



1" Drive Tile Technical Manual

Installation · Maintenance · Warranty

Manufactured in the U.S.A. by Ecore

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Supersedes all previous versions.
Check website for updates.

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I. SURFACES & METHODS

INTERIOR INSTALLATION			EXTERIOR INSTALLATION		
24" x 24" x 1"	Method		24" x 24" x 1"	Method	
Surface	Adhere to Quad Blok only	Adhere to Quad Blok + Full Glue ^{2,4}	Surface	Adhere to Quad Blok only	Adhere to Quad Blok + Full Glue ²
Sound Reducer Sound Control Underlayment ¹	Approved	Approved	Sound Reducer Sound Control Underlayment ¹	Not Approved	Not Approved
Concrete Slab ³	Approved	Approved	Concrete Slab ³		Approved
Concrete Pavers	Approved	Approved	Concrete Pavers		Not Approved
Asphalt	Approved	Approved	Asphalt		Approved
Plywood	Approved	Approved	Plywood		Not Approved
Flake Board/ OSB	Approved	Not Approved	Flake Board/ OSB		Not Approved
Compact Gravel	Not Approved	Not Approved	Compact Gravel		Not Approved
Wood or Tile	Approved	Bond test²	Wood or Tile		Not Approved
Resilient Flooring	Approved	Bond test²	Resilient Flooring		Not Approved
Carpet	Not Approved	Not Approved	Carpet		Not Approved
			Roofing		Not Approved

1. Sound Reducer Sound Control Underlayment must be installed per applicable technical manual and fully adhered with E-Grip III
 2. Bond test is 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

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. 1/8" square notch trowel (exterior) 2. Safety glasses 3. Saber saw (Jig saw) or band saw 4. 75-100 pound three section floor roller 5. Cutting table (shipping pallet) | <ol style="list-style-type: none"> 6. Utility knife and blades 7. Framing square/metal straight edge 8. Standard size caulk gun 9. Mineral spirits / denatured alcohol 10. Blades for saber saw (7-10 teeth per inch, wood type) |
|---|---|

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. Additionally, color tone and shading may vary to the extent that some hand selection is required to maintain maximum uniformity throughout the site.

A. Site Elevation

1. On grade installation - The finished installed height of the Tile surface will be equal to or slightly higher than the perimeter grade unless approved by the project engineer.
2. 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 Drive Tile.
 - 2. Paved Asphalt Base:
 - a. Use a coarse asphalt aggregate mixture; the preferred aggregate size for the adhered system is 3/8" to 1/2". Do not use asphalt mixtures with a high percentage of fines; they may become less stable hot weather and may become soft enough to allow the tiles to slide in high use areas.
 - b. The soil sub-grade AND the crushed stone base must both be compacted with a minimum of two passes using a 10-ton vibratory roller, with no soft or moving areas when complete. The binder and wear courses of the asphalt must both meet 95% of the theoretical maximum density of 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 should be allowed to cure for 28 days before adhering Drive Tile.
 - 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. Shrink wrap is to secure and stabilize material on pallet during shipment only. Please remove shrink wrap from pallet immediately upon receipt, as damage to material could result from not doing so. After removing shrink wrap, do not expose material to sunlight. Store appropriately inside and securely cover for protection until installation.

- C. 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. Centaur will honor no labor claim on material installed with any visually apparent defects.
- D. 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. UltraTile may be installed over most concrete, wood, or tile which is 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 installations requiring adhesion to concrete, 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

- 5. 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.
- 6. For installations requiring adhesion to concrete, perform pH tests on all concrete floors per ASTM F3441 Testing Concrete pH for Resilient Flooring. If greater than the allowable limit of the selected Ecore adhesive, neutralize prior to installation.

NOTE: Dimensional tolerance for tiles is +/- 1/8" in thickness and +/- 1/8" in width. It may be necessary during installation to measure and hand select tiles to ensure course lines remain straight. Color-tone and shading may vary, and some hand selection maybe required to maintain maximum uniformity throughout site. Tiles should be inspected from several angles and adjusted as necessary.

NOTE: Slight variance in shade and color chip dispersion is normal. 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.

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.

