



## **Installation Instructions -- RESILIENT TILE FLOORING**

### **Rubber Tile and Stair Tread Installation Instructions**

#### **Installation of Endura Rubber Floor Tile By Burke Flooring**

Only Approved Adhesives Must Be Used For Warranty to Apply:

**BR 721™ Epoxy Adhesive – Solvent Free**

**BR 725™ Urethane Adhesive – Solvent Free**

**BR 711™ – Solvent Free**

**6" StepBond™ Tread and Landing Tape – For Treads Only – Not for Tile**

#### **I. Storage**

- A. Check tiles for completeness of order. Check for correct color and profile.
- B. Store tiles off the ground and out of the elements. Do not stack skids, or stack other materials on tiles or treads.
- C. If the tiles are to be re-stacked, the tiles must be stacked profile to profile and back to back to avoid mold release or wax transfer from the profile side to the back side.
- D. Prior to installation, the tiles and adhesive must be conditioned to an ambient temperature at the actual job site of not less than 59°F (14°C) to not more than 85°F (29°C) for at least 48 hours. In severe climates an 8 day conditioning period may be necessary.

**II. Sub-floor Preparation** - For Additional Required Information, refer to ASTM F-710 - Practice for Preparing Concrete and Other Monolithic Floors to Receive Resilient Flooring.

#### **A. Concrete Sub-floor**

- 1. On-grade and below-grade sub-floors must be protected against ground moisture with a properly installed membrane type moisture barrier.
- 2. New concrete sub-floors should be allowed to cure a minimum of 30 days.
- 1. Sufficient moisture test sampling should be made. The emission of moist vapor from the slab should not exceed 3 lbs. per 1,000 sq. ft. per 24 hours.

Perform RMC/Calcium Chloride test to test for proper dryness conditions.

2. *RMA/Calcium Chloride Moisture Test*

- a. The RMA moisture test provides a specific moisture reading for a limited area of the concrete slab. This procedure is the preferred way to judge the moisture content of the concrete substrate in question. Test kits can be purchased from your local flooring supplies distributor. Follow instructions in the kit.
- b. The RMA (“Calcium Chloride”) test should be conducted after the HVAC has been turned on and the area being installed has been appropriately acclimated. False readings are possible if the area is not brought to normal operating temperatures for at least 5 days. If the readings are above 3 pounds per 1,000 square feet, **DO NOT INSTALL!**

3. *Concrete Sub-floor Condition:* The concrete sub-floor should be dry, clean, non-scaled and free of dust, and flat to within 1/8" in 10 linear feet. The surface should also be finished to a texture similar to 100 grit sandpaper. If the concrete is glazed or very smooth, it must be thoroughly sanded or shot blasted (see B-2) to assure proper adhesion. Remove all dust by vacuuming.

4. ***An adhesion test of at least 24 hour duration should be performed.***

This is the safest check for bonding success to determine if curing compounds, other adhesive bond-breakers or too smooth a surface are present.

- a. ***Adhesion Test*** – First, determine *sub-floor temperature* using a floor thermometer, noting the cure rate chart under Section IV B.2., then determine *moisture content* (see II A-3).
- b. The installer should make an adhesive bonding test (at least one per every thousand square feet). Cut Rubber tile tile into 9" x 9" pieces and install them using the recommended adhesive. These test patches should remain in place for a minimum of 24 hours to determine if there is good bond to the sub-floor and also to observe if there is sufficient transfer of adhesive both to the sub-floor and to the back of the floor tile.
- c. Removing the test patches from the sub-floor should be difficult with most of the cured adhesive remaining bonded to the sub-floor. If proper bond is not accomplished, do not proceed with the installation. Contact Burke Flooring or your Endura distributor.

