



# Drive 1” Turf Tile

## Technical Manual

Installation • Maintenance • Warranty

Manufactured in the U.S.A.

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Supersedes all previous versions.  
Check website for updates.

### Tools and Base Preparation

Recommended Installation Methods	2
Tools/Materials Required	2
Site Work	2
Base Options	3

### Installation

General Information	3
Site Layout	4
Quad Blok Installation	4
Fitting & Cutting Tiles & Adhering Perimeter	5
Fitting, Cutting & Adhering Ramps & Transitions	5
Fully Adhered Installation	6
(Mandatory for exterior installations)	

<b>Maintenance</b>	<b>7</b>
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<b>Warranty</b>	<b>10</b>
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## I. RECOMMENDED INSTALLATION METHODS

INTERIOR INSTALLATION			EXTERIOR INSTALLATION		
24" x 24" x 1"	Method		24" x 24" x 1"	Method	
Surface	Quad Blok only	Quad Blok +Full Glue <sup>2,4</sup>	Surface	Quad Blok only	Quad Blok +Full Glue
Sound Reducer Sound Control Underlayment <sup>1</sup>	Approved	Approved	Sound Reducer Sound Control Underlayment <sup>1</sup>	<b>Not Approved</b>	<b>Not Approved</b>
Concrete Slab <sup>3</sup>	Approved	Approved	Concrete Slab <sup>3</sup>		Approved
Concrete Pavers	Approved	Approved	Concrete Pavers		<b>Not Approved</b>
Asphalt	Approved	Approved	Asphalt		Approved
Plywood	Approved	Approved	Plywood		<b>Not Approved</b>
OSB / Chip Board	Approved	<b>Not Approved</b>	OSB / Chip Board		<b>Not Approved</b>
Compact Gravel	<b>Not Approved</b>	<b>Not Approved</b>	Compact Gravel		<b>Not Approved</b>
Wood or Tile	Approved	<b>Bond test<sup>2</sup></b>	Wood or Tile		<b>Not Approved</b>
Resilient Flooring	Approved	<b>Bond test<sup>2</sup></b>	Resilient Flooring		<b>Not Approved</b>
Carpet	<b>Not Approved</b>	<b>Not Approved</b>	Carpet		<b>Not Approved</b>
			Roofing		<b>Not Approved</b>
1. Sound Reducer Sound Control Underlayment must be installed per applicable technical manual and fully adhered with E-Grip III 2. Bond test recommended; installer responsible to determine suitability 3. Concrete patching and self-leveling materials must be Portland-based and moisture-resistant, rated to withstand RH moisture levels on the project. 4. Radiant heat requires an Approved Surface in Quad Blok + Full Glue column					

## II. TOOLS / MATERIALS REQUIRED

- |   |   |
|---|---|
| 1. Tape measure                               | 10. Safety glasses                          |
| 2. Chalk line - white only!                   | 11. Solvent-safe rubber gloves              |
| 3. Saber saw (Jig saw) or band saw            | 12. Rags                                    |
| 4. Saber saw blades for (7-10 teeth per inch) | 13. Push broom or shop vac                  |
| 5. Utility knife                              | 14. Mineral spirits or denatured alcohol    |
| 6. Framing square/metal straight edge         | 15. Installation instructions               |
| 7. Marking pencils                            | 16. String line                             |
| 8. Standard size caulk gun                    | 17. Cutting table (shipping pallet)         |
| 9. Notched trowel -1/8" square notch          | 18. 75-100 pound three section floor roller |

## III. SITE WORK

**NOTE:** Dimensional tolerance for tiles is +/- 1/8" in thickness and +/- 1/8" in width. From time to time during installation, it may be necessary to measure and hand select tiles to ensure course lines remain straight.

### A. Site Elevation

- On grade installation - The finished installed height of the tile surface will be equal to or slightly higher than the perimeter grade but not more than 1" higher unless approved by project engineer.
- Above grade installation – The finished installed height of the tile surface will usually require the use of perimeter reducers to transition to floor elevation unless installation terminates at a wall.

3. Tiles must be fully supported by the substrate. Substrate irregularities, unevenness, roughness, etc. should not be apparent after tile installation.

**B. Site Slope/Drainage**

1. Allow for 1" in 8 LF slope for drainage as applicable.
2. An acceptable drainage system needs to be put in place to eliminate standing water.