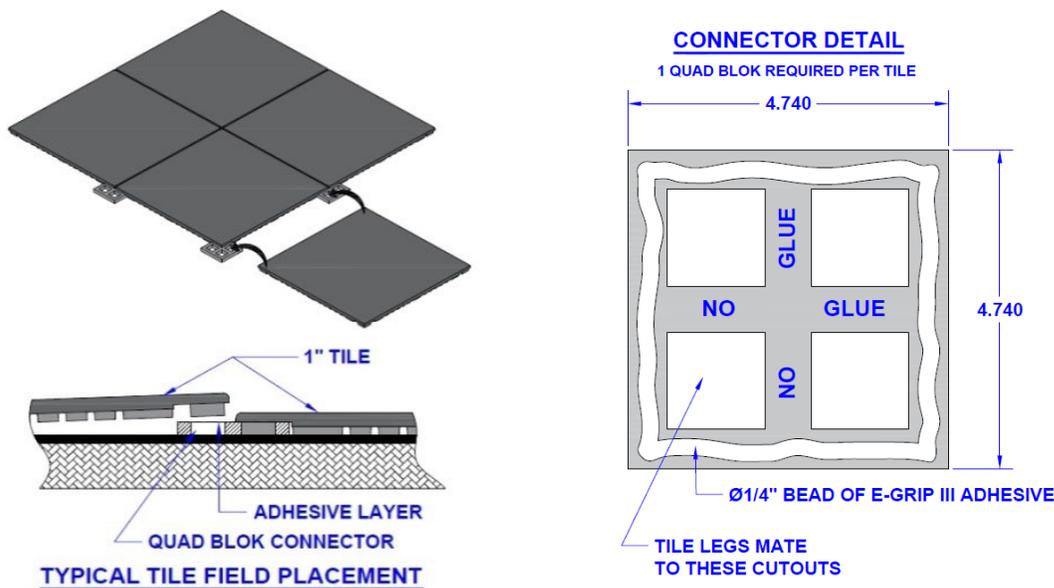
3. Place the first tile's edges where the two perpendicular chalk lines meet.
Hint: Adjust starting point to balance tiles side-to-side to not end up with small tile cuts against walls.
NOTE: It is important to start the installation from a perfectly straight chalk line.
4. The last row of tiles will most likely have to be cut to fit.

C. QUAD BLOK INSTALLATION (ALWAYS Required)

1. Follow the Site Layout instructions to prepare the area for the installation.
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 full 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: Do not allow adhesive to cure on your hands or the flooring. Cured adhesive is very difficult to remove and we strongly suggest wearing gloves! Immediately wipe off excess adhesive with a rag slightly dampened with mineral spirits or denatured alcohol. Follow with a rag dampened with water.

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 that has its factory molded, radius edge removed for any reason should be backed along that edge using a 1" masonry or timber edging, unless that edge is to be placed against a wall or other vertical member.
3. Any tiles which are not contained by walls should be adhered to the existing floor using E-Grip III adhesive with a 1/8" square notched trowel. Set tiles and ramps in the adhesive bed. Perimeter tiles set in the adhesive bed should be connected to the next inner course of tiles with Quad Bloks.
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. 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 works well. A support table is required during cutting; a standard shipping pallet may be suitable.
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 and we strongly suggest wearing gloves!

Note: Immediately wipe off excess adhesive from floor with a rag dampened with mineral spirits or denatured alcohol and immediately remove the mineral spirits/ denatured alcohol with a rag damp with water. Use mineral spirits / denatured alcohol sparingly! 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: Centaur's Drive Tile is manufactured from recycled materials and slight variance in shade and color chip dispersion is normal. 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.

NOTE: Use a 1/8" square notch trowel. Coverage rates for the E-Grip III adhesive are approximately 60 square foot per gallon using a 1/8" square notch trowel.

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.

For an exterior installation, 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. For installations requiring adhesion to concrete, perform pH tests on all concrete floors per ASTM F3441 Testing Concrete pH for Resilient Flooring. If greater than the allowable limit of the selected Ecore adhesive, neutralize prior to installation.
5. Using a 1/8" square notch trowel, apply the E-Grip III 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 / transitions 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 back 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

It is the Specifier's responsibility to:

- Mandate covering and protection of floor from damage and construction debris until construction is complete.
- Assign to the appropriate party responsibility for the initial cleaning of floor following published procedures.

Centaur recommends our environmentally friendly line of maintenance products, including E-Cleaner.

It is the General Contractor's responsibility to provide:

- A building or installation area that is fully enclosed from the elements, e.g., finished roof, windows, doors, etc.
- Temperature that is climate controlled with a minimum uniform temperature of 65° F for 48 hours prior to, during, and after the flooring installation, for acclimation of flooring materials.
- Protection for those areas of the flooring that are subject to direct sunlight through doors or windows by having the doors or windows covered for such time until the installation of the material is complete.
- Protection for flooring from damage and construction debris by using an appropriate floor covering until such time that the recommended initial cleaning may be performed.

