

# EkoFlo Permeable Pavement Binder

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## FEATURES & BENEFITS:

EkoFlo is a permeable pavement binder designed for use with clean, dry pebbles to create stunning pebble walkways, patios, and tree wells. It provides a strong-cross linking bond for residential and commercial foot traffic applications while allowing water transfer into the ground below. Once the ready-to-use binder is mixed evenly with pebbles, the blended material trowels into place easily to form a smooth, beautiful surface. EkoFlo is available in 16-ounce, 1-gallon, and 5-gallon bottles, or as a 50-pound bucket kit with pebbles and binder.

- Cross-linking liquid binder
- Creates beautiful pebble surfaces
- Permeable walkways and patios
- Reduce stormwater runoff
- Ideal for tree well ground cover
- Mix with pebbles & recycled glass
- UV stable with ultra clear finish
- Blended mixture trowels easily
- Easy to install with common tools
- Freeze-Thaw resistant
- Environmentally safe

## COVERAGE RATE:

Pebble Size Range:	EkoFlo per 50 lbs of Pebbles:	Coverage Rate:
1/8" - 1/4"	24 ounces	30 ft <sup>2</sup> /gallon
1/4" - 3/8"	16 ounces	40 ft <sup>2</sup> /gallon
3/8" - 1/2"	12 ounces	50 ft <sup>2</sup> /gallon

Recommended Installation Depth @ 1.5"



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## SAFETY INFORMATION:

### ISOCYANATE DISCLOSURE

This product contains isocyanate, and although rare, may produce an allergic reaction in some people. Persons allergic to isocyanate, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanate.

When working with this product, always use **Personal Protective Equipment (PPE)** including;

- > Safety glasses / face shield
- > Impenetrable gloves
- > Long sleeve shirt
- > Long pants
- > Close-toe shoes or boots

### AVOID DIRECT CONTACT WITH SKIN

In any case of liquid binding agent or blended material making contact with skin or clothes, clean immediately with soap and water.

## TOOLS:

### BASIC

- > EkoFlo Mixing Wand
- > EkoFlo Mixing Bucket
- > EkoFlo Mixing Bucket Grip
- > ½" drive cordless drill driver w/ steel chuck and side handle
- > Wheelbarrow
- > Shovel or garden hoe
- > Concrete trowel
- > WD-40® and/or PAM® cooking spray
- > Cleaning rags or towels

### OPTIONAL

- > For larger projects;
  - o Poly or steel drum paddle mixer
  - o 36" grade rake
  - o Screed board
  - o Hand tamp
  - o Push broom
  - o Steel drum walk-behind roller
  - o Vibratory plate compactor
    - Subbase only

## SUITABLE APPLICATIONS & MATERIALS:

### APPLICATIONS

- > Patios
- > Walkways
- > Tree Wells
- > Planter Beds
- > Drainage Conductors

### SURFACE MATERIALS

- > All materials must be clean & dry;
  - o Pebbles
  - o Aggregates
  - o Recycled Glass
  - o Synthetic Mulch

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## INSTALLATION:

### TOP 5 TIPS

- EkoFlo contains isocyanate, and although rare, may produce an allergic reaction in some people. Persons allergic to isocyanate, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanate. When working with EkoFlo, always use personal protective equipment (PPE) such as safety glasses, impenetrable gloves, long sleeves and pants, and closed toe shoes or boots (avoid direct contact to skin).
- EkoFlo should be installed within an ambient and surface temperature range of 55° – 90° F. Shaded, low sunlight, or colder areas will lengthen cure times. Conversely, direct sun, warmer areas will shorten cure times. Avoid temperatures at or below 55° F and above 90° F for EkoFlo installation, curing phase, or storage.
- Under-applying EkoFlo binder will reduce bond strength. Conversely, over-applying will adversely affect the curing process and aesthetic. Always consult manufacturer coverage rate guidelines, or contact TechniSoil technical support at: 877-356-2250.
- Do not install EkoFlo less than 48 hours before or after rainfall. In damp conditions, allow to dry completely before application. Disable any irrigation systems near treated areas during application and cure phase.
- Mask all adjacent surfaces with tape and polyethylene film to protect surface materials from possible staining (i.e. stone, pavers, concrete, etc.). Clean any accidental spills immediately with acetone and a washcloth.

