airfield systems

AIRPAVE POROUS PAVING
&
AIRDRAIN DRAINAGE
CONTENTS

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*The drawings, specifications and information contained herein is for general presentation purposes only. All final drawings and layouts should be determined by a licensed engineer.
AIRPAVE FOR GRASS PAVING

A flexible porous paving and drainage system for grass pave fire lanes, reinforced turf paving and swales. With over 400 installations across the country AirPave for grass pave is 233 psi unfilled, 6,747 psi sand filled and is made of 100% recycled content which can contribute to LEED™ points.

Benefits of an AirPave grass paving system include:

➤ Up to 45% cost savings on shipping, compared with rolled grass paving systems
➤ AirPave has been installed in over 400 flexible porous paving projects
➤ AirPave is made with 100% recycled copolymer polypropylene plastic with an impact modifier added to achieve a (NO-BREAK) plastics classification and a minimum 3% carbon black added for UV protection.
➤ Loading capability is equal to 233 psi empty and 6,747 psi when filled with clean sharp sand, over an appropriate base depth that provides adequate support for project design loads exceeding H-20 & H-25 requirements.
➤ AirPave is shipped on pallets with 114 parts equal to 798 sq. ft. per pallet. Each part is 32"x32"x1", weighs 3.10 lbs and is 8% solid.

CSI Master Format #32 12 43, #32 92 00 and #32 14 43. 
6,747psi = 971,568psf
Strong enough for Fire Engines weighing more than 75,000 lbs. Exceeding H-20 & H-25 AASHTO requirements.
AirPave™ Concrete Curb Edging

AirPave™ Flush Brick Edging

AirPave™ Flush Natural Edging

AirPave™ Metal or Plastic Edging

AirPave™ Cobblestone Edging

AirPave™ Landscape Timber Edge Raised/Flush

AirPave™ Permeable Edging Options
### AirPave vs Plastic Porous Grass Pavers

<table>
<thead>
<tr>
<th>Feature</th>
<th>AirPave</th>
<th>Tuff Track Grass Road</th>
<th>Geoblock</th>
<th>EcoRain</th>
<th>UrbanGreen</th>
<th>EZ Roll</th>
<th>Grassy Pavers</th>
<th>Eco Grid*</th>
<th>Geopave</th>
<th>Net Pave 50</th>
<th>Grasspave2</th>
<th>Permaturf</th>
<th>Stabiligrd</th>
<th>Turf Cell</th>
<th>BodPave 85</th>
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### AirPave vs Concrete Porous Grass Pavers

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<thead>
<tr>
<th>Feature</th>
<th>AirPave</th>
<th>Checker Block</th>
<th>Grasscrete</th>
<th>Drivable Grass</th>
<th>Eco Grid*</th>
<th>Turfstone</th>
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<td>Recycled Content</td>
<td>Included Guaranteed Analysis Fertilizer</td>
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<tr>
<td>Load Strength Empty</td>
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All information deemed reliable but not guaranteed. As of 05/09/2012

AirPave by AirField Systems, Oklahoma City, OK USA

BodPave 85 by Boddingtons, Maldon, Essex., UK

Geoblock by Presto Products/Alcoa, Appleton, WI, USA

Tuff Track Grass Road Paver8 and EZ Roll by NDS, Lindsay, CA

EcoRain by EcoRain Systems, Inc, Sherman Oaks, CA

Grassy Pavers by RK Manufacturing, Jackson, MI

Turfstone by Belgard Pavers/Old Castle, Atlanta, GA

EcoGrid* (Plastic Pavers) by TerrFirma Enterprises, Location Not Published

Geopave by Presto Products/Alcoa, Appleton, WI

Net Pave 50 by Netlawn Turf Systems, Genk, Belgium

Permaturf by Permaturf Co., Inc, Bow, NH

Stabiligrd by Eco-Terr Distributing, Sammamish, WA

Tuff Cell by Atlantis Water Management, Chatswood, NSW, Australia

UrbanGreen manufactured by Airfield (see Airpave) distributed by Contech, Westchester, OH

Grasspave2 by Invisible Structures, Inc, Golden, CO, USA

Grass-Cell by Multi-Stream (Pte) Ltd., Singapore

Checker Block by Hastings Pavement Co. Inc., Freeport, NY

Grasscrete by Bomanite Corporation, Palo Alto, CA

Drivable Grass, Soil Retention Systems, Carlsbad, CA

Eco Grid* (Concrete Pavers) by Hanover Architectural Products, Hanover, PA
It was concluded thru a research project conducted at Texas A&M University that irrigation needs can be reduced by using AirField Systems AirDrain. This five year research project was jointly funded by the United States Golf Association and AirField Systems and was a collaborative effort between Texas A&M University, AirField Systems and the United States Golf Association.

