

Permeable Pavement – Porous Pave®

Background. In May 2016, APCC made a decision to install a relatively new asphalt-alternative called “Porous Pave,” as the surfacing for our handicapped parking spot and path to the ramp entering the main building. APCC chose this asphalt-alternative surfacing material because the product has high permeability and is made of recycled tires. Porous Pave is but one example of new permeable applications now available. APCC plans to incorporate a variety of alternative applications as functional displays that can be viewed by the public.

APCC has samples of the recycled tire material that went into the project and has a disk of the material that helps demonstrate the speed at which water passes through. We will be happy to show you the material and provide a demonstration!

Porous Pave®

The term “porous pavement” is often used to refer to a variety of other permeable materials and applications such as porous asphalt, permeable pavers and concrete blocks with spaces that allow vegetation to grow, etc. However, “Porous Pave” is a pour-in-place permeable paving material made from recycled tires, aggregate and urethane binder. Porous Pave is an alternative to asphalt.

Design Specifications



APCC believes that this may be the first installation of Porous Pave® for parking and path on the Cape.

This is a relatively new type of material and application, and *the installation specifications are not the same as the traditional installation of asphalt.*

To understand the design requirements, the popular song by Megan Trainor comes to mind – because it is ALL ABOUT THE BASE on which the porous pave is spread that determines the application’s effectiveness in stormwater management. The base itself must be porous to achieve the stormwater goal of retaining the rainwater on site. Therefore, a 6 to 10-inch layer of 3/4-inch crushed stone is first laid, with 6 inches to either side of the finished path and parking size for stability. The stone must then be compacted by a hand-operated compactor to a level surface and final grade with the knowledge that only 1.5 to 2 inches of porous pave material is put down.

The recycled tire material comes in black, gray, brown, red, blue, green. The tire material is mixed with an adhesive binding agent and then spread across the surface of the compacted crushed stone.

Maintenance

An application of a coat of the binder every three years will help keep the material intact. Vacuuming the area with a shop-vac or walk-behind vacuum will keep debris that will reduce porosity from collecting in the pores. Snow removal may be done by snow plow, provided the plow is equipped with a shoe to avoid damage. DO NOT SAND the project area. *It is highly important not to spill soils or other debris on the porous pave as it will clog the holes and result in loss of permeability.*

Cost Comparison

Porous Pave application ranges from \$9-\$15 per square foot depending on the project, which means it is about twice as much as traditional asphalt. However, it should last twice as long or longer and there is the added beneficial reuse of tires that might otherwise end up in a landfill.

The manufacturer, Porous Pave, Inc. (www.porouspaveinc.com), lists these proven benefits of Porous Pave:

Highly Porous

- Porous Pave allows large amounts of water to drain through its surface, thereby minimizing the volume of stormwater run-off.
- Entire surface is porous—not just certain areas like brick pavers.
- Less run-off minimizes, and can eliminate, the need for sub-surface plumbing, retention ponds or catch basins—greatly reducing costs and maximizing useable square footage.
- Porous Pave eliminates puddles in low areas.

Environmentally Friendly

- Porous Pave is made with recycled tires, preventing thousands of tires from going to landfills.
- 300 scrap tires are used to create 1,000 square feet of 2-inch porous pavement.
- Porous Pave is mixed on-site and can be applied with little or no damage to existing landscape.

Flexible, Frost and Freeze Resistant

- Resists cracking and heaving commonly found on concrete sidewalks caused by ground movement or frost.
- Fifty percent rubber content allows the product to move if sub-base moves.
- Porous Pave can be applied in temperatures between 40° and 90° F and generally cures in 24 hours, a much wider temperature range and faster cure time than other permeable surfaces.

Installation Benefits

- Installs in less than half the time of pavers.
- Low impact installation—no heavy equipment needed, ideal for use in existing landscapes.
- Porous Pave is one large expansion joint, eliminating the need for “saw cuts” or expansion strips.

Slip Resistant

- High rubber content ensures good traction even when wet, lessening the chance of slip and fall accidents.
- Textured surface is not slippery compared to smooth surfaces like concrete.

Strong and Durable

- At only 2 inches thick, Porous Pave can handle low speed car and truck traffic.
- Use at 1.5 inches thick for bike paths, patios, trails, golf cart paths or any other foot and pedestrian traffic.
- Porous Pave is resistant to oil, chlorine, ozone, UV rays, muriatic acid, transmission fluid, gasoline, diesel, hydraulic fluid, salt water and many other hostile materials.
- Resistant to snow plow damage.

Trained and Experienced Contractor

- It's critically important to use a contractor that is knowledgeable and has experience installing the material for an effective installation. Cutting corners or improper installation will result in poor functionality.
- Porous Pave material, when installed by Certified Porous Pave Personnel or authorized agents, will carry a warranty for materials two years from the date of installation. Porous Pave's warranty is limited to the structural and mechanical integrity of the installed materials.