### PROJECT PLANNING

- Always perform a test section using recommended installation methods to confirm suitability of materials and project conditions!
- Bulk materials are not recommended, unless thoroughly washed, dried and tested for suitability. Pebbles containing sediments, dust, or fines, must be thoroughly washed and dried prior to use.
- Coverage rate is dependent on pebble size, and surface depth. See coverage chart.

### PROJECT PLANNING (continued)

- Surface sheen may vary over time due to weathering and foot traffic.
- For optimal water transfer permeability, a subbase comprised of compacted, screened rock is recommended. For heavier use projects, a subbase material with a higher load bearing capability is required, but may reduce overall permeability.
- Keep project area free from any moisture such as rain or irrigation sprinklers, foot traffic, or otherwise until fully cured (24 - 72 hours in optimal conditions, or until completely dry).

### MATERIAL SELECTION

- EkoFlo works best with pebbles that have been screened, triple-washed, and dried prior to packaging. Typically these types of pebbles can be found in pre-packaged bags, pails, or super-sacks.:
- EkoFlo can also be used with other clean, washed & dried materials such as;
  - Recycled Glass
  - Synthetic (Rubber) Mulch Chips
  - Angular Rock Chips
- A washed pebble will be free of stone dust or other impediments that could affect the bond strength and aesthetic of the surface.
- EkoFlo is not recommended for use with bulk materials that typically contain sediment and moisture such as pea gravel and crushed stone mixes, unless it is thoroughly washed and dried before mixing.
- The most commonly used and recommended pebble size is 3/8". Other recommended pebble or recycled glass size ranges are;
  - 1/8" - 1/4"
  - 1/4" - 3/8"
  - 3/8" - 1/2"
- Pebbles larger than 1/2" are not recommended for use with EkoFlo due to reduced bond points and stability.
- 1/2" pebbles should only be used in settings where there is no foot or vehicular traffic, such as tree wells and planter beds.