5. **Important:** With respect to the type of concrete or other cementitious patching material used in the sub-floor, responsibility for a warranty and performance of the sub-floor belongs to the concrete or cementitious patching material manufacturer and the installer.
6. *Curing compounds, bond breakers or sealers* will seriously inhibit the adhesion of the tile to the sub-floor. They should be completely removed by scarifying, grinding (with a terrazzo grinder) or by shot blasting. One shot blasting machine, Blastrac, is made by U.S. Filter Blastrac; (405) 478-3440; (800) 256-3440; [www.surfacepreparation.com](http://www.surfacepreparation.com).
7. *Oil or Grease on the sub-floor.* Grease or oil stain must be thoroughly washed with a degreaser and thoroughly flushed. If the concrete sub-floor is impregnated with oil or grease, do not attempt to install Rubber tile.
8. *Burke does not warrant installation of Rubber tile over un-removed old floor coverings (such as vinyl tile), coatings and adhesives.* Should the installer elect to install over old floor coatings or coverings such as tile, adhesives or paint, adequate adhesion may not be achieved.
9. Old black asphalt "cut back" adhesives are harmful to a good bond and must be mechanically removed or properly covered with approved cementitious patching compound (see #9 below). BR 725 can be used over cut-back **residue** left after the bulk of it has been scraped off the floor. **Do not use** epoxy or contact adhesives over cut-back adhesive residue.
8. *Ceramic tile, quarry tile or terrazzo floors.* Installing rubber tile over ceramic tiles is not recommended. However, when the ceramic glaze is sanded thoroughly and when the grout lines are filled and leveled properly with a cementitious leveler, the installation may be successful. Over terrazzo sub-floors adhesion is sometimes difficult due to waxes burnished into its very smooth surface. If installation over terrazzo is contemplated, the minimum preparation should be shot blasting or terrazzo grinding to remove all waxes or soil. Remove all dust by vacuuming. A thorough adhesive bond testing should be performed. BR 721 or BR 725 adhesives are the best suited adhesives for good bond, but caution is recommended.
9. *Cracks, depressions, "saw-cut" construction joints (non-moving) and rough areas* should be cleaned and filled with a top quality cementitious patching compound with a minimum compressive strength of 4000 psi such as Ardex or Mapei (see below). Use as directed by the manufacturer. If rubber tile epoxy is used as a crack filler, plow the epoxy well into the depression. Allow to cure completely. Sand the cured epoxy for better adhesion.

**Sources include:**

Ardex, Inc., 400 Ardex Park Drive, Aliquippa, PA 15001  
(412) 264-4240.

Mapei Corp., 1144 E. Newport Ctr Drive, Deerfield Beach, FL 33442  
(954) 246-8888; (800) 426-2734.

10. ***Do not use gypsum based leveling or patching compounds under any circumstances. Rubber tile is extremely resilient and will cause all gypsum or plaster-based patching compounds to crack or split. Use only cementitious based trowel-able patching or self leveling compounds!***
11. *Expansion Joint.* No attempt should be made to lay Rubber tile over an architectural concrete expansion joint that is designed to move. Instead, the tile should stop before the joint on both sides. The joint should be protected with a metal cap fastened on one side allowing the joint to move without restriction. Use expansion joint systems as manufactured by C/S Group, Muncy, PA 17756 (570) 546-5941; (800) 233-8493.
12. *Exposure to extreme heat.* Extreme heat from sun, blowers or radiant heat during the adhesive cure will cause the tiles to expand and peak. During the period of 24 hours before installation and throughout the adhesive curing period, the sub-floor temperature should be at 72°F (24°C) and must not be colder than 59°F (14°C) or warmer than 85°F (29°C). Refer to cure time chart in Section IV B.2. Direct sunlight should be blocked during installation and for the first 8-12 hours of adhesive cure time.

**B. Wood Sub-floors**

1. Exterior grade plywood with a minimum total thickness of 1" should be used with smooth plugged side up. Hardboard, Luan, MDF, chip boards or other engineered wood substrates, are not strong or stable enough and are not recommended.
2. Wood sub-floors will require ventilation when laid over concrete to avoid wet and dry rot. At least 18" of airspace and air circulation between an on grade or below grade concrete sub-floor and the wood sub-floor is mandatory.
3. Planked wood floors used as a sub-floor may "telegraph" through a rubber tile installation. It is best to install plywood over plank floors.
4. Unevenness of wood sub-floors should be planed or machine sanded. Remove all dust by vacuuming.
5. Loose sub-floor panels should be refastened with screws.

