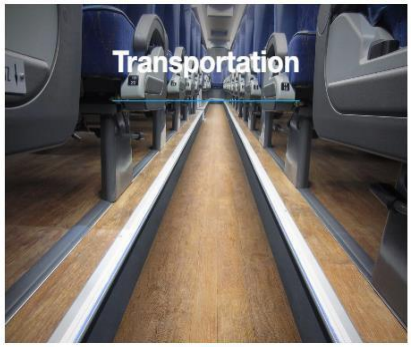
2024 GERFLOR INSTALLATION HANDBOOK STANDARDS, SUBFLOORS, RECOMMENDATIONS







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DISCLAIMER:

THE GERFLOR SPORT & COMMERCIAL HANDBOOK IS NOT INTENDED TO BE ALL INCLUSIVE. ONLY QUALIFIED, PROFESSIONAL FLOORING TECHNICIANS EXPERIENCED IN THE FIELD OF RESILIENT FLOORING SHOULD USE THIS DOCUMENT AS A GUIDELINE TO ACHIEVE THE PROPER CONDITIONS FOR A SUCCESSFUL INSTALLATION. GERFLOR DOES NOT WARRANT INSTALLATION OF PRODUCTS. THE FLOORING CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION WARRANTY.

NOTE: Because technology is constantly changing and evolving, it is up to the installer/contractor to verify with Gerflor Technical Services that this document is the latest version before the installation begins. The installation contractor must comply with local and national regulations applicable at the date of installation. The material must be inspected before installation to avoid any visible defects. Once the material is installed, Gerflor Canada Inc. will not accept any claims related to visual defects or imperfections in the products.

1 STANDARDS

The guidelines detailed in this document are based upon industry best practices and reference the following standards. Always refer to the organization's website.

1.1 ACI 302.1R Guide for Concrete Floor and Slab Construction. https://www.concrete.org/store/

1.2 ACI 302.2R Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials

1.3 ASTM F710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring

1.4 ASTM F1869 Standard Test Method for Measuring Moisture Evaporation Rate of Concrete Subfloor Using Anhydrous Calcium Chloride. https://www.astm.org/

1.5 ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using In-Situ Probes.

1.6 ASTM F1516 Standard Practice for Sealing Seams of Resilient Flooring by the Heat Weld Method.

1.7 ASTM F1482 Standard Practice for Installation and Preparation of Panel Type Underlayments to Receive Resilient Flooring

1.8 ASTM F2419 Standard Practice for Installation of Thick Poured Gypsum Concrete Underlayments and Preparation of the Surface to Receive Resilient Flooring

1.9 ASTM F2678 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 Standard Practice for the Installation of Self-Leveling Underlayment and the Preparation of Surface to Receive Resilient Flooring

1.11 ASTM F3010 Standard Practice for Two-Component Resin Based Membrane-Forming Moisture Mitigation Systems for Use Under Resilient Floor Coverings https://www.astm.org/

1.12 ASTM F3191 Standard Practice for Field Determination of Substrate Water Absorption (Porosity) for Substrates to Receive Resilient Flooring1

1.13 ASTM F 3311 Standard Practice for Mat Bond Evaluation of Performance and Compatibility for Resilient Flooring System Components Prior to Installation

1.14 Recommended Work Practices for Removal of Resilient Floor Coverings of Resilient Floor Covering Institute (RFCI). https://rfci.com/

2 GENERAL INFORMATION

2.1 Gerflor Commercial and Sport floorings are formulated to withstand high moisture conditions. To perform as designed, the concrete should be properly prepared to create a contaminate free and porous substrate.

2.2 Gerflor Commercial and Sport floorings 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 Gerflor installation systems.

2.4 It is recommended to mechanically prepare the concrete via grinding or bead blasting the surface to achieve a CSP 1+ profile, contaminate free and porous substrate.

2.5 Moisture and pH testing should be performed in accordance with ASTM F710. Refer to the adhesive Technical Data Sheets for limitations.

2.6 Bond tests should be performed to confirm proper adhesion. Match installation process for proper bond testing. One bond test every 4,000 sq. ft. is recommended.

2.7 Use cementitious patching compounds with moisture ratings equivalent to or greater than the selected adhesive for correcting minor subfloor deviations or deficiencies.

2.8 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 is required.

2.9 Do not install material that has visible defects or damage. A contractor that installs material having visible defects or damage assumes responsibility for that material.

3 STORAGE AND HANDLING

3.1 ROLLS

3.1.1 Rolls may be shipped while 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 (more than a week).

3.1.2 Store rolls of flooring on a clean, flat, and solid surface within a controlled environment. Place rolls in an upright position. Do not stack rolls on top of each other.

