FLOOR PREPARATION

To be followed for ALL Estrie Flooring Products

General: Contact Estrie or their Distributors if there are any questions regarding preparation of subfloor prior to installation of Estrie products. Estrie adhesive systems must be used to install Estrie flooring (see Adhesives Quick Check Chart).

Thorough inspection and preparation of subfloors will ensure a satisfactory installation. No resilient flooring installation should be started before the installer is completely familiar and satisfied with the subfloor conditions. ***Serious defects should always be reported immediately to the responsible authority.***

Ensure that:

- Heating, ventilation and/or air conditioning (HVAC) in the installation area must be operative for a minimum of 48 hours prior to, during and following the installation. The room temperature, subfloor, tile, and adhesive must also be maintained at a temperature of 21°C (70°F) for 48 hours prior to installation. A fluctuation of +/- 3°C (5°F) within this range is acceptable.
- Tile and adhesive should be stored on the job site 48 hours prior to installation, and tile removed from the cartons or pallet and back stacked to facilitate equalization of temperature and to assure tiles lie flat.
- Tiles should be loose-laid in the room and all fittings and cuttings made. Corrective adjustments are to be made at this time to avoid colour contrasting and to ensure that the overall appearance is to the desired effect.

A) Concrete Subfloors

General Conditions*:*

Concrete subfloors suitable for the installation of Estrie flooring shall be dry, clean, smooth, level, and structurally sound. They should be free from old adhesive, dust, solvent, paint, wax, oil, grease, asphalt, sealing and curing compounds and other foreign substances. Cracks, grooves and other irregularities shall be filled or leveled. Where filling or leveling is required, the use of a good quality cementitious-based underlayment is recommended. The use of underlayment, leveling and patching compounds is no guarantee against excess moisture (including hydrostatic pressure) or concrete deficiencies.

Such concrete subfloors shall be of a good standard mix as recommended by the Portland Cement Association, using clean sand and crushed stone. A loose, sandy or scaly surface or evidence of a white, powdery surface is not acceptable.

Do not install Estrie flooring over gypsum-based patches or underlayments.

Excess Moisture:

Estrie does not guarantee any product performance against excess moisture (including hydrostatic pressure) under any circumstances. The use of a permanent, effective moisture barrier is recommended for all concrete floors in contact with the earth.

New Concrete Subfloors:

New concrete slabs shall be properly cured and meet moisture vapor emission requirements before installation may be attempted. Depending on atmospheric conditions, type of concrete and/or possible excess water content, such subfloors will require at least six plus weeks drying time before they may be considered ready for application of flooring.

Floors containing lightweight aggregate or excess water, and with steel or plastic pan construction may need a much longer drying time, and should not be covered with resilient flooring unless dry.

Some lightweight concrete has such low strength that it is unsuitable for resilient tile unless 25 mm (1") or more of regular concrete is used as a topping. This topping layer should be installed as per the recommendations outlined by the Portland Cement Association.

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Since dampness must always be suspected, the use of an anhydrous calcium chloride moisture test unit is required to check subfloor moisture when installing Estrie flooring (as per ASTM F 1869). Directions for the use of these units are shown in this section. **It is the responsibility of the flooring contractor to determine whether or not the concrete is sufficiently dry for covering. Record all moisture test results into the project log. Results of the test must be made available upon request to Estrie.**

pH Test:
New concrete floors or where moisture is present may be susceptible to elevated pH levels due to excess alkaline salts. All adhesives are subject to deterioration resulting in bond failure in the presence of alkaline conditions. Conduct one pH test for every 93 sq m (1,000 sq ft) throughout the area. Levels should be between 5 and 8 pH. If higher than 8 pH, neutralize the floor with one part of muriatic acid and nine parts of water. Consult the Portland Cement Association for guidelines. **For safety reasons, during this process the use of rubber gloves, apron, boots and goggles is recommended.** Make sure the room is well ventilated. Flood the floor with the neutralizing solution and allow to remain at least one hour before rinsing off with clear water. Be sure that **all neutralizing solution is removed with rinsing water**. Allow concrete to **dry thoroughly. Re-test the floor for pH levels and repeat the neutralizing if necessary.**