6. Protruding nails should be leveled or removed. Holdfast or screw nails should be used.
7. Single sheets of wooden sub-floors should not exceed 16 square feet or 1.2 square meters.
8. Expansion space between wood panels should be .038" or 1 mm.
9. Dents, seams and holes may be leveled with the rubber tile epoxy adhesive or cementitious leveling compound. After cure, the adhesive must be sanded to roughen its smooth surface.
10. Plywood sub-floors should be screwed down or nailed with flooring ring nails. Use a minimum of 1 fastener per 9 square inches of sub-floor.

Note: the use of cement board such as Hardie Backer is acceptable. Be sure to smooth all points and dimples made by fasteners with a cementitious patching compound.

### III. Laying Tile

A. *Sufficient light is essential.* Lighting conditions must be bright enough to observe color consistency, registration and seaming quality during dry fit inspection.

B. *Dry fitting rubber tile is required.* Dry fit an entire floor by sections, positioning the tiles point to point. Tile will display a "small" E, number or logo in one corner on the top surface. Position the tile so that the E's, numbers or logos, are all in the same position.

1. Line up the first row of rubber tile with a chalk line. Lay a second row again point to point. Do not pressure-fit the joints in order to prevent peaking of seams.
2. *When the tiles have been dry-fitted,* check the flooring for possible imperfections or defects including trim, thickness or color. **Replace any such tiles prior to adhesion. Any defects in the tile, including color variation, registration, squareness etc. must be reported before the tile is adhered or the installer will be liable for replacement labor and material.**

### IV. Tile Adhesive Descriptions and Procedures

*Only approved adhesives must be used for warranty to apply.*

#### A. Adhesive Descriptions

1. *BR 721™ Epoxy* – Solvent Free. This is the standard rubber tile adhesive where solid strength but a flexible bond is required for heavy duty foot and vehicle traffic. Above, on or below grade concrete or wood sub-floors, this adhesive has high water resistance to surface flooding.

2. *BR 725™ Urethane* – Solvent Free. This adhesive will operate at temperatures to 50°F (7°C). It can be used where some **traces** of old asphalt or "cut back" adhesive remain in the pores of the slab after most of the "cut back" has been scraped off.

**B. Two Part Adhesive Mixing Instructions**

1. *Two Part Adhesive* – The packaged units of epoxy or urethane (BR 721 Epoxy and BR 725) are marked A or B. The A & B unit should be mixed together thoroughly and with a rotary motion while at the same time lifting from the bottom. **Use an electric drill and paddle for thorough mixing.** After mixing, the color of the adhesive must be uniform (i.e., no streaking). *Never mix Parts A and B on the sub-floor itself. Once the adhesive is mixed it must be removed from the container to slow its curing time – pot life is less than 10 minutes for BR 721. The pot life for BR 725 is 40 minutes.*
2. *Temperature* – The sub-floor temperature affects the curing rate of two part adhesives. Curing will take place between 59°F (14°C) and 85°F (29°C). The ideal temperature for the adhesive cure is 72°F (24°C). This will normally take 8-12 hours. At 59°F (14°C) cure will take approximately three times longer for epoxy and about twice as long with urethane. At 85°F (29°C) cure will take approximately half the time. The chart below shows approximate temperature and appropriate cure times of epoxy and urethane adhesives:

**ACTUAL FLOOR TEMPERATURE**

**BR 721**

	59°F (14°C)	72°F (24°C)	85°F (29°C)
MINIMUM REQUIRED CURE TIME	59°F (14°C)	72°F (24°C)	85°F (29°C)
Heavy Rolling Stock	4 Days	4 Days	3 Days
Foot Traffic	12 Hrs.	7 Hrs.	6 Hrs.