3.1.3 Follow sequence number while storing. It will be easier to follow the sequence while unrolling.

3.1.4 If the material is 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.

3.1.5 Caution should be used in the moving and lifting of rolls. Allow for appropriate equipment and manpower to safely move materials.

3.1.6 Work safe and always follow the relevant safety protocols for the activity you are engaged in.

3.1.7 Do not store any material outdoors. Flooring may be stored in a container if it is acclimated accordingly prior to installation.

3.2 TILES AND PLANKS

3.2.1 Stack boxes of plank or tile no higher than 36 inches with the edges of the boxes flush to one another. Overhanging edges may curl the planks or the tiles. Handle all materials carefully and safely.

3.2.2 Displaced material on a skid or a broken skid will damage the planks and could leave marks and dents in the material that won't be repairable.

3.2.3 If the product is stored for an extended period (2 weeks or more), remove the boxes from the skids.

3.2.4 Work safe and always follow the relevant safety protocols for the activity you are engaged in.

3.2.5 Do not store any material outdoors. Flooring may be stored in a container if it is acclimated accordingly prior to installation.

4 ACCLIMATION

4.1 The rolls, tiles, planks, and adhesive must be acclimated inside the installation area for a minimum of 24 hours prior to installation.

4.2 Allow additional acclimation time if the flooring has been exposed to excessive cold or hot temperatures for an extended period.

4.3 The concrete floor temperature must be a minimum of 65°F before the beginning of the installation.

4.4 Areas to receive flooring should be fully enclosed with the permanent HVAC system operational and operating 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.

4.5 The recommended ambient relative humidity control level is between 35 – 55 %.

4.6 If a system other than the permanent HVAC source is utilized, it should provide proper control of both temperature and humidity to recommended or specific levels for the appropriate time duration.

4.7 Once the installation has started, temperature fluctuation cannot be more than ±5˚F from the desired installation temperature keeping in mind the minimum and maximum temperature allowed.

4.8 Keep the identification tags of each roll, boxes of tiles and planks and verify that the products are being installed per instructions and in sequential order.

4.9 Unroll flooring following the roll sequence numbers.

5 JOB SITE CONDITIONS

5.1 Access – Adequate roads and sidewalks, whether permanent or temporary, are required. For multi-story buildings, the use of an elevator or lift is required. Adequate storage and staging space are also required to allow materials to acclimate.

5.2 The flooring (rolls, tiles, or planks) 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.

5.3 The concrete floor temperature must be a minimum of 65°F before starting the installation, during the installation, and maintained thereafter.

5.4 Areas to receive flooring should be fully enclosed with the permanent HVAC system operational and operating 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.

5.5 The recommended ambient relative humidity control level is between 35 – 55 %.

5.6 If a system other than the permanent HVAC source is utilized, it should provide proper control of both temperature and humidity to recommended or specific levels for the appropriate time duration.

5.7 Never use flame driven heat sources to heat the building.

5.8 No subfloor preparation or installation shall be done while the concrete surface temperature is within 5°F of Dew Point:

DEW POINT CALCULATION CHART											
Ambient Temperature (F)	20°	30°	40°	50°	60°	70°	80°	90°	100°	110°	120°
Relative Humidity	Surface Temperature at Which Condensation Occurs										
90%	18°	28°	37°	47°	57°	67°	77°	87°	97°	107°	117°
85%	17°	26°	36°	45°	55°	65°	75°	84°	95°	104°	113°
80%	16°	25°	34°	44°	54°	63°	73°	82°	93°	102°	110°
75%	15°	24°	33°	42°	53°	62°	71°	80°	91°	100°	108°
70%	13°	22°	31°	40°	50°	60°	68°	78°	88°	96°	105°
65%	12°	20°	29°	38°	47°	57°	66°	76°	85°	93°	103°
60%	11°	19°	27°	36°	45°	55°	64°	73°	83°	92°	101°
55%	9°	17°	25°	34°	43°	53°	61°	70°	80°	89°	98°
50%	6°	15°	23°	31°	40°	50°	59°	67°	77°	86°	94°
45%	4°	13°	21°	29°	37°	47°	56°	64°	73°	82°	91°
40%	1°	11°	18°	26°	35°	43°	52°	61°	69°	78°	87°
35%	-2°	8°	16°	23°	31°	40°	48°	57°	65°	74°	83°
30%	-6°	4°	13°	20°	28°	36°	44°	52°	61°	69°	77°

5.9 Once the installation has started, ambient and concrete slab temperature should not fluctuate more than ±5˚F from the desired installation temperature keeping in mind that the minimum and maximum temperature allowed cannot be exceeded.