**IV. BASE OPTIONS**

**A. Hard Base Construction**

1. Concrete Base:
  - a. Concrete shall have a minimum compressive strength of 3000 psi. New concrete slabs should cure for a minimum of 28 days. It must be fully cured and permanently dried. Care should be taken to provide for the stated slope. The surface should be flat to the equivalent of 3/16" (4.8 mm) in 10' (3.0 m). A light broom finish is best for maximum adhesion of the Tile.
2. Paved Asphalt Base:
  - a. Coarse aggregate mixtures will provide a stable base. The aggregate size best suited for the adhered system is 3/8" to 1/2". Do not use asphalt mixtures that contain a high percentage of fines, as they are not stable in hot weather and may become soft enough to allow the tiles to slide in high use areas.
  - b. The soil sub grade must be compacted with a minimum of two passes using a 10-ton vibratory roller with no soft or moving areas upon completion. The crushed stone base must also be compacted with a minimum of two passes using a 10-ton vibratory roller. The binder and wear courses of the asphalt must both meet 95% of the theoretical maximum density of the Job Mix Formula.

Total Passing Sieve	Percent by Weight
1/2"	100
3/8"	80-100
#4	45-90
#8	30-65
#50	5-25
#200	2-8
Asphalt Cement	6-8

- c. New asphalt surfaces should cure for 28 days before the adhered tile system is laid.
3. Radiant Heat
    - a. Please refer to chart on page 2: Radiant heat requires an "Approved Surface" listed in the "Quad Blok + Full Glue" column.
    - b. Ecore rubber flooring has an approximate R-Value of R1 per inch of thickness. Check with radiant system heat manufacturer for suitability. Turn off heat and maintain slab at 65F for 48 hours before, during and 48 hours after installation. Then bring radiant heat temperature up gradually.

**V. MATERIAL STORAGE AND HANDLING**

- A. Deliver the material to the job site in its original unopened packaging with all labels intact and stored appropriately inside to prevent damage.
- B. Inspect all material for visual defects before beginning the installation. Verify the material delivered is the correct type, thickness, and amount. Report any discrepancies immediately. Ecore will honor no labor claim on material installed with any visually apparent defects.
- C. The material and any adhesive must be acclimated at room temperature for a minimum of 48 hours before starting the installation.

**VI. INSTALLATION****A. Subfloor Requirements and Prep**

1. Tile may be installed over surfaces as listed in table above and must be level, in good condition, and clear of dirt and loose debris.
2. Installation should not begin until all other trades are finished in the area.
3. Areas to receive flooring should be weather tight and maintained at a minimum uniform temperature of 65° F for 48 hours before, during, and after the installation.
4. For fully adhered installation, see FULLY ADHERED INSTALLATION on following pages.
5. Unpack tiles and allow them to sit in the area to be installed. Tiles and adhesive must be acclimated at a uniform room temperature for a minimum of 48 hours prior to installation.

**NOTE:** Dimensional tolerance for tiles is +/- 1/8" in thickness and +/- 1/8" in width. It may be necessary to occasionally measure and hand select tiles to ensure that course lines remain straight.

**NOTE:** It is the installer's responsibility to inspect all products to insure the correct style, thickness, and color. Any moderate to severe discrepancies should be reported immediately before beginning the installation. No labor claims can be paid on material installed with visual defects.

**As with any flooring product, dry laying and full inspection of all tiles will allow for a quality installation. Tiles should be inspected from several angles and adjusted as necessary.**

**B. SITE LAYOUT**

1. Sweep area clear of all dust and loose debris.
2. Determine a starting point for the first course of tile to best suit the site area. Because most walls are not straight or corners square, tile installations generally start in the middle of the room, so measure the width and length of the space, divide the room into 4 equal quadrants and snap chalk lines that are perpendicular (90 degrees) to each other.
3. Place the first tile's edges where the two perpendicular chalk lines meet.  
Hint: Adjust the starting point to balance the tiles side-to-side and not end up with small cuts of tile against the walls.