**BR 725**

**ACTUAL FLOOR TEMPERATURE**

	59°F (14°C)	72°F (24°C)	85°F (29°C)
MINIMUM REQUIRED CURE TIME	59°F (14°C)	72°F (24°C)	85°F (29°C)
Heavy Rolling Stock	5 Days	4 Days	4 Days
Foot Traffic	16 Hrs.	7 Hrs.	6 Hrs.

3. Pour the entire mixed contents out of the can immediately onto the sub-floor in the areas of application. Trowel the adhesive with a 1/16" x 1/16" x 1/16" square notched trowel.

**Yields:** The average *adhesive yield* from a gallon unit of BR 721 *epoxy* will be approximately 100 square feet, depending on the smoothness of the sub-floor. Coverage for BR 725 *urethane adhesive* will be approximately 135 square feet per gallon. Rough sub-floor surfaces and improper or worn trowel notching will affect the adhesive spread rate. Do not apply adhesive to the tile.

*Two part adhesive average working life* is one hour at a temperature of 72°F (24°C). Tiles may be laid shortly after spreading as no open time is needed. However, if the spread adhesive is allowed to remain open 15-20 minutes the adhesive will develop more initial tack and will help reduce tile slipping.

4. Lay tiles point to point as per dry laying instructions (Section III). Note: Roll or curl the corners of the tile downward or underneath the tile by hand prior to laying to prevent the corners from sticking up after the tiles are laid.
5. Roll the adhered tiles with a 150 lb. roller diagonally, slowly, in two directions. This should be done soon after laying the tile into the adhesive.
6. A second rolling should be done one hour after the first rolling. Weight corners with sand bags, or use duct tape on corners if necessary. With Domino, Square and Bison profiles, hand roll all seams with a narrow 2" hand roller to level the tile edges to one another. A third rolling may be advisable if the sub-floor temperature is cool.
7. Sweep upon completion of laying to detect dropped or oozing adhesive. Remove any such adhesive with water or mineral spirits on a cloth. Do not use turpentine (see Section 1 of Maintenance Instructions). **Note: Remove adhesive before it cures. It is impossible to remove adhesive after it cures.**
8. An unsheltered but roofed installation should be protected from the heat of the sun or from wetness for at least 8-12 hours after installation. Lay a light colored opaque cover over the installation if necessary for adequate protection from the sun and wetness.

9. No pedestrian foot traffic should be allowed before at least 12 hours after laying and for a longer period if the sub-floor temperature is below 72°F (24°C). These cure times can be doubled or tripled as the temperature approaches 59°F (14°C) (see adhesive cure chart on previous page). Scaffolding or wheeled conveyances must not be allowed for at least 4 days (see adhesive cure chart). *Construction foot traffic is possible if one-inch plywood is laid over the entire installation after the second rolling and after 8 hours.* Traffic directly on the tile weakens or breaks the adhesive bond and will cause tiles to buckle or lift within one year of installation if traffic is allowed too soon.

## **V. Installation of Rubber Stair Treads**

Note: Burke highly recommends the use of Wheaton Jigs' Stair Wizard for the measurement and cutting of Endura stair treads. It provides significant time savings and improvements in cutting accuracy. For more information, call 707-829-1180.

### **Important:**

*Burke does not recommend the installation of a stair tread on the top step (on the landing). Pattern registration between the tile and tread is difficult. Thickness differences between the tile and tread also makes the installation difficult. Burke recommends using Stair Nosing for the top step and covering the rest of the landing with Rubber Floor Tile.*

A. ALL STEPS [Concrete, plywood, metal, other hard solid surfaces] - Must be dry, clean and free of dust, plaster, paints, oil, greases, old coverings, adhesives and any other foreign matter. Wooden steps must be firmly nailed and sanded flat. Cement stairs should be leveled and all irregularities in the steps must be repaired with a cementitious leveling compound with a minimum compressive strength of 4000 PSI, such as Ardex or Mapei, or an epoxy patch. Repair worn or uneven edges. Sand painted stair pan noses down to the metal for best adhesion results.