5.10 Prepare substrate in accordance with ASTM F710 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.

5.11 The complete mechanical removal of cutback (i.e., grinding, sanding blasting) can be hazardous as old cutback adhesive may contain asbestos.

5.12 Do not sand or grind adhesive residues that contain asbestos. Refer to the Resilient Floor Covering Institute's publication "Recommended work practice for removal of resilient floor coverings" for instruction.

5.13 Areas to receive flooring should have adequate lighting during all phases of the installation.

5.14 Installation should not begin until all trades; painting, ductwork, drywall, etc. are complete. Once the installation begins, the area should be secured from all other trades and foot traffic.

6 SUBFLOOR PREPARATION – CONCRETE

6.1 The concrete must have been placed in accordance with ACI 302.1R Guide for Concrete Floor and Slab Construction and ACI 302.2R-06 Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials.

6.2 Allow concrete to cure for a minimum of twenty-eight (28) days.

6.3 Prepare substrate as per ASTM F710 “Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring”.

6.4 The slab flatness will have a tolerance of 3/16” in a 10’ maximum plane variation for commercial floorings.

6.5 The slab flatness will have a tolerance of 3/16” in a 10’ maximum plane variation for sport floorings. (For best performance in competitive sports applications, a tolerance of 1/8” in 10’maximum plane variation is recommended.)

6.6 The concrete floor temperature must be a minimum of 65°F for 48 hours prior, during, and then maintained after the installation.

6.7 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: http://www.icri.org/Certification/Find-CCSMTTs.asp

6.8 Concrete floors shall be tested for pH prior to the installation of the flooring. If the pH is above the threshold for the adhesive, sand or damp mop the floor with clean water and retest. If this does not correct the problem, contact Gerflor Technical.

6.9 Do not use vinegar or muriatic acid to correct pH level of a concrete slab.

6.10 If the pH tests reveal an acidic condition, Contact Gerflor Technical.

6.11 Moisture testing must be performed as per ASTM F1869 “Standard Test Method for Measuring Moisture Evaporation Rate of Concrete Subfloor Using Anhydrous Calcium Chloride” and/or ASTM F2170 “Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using In-Situ Probes”.

6.12 Gerflor recommends moisture testing using both test methods. If a decision is made to use only one method, we strongly recommend using the RH test method per ASTM F2170.

6.13 Substrate moisture and pH levels shall not exceed the limit set for each type of adhesive recommended to install the specified flooring. See Adhesive Data Sheets.

6.14 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 and evenness.

6.15 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.

6.16 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, curing compounds or other contaminants are present, they must be completely, mechanically removed via grinding, bead-blasting, Diamabrush http://www.diamabrush.com or similar. Sanding is not enough to completely remove curing compounds.

6.17 **A CSP 1+ (Concrete Surface Profile) is the desired profile at set by the International Concrete Repair Institute** to ensure a porous substrate and to effectively remove surface contaminates

6.18 To minimize the potential for telegraphing, all dormant or non-moving cracks and joints should be repaired with a rigid, two-component, crack injection product designed for use beneath moisture mitigation systems. (Contact Gerflor technical for product recommendations)

6.19 Moving joints such as expansion or isolation joints must be honored up through the installation with an appropriate cover plate in accordance with ASTM F 710.

6.20 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 Standard Practice for Field Determination of Substrate Water Absorption (Porosity) for Substrates to Receive Resilient Flooring.

6.21 Sweep and vacuum the area following mechanical preparation to remove all dust and debris. Only water based sweeping compounds are acceptable. All other types of sweeping compounds could adversely affect the bond of the flooring

6.22 Where patching is required to correct minor subfloor deviations/deficiencies use a Portland based patching compound rated for moisture levels equivalent to, or greater than the adhesive used. Sand, if necessary to smooth.

6.23 If the use of a self-leveler is required, it should meet ASTM F2873 and be rated for moisture levels equivalent to, or greater than the adhesive used.

6.24 Refer to ASTM F710 for additional considerations on concrete substrates that are to receive resilient floor coverings.

Note: Even when the surface of concrete is prepared per ASTM F 710, underlying concrete conditions such as ASR, ACR, and near surface contamination may still be present but not visually detectable. Although rare, these concrete conditions can cause weakened layers of concrete resulting in concrete spalling, osmotic blisters, blistering in exothermic adhesives, and bond failures. Concrete core analysis is the only way to test for any underlying condition that may lead to a future failure. Gerflor recommends conducting concrete core analysis before the installation if there are concerns about the integrity of the concrete slab.