The data from the research showed that the AirField Systems drainage profile provided up to 3 more days of plant available water than a United States Golf Association recommended gravel and sand profile. Click here for more information about the study titled “A Comparison of Water Drainage and Storage in Putting Greens Built Using Airfield Systems and USGA Methods of Construction”.

The AirDrain System has a unique ability no other system has in that it can flush the profile quickly and efficiently anytime it’s needed. This practice is particularly common where salt laden irrigation water is used and in areas along the East Coast, Gulf Coast, California coast, and Desert Southwest. Click here to see an article from the USGA on the benefits of flushing the profile.

Benefits of an AirField system design include:

➤ Up to 3 more days of plant available water stored in the root zone (depending on climate)
➤ Significantly reduces daily irrigation needs (as told to us by our customers)
➤ Healthier turf / stronger root system (as told to us by our customers)
➤ 100% Vertical Drainage under the entire playing surface
➤ AirDrain is a 100% recycled copolymer which has the impact modifier “metalocene” added to it for qualification as a “No Break” plastic, making it able to withstand extreme heat and cold and still maintain performance
➤ Helps eliminate standing water / simplifies maintenance (as told to us by our customers)
➤ Minimal site disturbance / far less excavation and disposal
➤ Several installation days are saved over a gravel installation
➤ Compact shipping which reduces overall storage and transportation costs
➤ AirDrain System sand profiles create its own almost perfect perched water table
This drawing, specifications and the information contained herein is for general presentation purposes only. All final drawings and layouts should be determined by a licensed engineer(s).
The consistent Gmax and Shock Attenuation properties of the AirDrain system are major contributors to the safety of players and the reduction of concussions. Unlike traditional shock pads or e-layers, AirDrain is 1” high, has 92% air void and 100% vertical drainage. The AirDrain drainage capability cannot be matched by any other product in the industry. It's not even close!

AirDrain reduces Gmax by Approximately:

➤ AirDrain creates and helps maintain a constant Gmax for life of the project
➤ ASTM testing proves AirDrain’s shock absorption properties reduces Gmax
➤ Only needs a .25% slope for effective drainage
➤ Patented expansion and contraction built into every part which keeps the grid from buckling
➤ AirDrain is only limited by the drainage capacities of the profile above and the exit drains below
➤ AirDrain can be reused multiple times when the synthetic turf must be replaced
This drawing, specifications and the information contained herein is for general presentation purposes only. All final drawings and layouts should be determined by a licensed engineer(s).

*Specifications as per Geo-Technical Engineer.
The consistent Gmax and Shock Attenuation properties of the AirDrain system are major contributors to the safety of players and the reduction of concussions. Unlike traditional shock pads or e-layers, AirDrain is 1” high, has 92% air void and 100% vertical drainage. AirDrain's performance cannot be matched by any other product in the industry. The AirDrain system works on any type of prepared subbase (Compacted Aggregate, Concrete or Asphalt) or rooftop.

A Rubber-Free Synthetic Turf Solutions provided for Sports Fields, Play Areas and general purpose use reduces maintenance, upkeep and cleaning the surrounding area of rubber pieces that tend to find their way off the field.

Benefits of an AirPave grass paving system include:

> AirDrain creates and helps maintain a constant Gmax for life of the project
> ASTM testing proves AirDrain’s shock absorption properties reduces Gmax
> AirDrain creates a 1” air void allowing for 100% vertical drainage over the whole installation
> Patented expansion and contraction built into every part which keeps the grid from buckling
> AirDrain is only limited by the drainage capacities of the profile above and the exit drains below
> AirDrain can be reused multiple times when the synthetic turf must be replaced
Synthetic Turf Detail

Synthetic Grass Surface

Perimeter nailer board attached to concrete with Tapcon screws or Ramset nails

Compacted Aggregate Base, Concrete or Asphalt

Synthetic Turf Detail

AirDrain™

Geotextile Filter Fabric

Geotextile Filter Fabric (optional if installed on concrete or asphalt)

AirDrain™ Unit Panel Specifications:

- Size: 32" x 32" x 1"
- Weight: 3.1 lb
- Strength: 233 psi (unfilled)
- Resin: 100% Recycled (PIR) Copolymer with Impact Modifier "No Break" Polymer Material
- Color: Black (3% carbon black added for UV Protection)
With limited space on campus, both high schools and colleges are turning to rooftop sports surfaces to create multi-use green areas. Building a rooftop sports field with an AirField System provides drainage under 100% of the playing surface, prevents ponding, and moves water efficiently for reuse elsewhere on campus.

Over 3,000,000 square feet and counting of Air Drain rooftop drainage system has been installed.

LACC “LA Community College” 95,000 sqft., MSOE “Milwaukee School of Engineering” 100,000 sqft., UCSD “University of California in San Diego” 80,000 sqft., WPI “Worcester Polytechnics Institute” 174,000 sqft. and Binghamton High School 47,000 sqft.