### **B. Dry Fitting**

All treads and risers must be pre-fitted prior to installation. [Use the "Wheaton" jig to gauge stair tread dimensions and transfer them to Endura's stair tread for an accurate cut.] Stair treads are stocked in 48" and 72" lengths and are available by special order in 6" increments from 42" to 72". It will be necessary to cut them and dry fit. The rear edge should be cut with a slight undercut or bevel. Make sure the tread nosing now dry fits tightly against the step nose and riser. The sides of the tread should be trimmed, leaving a slight gap of 1/16" on either side allowing for expansion. Undercutting these side cuts helps lay the treads in more smoothly.



### C. Sanding

No sanding is needed on the back of stair treads. They are already sanded. The only sanding that is required is on the front surface of the rubber riser in cases when the stair tread lip overlaps and is adhered to the rubber riser, with either Insta-Step™ Tape or Tread Adhesive. When dry fitting, scribe the overlapping stair tread nose to the rubber riser while dry fitting. Then sand the rubber riser to the scribed line for proper adhesion.

D. **BR 711 Stair Tread Adhesive.** BR 711 is for tread and riser only. Use BR 721 or BR 725 for tile on landings. BR 711 is a solvent-free, non-flammable synthetic polymer-based adhesive, applied to one surface. Apply BR 711 to the step or riser surface only. DO NOT apply adhesive to the back of the stair tread or riser. Allow adhesive to dry a minimum of 10-15 minutes. Adhesive should transfer to finger when touched prior to installation. DO NOT allow adhesive to dry completely before installing the treads or risers. Drying time will vary, depending on the atmospheric conditions. Install treads or risers into the adhesive and roll immediately with a hand roller to insure proper transfer to the backs of treads and risers. DO NOT allow foot traffic for a minimum of 12 hours. Clean any excess adhesive from treads or risers surfaces with a cloth dampened with water. Tools may be cleaned with water while adhesive is still wet.

1. *Application:* Set the stair tread into its proper position on the step, beginning at the nosing and pushing back firmly and as tightly as possible, holding up the back surface of the tread. After the nosing is completely fitted into place, the tread should be pushed down firmly onto the step. After the stair tread is mated to the step, **be sure to use a hand roller on the stair tread lip to adhere it well and to remove any waviness in the stair tread lip.** After installation is completed, roll the newly installed stair treads and nosing with a hand roller, making certain that the stair tread nosing is fitted tightly against the step nosing.
2. Roll the laid treads with hand roller, diagonally, slowly in two directions. This should be done immediately and thoroughly after laying, as this is the only mechanical means to join the two surfaces.
3. Sweep upon completion of laying to detect adhesive spills. Remove spills with warm water. Do not use turpentine (see Section I of Maintenance instructions).

**E. Step Bond™ Installation Tape System.**

A fast, easy, cost-effective alternative to rubber tile liquid stair tread adhesive. Use with stair tread, nosings, riser and landing tiles in areas requiring immediate walk-on or where odor sensitivity presents a challenge. VOC-free and odorless, Step Bond™ reduces stair tread installation time and costs.

**NOTE:** All receiving treads must be dry, level, smooth and DUST FREE. Paint, oil, grease, old adhesives and any foreign matter must be removed.

Step Bond™ Tape is available in rolls 6" x 164' (80 lineal feet or 80 square feet).

Apply strips of StepBond™ Tape to the tread of the stair, beginning at the inner edge and progressing to the front of the step. **PRESS FIRMLY INTO PLACE.**

Apply StepBond™ Tape to the face of the stair tread riser. **PRESS FIRMLY INTO PLACE.** Remove the face paper from the StepBond™ on the tread. Fit the rubber stair tread nosing to the stair nosing. The rubber nosing **must** fit snugly to the stair nosing.

Applying hand pressure, and starting at the front of the tread, roll the remainder of the stair tread into position. "Pat" down to achieve adhesion.

Riser: Remove the face paper from the Step Bond™ on the riser. Fit the rubber riser tightly into place on the stair riser. Using your hand, rub the surface of the riser to insure good adhesion. Using a hand roller, roll both the rubber stair tread and rubber riser to insure a uniform, secure bond.