Note: Do not install over chemically abated concrete (Contact Gerflor Technical)

Note: Refer to Resilient Floor Covering Institute's for removal of ACM's (RFCI)
Recommended work practices for removal of existing resilient flooring for best practices

RFCI | Recommended Work Practices

Concrete & Silicate Admixtures – Technical Bulletin

Gerflor Technical is often asked to comment on the installation of Gerflor resilient flooring over concrete that has been dosed with silicate admixtures. Manufacturers of such admixtures claim that moisture related flooring failures may be eliminated by using their product. The mechanism by which this works is understood to be a densification of the upper most layer of concrete thereby cutting off the capillary structure which moves moisture through concrete. It is this densification, and the corresponding reduced absorption of the concrete surface, which raises concerns for the bond of the adhesive and finish flooring to the concrete. Concrete absorption must be confirmed prior to the installation. (The absorption rate of concrete may be determined via ASTM F 3191-16 Standard Practice for Field Determination of Substrate Water Absorption (Porosity) for Substrates to Receive Resilient Flooring, commonly referred to as the water drop test.) If absorption is determined to be inadequate, the concrete should be mechanically prepared to create porosity.

Regardless of the selected adhesive and prior to any installation, bond tests should always be performed to confirm adequate adhesion to the substrate. While adhesion may not be an issue with the use of these admixtures, we are compelled to mention that moisture issues may still exist. Along with our concerns of the efficacy of these products, some admixture manufacturers

discount the use of the industry accepted methods for measuring moisture in concrete, ASTM F1869 and F2170. Manufacturers of moisture-sensitive floor coverings rely on the results of these tests to determine if the concrete is suitable to receive their floor coverings. Without the results of these tests prior to an installation, risks associated with high moisture cannot be known. More concerning is that if the installation were to show signs of distress that suggest moisture was a contributing factor, the tests which measure that moisture are ASTM F1869 and F2170, tests which may be discounted by the admixture manufacturer. Given this, Gerflor recommends the end user confirm with the admixture manufacturer how the results of ASTM 2170 and 1869 relate to their warranty. Resilient flooring and adhesives have specific moisture limits beyond which their performance may be negatively impacted. Where moisture levels tested by ASTM F1869 and F2170 are above the levels of the selected adhesive, an ASTM F3010 compliant topically applied moisture control system should be applied.

(In the event of a moisture related claim, we reserve the right to test the concrete per industry standard methods – ASTM F1869 & F2170 as these are the only recognized test methods adhesive suppliers currently use to qualify and warrant resilient flooring adhesion systems. If the levels are above the limit of the selected adhesive, Gerflor cannot honor the claim.)

Installation Recommendations for Concrete dosed with Silicate based Admixtures

For slabs that have been dosed with concrete additives that claim to reduce moisture vapor emissions, we recommend the following procedures before installing any Gerflor Product:

- Moisture test concrete per both ASTM F2170 & ASTM F1869 to ensure levels are within range for the adhesives being used. (See note below)
- Prepare the concrete per ASTM F710 prior to the installation
- Mechanically remove all surface contaminates and sweep or vacuum thoroughly.
- Ensure substrate porosity per ASTM F3191
- Use a two-component crack injection product in all dormant cracks and control joints.
- Apply a minimum of 1/8 inch thick of cementitious floor patch, or self-leveler rated for moisture levels equal to, or greater than the selected adhesive over the entire slab.
- Sand if necessary and sweep or vacuum clean.
- Perform bond tests prior to installation to ensure adequate adhesion to the substrate
- Install flooring per our written installation instructions.

Note: If moisture levels are above the allowable range for the adhesive, a moisture mitigation product that meets ASTM F3010 should be used per the manufacturer's recommendations before installing Gerflor products.

7 SUBFLOOR PREPARATION – CONCRETE WITH RADIANT HEATING SYSTEMS

7.1 Ensure the concrete slab is fully cured and the building is completely enclosed

7.2 Perform moisture tests per ASTM F1869 and/or ASTM F2170 to ensure levels are within the selected adhesive limits.

7.3 Substrate moisture and pH levels shall not exceed the limit set for each type of adhesive recommended to install the specified flooring. See Adhesive Technical Data Sheets.

7.4 Before the installation, the radiant heating system should be turned on to stabilize the moisture content of the concrete slab and to avoid any moisture peak once the system will be in service after the installation of the flooring. Failure to do this may result in adhesive performance issues such as bubbling over the embedded water lines.

