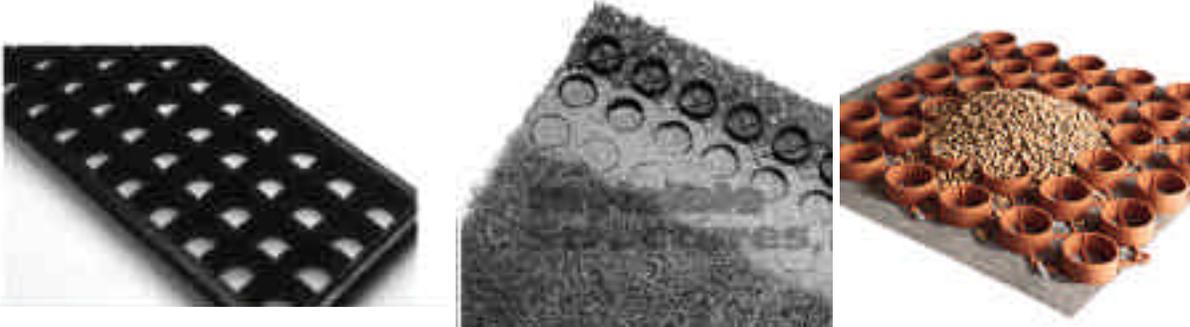


Product Comparisons

Grasspave² and Gravelpave² vs Geoweb

Presto Products manufactures “Geoblock” and “Geoweb” and have continuously tried to overturn projects specified with our Grasspave² product since they became licensed to sell a geocell product developed by the US Army Corps of Engineers several years ago. Presto has done this because both of their “Geoblock” grass reinforcement paving products are more expensive than ours, and their Geoweb product is a less expensive product to manufacture and sell.

We feel it is very important to be aware of design, performance, maintenance, and safety characteristics that distinguish our Grasspave² from “Geoweb”, and other similar web confinement products (generically known as geocells) when they are proposed for use in porous pavement applications. When discussing porous pavements we are really addressing the wearing course (surface) only, as all pavements require a suitable base course.



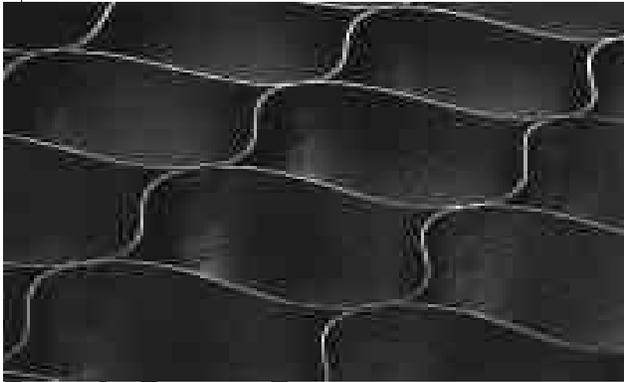
Geoblock Product 2 models-1.2 and 1.8 lbs per sf	Grasspave2 <.5 lbs per sf	Gravelpave2 .5 lbs per sf
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True Porous Pavements

Structurally, Geoblock is heavier and therefore stronger (based upon empty cell loads) than our Grasspave² and Gravelpave² products. However, the Geoblock cells are over designed for typical highway and road design loads, and the extra product weight becomes a cost penalty. Geoblock cells share common walls (except at product edges) and are therefore rigid from side to side and corner to corner.

Our products were designed with the advantages offered by a circular cell configuration which allows a thin cell wall to support very heavy loads. We also minimized structural mass by separating cells at a spacing that creates a “phantom cell” in between four real cells. A thin grid of plastic is used to fill the cells in the molding process and creates a flexible matrix to keep cells in place and provide flexibility for product shipping (in rolls) and performance on site.

Porous paving products are not used in an “empty cell” configuration, as they are always filled with some form of soil media which dramatically increases the inherent strength of individual cells. In the case of Grasspave², lab tests have confirmed an increase from 210 psi empty to over 5700 psi when filled with preferred sand media for grass. Similar testing data from Presto is not available.



Geoweb
with textured cell walls

Pseudo Porous Pavements

Geocells were originally developed to contain and stabilize normally unstable soils (such as sand) for use as a base course for temporary or remote access roads. This is done with thin flexible plastic cell walls that form lateral containment to minimize movement of materials away from loads applied to the surface. Geocells are provided in various thicknesses (depths) from 8" to 3" to accommodate various design loads.

Vertical containment is not possible as a horizontal fabric or membrane layer cannot be bonded to the bottom edge of geocell walls. Geocells can be placed over geotextile fabrics, but there is little to prevent cell walls from "floating" up, or allowing fill materials to encroach under cell walls (eliminating containment) if the cell wall is snagged by vehicle (snow plow, mower, trencher, etc.). Floating cells can be minimized by the use of textured fabric or membrane cell materials, holes in cell walls, or additional structural rod devices, at additional cost to basic structure.

Unless a firm or rigid wearing course is applied over the surface, ruts can develop and cell walls can become exposed. Aside from safety and comfort issues presented by walking over uneven pavement surfaces, exposed cell walls present a tripping hazard and will quickly deteriorate from UV light. Once ruts are created, original grade and containment by cell walls are impossible to reestablish, and maintenance costs rise dramatically.

The Geoweb cell size is approximately 8" x 8" when fully expanded. This compares to the ground surface contact area of most vehicle tires equal to 6.5" x 6.5". Thus, heavy loads can be applied to materials within each cell, allowing compaction and movement of materials within the cell - not acceptable for grass paved surfaces. Grass root systems demand stable media that is protected from compaction to enable long term horticultural success. Geocell walls are not spaced, nor are they structurally strong enough to support loads independently of the fill media.

Geocells work well to create a base course from low structural quality materials, but would be considered expensive and unnecessary when high quality base course materials are available.

Another major factor for comparison is installation time and cost of these products. According to an experienced contractor in Florida, who has installed all three products - Grasspave², Geoblock and Geoweb, Geoblock takes twice as long to install as Grasspave², and Geoweb is even more difficult and time demanding than Geoblock.

When you compare the long term performance and relative ease of installation, our Grasspave² and Gravelpave² products are the porous paving products of choice.

Geocell Comparative Features Rated	Score: 1=low, 5=high		
	Grasspave2	Gravelpave2	Geoweb
Surface rut resistance to traffic	5	5	1
Static load bearing capacity	5	5	5
Surface root zone compaction resistance	5	na	1
Cell wall structural integrity	5	5	1
Fill stability - lateral	5	5	4
Fill Stability - vertical	4	5	2
ADA accessible surface	5	5	na
Life cycle value	5	4	1

Notes -

Geoweb and Geoblock are registered trade names owned by Presto Products Corporation, a division of Reynolds Metals.