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<p><b>PEBBLE WASHING</b></p> <ul style="list-style-type: none"> <li>➤ Some pebbles will require a thorough wash &amp; dry process before use with EkoFlo.</li> <li>➤ To test the cleanliness of the pebbles, rub in between gloved fingers. If any residue or sediment is left behind, the pebbles will need to be washed.</li> <li>➤ Using a bucket, wheelbarrow, or wind-row, thoroughly wash pebbles with water and mild detergent (if needed). Agitate pebbles with clean shovel or rake. Rinse thoroughly, especially if detergent was used for cleaning.</li> <li>➤ Allow pebbles to air dry completely. Some agitation of the pebbles may be needed to allow evaporation.</li> <li>➤ Once again, test pebbles by rubbing in between gloved fingers. If residue or sediment still exists, repeat wash &amp; dry process or consider a cleaner material for use with EkoFlo.</li> </ul> <p><b>MIXING: EkoFlo Mixing Kit</b></p> <ul style="list-style-type: none"> <li>➤ For best results, use the <b>EkoFlo Mixing Kit</b> (items sold separately).             <ul style="list-style-type: none"> <li>○ <b>EkoFlo Mixing Wand</b> <ul style="list-style-type: none"> <li>■ For use with ½" drill w/ steel chuck and side handle.</li> </ul> </li> <li>○ <b>EkoFlo Mixing Bucket</b></li> <li>○ <b>EkoFlo Mixing Bucket Grip</b></li> </ul> </li> <li>➤ Insert Mixing Wand into drill and tighten.</li> <li>➤ Attach Bucket Grip to bottom of Mixing Bucket</li> <li>➤ <b>TIP:</b> For ease of use and limited strain to drill, it is recommended to mix 50-pounds of pebbles with EkoFlo at a time.</li> <li>➤ Make a cone-shaped divot in the middle of the pebbles.</li> <li>➤ Pour designated amount of EkoFlo binder into divot.</li> <li>➤ Insert Mixing Wand and begin to spin, slowly at first, and then progressively faster             <ul style="list-style-type: none"> <li>○ Take care to avoid spinning the binder out of the bucket before it is tilled into the pebbles.</li> </ul> </li> <li>➤ Mix thoroughly until the pebbles are evenly coated.</li> <li>➤ Clean Mixing Wand and other accessories with WD-40® and a rag as needed.</li> </ul>	<p><b>MIXING: Standard Equipment</b></p> <ul style="list-style-type: none"> <li>➤ Pour clean, dry pebbles into an appropriately sized, dry mixing container.             <ul style="list-style-type: none"> <li>○ Wheelbarrow</li> <li>○ Mixing basin or tub</li> <li>○ Poly or steel drum paddle mixer</li> </ul> </li> <li>➤ Pour designated amount of EkoFlo binder over pebbles.             <ul style="list-style-type: none"> <li>○ <b>IMPORTANT!</b> Avoid pouring liquid onto mixing container walls or mixing tools.</li> <li>○ If mixing on a concrete or hardscape surface, place a tarp below to catch any accidental spills.</li> </ul> </li> <li>➤ If mixing in a wheelbarrow or basin, use mixing tools to sweep dry pebbles over the top of standing EkoFlo liquid binder.</li> <li>➤ Once uniformly blended, begin mixing in a back and forth motion and turn over to mix material thoroughly.             <ul style="list-style-type: none"> <li>○ <b>TIP:</b> Use back side of shovel to drag materials up the sloped edge of the front of a wheelbarrow during mixing.</li> <li>○ <b>TIP:</b> In between shovel or garden hoe mixing, lean wheelbarrow on its back legs and then forward on the wheel to disperse material better.</li> </ul> </li> <li>➤ Blended material should be uniformly coated throughout before installing.</li> <li>➤ If mixing with a electric or gas powered mortar mixer with paddles, mix until pebbles are uniformly coated (as explained above).             <ul style="list-style-type: none"> <li>○ <b>IMPORTANT!</b> Do not use a cement mixer as it will not mix pebbles and EkoFlo thoroughly because of the flopping action while spinning.</li> </ul> </li> </ul> <p><b>INSTALLATION</b></p> <ul style="list-style-type: none"> <li>➤ <b>Personal Protective Equipment (PPE) is mandatory</b> <ul style="list-style-type: none"> <li>○ Safety glasses / face shield</li> <li>○ Impenetrable gloves</li> <li>○ Long sleeve shirt</li> <li>○ Long pants</li> <li>○ Closed-toe shoes or boots</li> </ul> </li> <li>➤ Calculate the square footage of the project area to determine material quantities needed for all aspects of the project.</li> </ul>