7.5 A certified technician is required to turn on the system as per the manufacturer's recommendation.

7.6 The temperature should be kept at its maximum 85°F for 8 days prior to the installation of the floor covering

7.7 The maximum concrete surface temperature should never exceed 85°F at any time.

7.8 The system should be turned off 48 hours before, during, and 72 hours after the installation.

7.9 Always verify that the room temperature is not less than 65°F during the product acclimation and installation. Use temporary heat if needed during this time

7.10 Once the installation has started, temperature fluctuation cannot be more than ±5˚F from the desired installation temperature keeping in mind the minimum and maximum temperatures of 65 degrees and 85 degrees that are allowed.

7.11 The heating system should be turned on gradually starting 72 hours after the installation.

7.12 Turning on the heat gradually will allow the substrate and the flooring to adapt to the temperature change together.

7.13 A sudden temperature change could result in adhesion problems

7.14 WARNING: NEVER COVER THE FLOORING WITH RUGS, MATS, RUNNERS, ETC. THESE WILL AFFECT THE HEAT TRANSFER OF THE RADIANT SYSTEM AND WILL POSSIBLY DAMAGE THE FLOORING

7.15 Setting the radiant heating system prior, during, and turning back on after the installation:

Max temp for 8 days prior at 85°F	48 hours prior to the installation turned-off	Turned-off during the installation	system remains turned-off for 72 hrs. after the installation	Gradually turn on the system

8 SUBFLOOR PREPARATION – GYPSUM BASED SUBSTRATES

8.1 Gypsum substrates should always be dry. Follow manufacturer's recommendations.

8.2 Do not install on gypsum substrates that does not meet the ASTM F2419 requirements for compressive strength

8.3 Do not use moisture mitigation systems on gypsum substrates.

8.4 Any adhesives must be mechanically removed completely.

8.5 The Flooring Contractor shall patch and repair all cracks, voids, and other imperfections of the gypsum base subfloor with high strength synthetic gypsum having a compressive strength of 3500 psi at 28 days (ASTM C109) and flexural strength (ASTM C348).

8.6 Confirm patching compounds are compatible with gypsum-based substrates.

8.7 After completion of patching and leveling, sweep and vacuum thoroughly the entire surface of the gypsum base subfloor to remove loose dust and dirt.

8.8 If needed, apply an acrylic base primer designed for porous substrates per the manufacturer's instructions.

8.9 Do not use Gerflor T-111 polyurethane adhesive over gypsum-based substrates. Refer to Gerflor Technical Service for further instructions.

9 SUBFLOOR PREPARATION – WOOD SUBFLOORS & CONSTRUCTION

9.1 Suspended wood subfloor shall be 1" thick or greater, conforming to the current CSA or FHA standards, double-layered, strongly constructed, free from vertical movement and have a minimum of 18" of well-ventilated air space clearance above the ground.

9.2 In areas of high humidity due to ground moisture such as a crawl space or basement, a vapor barrier (minimum 4 mil polyethylene sheeting) should be installed over the ground with overlapped widths and lengths, to serve as a moisture barrier to help assure dryness.

9.3 The joists shall be spaced not more than 16-inch on centers. If joists are warped or twisted, or otherwise do not present a flat, true base for plywood installation, these conditions should be corrected prior to the installation of the plywood by routing the truss or by firmly nailing blocks to the sides of the truss whichever is required.

9.4 All subfloor panels should be fastened to the truss in accordance with their manufactures recommendations to preserve their warranties.

9.5 Particle board, and Homosote are not acceptable wood subfloor material

IMPORTANT NOTES:

Single layer plywood subfloors are not recommended in areas requiring resilient flooring; they are the major cause of nails popping and squeaking. These subfloors should be covered with a minimum of 1/4" or greater approved underlayment grade plywood so the total thickness will be 1" or greater.

It is not recommended to install over "sleeper subfloors" or wood subfloors secured directly to concrete. Moisture vapor from the concrete can permeate into the wood subfloor causing swelling of the panels, and joint peaking or telegraphing.

Strip-wood Subfloors: Single and/or double tongue-and-groove strip-wood floors should be covered with a 3/8" or greater underlayment to eliminate telegraphing of the strip-wood floorboard joints.

Staples are not an acceptable means of fastening the plywood to strip flooring and should not be used under any circumstances.

10 SUBFLOOR PREPARATION – WOOD UNDERLAYMENT

10.1 Underlayment grade panels are used to resurface an existing wood subfloor.

10.2 The finished appearance of any resilient flooring installation will be determined in part by the underlayment over which it is installed.

10.3 Underlayment grade panels for commercial resilient floors should be 1/4" or heavier with fully sanded face meeting CSA or FHA standards. Total thickness of the 2 layers must be 1” or greater.

