HDPE Geomembrane（PicoMem™ GM）

（1）Product Definition

Core Material & Barrier Function

Crafted from premium high-density polyethylene (HDPE) resin, this synthetic liner offers ultra-low permeability. It is meticulously engineered to act as a robust physical barrier, effectively isolating liquids, gases, and hazardous contaminants from surrounding environments. This impermeable property makes it a foundational element in preventing cross-contamination in sensitive engineering and ecological projects.

Performance & Versatile Use Cases

Renowned for its superior chemical resistance, mechanical durability, and weathering performance, it excels in harsh conditions. Key applications include sanitary landfill liners, mining tailings containment, potable water storage reservoirs, and environmental remediation. Its longevity and low maintenance requirements ensure reliable, long-term protection for critical infrastructure.

Pico Lab

How It Works and Key Benefits

02 How It Works

1 Barrier Formation

Creates a continuous, impenetrable physical barrier isolating the containment zone, preventing any leakage or migration of substances to the surrounding environment.

2 Containment Function

Acts as a critical secondary containment system to safely capture spills, leaks, or overflows, minimizing environmental harm and operational downtime risks.

3 Seam Welding System

Employs advanced HF/hot wedge welding for monolithic, homogeneous seams that match the membrane's strength, eliminating weak points in the structure.

4 Long-Term Protection

Maintains structural integrity against UV radiation, extreme temperatures, chemical attack, and mechanical wear for decades of reliable service.

03 Key Benefits

Excellent Impermeability

Provides an absolute watertight seal, ensuring no liquid or gas migration to protect soil and groundwater.

Reliable Seam Integrity

Welded seams create a monolithic structure as strong as the membrane itself, eliminating leak risks.

High Chemical Resistance

Resists degradation from acids, alkalis, and solvents, suitable for aggressive industrial waste applications.

Cost-Effective Solution

Lower installation and material costs than concrete, with faster project completion times.

High Mechanical Strength

Superior tensile and tear resistance withstands installation stress, heavy loads, and external impacts.

Environmentally Safe

Inert, non-toxic, and fully recyclable materials that meet the strictest environmental standards.

Engineered for Excellence: Combines proven technology with modern materials to deliver a containment solution that prioritizes safety, performance, and sustainability.

04 Applications

Waste Containment
High-barrier protection for landfills, preventing toxic leachate seepage and soil contamination.

Mining Operations
Critical for heap leaching pads and tailings dams, blocking heavy metal leaks effectively.

Water Storage
Liner solutions for reservoirs and tanks, minimizing seepage loss and preserving quality.

Eco Restoration
Wetland construction and pollution control barriers to restore fragile ecosystems.

Aquaculture
Durable, waterproof enclosures for intensive fish/shrimp farming and hatcheries.

Industrial Use
Containment of hazardous chemicals and oils to protect soil and groundwater.

Civil Engineering & Infrastructure
Waterproofing for tunnels, bridges, and basements, enhancing structural durability and preventing water damage in critical construction projects.

05 Technical Specifications

Model	Item	General Index	Eco Standard
PL-100	Thickness	0.5mm - 3.0mm	0.75mm - 2.5mm
PL-200	Breadth	2m - 8m	3m - 12m
PL-300	Tensile Strength	⩾ 16 N/mm	⩾ 25 N/mm
PL-400	Elongation	⩾ 450%	⩾ 550%
PL-500	Tear Strength	⩾ 80 N	⩾ 120 N
PL-600	WVP Coeff	⩽ 1.0E-13	⩽ 0.5E-13
PL-700	Temp Range	-40°C ~ +70°C	-50°C ~ +85°C
PL-800	ESCR Resist	⩾ 1000 h	⩾ 2000 h
PL-900	Low Temp Imp	Pass (-20°C)	Pass (-35°C)
PL-1000	Oxidation Ind.	⩾ 20 min	⩾ 45 min