Concrete curing agents, parting compounds, surface hardeners and the like should not be used on the subfloor unless the manufacturers of such agents, compounds and hardeners guarantee that these materials will not affect the bond of the adhesive to the concrete. If such materials have been used without the manufacturers' guarantee, they must be removed before Estrie flooring is installed. Such agents, in many cases, form a surface film of oil, wax or resins that obstruct the bond between the concrete and the adhesive. **It is the responsibility of the flooring contractor to determine whether or not the concrete is in suitable condition for covering.**

Note: Special attention should be paid to some of the variations of normal suspended concrete floors. Low-density concrete is unsuitable as an underlayment for resilient flooring. Concrete poured in metal or plastic pans is troublesome due to the lengthy curing and drying time required. Also, when low-density concrete of lightweight aggregate type is combined with pour-in-pan construction, additional care must be taken before the resilient flooring is installed. In any pan construction site moisture tests must be made to ensure that the moisture levels are within limits.

Existing Concrete Subfloors:
For best results, old concrete floors should be prepared to conform as closely as possible to new concrete floors. Cracks, uneven and rough areas require the application of a good quality cementitious-based underlayment to level. Conduct the appropriate moisture and pH tests.

The subfloor must be firm and free from old adhesive, moisture, dust, solvent, paint, wax, oil, grease, asphalt, sealing compounds and other foreign substances by sanding the floor until clean. Use coarse No. 4 or No. 5 open grit sandpaper. A strong solution of trisodium phosphate or lye may be required in difficult cases. If such alkaline solutions are used, the floor must be neutralized using muriatic acid as described previously. Consult the Portland Cement Association for Guidelines.

Caution: Utilize proper health and safety precautions when sanding. Use rubber gloves; lye is harmful to the skin. It is the responsibility of the flooring contractor to determine whether or not the concrete is suitable for covering. Ensure the area is well ventilated.

Radiant Heated Subfloors:
The requirements that apply to suspended or on grade concrete floors should be observed with radiant heating systems. Estrie flooring may be installed provided the maximum temperature of 32°C (90°F) is not exceeded under any condition of use. If radiant heated floors have been allowed to cool after installation, it is possible that moisture will be absorbed in the concrete subfloor. It is therefore recommended that the floor temperature be

increased gradually to prevent the adhesive bond from being adversely affected by the resulting moisture and temperature changes.

Note: when installing Marathon Rubber Flooring, keep in mind that rubber is a natural insulator and will effectively act as a heat barrier.

Suspended Concrete Flooring:
Suspended concrete subfloors, whether old or new, must comply with all of the general conditions as previously listed in this section for concrete subfloors.

Note: on suspended slabs exposed to exterior elements (i.e. variations in temperature and / or humidity) adhesion of the Estrie flooring to the suspended subfloor may be affected.

On or Below Grade Concrete Subfloors:
Concrete slabs in contact with the earth at any point or those that do not have at least 460 mm (18") of cross-ventilated air space underneath require special attention. Unless such construction incorporates a continuously effective, permanent barrier bonding failures may result from excess moisture.

The effectiveness of the moisture barrier shall be such that the moisture levels will not increase at any future date after original acceptance test.

CONDUCTING MOISTURE TESTS

Anhydrous Calcium Chloride Moisture Test Unit:

- **Purpose**: the moisture test unit is designed to measure quantitatively the moisture emission of a concrete floor.

  While the moisture test unit is primarily intended for checking moisture vapor emissions of concrete floors "on or below grade" with the moisture barrier construction, it is equally effective in determining whether above grade or suspended concrete floors are sufficiently dry to receive Estrie flooring. Areas should be tested as follows: conduct two tests for the first 93 sq m (1,000 sq ft), then one test for every additional 93 sq m (1,000 sq ft) as outlined in the most current edition of ASTM F 1869.

