

Drainage Cell (PicoDrain Cell™)

(1) Product Definition

Drainage Cell is a lightweight modular system engineered for efficient water drainage, temporary stormwater storage, and robust structural support. Constructed from high-grade HDPE or PP, its innovative three-dimensional cellular structure creates a high-void drainage layer that rapidly conveys excess water while maintaining exceptional load-bearing capacity, making it a superior alternative to traditional gravel drainage methods.



Durable HDPE/PP Material

Manufactured from chemical-resistant, UV-stabilized polymers, ensuring longevity in harsh outdoor environments and resistance to root intrusion and degradation.



High-Efficiency Drainage

The 3D cellular structure creates a high-void space for rapid water flow and temporary storage, minimizing clogging and ensuring effective management of excess rainwater.



Versatile Application Scope

Ideal for green roofs, podium decks, plaza landscaping, sports fields, and stormwater attenuation systems, reducing weight and installation time.

VALUE PROPOSITION: A cost-effective, lightweight solution that outperforms traditional gravel drainage in efficiency and structural support.

How It Works & Key Benefits

(2) How It Works

1 Water Collection

Advanced permeable surfaces and gutters efficiently capture rainwater and surface runoff, preventing initial pooling and directing flow to the system's intake points.

2 Temporary Water Storage

Modular underground or surface tanks act as a buffer, holding excess water to reduce immediate pressure on municipal drainage and prevent overwhelming the system.

3 Rapid Drainage

Gravity-assisted flow design accelerates water removal to designated outlets or treatment facilities, minimizing standing water and associated slip/flood risks.

4 Long-Term Protection

Engineered with UV-stabilized and corrosion-resistant materials to provide lasting infrastructure resilience against environmental wear, ensuring decades of service.

(3) Key Benefits



Peak Performance

Consistently manages heavy rainfall; maintains optimal flow rates without clogging, even in high-traffic areas.

Operational



Efficiency

Passive gravity-driven system requires minimal energy; 95% water capture rate reduces reliance on mechanical pumps.



Unmatched Reliability

Low-failure design with redundant pathways; operational in extreme climates from -20°C to 60°C.



Exceptional Durability

Constructed with high-grade polymers and metals, resisting corrosion, UV rays, and physical impact for over 20 years.



Cost-Effective

Reduces urban flooding repair costs by up to 40%; lowers municipal water treatment expenses and insurance claims.



Sustainability

Promotes groundwater recharge and supports LEED certification; reduces urban heat island effect via permeable surfaces.

(4) Application



01. Green Roofs

Engineered systems for vegetated roofing that enhance thermal insulation, mitigate the urban heat island effect, and efficiently manage stormwater runoff while extending the lifespan of the roof membrane.



02. Podium Decks & Landscaping

Robust waterproofing and load-bearing solutions for elevated terraces and podium landscapes. Ideal for creating green sanctuaries in high-rise developments, supporting heavy soil and plant loads.



03. Sports Fields & Courts

Durable, porous paving systems designed for high-performance athletic use. Offers superior drainage, shock absorption, and wear resistance for soccer fields, tennis courts, and running tracks.



04. Stormwater Management

Sustainable Urban Drainage Systems (SUDS) that capture, detain, and infiltrate rainwater. Reduces urban flooding, recharges groundwater, and filters pollutants before discharge.



05. Planter Boxes & Urban Greenery

Modular, lightweight containment solutions for streetscapes, plazas, and rooftops. Facilitates flexible, low-maintenance greening in dense urban environments, improving air quality.



06. Walkways & Light-Duty Pavements

Permeable, eco-friendly surfacing for pedestrian paths, bike lanes, and patios. Combines durability with natural water infiltration, maintaining site hydrology and reducing surface runoff.