Steps	Cleaning Product	Mixture	Equipment
Initial Cleaning	E-Cleaner	10 oz. /gal. water	Soft Nylon Brush or 3M 5100 Red Pad or equal
Daily Cleaning	E-Cleaner	2-4 oz. /gal. water	Microfiber Mop, Soft Nylon Brush or 3M 5100 Red Pad or equal
Heavy Soil & Restorative Cleaning	E-Cleaner E-Strip	10 oz. /gal. water 16 oz. /gal. water	Soft Nylon Brush or 3M Blue 5300, Brown 7100, or Black 7200 pad as req'd. (Do not use High Productivity Pad)

1. Initial Cleaning

- a. Remove all surface soil, debris, sand, and grit by sweeping, dust mopping, or vacuuming.
- b. Scrub floor with E-Cleaner (10 oz. /gal. of water), using low speed scrubber or auto scrubber with a soft nylon brush or pad per table above. Avoid flooding the floor.
- c. Pick up solution with a wet vacuum. Rinse with clean water, picking up the rinse water as well with a wet vacuum and allowing it to dry thoroughly (6-8 hours).

2. Daily/Regular Cleaning

- a. Remove surface soil, debris, sand, and grit by sweeping, dust mopping, or vacuuming.
- b. Damp mop with a microfiber mop, low speed scrubber or auto scrubber with E-Cleaner diluted (2-4 oz. /gal. of water) and pad per table above.
- c. Rinse with clean water to remove residue.

3. Heavy Soil

- a. Remove surface soil, debris, sand, and grit by sweeping, dust mopping, or vacuuming.
- b. Scrub floor with Ecore's E-Cleaner diluted 10 oz. /gal. water, using a low speed scrubber or auto scrubber with a soft nylon brush or pad per table above. Avoid flooding floor.
- c. Pick up solution with wet vacuum. Rinse with clean water and pick up rinse water with a wet vacuum or auto scrubber. Allow tiles to dry thoroughly (6-8 hours).

4. Restorative Maintenance

- a. Remove surface soil, debris, sand, and grit by sweeping, dust mopping, or vacuuming.
- b. SLOWLY scrub floor with E-Strip diluted 16 oz. /gal. water, using a low speed scrubber or auto scrubber with a stripper pad per table above. Avoid flooding floor.
- c. Vacuum soiled solution with a wet/dry vacuum.
- d. Pick up solution with wet vacuum. Rinse with clean water and pick up rinse water with a wet vacuum or auto scrubber. Allow tiles to dry thoroughly (6-8 hours).

Warranty

Centaur warrants that the Drive tile will be free from defects in materials and workmanship, that surface wear due to ordinary abrasion from pedestrian traffic will not penetrate the wear course of the surface, and that, when installed according to the manufacturer's specifications, will ensure the surface remains fixed and functional. If found to be defective under normal non-abusive conditions, at the discretion of Centaur, the sole remedy against the seller will be to repair, to replace, or to issue a credit 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.

This warranty shall not cover dissatisfaction due to improper installation, normal wear or quality of installation expected from the use or environment of installation, 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.

Excluded from Warranty

These warranties do not apply to the following:

1. The exact matching of shade, color, or mottling.
2. Any express or implied promise made by any salesperson or representative.
3. Tears, burns, cuts or damage due to improper installation, improper use or improper cleaning agents or maintenance methods.
4. Wear from chairs or other furniture without proper floor protectors will void the warranty. Care should be taken to protect the flooring from damage by using good quality protective feet for chairs, tables, and other furniture. Chair mats may be required under chairs with casters/wheels.
5. Labor costs for installation of original or replacement material.

6. 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.
7. Problems caused by moisture, hydrostatic pressure, or alkali in the sub-floor.
8. Problems caused by uses, maintenance, and installation that are contrary to Centaur specifications, recommendations, or instructions.
9. Material installed with obvious defects.
10. Damage to flooring products from high heels or spike heels.
11. Damage to flooring products from rubber mats, rubber-backed mats or vehicle tires.
12. Installation with adhesives other than those recommended by Centaur.
13. Fading and/or discoloration resulting from heavy sunlight penetration and ultraviolet ray exposure from direct or glass-filtered sunlight.
14. Material that is not installed and maintained as recommended by Centaur.
15. Damage to flooring products from pallet jack and tow-motor traffic.
16. Environments where the product will be exposed to animal fats, vegetable oils, grease or petroleum-based materials. (i.e.: commercial kitchens our auto repair facilities.)
17. Premature wear and deterioration from spikes and skate blade exposure.
18. Differences in color between products and photography.
19. Embossing / density deviations between product and samples, 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

Centaur
Floor Systems

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www.centaurfloors.com

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