- **Description of Unit**: the test unit contains:
  - One clear cylindrical box, containing anhydrous calcium chloride sealed with tape. This tape is to be retained for resealing.
  - One transparent plastic cover approximately 450 sq cm (70 sq inches) in area.
  - A quantity of moisture-tight sealant to secure and seal cover to the concrete floor.

- **Quantitative Test**:
  I. The weight of the cylindrical plastic box and contents of anhydrous calcium chloride already written on the cover of the anhydrous calcium chloride container.
  II. The quantitative test is run by placing the open cylindrical container of anhydrous calcium chloride on the floor, and covering with the rectangular plastic cover. The lid of the anhydrous calcium chloride container should not be placed under the rectangular cover while conducting the test but at its designated place on the cardboard box.
  III. After a **minimum of 72 hours** the cylindrical container of calcium chloride is removed, covered and re-weighted. The net weight is used in the formula given in the instruction booklet with the amount of time the material was exposed to moisture. The calculation will then give the actual moisture level of the cement slab.

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Note: these are abridged instructions. Complete instructions are packed with each unit.
Testing procedures may vary from supplier to supplier of these test kits. Follow the supplier's instructions carefully when conducting this test.

B) Wood Subfloors

General Conditions:
Estrie does not recommend the use of any of their products on wood floors other than plywood of a minimum thickness of 6.35 mm (1/4"). The plywood used must be of construction grade.

The wood subfloor must be dry, smooth, free of vertical movement, horizontal expansion, old adhesive, moisture, paint, oil, dirt, greases and waxes.

Install the plywood with cross-joints staggered at least 406 mm (16") apart. Fasten to subfloor using angular (ring-grooved) or screw nails that will penetrate 31.75 mm (1-1/4") into the subfloor. These fasteners are to be spaced 152.4 mm (6") throughout the board and spaced 76.2 mm (3") apart along the edges. Fasten the center of the board first and work out towards the edges to eliminate any irregularity. Do not fit the underlayment too snugly but leave space between the boards equal to the thickness of a dime. Fasteners are to be driven no more than 1.6 mm (1/16") below the surface of the wood. Lightly sand any surface roughness, particularly at joints and around nails.

Estrie does not approve the use of particleboard, flake board, wafer board or chipboard underlayments for use with Estrie flooring. Presently available products of these types of underlayment vary widely in quality and performance.

Certain particleboards are suitable for use as underlayment, but a guarantee to this effect should be provided by the particleboard manufacturer.

Any leveling or patching of wood subfloors must be done using a Portland based cementitious compound.

Open Wood Joists:
Install 15.87 mm (5/8") plywood for 406 mm (16") or less joist spacing and 19 mm (3/4") plywood for joist spacing up to 609.6 mm (24") directly to the open wood joists. Blocking is required under plywood along the edges perpendicular to the joists.

Fasten to the joists with angular (ring-grooved) or screw nails that will penetrate 31.75 mm (1-1/4") into the joists. Nail at 76.2 mm (3") intervals along all edges and at 152.4 mm (6") intervals over the joists.

"2-4-1" Installation:
The "2-4-1" tongue and groove plywood which is 28.57 mm (1-1/8") thick requires no blocking or bridging when properly installed over open wood joists spaced 1219 mm (48") or less. Use 63.5 mm (2-1/2") ring grooved nails or screw type nails spaced 76.2 mm (3") on center at all bearings. This plywood is a combination underfloor and underlayment plywood panel.

Note: The above thickness of underlayment grades of "2-4-1" plywood applies to Douglas fir plywood. If softwood plywoods are used, the next heavier thickness should be installed.

Wood Subfloors Over Crawl Space:
Where wood subfloors are located over a crawl space, the crawl space must have at least 460 mm (18") of cross-ventilated air space between the earth and the floor joists.