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<p><b>INSTALLATION (continued)</b></p> <ul style="list-style-type: none"> <li>➤ Consider methods for excavation and removal of native soil or existing structures, as well as transportation, delivery, and installation of new materials.</li> <li>➤ Excavate project area to an adequate depth to account for water percolation and drainage.</li> <li>➤ Weed or landscape fabric is not recommended, as it can trap moisture below the surface layer.</li> <li>➤ Use vibratory plate compactor to compact native subgrade in 3 - 4 passes, or as needed for adequate compaction.</li> <li>➤ Edge restraints are recommended for best results, optimal stability, and can greatly reduce degradation of edges caused by foot traffic or otherwise.</li> <li>➤ Edge restraints should not be higher than surface layer finish grade.</li> <li>➤ If project does not call for installation of edge restraints, proper compaction of edges is required. Some common examples of edge restraints used in this capacity are;             <ul style="list-style-type: none"> <li>○ Concrete landscape curbing</li> <li>○ Bender board</li> <li>○ Plastic or aluminum edging</li> <li>○ Pressure treated lumber</li> </ul> </li> <li>➤ Load bearing qualifications for any standard surface should be considered when constructing subbase for EkoFlo. While certain applications will allow for better drainage, they may not be adequate for various traffic loads. Consider the traffic load before constructing subbase.</li> <li>➤ For optimal water transfer permeability, a subbase comprised of compacted #57 screened base rock or equivalent is recommended.</li> <li>➤ While a subbase construction consisting of a compacted crushed stone mix will provide for higher load bearing performance, it can reduce the drainage performance.</li> <li>➤ Excavate project area to an adequate depth to allow for water percolation, drainage, and a recommended EkoFlo material depth of 1.5".</li> <li>➤ Subgrade should consist of at least 2" - 4" of compacted 3/8" - 3/4" minus structural base rock or adequate crushed stone mix for subgrade construction to provide optimal load bearing support.</li> </ul>	<p><b>INSTALLATION (continued)</b></p> <ul style="list-style-type: none"> <li>➤ Use vibratory plate compactor to compact subgrade 3 - 4 passes, or as needed for adequate compaction. If subbase material is dry, a light amount of water may be needed for proper compaction.</li> <li>➤ Pour blended mix directly onto prepared surface area. EkoFlo treated pebbles should be installed within 15 minutes of mixing.</li> <li>➤ Use a masonry trowel, rake, and/or screed board to level and compact the pebble mixture to desired grade (1.5" recommended depth).</li> <li>➤ Roll with a drum roller to attain a smooth surface, if needed.</li> <li>➤ All pebbles should be flush and smooth at the surface level.</li> <li>➤ Immediately after use, completely clean all tools and equipment with WD-40® or acetone and allow to soak for 1 - 2 minutes.</li> <li>➤ Allow surface to cure for 24 - 72 hours depending on conditions. Material will begin to solidify within 4 - 12 hours.</li> <li>➤ Avoid unnecessary foot traffic, water infiltration, or otherwise on treated areas until fully cured (usually 24 - 72 hours).</li> <li>➤ Remove any temporary edging 5 - 6 days after installation.</li> </ul> <p><b>CLEANUP</b></p> <ul style="list-style-type: none"> <li>➤ Clean any tools and equipment with WD-40® and a dry cloth as needed.</li> <li>➤ In case of accidental EkoFlo spill onto tools, equipment, or concrete / hardscape surface, clean immediately with WD-40® and a dry cloth as needed.             <ul style="list-style-type: none"> <li>○ For dried EkoFlo, use acetone and a dry cloth or brush to scrub affected areas.</li> </ul> </li> <li>➤ In case of accidental EkoFlo spill onto skin or clothes, clean immediately with soap and water.</li> </ul> <p><b>STORAGE</b></p> <ul style="list-style-type: none"> <li>➤ Store unopened / unused EkoFlo out of direct sunlight in areas with a temperature range of 40° - 90° F.             <ul style="list-style-type: none"> <li>○ Do not allow material to freeze.</li> </ul> </li> <li>➤ After opening, EkoFlo should be stored with a tight lid as it can slowly begin curing inside the bottle once air is introduced.</li> </ul>
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### MAINTENANCE

- Treated areas should withstand normal conditions for 24 - 60 months before a maintenance coat is needed.
- If a maintenance coat is needed, apply EkoFlo at a rate of 150 ft<sup>2</sup>/gallon using a paint roller or brush.

### WARRANTY

- TechniSoil Global, Inc. warrants this product to be free from defects. Where permitted by law, TechniSoil makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of merchantability or fitness for particular purpose. The purchaser shall be responsible to orchestrate their own tests to determine the suitability of this product for their particular purpose. TechniSoil's liability shall be limited in all events to supplying sufficient product to re-treat the specific areas to which product proven to be defective has been applied. Acceptance and use of this product absolves TechniSoil from any other liability, from any and all sources, including liability for incidental, consequential or resultant damages whether due to breach of warranty, negligence or strict liability. This warranty may not be modified or extended by representatives of TechniSoil, its distributors or dealers, independent contractors, clients or end-users of any kind.