Benefits of an AirPave in a green roofing system include:

➤ AirDrain creates and helps maintain a more consistent Gmax for Synthetic Turf
➤ ASTM testing proves AirDrain’s shock absorption properties reduces Gmax
➤ AirDrain can be reused when the Synthetic Turf must be replaced
  Can help qualify for LEEDTM and other green building credits
➤ Pallets can be taken up to the roof in an elevator (32”x32”x48” and 392lbs.)
➤ Water harvesting reclamation and reuse is easy
➤ AirDrain creates a 1” air barrier on the rooftop which increases the insulating properties.
➤ AirDrain is a 100% recycled copolymer which has the impact modifier “metallocene” added to it for qualification as a “No Break” plastic, making it able to withstand extreme heat and cold and still maintain performance

Now Available "AirDrain FR" E-108 Rated Parts
ZERO SPREAD of FLAME!!!
Now Available "AirDrain FR" E-108 Rated Parts ZERO SPREAD of FLAME
With limited space in urban areas, businesses, schools, and government buildings are turning to rooftop surfaces to create multi-use green areas. When building a rooftop greenspace, the AirField System provides drainage under 100% of the surface. An AirField Drainage System will prevent ponding and quickly remove excess water even during torrential rain.

Over 3,000,000 square feet of AirDrain rooftop drainage systems installed and counting. Natural Turf - Chesapeake Energy 74,000 sqft., Chesapeake Building 14 Rooftop Garden 4,000 sqft., Chesapeake Building 14 Courtyard 9,400 sqft.

Benefits of an AirPave grass paving system include:

➤ Up to 3 more days of plant available water stored in the root zone (depending on climate)
➤ Significantly reduces daily irrigation needs (as told to us by our customers)
➤ Healthier turf / stronger root system (as told to us by our customers)
➤ Can help qualify for LEED™ and other green building credits
➤ Pallets can be taken up to the roof in an elevator (32”x32”x48” and 392lbs)
➤ Reduces Heat Island Effect and makes water harvesting, reclamation and reuse easy
➤ AirDrain creates a one inch air barrier on the rooftop increasing the insulating properties. (R-Value)
➤ AirDrain is a 100% recycled copolymer which has the impact modifier “metallocene” added to it for qualification as a “No Break” plastic, making it able to withstand extreme heat and cold and still maintain performance

Now Available "AirDrain FR" E-108 Rated Parts
ZERO SPREAD of FLAME!!!
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AIRDRAIN FOR SYNTHETIC TURF PLAYGROUNDS

Not all drainage is created equal! AirDrain offers 100% vertical drainage and has 92% air void. This combination effectively collects and redirects water easily. Additionally, AirDrain raises the entire profile a full 1”, letting gravity drain the entire playground quickly and efficiently. The combined effect of AirDrain is a more stable surface area, reduced expenses for repairs and more play time.

A drainage system should allow for water to quickly drain away from the surface and be directed to exit drains, thus allowing a shorter turnaround time for the continuation of play. AirDrain provides drainage which is unmatched in the industry. AirDrain is only limited by the drainage capacity of the profile above and the capacity of the exit drains.

For playgrounds constructed with AirDrain the grid is installed on top of a 1.125” or 2.125” poly green foam pad which is placed directly onto the properly prepared subbase of concrete, asphalt or compacted aggregate. This creates a 1” air void and allows for maximum drainage.

Benefits of an AirPave grass paving system include:

➤ AirDrain raises the entire profile 1” off the subbase and brings gravity into play
➤ AirDrain’s 92% air-void space allows for fast and easy water removal
➤ Consistent HIC and Gmax for the life of the AirDrain provides a safe play area
➤ AirDrain is a 100% recycled copolymer which has the impact modifier “metallocene” added to it for qualification as a “No Break” plastic, making it able to withstand extreme heat and cold and still maintain performance
➤ AirDrain’s quick snap connectors allows for effortless installation
➤ Minimal site disturbance, excavation and disposal
➤ Compact shipping reduces transportation costs
AirDrain Application with Pad Below AirDrain

AirDrain™ Unit Panel Specifications:

Size: 32" x 32" x 1"
Weight: 3.1 lb
Volume: 8% material, 92% air void
Strength: 233 psi (unfilled)
Resin: 100% Recycled (PIR)
   Copolymer with Impact Modifier
   "No Break" Polymer Material
Color: Black (3% carbon black added for UV Protection)

Perimeter nailer board attached to base with typical screws or nails

Concrete, Asphalt or Aggregate base as specified by project engineer

Synthetic Grass Surface

4.0 oz Geotextile Filter Fabric

AirDrain™

2.125" or 1.125" Polygreen Foam Playground Pad

Geotextile Fabric (recommended if not included on pad)
AirDrain is a 15+ year proven success! With over 500+ K9 areas installed, AirDrain K9 Drainage by AirField Systems.

