

Dimple Drainage Board (PicoDrain Board™)

01 / PRODUCT DEFINITION



Core Construction & Material

Constructed from high-density polyethylene (HDPE) or polypropylene (PP), the board features a robust 3D dimpled core. This creates continuous vertical drainage channels, ensuring efficient water conveyance while delivering exceptional compressive strength (≥ 300 kPa) to support heavy overburden loads in subsurface and structural applications.



Filtration & Anti-Clogging System

When paired with a nonwoven geotextile filter, the system acts as a barrier to separate fine soil particles from the drainage layer. This prevents clogging and ensures unimpeded water flow (≥ 500 cm/s), maintaining long-term hydraulic performance and reliability in diverse soil and environmental conditions.



Versatile Applications

Widely utilized in green roofs, basement waterproofing, podium decks, retaining walls, transportation infrastructure (roads/railways), tunnel construction, and landfill leachate control—ideal for projects demanding efficient subsurface water management.

(2) How It Works

01

Water Collection

Efficiently captures rainwater and surface runoff, preventing pooling and reducing soil saturation by directing flow to designated systems.

02

Filtration & Purification

Multi-layer filter media removes sediments, debris, and micro-contaminants, ensuring only clean, purified water infiltrates back into the ground.

03

Optimized Drainage

Engineered channel networks rapidly redirect excess water away from critical areas, mitigating the risk of waterlogging and structural erosion.

04

Protection & Management

Maintains natural water table balance while providing a physical barrier against soil erosion, enhancing long-term landscape and structural health.

(3) Key Benefits



High Drainage

Handles extreme downpours with superior flow rates, eliminating standing water quickly.



Waterproof Shield

Creates an impermeable barrier to protect foundations and basements from seepage.



Pressure Relief

Alleviates hydrostatic pressure buildup in soils, preventing structural damage over time.



High Strength

Composite materials resist heavy loads and environmental stress.



Cost Saving

Low maintenance and avoids costly water damage repairs.



Easy Install

Lightweight and modular design for quick deployment.



Durable

UV and corrosion-resistant for decades of use.

(4) Applications



01. Basement Walls

Engineered to counter hydrostatic pressure and soil loads, our solutions deliver robust waterproofing and structural integrity for basements, eliminating moisture ingress and ensuring long-term stability for residential and commercial builds.



02. Retaining Walls

Resists lateral earth movement to stabilize slopes for highways, railways, and urban development. Our high-strength, corrosion-resistant materials ensure durability for both temporary shoring and permanent gravity wall structures.



03. Structural Foundations

Transfers building loads safely to the ground, ensuring bearing capacity and settlement control. Suitable for shallow strip footings to deep pile foundations, mitigating subsidence risks in all soil types.



04. Tunnels & Mine Shafts

Supports excavation in challenging geological conditions, withstanding rock bursts, high water pressure, and seismic activity. Our shotcrete and liner systems ensure safe passage and long-term durability for transit and utility tunnels.



05. Waste Containment

Provides impermeable barriers using geomembranes and clay liners to prevent leachate migration and groundwater contamination. Complies with strict EPA standards for municipal and hazardous waste landfill containment.



06. Underground Utilities

Protects pipelines, storage vaults, and communication tunnels from external loads and corrosion. Our engineered systems address unique challenges like fluctuating water tables and soil liquefaction in urban and industrial settings.