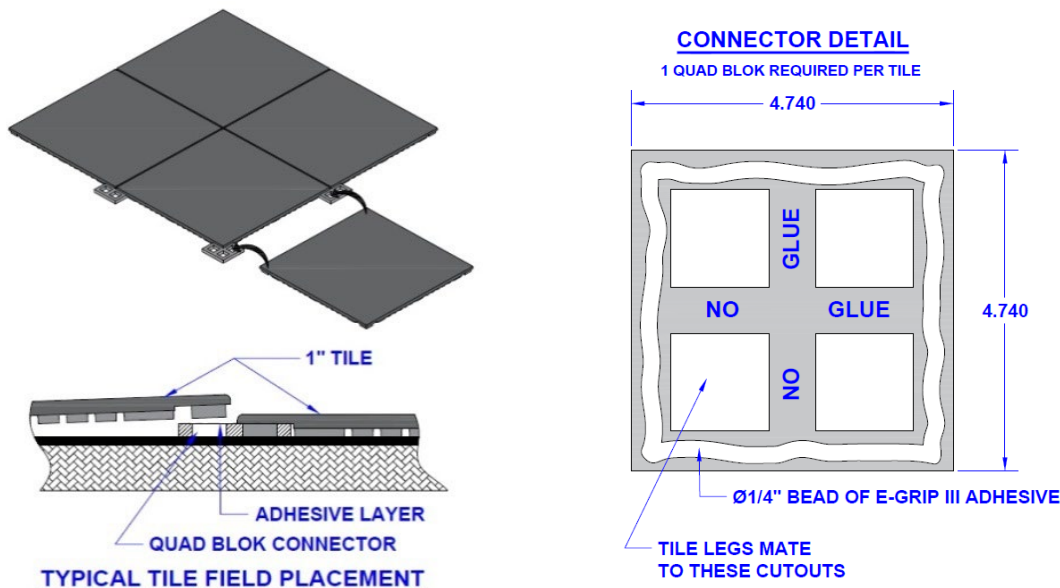
**C. QUAD BLOK INSTALLATION (ALWAYS Required)**

1. Follow the Site Layout instructions to prepare the area for the installation of the 1" tiles.
2. Once chalk lines are established, place the first tile at the intersection of two chalk lines, aligning adjacent edges of the tile with the chalk lines.
3. Apply a continuous 1/4" diameter bead of E-Grip III adhesive around the perimeter of the Quad Blok connectors. Working adhesive time is dependent upon environmental conditions. See NO GLUE zones in Connector Detail drawing below.

4. Fit the first tile with four prepared Quad Blok connectors by lifting each tile corner slightly, sliding the connectors under each corner and engaging the four corner legs of each tile with the respective apertures in the Quad Blok. Continue to sequentially lay the tile and to set the Quad Blok connectors along one chalk line until the first course of tile is complete.

**NOTE: Cut the Quad Blok connectors in half to secure perimeter tiles**

5. Complete the other three quadrants in a similar fashion.
6. Roll with a 75–100 pound flooring roller after gluing tiles into Quad Bloks. Roll again 1 hour later.
7. Allow 24 hours for adhesive to cure before opening area for foot traffic, 48 hours for heavy loads and 72 hours before placing equipment.
8. One 28 ounce tube of E-Grip III is required for approx. 40 of the Quad Bloks.



Note: Adhesive spills must be removed while still wet. Use a dry rag to pick up the majority of the adhesive. Wipe the remaining residue with a rag dampened with mineral spirits or denatured alcohol, followed by a rag damp with water to remove the mineral spirits/ denatured alcohol. Cured adhesive can only be removed from surfaces by mechanical means, such as scraping or sanding.

#### D. INSTALLATION – OUTER COURSE TILE

1. Tiles installed against a wall will most likely have to be cut to fit. Use a heavy-duty utility knife and a straight edge. A saber saw with a coarse 7-10 TPI wood cutting blade, variable speed and orbital settings also work well. A support table is required during cutting; a standard shipping pallet may be suitable.
2. **DO NOT leave a cut edge of a tile exposed to foot traffic.** Any tile edge that has its factory molded, radius edge removed for any reason should have its cut edge protected using a 1" masonry or timber edging, unless that edge is to be placed against a wall or other vertical member.
3. If the tile is being installed wall-to-wall, the perimeter tiles **are also** installed with Quad Bloks connecting the perimeter tiles to the interior tiles, with the walls serving to contain the perimeter row of tile. Any perimeter tiles that are not contained by walls, such as at a doorway, or in a free-standing or "area rug" configuration, should be adhered to the substrate. Ramps will be adhered as well and

provide a transition from the tile to the original floor level. The perimeter tiles and ramps must be adhered using E-Grip III adhesive with a 1/8" square-notched trowel.