10.4 The underlayment selected is subject to the discretion of the installer based upon subfloor conditions.

10.5 Gerflor strongly suggests that whoever is buying the underlayment material obtain a warranty from the supplier.

10.6 Plywood underlayment should be stored inside prior to delivery to the jobsite with a moisture content not to exceed 14% when checked with an Electronic Pin Type Moisture Meter.

10.7 Using a quality moisture cured urethane adhesive designed for wood flooring, full spread the area to receive underlayment.

10.8 After setting plywood into the adhesive, immediately fasten with screws 6” O/C in the field, 4” O/C at the perimeter with screws 3” or less from the plywood edge.

10.9 **The responsibility for warranties, guarantees and performance rests with the manufacturer of the underlayment and not with Gerflor.**

CAUTION: Some plywood underlayment manufacturers use plastic or resin filler to patch surface cracks. Some fillers can cause discoloration in vinyl flooring, specify plywood underlayment with wood plugs and fills.

10.10 The following descriptions of types of underlayment panels and Gerflor resilient flooring’s recommendations for their use are intended only as a guide.

10.11 **APA-American Plywood Underlayment** https://www.apawood.org/

10.12 1/4" or greater APA Underlayment Exposure 1 (with fully sanded face)

10.13 1/4" or greater APA Underlayment C-C Plugged Exterior (with fully sanded face).

10.14 Luan and Masonite are not acceptable underlayment materials

11 GERFLOR'S POSITION ON INSTALLATIONS OVER EXISTING FLOORING & OTHER SUBSTRATES

11.1 When installing Gerflor products over an existing flooring or other substrates, it is the responsibility of the flooring contractor to determine the suitability of the substrate and their ability to warrant the outcome.

11.2 **Gerflor always recommends removing old flooring and properly preparing the substrate according to ASTM F-710 requirements.**

11.3 If a decision is made to install over any existing flooring or non-typical substrate, the following recommendations must be observed.

11.4 In many cases, while following these instructions, installing over an existing flooring could lead to unforeseen problems and issues. Gerflor will not take any responsibility for such failures.

11.5 Gerflor does not approve installing on top of any substrate that contains asbestos with a permanent bond adhesive. In the event of any failure covered by our warranty, Gerflor will not be responsible for the associated abatement costs.

11.6 Always follow the Recommended Work Practices for Removal of Resilient Floor Coverings as outlined by the Resilient Floor Covering Institute (RFCI).

11.7 Always test existing flooring for hazardous materials prior to mechanically altering.

11.8 Always follow Federal, State, and Local guidelines for the removal, alteration, and/or disposal of controlled or hazardous materials.

11.9 Never install vinyl flooring directly over an existing rubber floor. Call Gerflor Technical for alternative solutions.

11.10 Installations over existing resilient flooring may be more susceptible to indentations and are dependent on the bond of the original flooring for success.

11.11 Installations over existing resilient, or any other modular flooring below grade is not recommended.

11.12 Always perform multiple bond tests to ensure adequate adhesion to the substrate.

11.13 Often, when installing over VCT, since it does partially breath through the seams of the tiles, it can appear to be dry and safe to go over with a new flooring. However, once covered with another layer of flooring, moisture issues could occur.

12 RECOMMENDATIONS FOR INSTALLING OVER EXISTING RESILIENT FLOORING

12.1 Should be a single layered flooring, non-cushioned, well bonded, and smooth.

12.2 Show no signs of moisture or alkalinity.

12.3 Moisture testing should be performed and not exceed the limit of the existing flooring and/or adhesive, and not exceed the new Gerflor adhesive limits.

12.4 Remove existing floor finish and the flooring should be cleaned to remove all dirt, grease, or other contaminates and then thoroughly rinsed.

12.5 Cuts, cracks, gouges, dents, and other irregularities in the existing floor covering should be repaired or replaced.

12.6 Consult with desired floor patch manufacturer as an embossing leveler and primer may be recommended to aid in proper bonding and to prevent telegraphing.

13 RECOMMENDATIONS FOR INSTALLING OVER METAL SUBFLOORS

13.1 Remove rust or other contaminates such as oil, grease, or dirt.

13.2 Lightly sand and clean surface with cloth rag and Isopropyl alcohol or Acetone as they have an extremely fast evaporation rate.

13.3 When using any of type solvent, always use proper safety equipment. Follow OSHA PPE (personal Protective equipment).

13.4 Smooth any irregularities with a good quality Portland patch, follow manufacturer recommendations for priming and specific instructions.

