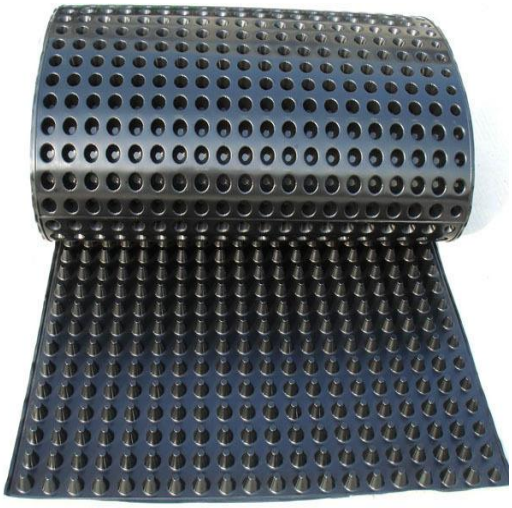

HDPE (High Density Polyethylene) Drainage Board

HDPE plastic drainage board is made of high density polyethylene as raw material, and the plastic bottom plate is pressed into a convex point (or hollow cylindrical porous) structure of a conical protruded platform or stiffener. HDPE plastic drainage board using high pressure injection molding hole block shell, with three-dimensional space and support level; At the top of the shell, nonwoven geotextile is covered as a filter layer for water seepage, storage and drainage.

[HDPE Drainage Board]

HDPE drainage board, also known as plastic drainage board, is a green roof and foundation drainage system that drains through a specially formed plastic board. Water is retained and discharged in a pit on the upper side of the drainage plate; Excess water spills over the edge of the board and is carried away from the roof or foundation.The drainage board can be produced at different heights, from 8mm to 60mm, to meet the drainage requirements of different projects.

[HDPE Drainage Board]

The raw material used in the HDPE drainage board is PE thermoplastic resin, which has good heat resistance and cold resistance, high rigidity and toughness, good mechanical strength, environmental stress cracking resistance and tear resistance, and also has the characteristics of non-degradation in soil and water, anti-aging, anti-ultraviolet, high temperature resistance, corrosion resistance, and keeping the material unchanged.

HDPE (High Density Polyethylene) Drainage Board Features:

- Good water filtration, smooth drainage, drainage effect is guaranteed;
- The material has good strength and ductility, and can be suitable for foundation deformation without affecting drainage performance;
- The section size of the drainage plate is small, and the disturbance to the foundation is small in the process of installing the drainage plate;
- Insert plate construction can be carried out on ultra-soft foundation;
- The construction is fast and the construction period is short, each board inserting machine can insert the board more than 5000m per day, and the cost is lower than that of the bag sand well;
- Low cost, durable, chemical corrosion resistance, plant root puncture resistance, diversified application functions.

APPLICATION

Greening project: garage roof greening, roof garden, vertical greening, roof greening, football field, golf course, etc.

Municipal engineering: airports, roads, embankments, subways, tunnels, landfills, etc.

Building construction: upper or lower building foundation, basement interior and exterior walls, floor and roof, roof seepage insulation layer, etc.

Water conservancy projects: reservoir seepage, reservoir, lake seepage prevention, etc.

Traffic engineering: highway, railway basement, roadbed, dam, slope protection layer, etc.

SPECIFICATIONS OF HDPE (HIGH DENSITY POLYETHYLENE) DRAINAGE BOARD

PERFORMANCE PARAMETERS FOR HDPE DRAINAGE BOARD JC/T 2112-2012

No	Item		Index
1	Tensile force at 10% elongation /(N/100mm)>		350
2	Maximum tensile force /(N/100mm)>		600
3	elongation at break /%>		25
4	Tear resistance /N>		100
5	Compression performance	Maximum strength at a compression rate of 20% /kpa >	150
		Extreme compression phenomenon	No rupture
6	Low temperature flexibility		-10℃ No rupture
7	Thermal ageing (80.168h)	Tensile retention rate at 10% elongation /%>	80
		Maximum tensile retention rate /%>	90
		Breaking elongation retention rate /% >	70
		Maximum strength retention rate at a compression rate of 20% /%>	90
		Extreme compression phenomenon	No rupture
		Low temperature flexibility	-10℃ No rupture
8	Vertical permeability (Pressure measurement 150kpa) /(cm/s)>		10