4. Once tiles are laid into the wet adhesive, roll the floor with a 75-100-pound flooring roller. Adhesive should be allowed to cure for 24 hours before walking on the tile.

## **E. INSTALLATION – RAMPS & TRANSITIONS**

1. Cut in the same way as the tiles. Corners should be miter cut.
2. The most accurate cuts are made using a heavy-duty utility or carpet knife and a straight edge. A saber saw utilizing a 7-10 TPI wood cutting blade also does an acceptable job, especially for radius or free-form cuts. A cutting table used to support the work is required during cutting. A standard shipping pallet works well.
3. Cut away any protruding Quad Blok material
4. Make sure that the subfloor is flat, clean, dry and free of contaminants such as waxes, finishes, sealers, or other extraneous materials that would prevent a good adhesive bond.
5. Unpack the materials and allow them to sit in the area to be installed. Materials and adhesive must be acclimated at a uniform room temperature for a minimum of 48 hours prior to installation. Dry lay and make appropriate cuts before opening the adhesive.

**Note:** The toe edge of the ADA ramp contains a wire reinforcement material. Take care not to bend the edges as it will be difficult to get ramps with bent reinforcement to lay flat.

6. Mark the areas where adhesive is to be applied and temporarily remove the ramps / transition.
7. Spread E-Grip III urethane adhesive using a 1/8" square notch trowel. Do not spread more adhesive than can be covered in 30 minutes.
8. Carefully place the ramps into the adhesive. Be sure to press down firmly to assure proper adhesive transfer to the back side of the ramp and roll with a 75-100 pound three sectional flooring roller.
9. Use weight to evenly hold down the entire ramp / transition, including the small or toe side.

**NOTE: Do not allow adhesive to cure on your hands or the flooring; it is very difficult to remove. We strongly suggest wearing gloves.**

**Note:** Adhesive spills must be removed while still wet. Use a dry rag to pick up the majority of the adhesive. Wipe the remaining residue with a rag dampened with mineral spirits or denatured alcohol, followed by a rag dampened with water. Cured adhesive can only be removed from surfaces by mechanical means, such as scraping or sanding.

10. After 24 hours, remove the weight.
11. Clean and maintain the area in accordance with the instructions in the Maintenance Section below.

## **F. FULLY ADHERED INSTALLATION – Mandatory for exterior installations**

1. Follow the site layout instructions to prepare the site area for installation. The tiles, accessories, and substrates should be weather tight and maintained at a minimum uniform temperature of 65°F (18°C) for 48 hours before, during, and after the installation.

**NOTE:** Dimensional tolerance for tiles is +/- 1/8" in thickness and +/- 1/8" in width. From time to time during installation, it may be necessary to measure and hand select tiles to ensure that course lines remain straight. Additionally, color tone and shading may vary to the extent that some hand selection is required to maintain maximum uniformity throughout the site.

As with any flooring product, dry laying and full inspection of all tiles will allow for a quality installation. Tiles should be inspected from several angles and adjusted as necessary.

**NOTE: It is the installer's responsibility to inspect all products to insure the correct style, thickness, and color. Any moderate to severe discrepancies should be reported immediately before beginning the installation. No labor claims can be paid on material installed with visual defects.**

NOTE: Use a 1/8" square notch trowel with a coverage rate of approx. 60 sq. ft./ gal.

2. For an interior installation, Moisture must be measured using the RH Relative Humidity test method per the ASTM F2170 test standard. Moisture content should not exceed the allowable limit of the selected Ecore adhesive.
  - a. E-Grip III – RH limit of 85% – normally selected
  - b. E-Grip 95 – RH limit of 95% – higher RH applications
  - c. E-Grip 99 – RH limit of 99% – highest RH applications

If RH levels exceed the selected Ecore adhesive's RH limit, stop and correct situation.