Heavy asphalt saturated felt paper or polyethylene film laid on the ground is effective in controlling high humidity due to the escaping ground moisture if cross ventilation is provided.

C) Terrazzo, Ceramic, Natural/Agglomerated Marble or Granite

Caution!!! When installing over terrazzo, ceramic, natural/agglomerated marble or granite, these types of floors are non-porous and require special attention.

The problem created with this type of flooring is due to the glazed and polished surface finish. In many cases the floor is treated with sealers and waxes as well, which can build up on the surface. Remove glaze, polished finish, sealers and waxes by sanding or by the Blastrac method (bead blasting).

- Ensure that the surface is free of dirt, dust, debris or any other deleterious substances that will prevent bonding of the primer, then apply a coat of the U.P. Primer Rapid. Follow the primer manufacturers latest written specifications and allow to cure for a minimum of 24 hours prior to the application of Ultra/Plan.
- Apply a 3 mm to 5 mm (1/8" to 3/16") thick layer of Ultra/Plan over the cured U.P. Primer and level it.
- Allow to cure for 24 hours prior to the installation of Estrie flooring.

D) Metal Subfloors*:* Abrade the metal (aluminum, steel, brass, copper and bronze) by sanding to create a scarified surface finish to ensure that a good adhesive bond can be obtained.

E) Preparation of Floors with Existing Resilient Flooring:

Estrie will not accept any responsibility for installation over existing resilient floor coverings. It is our recommendation that all existing resilient material be thoroughly removed prior to installing Estrie flooring.

Estrie flooring cannot be installed over:

- Embossed, cushioned sheet vinyl, textured, urethane coated and foam containing floors are **NOT** suitable for the installation Estrie flooring over them. All such flooring products must be:
  a/ covered only with approved underlayment (suspended wood subfloors only), prior to installation, or
  b/ completely removed including old adhesive

However, if installation over existing flooring is required, follow these guidelines:

- Estrie flooring may be installed directly over smooth surface resilient floors that are in good condition, uniformly and completely bonded and which have been properly installed over subfloors of approved construction. Estrie recommends that a test patch be conducted prior to installation.
  Note: when installing tile over tile ensure that seams are offset.

- **Floor Preparation**:
  Make certain all wax and other floor finishes are completely removed by a thorough stripping operation. Open seams or indentations must be repaired using a cementitious Portland based patching compound prior to installation.

  Note: some old floor coverings may contain asbestos. See section "Disposal Guidelines for Asbestos Containing Materials" for instructions on the removal and disposal of asbestos containing materials.

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Disposal guidelines for asbestos containing materials: ***various environmental agencies have regulations concerning the removal and disposal of asbestos containing materials and override those guidelines enclosed herein.***

Commercial projects and contractors that contemplate the removal and disposal of a resilient floor covering that contains asbestos, must obtain a special permit to dispose of such asbestos containing materials - check with your local authorities to see if such regulations apply.
CAUTION: always use good health and safety precautions.

- **Resilient Tiles Floor Covering Removal:**
  When removing tiles, every attempt should be made to accomplish the removal with minimum breakage. Wet the tiles with a water and soap solution to reduce dust buildup. Remove the tile as a complete unit. Start the removal by carefully wedging a heavy-duty wall scraper in the seam of two adjoining tiles and gradually forcing the edge of one of the tiles up from the floor. Do NOT break off small pieces of the tile, but continue to force the balance of the tile up with the scraper. If the tile is so well adhered that it constantly breaks, it will be necessary to use a commercial hot air blower to heat the tile sufficiently to warm and soften the adhesive holding the tile to the floor.

  Note: Use care in handling the hot air blower to avoid burns!

  After the tile has been removed from the floor, place it in a heavy-duty plastic bag for disposal. **Do not break it into smaller pieces for placing into the bag!** After removal of the first tile, the accessibility of the other tiles is improved. Use a commercial tile remover or continue with a scraper. Place the scraper under the exposed edge of a tile while holding the handle at a 20°-25° angle to the floor. Strike the handle with a hammer, using blows of moderate force - to force the scraper under the tile. Force the tile away from the floor. In those areas where the tile is tightly adhered and the tile constantly breaks, it will be necessary to use the hot air blower. Place all tiles in the heavy-duty plastic bag without breaking them, as noted earlier.