PERFORMANCE PARAMETERS FOR HDPE DRAINAGE BOARD ISO STANDARD

	Test	**Unit**	**Mean Values**		
Mechanical Properties					
Compressive strength	EN ISO 25619-2	kPa	115		
Tensile Strength (MD/CMD)	EN ISO 10319	kN/m	9/5		
Tensile elongation (MD/CMD)		%	40		
Hydraulic Properties					
Perforation per m^2			49		
Perforation Diameter		mm	10		
Water Flow through perforations	EN ISO 11058	$l/(m^2 \cdot s)$	24		
Water flow capacity in the plane (rigid/rigid)	EN ISO 12958	$l/(m \cdot s)$	(i=1)	(i=0.5)	(i=0.1)
at 20kPa			10.0	8.0	5.0
at 100kPa			9.0	6.0	3.5
at 200kPa			5.0	2.0	1.0
Physical Properties					
Thickness @ 2kPa	EN ISO 9863-1	mm	20.0		
Standard Colour			Black		
Polymer			HDPE		
Dimensions					
Standard Roll Length		m	50		
Standard Roll Width		m	0.97		
Approximate roll weight		kg	60		

PROJECTS CASE OF HDPE (HIGH DENSITY POLYETHYLENE) DRAINAGE BOARD

[Road Subgrade Engineering in Belgium]

[Roof Garden Greening in Bulgaria]

CONSTRUCTION PRECAUTIONS

1. Clean up the garbage and cement leveling of the laying site, so that there is no obvious bump on the site, and 2-5% slope is needed for the outdoor garage roof and roof garden.

2. It can discharge the water collected from the drainage board to a nearby downpipe or a nearby city sewer.

3. Basement ground anti-seepage water, in the foundation above the floor, that is, before doing the floor to do a layer of dimple drainage board, the dimples contact the foundation, leave blind ditch, so that the groundwater does not come, seepage naturally through the space of the dimple drainage board into the surrounding blind ditch, then through the blind ditch into the sump.

4. Anti-seepage water in the basement internal wall, dimple drainage board can be laid on the main wall of the building, and thedimples faces the main wall. The dimpled drainage board is protected by a layer of single wall or a layer of steel wire mesh cement, so that the space of the seepage board outside the wall flows straight down into the blind ditch and directly leads to the sump.

5. When laying drainage board in any location, attention must be paid to: do not let soil, cement, yellow sand and other garbage into the front space of drainage board to ensure the space of drainage board is smooth.

6. When the dimple drainage board is laid, protective measures should be taken as far as possible, and backfill should be done as soon as possible when the drainage board is laid at the level or in the outdoor garage, so as to prevent the high wind from blowing disorderly drainage board and affecting the laying quality. Basement and inner wall waterproof as soon as possible to do a good job of protective layer, prevent the drainage board is damaged by people or objects.

7. The backfill soil is viscous soil, and it is ideal to spread 3-5 cm of yellow sand on the geotextile, which is conducive to the water filtration of the geotextile; If the backfill is a kind of nutrient soil or light soil, there is no need to lay a layer of yellow sand, the soil itself is very loose and easy to filter water.

8. When the drainage board is laid, it can be overlapped with the right side of the drainage board at the following 1-2 fulcrum points. It can also be overlapped with two bottom plates together by geotextile.

APPLICATION SCENARIOS

- HDPE drainage board is uesd for garage top greening;
- HDPE drainage board is uesd for roof garden;
- HDPE drainage board is uesd for football field;
- HDPE drainage board is uesd for golf course;
- HDPE drainage board is uesd for beach project;
- HDPE drainage board is uesd for basement wall;
- HDPE drainage board is uesd for railway basement;
- HDPE drainage board is uesd for dam and slope;
- HDPE drainage board is uesd for road base;
- HDPE drainage board is uesd for highway and subway;
- HDPE drainage board is uesd for tunne land landfill.

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