If outside, simply use E-Grip III

3. In the event that a moisture mitigation system is required, it must conform to the ASTM F3010 Standard Practice for Two-Component Resin Based Membrane Forming Moisture Mitigation Systems for use Under Resilient Floor Coverings.
4. It is essential that pH tests be taken on all concrete floors. If the pH is greater than 9, it must be neutralized prior to beginning the installation.
5. Using a 1/8" square notch trowel, apply the selected adhesive out slightly wider than the tile being placed. Do not spread more adhesive than can be covered in 30 minutes.
6. **Quad Bloks must be used and installed per Quad Blok installation section above.**
7. Place tiles with Quad Bloks into the fresh adhesive bed following pre-established course lines. If applicable, place ramps into the fresh adhesive in a similar manner.
8. After placing tiles into adhesive bed, roll the tiles with a 75-pound three section flooring roller to ensure adhesive transfer to the bottom of the tile feet.
9. Adhesive should be allowed to cure for 24 hours before allowing foot traffic. All heavy traffic and/or light rolling loads should be avoided for a minimum of 72 hours after installation to allow adhesive to develop strength.
10. Tile cuts are typically laid out by referencing dimensions from the edges of the tiles, already in position, to a wall or other obstruction along or around which the tiles are to fit. These dimensions are then transferred to and laid out on the tile to be cut.
11. Corner ramps should be miter cut.

## Maintenance

The following procedures are key in helping to preserve your turf:

I.	<b>Keep it clean</b>
II.	<b>Brush periodically</b>
III.	<b>Do not abuse</b>
IV.	<b>Report any problems promptly</b>

### I. Keep it clean

## 1. Dust, pollen, and airborne pollutants

For lightly soiled areas, it may be necessary to use a rectangular microfiber mop with three (3) ounces of E-Cleaner per gallon of water. For heavily soiled areas, repeat procedure using a three (3) percent solution of household ammonia in warm water followed by a thorough rinsing with warm water. A wet vacuum can be used to remove excess water from the surface.

## 2. Stains and other blemishes

The first rule is promptness. It is always easier to clean up a fresh spill than one that has dried and hardened. Remove any solid or paste-like deposit with a spatula or table knife. Blot up excess liquids with paper towels, a clean cloth, or a dry absorbent, such as kitty litter or fuller's earth. Dry absorbents can then be vacuumed up afterwards.

Synthetic fibers have high resistance to staining. However, it is important to realize they are only one part of a sophisticated system of various components designed for overall performance. Some cleaning agents safe for the face fibers can be harmful to other components of the turf system. Therefore, cleaning agents are grouped into two sets, one of which can be used in liberal amounts directly on the turf surface, and the second of which should only be applied by rubbing a cloth lightly soaked in the cleaner in order to minimize penetration of possible harmful agents below the turf surface.

In the **first group** of cleaners, which generally can be applied without any special precautions are the following:

- A warm, mild solution of granular household detergent or any low sudsing detergent for fine fabrics. Use approximately one teaspoon to one pint of water. This will handle most waterborne stains including:

Coffee	Cola	Tea	Blood
Ketchup	Milk	Ice Cream	Urine
Mustard	Cocoa	Butter	Dye
Fruit juices	Vegetable juices	Glue	Latex paint

- A three (3) percent solution of ammonia in water may be used in lieu of household detergent for more stubborn stains.
- Do not use cleaners that contain chlorine bleaches or caustic cleaners (pH above 9) or highly acidic cleanses (pH below 5). Use only neutral cleaners such as E-Cleaner.
- Rinse area thoroughly with clean warm water to remove any traces of soap or ammonia
- Blot up excessive liquid.

In the **second group** of cleaners, which must be applied sparingly and care taken to avoid penetration beneath the turf are the following:

- Mineral spirits or a grease spot remover like perchlorethylene (dry cleaning solution) of the type sold by most variety stores and supermarkets. In general, cleansers in this category should handle most oil-based stains including:

Asphalt	Motor oil & grease	Chewing gum	Lipstick
Tar	Suntan oil	Crayon	Nail polish
Shoe polish	Cooking oil	Ballpoint ink	Floor wax



**Caution:** Mineral spirits and other petroleum-based solvents are flammable. Do not smoke or permit open flames near where these are being used.

Be sure the area is well ventilated where solvent cleaners are used and remember to use sparingly.

3. Animal waste

Neutralize with mixture of white distilled vinegar in an equal amount of water. Flush thoroughly with water after application. And vacuum up excess solution with a wet vacuum.