AirDrain is made with the highest quality 100% post manufactured industrial recycled content. Due to 92% air void underneath the turf, unwanted waste can be washed away quickly by using an easily installed flushing system. This flushing system attaches to any water source and uses inexpensive PVC piping around the perimeter of the grid. Low cost, easy to install, do it yourself drainage.

Dog Run Drainage Performance is divided into 3 parts:

1. How fast can the urine drain through the synthetic turf? This can be very problematic with many drainage products. The urine must pass through a small hole in the turf backing that is often sitting on other products flat surface. This forces the urine to squeeze horizontally through the small gap between the turf backing and the drainage surface. The urine won’t drain until it finds a place to fall vertically.

2. The vertical drainage how fast can the urine pass all the way into the underlayment

3. Horizontal Drainage how fast can the urine be moved to the exit drain (AirDrain is 92% air)

The AirDrain Drainage System addresses all 3 of the above issues better than any other product on the market. Period!!!

Benefits of an AirPave grass paving system include:

- 92% air-void for fast and easy waste removal
- Ability to flush the area daily
- AirDrain’s quick snap connectors allows for effortless installation
- Greatly reducing transportation costs going straight to the bottom line! No other product comes close to shipping as efficiently!
Pet Areas and Dog Runs

- Synthetic Grass Surface
- Perimeter nailer board attached to Subbase
- Subbase: Concrete, Asphalt, Sealed, Rooftop or Compacted Aggregate

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- **Size:** 32" x 32" x 1"
- **Weight:** 3.1 lb
- **Strength:** 233 psi (unfilled)
- **Resin:** 100% Recycled (PIR) Copolymer with Impact Modifier
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It was concluded through a research project conducted at Texas A&M University that irrigation needs can be reduced by using AirField Systems AirDrain. This five year research project was jointly funded by the United States Golf Association and AirField Systems and was a collaborative effort between Texas A&M University, AirField Systems and the United States Golf Association.

The data from the research showed that the AirField Systems drainage profile provided up to 3 more days of plant available water than a United States Golf Association recommended gravel and sand profile.

Click here for more information about the study titled “A Comparison of Water Drainage and Storage in Putting Greens Built Using Airfield Systems and USGA Methods of Construction”.

Benefits of an AirPave grass paving system include

> Up to 3 more days of plant available water stored in the root zone (depending on climate)
> Significantly reduces daily irrigation needs (as told to us by our customers)
> Healthier turf / Stronger root system (as told to us by our customers)
> 100% Vertical Drainage under the entire playing surface
> AirDrain is a 100% recycled copolymer which has the impact modifier “metallocene” added to it for qualification as a “No Break” plastic, making it able to withstand extreme heat and cold and still maintain performance
> Helps eliminate standing water / Simplifies maintenance (as told to us by our customers)
> Minimal site disturbance / Far less excavation and disposal
> Several Installation days are saved over a gravel installation
> Compact shipping that reduces overall storage and transportation costs
AirDrain™ Natural Edge Typical Detail
Permeable Natural Turf

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Before you build or renovate a bunker, READ BELOW! Don’t throw your hard-earned money away, choose the easiest and best draining bunker install there is by far!

Here is the ASTM D4716 Flow Rate per Unit Width and Hydraulic Transmissivity Testing for actual drainage capacity, at an .005% slope. The AirDrain will actually drain 2 inches per minute. No other product comes close! http://bit.ly/2cQUREL

Cost value performance and ease of install it’s not even close!

AirDrain Bunkers and Sand Traps are:

➤ Simple Fast and Easy to Install using existing employees to install at your own pace.
➤ NO NEED TO REWORK YOUR CLOGGED HERRINGBONE DRAINAGE SYSTEM. Install over the top!
➤ AirDrain replaces the traditional herringbone drainage system! With AirDrain only the exit drain(s) are necessary.
➤ The entire bunker floor acts as a drain using gravity to pull the water through the profile. FINES SHOULD NEVER CLOG THE SYSTEM!
➤ Superior Bunker Drainage with our 1” high 92% air void allowing water to move without obstruction to the exit drain(s).
➤ Long lasting drainage solution. The AirDrain grid itself will retain its performance for 50+ years under a profile.
➤ Minimal site disturbance with far less excavation and disposal for new bunker construction.

No other product can or does out drain or outlast the AirDrain Bunker System. Pick the worst bunker on your course install our bunker, and then call back in 3 months and order enough for the rest of your bunkers!
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CALL US TODAY TO DISCUSS YOUR PROJECT OR VISIT US ON THE WEB FOR MORE SPECS AND PROJECT DATA.

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