14 RECOMMENDATIONS FOR INSTALLING OVER CERAMIC, MARBLE & TERRAZZO

14.1 Should be well bonded.

14.2 Show no signs of moisture or alkalinity.

14.3 Moisture testing should be performed and not exceed the Gerflor adhesive limits.

14.4 Remove existing floor finish and the flooring should be cleaned to remove all dirt, grease, or other contaminates and then thoroughly rinsed.

14.5 Lightly sand, clean surface and then thoroughly rinse.

14.6 Smooth any irregularities and grout joints with a good quality Portland patch, follow manufacturer recommendations for priming and specific instructions.

15 RECOMMENDATIONS FOR INSTALLING OVER POLYMERIC FLOORING (Epoxy, Urethane, Methyl Methacrylate)

15.1 Should be well bonded.

15.2 Show no signs of moisture or alkalinity.

15.3 Moisture testing should be performed and not exceed the Gerflor adhesive limits.

15.4 Lightly sand, and then clean surface and thoroughly rinse.

15.5 Smooth irregularities with a similar material as the existing flooring or when appropriate use a good quality Portland patch, follow manufacturer recommendations for priming and specific instructions.

For other substrates not listed, Contact Gerflor Technical Services

GERFLOR CANADA ADHESIVE CHART

16 ADHESIVE CHARTS

COMMERCIAL PRODUCTS CHART

GERFLOR COMMERCIAL PRODUCTS							ADHESIVE CHART - COVERAGE - MOISTURE LIMITS										
Adhesives	RH Limit (ASTM F2170)	CC Limit (ASTM F1869)	pH Limit	Size	Trowel notch	Coverage per Pail or Can of Adhesive	Mipolam, Taralay	Tarasafe & H20	LVT: Creation, Saga2	Mipolam Biocontrol EL5 & ESD+	Mipolam Technic EL5 GTI EL5	Mipolam Evo	GTI, Attraction, Creation Connect, & Clic	GTI Cleantech	Linoleum	SPM Wall Panels	MIPOLAM EL7- MIPOLAM ROBUST
Gerfix TPS+ (acrylic)	95%	10 lbs.	11	15.14 L.	1/32" x 1/16" x 1/32" 'U'	680 to 880 sq. ft./ pail											
Gerflor T-111 (polyurethane)	95%	8 lbs.	11	7.19 L.	1/32" x 1/16" x 1/32" 'U'	320 to 420 sq. ft./ pail		Wet Areas									
Gerflor T-111 (polyurethane)	95%	8 lbs.	11	7.19 L.	3/32" x 3/32" x 3/32" 'V'	135 to 150 sq. ft./ pail										Non-porous	
Gerfix 313 Linoleum Adhesive	90%	8 lbs.	11	15.14 L	1/16" x 1/16" x 1/16" Square	400 to 500 sq. ft./ pail											
Gerflor 505 SPM Wall Adhesive	N/A	N/A	N/A	15.14 L	3/32" x 3/32" x 3/32" 'V'	280 to 320 sq. ft./ pail										Porous	
Gerfix 196 (2-part Hybrid Acrylic)	98%	15 lbs	12	2.5 US Gal.	1/32" x 1/16" x 1/32" 'U'	425 to 550 sq. ft./ pail											
Gerfix 196 (2-part Hybrid Acrylic)	98%	15 lbs	12	2.5 US Gal.	1/16" x 1/16" x 1/16" Square	200 to 250 sq. ft./ pail											
Gerfix ESD	80%	5 lbs.	11	15.14 L.	1/32" x 1/16" x 1/32" 'U'	200 to 250 sq. ft./ pail											

SPORT PRODUCTS CHART

GERFLOR SPORT PRODUCTS						ADHESIVE CHART - COVERAGE - MOISTURE LIMITS							
Adhesives	RH Limit (ASTM F2170)	CC Limit (ASTM F1869)	pH Limit	Size	Trowel notch	Coverage per pail or can of adhesive	Recreation Range	Taraflex Range	Sport M Comfort	Taraflex DTx	Isolsport	Vinyl Bleacher Blok	Surface to Bleacher Blok
Gerfix TPS+ (acrylic)	95%	10 lbs.	11	15.14 L.	1/32" x 1/16" x 1/32" 'U'	680 to 880 sq. ft./ pail							
Gerfix 196 (2 part Hybrid Acrylic)	98%	15 lbs.	12	9.46 L. (2.5 Gal)	1/32' x 1/16' x 1/32 'U"	425 to 550 sq. ft./ pail							
Gerflor T-111 (polyurethane)	95%	8 lbs.	11	7.19 L.	1/32" x 1/16" x 1/32" 'U'	320 to 420 sq. ft./ pail							
Gerpur (urethane)	100%	25 lbs.	14	9.46 L.	1/16" x 1/16" x 1/16" Square	200 to 250 sq. ft./ pail							
Gerfix 100 (urethane)	100%	25 lbs.	14	7.57 L.	1/32" x 1/16" x 1/32" 'U'	340 to 440 sq. ft./ pail							