  Wet down the remaining adhesive then scrape up the adhesive until only a thin smooth film remains. Deposit the scrapings in the plastic bag(s) with the previously removed tiles.

  When all of the tiles and adhesive scrapings have been removed from the floor and placed in heavy-duty bags, seal the bags securely for disposal.

- **Sheet Vinyl Floor Coverings - Removal:**
  a) ***Unadhered (loose-lay) or perimeter adhered***: remove any moldings or binding strips from walls or doorways that may be holding the goods in place. Using a sharp utility knife cut a strip about 460 mm (18") wide along one wall and the entire length of the room. Gently turn the cut strip over and tightly roll it face out into a tight roll. Tie or tape it securely so it will not unroll. Place it in a heavy-duty plastic bag. Clean the exposed floor with a vacuum cleaner fitted with a suitable filter, positioning it so that the exhaust air does not blow over the uncleaned area. **Do not dry sweep!**

  Repeat the procedure of cutting, removing, rolling, roll disposal, and vacuuming one strip at a time until all of the floor covering has been removed and the floor cleaned. If any areas have been held in position with double faced tape remove the tape and dispose of it in the plastic bag.

  If any areas have been secured in position with adhesive that remains adhered to the floor, the felt and adhesive must be removed by wet scraping - **do not dry scrape, always wet scrape.**

  Wet scrape as follows: prepare a solution of 28 ml (1 ounce) of liquid dishwashing detergent in 4 liters (1 gallon) of water. Thoroughly wet the residual felt/adhesive areas with the detergent solution. Wait a

few minutes to allow this solution to soak into the felt. Standing in the cleaned areas use a heavy-duty wall scraper to scrape up the wet felt. Pick up the scrapings and place in the plastic bag with the rolls of removed floor covering. When finished, close bags tightly and seal for disposal. When the floor has been cleaned of felt, allow it to dry and vacuum up any remaining dirt. Position the vacuum cleaner so that the discharge does not blow on the uncleaned portions of the floor. Carefully remove the dust bag and place it in a heavy-duty plastic trash bag and seal. Wash hands thoroughly!

b) ***Adhered***: remove any moldings or binding strips from wall doorways, etc. With a sharp utility knife, make a series of parallel cuts 100 – 152 mm (6" - 8") apart, parallel to wall. Cuts should be made through the entire thickness of the flooring to the subfloor and along the entire length of the room. Starting at one end of the room, pry up the corner of the first strip, separating the wear layer and as much of the felt backing as possible from the floor. Fold the top layer back over itself slowly and evenly at an angle (15°-30°) that permits the best separation from the floor. After the entire strip has been removed, gently lay it on the floor and turn it over. Roll the strip face out in a tight roll and tie or tape it securely. Place the roll in heavy-duty plastic bag for disposal.

Repeat the above procedure on the next two or three strips. Do not remove more than four strips at a time before proceeding to remove the felt remaining on the floor by wet scraping to the procedure detailed previously. Do not proceed further until the wet scraping has been completed. Remove the scrapings and dispose of them as recommended previously.

Repeat the procedure on the next three to four strips. Continue with the strip removal procedure until the entire floor has been cleared of the floor covering. Always work from the remaining floor covering or cleaned areas - not on the exposed felt. Close full plastic bags and seal securely.

When the entire floor has been cleaned of felt, allow it to dry and vacuum up any remaining dirt. Position the vacuum cleaner so that the discharge air does not blow on the uncleaned portions of the floor. Carefully remove the dust bag from the cleaner. Place it in a heavy-duty plastic trash bag and seal. Wash hands thoroughly!

When the floor is dry, it is ready for the installation of the new Estrie flooring.

Note:
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