



Porous Pavement: All Porous Pavements Do not Clog Fact Check

Well-designed porous pavement systems resist clogging



Porous & Pervious Pavements Resist Clogging

While it is important to design porous pavement systems (PPS) to resist the effects of silt, grit, sand and other fine material that can slow or stop infiltration of water - It is a common myth that all porous pavement systems eventually clog.



Myth: Porous Pavements Clog.

On the contrary, a good PPS system design, simple but effective site design and careful construction inspection and field guidance can all but eliminate the clogging threat.

System design do's and don'ts.

Cross-sections will vary according to the porous pavement systems selected, but there are some common concepts that need to be followed for successful, long-lasting percolation.

Never place filter fabric immediately below the porous pavement surface. Whether using pervious concrete, porous asphalt, polyethylene injection molded paving block (such as GEOBLOCK vegetated or GEOPAVE non-vegetated PPS) or concrete paving stone, your cross-section should allow free flow from the paving layer to the base and storage layers. The last thing you want is to trap water in your pavement layer. Surprisingly, at least one aggregate PPS manufacturer sells their product with a filter fabric attached to the bottom of the units.

Always use a filter fabric or other separator at the bottom of the base layer if the subbase contains fines that can move up into the open graded base course when saturated.

Choose wisely when specifying choker course and base gradation. A choker course is not necessary for polyethylene molded block products, since they ride on the surface of the open graded base course. It is necessary for brick pavers, pervious concrete and porous asphalt. You should select choker course materials carefully so as not to have them migrate into the base and create settlement problems. Choose too fine a material and you have settlement; choose too coarse and your paving surface will not place properly.

Common site design errors.

Drainage is still important, but for different reasons. For impervious surfaces, positive drainage to avoid puddling is standard. For pervious surfaces, one has to consider drainage below the surface. The design needs to consider water moving through the base to the low spot of the pavement area. Be cautious not to discharge from the base up through the surface of the pavement course. Consider a 50-foot long pervious pavement driveway at a 4% slope. There would be 2 feet of fall from the high-end to the low-end and in a heavy rain event, water could become transient and flow out of the pavement at the low side.





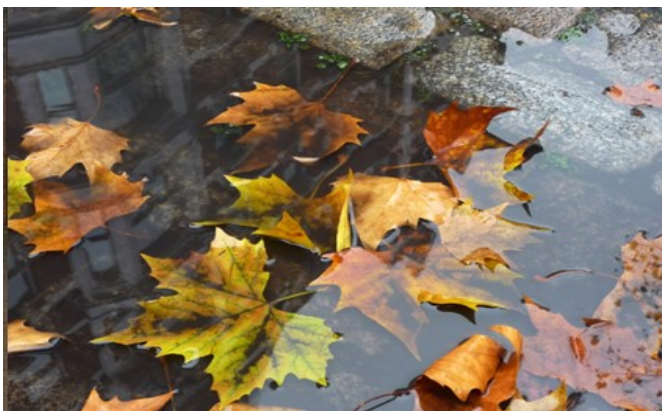
Porous Pavement: All Porous Pavements Do not Clog Fact Check

Well-designed porous pavement systems resist clogging

Common site design errors.

This horizontal transportation of water brings with it silt and sand that would become concentrated at the low-end of the pavement structure.

Another way that site design could create clogging is lack of consideration for **off-pavement sheet flow**. Whether it's leaves, grass clippings, or silt and topsoil – pavement adjacent drainage can transport contaminants in heavy loading conditions. Cut off swales and site contouring can prevent this from happening.



Common installation errors.

Pervious concrete should be a very stiff and dry mix. Adding water to the mix for workability at the site leads to the paste being pulled down by gravity and settling at the bottom of the concrete lift. With that thin layer of paste hardening, the high-volume water flow gets caught like a perched water table within the pervious concrete. This is not only bad for volume flow, but in cold-weather climates can create a standing water layer.



Common installation errors.

Gradations with a **high degree of fines** should be avoided for both aggregate polyethylene block style pavement as well as for open graded base course material. While there is no need for washed material, delivering material with high fines content essentially pre-contaminates your porous pavement system.



In some areas, river rock or brownstone is plentiful and inexpensive. The specifier should **fight the urge to accept** such stone as a substitute for crushed aggregate base course. Good porous pavement locks up and carries load well.

Some resin based block style products specify **sand bases**. While initially a coarse sand can drain adequately, it will quickly become clogged, water will saturate, pore pressures will rise and saturated conditions will lead to running.

How do you guarantee success?

Intelligent design by experienced manufacturers and engineers placed by seasoned contractors who understand that the details of the solution matter.

PRESTO GEOSYSTEMS®

670 N Perkins Street, Appleton, Wisconsin USA
1-800-548-3424 | www.prestogeo.com