4. Chewing gum

In addition to dry cleaning fluid, chewing gum can be removed by freezing. Aerosol packs of refrigerant are available from most carpet cleaning suppliers for this purpose, or dry ice can be used. After freezing, scrape with a knife.

5. Fungus or mold spots

A one (1) percent solution of hydrogen peroxide in water can be sponged on to the affected area. Flush thoroughly with clean water after application.

**II. Periodic brushing**

1. Matting of fibers may occur in areas of high foot traffic, especially if fibers have become soiled with dirt and other airborne pollutants.
2. Periodic "cross brushing" of the turf can help restore its aesthetic appearance. "Cross brushing" means all brushing activity takes place against the grain, nap, or sweep of the turf fibers. By brushing against the turf, the fibers are "fluffed up". A brush with synthetic bristles should be used. Never use a brush with metal or wire bristles as these will change the turf fibers.

**III. Do not abuse**

Although the Drive Turf Tile is made of tough, durable fibers, certain precautions should be taken to prevent any damage.

- Lighted cigarettes cannot ignite the turf but can fuse the tips of the fibers together.
- Furniture and equipment with sharp or jagged edges may puncture or tear the turf.
- Sprinkler system water or hard water can leave mineral deposits
- Do not expose turf to reflected sunlight as this may fuse the fibers together.

**IV. Report any minor problem**

Minor problems can become major problems quickly if not corrected.

Remember that the proper care and maintenance program can enhance the aging, usefulness, and aesthetics of the turf.

## **Warranty**

All Centaur Drive Turf Tiles are guaranteed to be free from manufacturing defects on both material and workmanship. If such a defect is discovered, the customer must notify Centaur either through the contracting installer, distributor, or directly. If found to be defective under normal non-abusive conditions, the sole remedy against the seller will be the replacement or repair of the defective goods, or credit may be issued not exceeding the selling price of the defective goods. These warranties only apply to the original purchaser.

Please see the Centaur Warranty Guide for length specifics.

Centaur Drive Turf Tile warranty shall not cover dissatisfaction due to improper installation, normal wear, damage from improper maintenance or usage, or general misuse, including and without limitation: burns, cuts, tears, scratches, scuffs, damage from rolling loads, damage from cleaning products not recommended by Centaur, slight shade variations or shade variations due to exposure to direct sunlight, or differences in color between samples or photographs and actual flooring.

## **Warranty Exclusions**

1. Disfigurement or damage caused by abnormal use or any damage not arising from a defect.
2. Differential fading due to light exposure, shading, pile crush, dye lot differences, and soiling.
3. Any condition that would have had a visible defect upon inspection prior to installation.
4. Damage from any use for which the product was not designed.
5. The exact matching of shade or color.
6. Any express or implied promise made by any salesman or representative.
7. Tears, burns, cuts, or damage due to improper installation, improper use, or improper cleaning agents or maintenance methods.
8. Labor costs for installation of original or replacement material.
9. Sale of "remnants", "seconds", "off goods" or other irregular (non-first-quality) flooring materials. With respect to "seconds", "off goods", or "remnants", such are sold "as is," and Centaur makes no warranties whatsoever, express or implied with respect thereto, including warranties of merchantability or fitness for a particular purpose.
10. Problems caused by moisture, hydrostatic pressure, or alkali in the sub-floor.
11. Problems caused by uses, maintenance, and installation that are contrary to Centaur specifications, recommendations, or instructions.
12. Material installed with obvious defects.
13. Material that is not installed and maintained as recommended by Centaur.
14. Damage to flooring products from pallet jack and tow-motor or vehicular traffic.
15. Environments where the product will be exposed to animal fats, vegetable oils, grease, or petroleum-based materials. (i.e.: commercial kitchens or auto repair facilities.)
16. Premature wear and deterioration from spikes or natural grass cleats.
17. Differences in color between products and photography.

This warranty is in lieu of any other warranty, whether expressed or implied, including but not limited to any implied warranty of merchantability or fitness for a particular purpose. Centaur shall not be liable for incidental or consequential losses, damages or expenses directly or indirectly arising from the sale, handling, or use of the materials (goods), or from any other cause relating thereto. For complete and latest warranty information, please visit [www.centaurfloors.com](http://www.centaurfloors.com)



**800-536-9007**

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**Manufactured in the U.S.A. by**



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