Gerflor's Position on Moisture Testing

- Gerflor requires concrete slab moisture testing for any adhesive that is not rated for 100% RH
- Gerflor recognizes 2 methods to measure the moisture in a concrete slab: ASTM F2170 (RH) test and ASTM F1869 Calcium Chloride (CC) test
- It is always recommended to conduct both tests, and all tests need to meet the stated moisture limits
- If only one type of test is performed, Gerflor prefers the ASTM F2170 test method
- If Gerflor conducts an inspection on a moisture-related failure, we reserve the right to perform both tests

Colour Legend
Green = Approved
Yellow = Needs Technical approval
Red = NOT approved

GERFLOR CANADA 2024 ADHESIVE CHART

Products	Gerfix TPS+	Gerfix 196	Gerflor T-111	Gerpur	Gerfix 313	Gerfix 505	Gerfix 100	Gerfix ESD
Creation 55, Creation 70, Creation 30 & Saga[2]	X	X	NTP					
Creation – Smart fix	X							
Creation Solid Clic 30 & 55	X	NTP	NTP					
DLW Linoleum		X			X			
Mipolam Biocontrol EL5 & ESD+	X							
Mipolam Technic EL5	X							
Mipolam Affinity EL7								X
Mipolam Robust EL7								X
GTI Max Connect, Attraction, Creation Connect	X	NTP	NTP					
GTI MAX Cleantech Cleanroom	X	X	NTP					
GTI Connect ESD	X							
GTI Cleantech ESD	X							
Mipolam Affinity	X	X	X					
Mipolam Planet	X	X	X					
Mipolam Biocontrol Performance	X	X	X					
Mipolam Biocontrol Clean	X	X	X					
Mipolam Symbioz[1]	X	X	X					
Mipolam EVO		X	NTP					
Nerok	X	X	X					
Taralay Impression Compact & Acoustic	X	X	X					
Taralay Premium Compact & Acoustic	X	X	X					
Mural Ultra Design	X							
Mural Calypso	X							
Mipolam SPM Wall Panels			X			X		
Taraflex 6.2mm, 7.5mm, 9mm	X	X	X					
Recreation 45, 60 & 85	X	X	NTP					
Recreation & Taraflex Surface			X					
Taraflex 6.2mm, 7.5mm, 9mm & Rec over Isolsport		X	NTP					
Taraflex 7.5mm & 9mm Drytex	NTP	NTP		X				
Taraflex & Recreation Vinyl Bleacherblok		X	X				X	
Taraflex Sport M Comfort		X						
Tarasafe Super & Plus	X	NTP	X					
Tarasafe Standard	X	NTP	X					
Tarasafe Ultra & H2O	NTP	NTP	X					

NTP=Needs Technical approval

CALCIUM CHLORIDE TEST vs. RELATIVE HUMIDITY TEST

Calcium Chloride Test vs Relative Humidity Test		
	ASTM F1869 Calcium Chloride (CaCl)	**ASTM F2170 Relative Humidity Test (RH)**
Installation:	**Three tests for the 1st 1000 sq.ft. One additional test for each 1000 sq. ft. thereafter**	**Three tests for the 1st 1000 sq.ft. One addional test for each 1000 sq. ft. thereafter**
Exposure Time	**Minimum of 60 hours and a maximum of 72 hours**	**72 hours for the first tests. Subsequent test must stabilize with no drift on meter in a 5 minute period per ASTM F 2170**
Use:	**Moisture Vapor escaping from concrete and pH test**	**Relative humidity in the concrete**
Test Range:	**0.00 to 30.00 lbs**	**0 to 100% Relative Humidity**
Test Site area:	**20 inch X 20 inch per test grinded to clean concrete of surface contaminates.**	**Diameter of hole depends on type of meter used. Depth depends on grade level and thickness of the slab**
Plus:	**Give an actual reading of water vapor escaping from the concrete slab**	**Give an actual reading of the relative humidity of the concrete slab**
Minus:	**Accuracy jeopardize by site conditions and test setting process**	**Wrong evaluation of concrete thickness or not letting the probes stabilize will give false readings**
Recommendation	**Test substrate using both tests RH and CaCl. Should you use only one, RH testing is the prefferred method**	