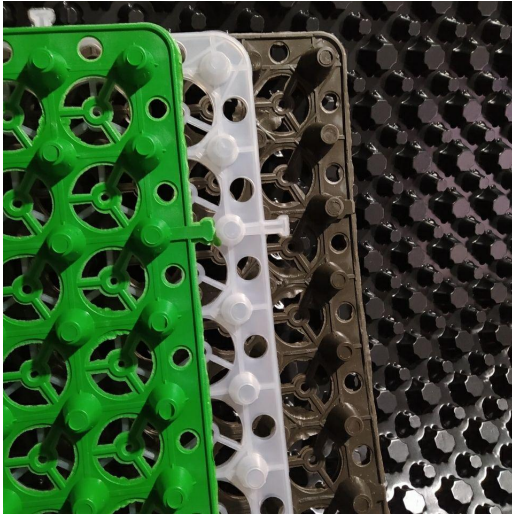


Drainage Products: PP (POLYPROPYLENE) STORAGE AND DRAINAGE BOARD



PP (Polypropylene) Storage And Drainage Board

Polypropylene storage and drainage board using raw materials polypropylene (PP) after heating to form a drainage channel with sufficient compressive strength, but also water storage of a light object, this object itself has drainage, water storage two functions, its compressive strength is superior to similar products, can with stand 300 mpa (Kpa) of high strength load, Mainly used for roof planting and roof greening.

Polypropylene storage and drainage board is formed through professional mechanical structure design, after hot melt welding, with plant piercing, acid and alkali resistance, aging resistance, is a flexible protection for building waterproof formation, so that the entire waterproof layer inside the long-term closed space, not easy to aging, greatly extend the service life. PP storage and drainage plate can quickly and effectively derive rainwater, greatly reduce or even eliminate the hydrostatic pressure of the waterproof layer, and can also achieve the active waterproof effect through this active water conduction principle.



[PP (Polypropylene) Storage And Drainage Board]



[PP (Polypropylene) Storage And Drainage Board]

The main function of water storage and drainage boards

1. Water storage function: It plays a role in soil water storage and moisturizing in the rooftop garden, allowing plants to effectively absorb water and ensure the greening effect. The special structure of the water storage and drainage board ensures its effective water storage performance.
2. Drainage function: Excess water can also be drained through the gaps below. But the grassroots must do a good job in waterproofing. The laying of water storage and drainage boards is relatively simple, with connecting grooves on each side of each board. Installation is very convenient.

PP (Polypropylene) Storage And Drainage Board Features:

- PP storage and drainage board is convenient, easy to maintain, and economical;
- PP storage and drainage board has strong load resistance and durability;
- PP storage and drainage board can ensure the rapid drainage of excess water;
- PP storage and drainage board can store some of the water in the water storage section;
- PP storage and drainage board can provide sufficient water and oxygen for plant growth;
- PP storage and drainage board roof has strong insulation and heat preservation functions.



APPLICATION

- Garden project: garage roof planting, roof garden, roof greening, community landscaping, football field, golf course, bath project, etc.
- Municipal engineering: road subgrade, subway tunnel, etc.
- Construction works: the upper or lower layer of the building foundation, the inner and outer walls of the basement, the roof of the garage, the basement floor, the roof impermeability and heat insulation layer, etc.

SPECIFICATIONS OF PP (POLYPROPYLENE) STORAGE AND DRAINAGE BOARD

Technical Parameter			
Item	SDM-D30	SDM-D40	SDM-D50
Size	300x300x30(mm)	400x400x30(mm)	500x500x30(mm)
Raw Material	HDPE	HDPE	HDPE
Dimple Height	30mm	30mm	30mm
Compressive strength \geq	300Kpa	400Kpa	690Kpa
Longitudinal flow capacity	25cm ³ /s/cm	25cm ³ /s/cm	25cm ³ /s/cm
Storage capacity	3.01/m ²	3.01/m ²	3.01/m ²
Surface Void Area	>67%	>67%	>67%
Internal Void Area	>95%	>95%	>95%
Biological/Chemical Resistance	Unaffected by moulds and algae and good resistance to oils, acids, alkalis and bitumen		
Service Temperature	-20°C to 120°C	-20°C to 120°C	-20°C to 120°C

COMPARED TO THE PREVIOUS GENERATION OF DRAINAGE PRODUCTS

It has functions such as creating drainage within the layer, discharging permeable water from the soil, and storing partially permeable water. Compared to the previous generation of drainage products, it has the following advantages and disadvantages:

- In northern China, there is drought and less rainfall, and drainage boards can store water, which is beneficial for the growth of vegetation;
- The convex side wall of the water storage and drainage board is thick, so the compressive strength is relatively high, which can reach over 40T, far greater than plastic convex sheets (high-density polyethylene drainage board, high impact polystyrene drainage board), plastic drainage mesh pads and other similar products (which can be actually rolled and tested), and can meet the construction and normal operation requirements during backfilling;
- The support surface of the water storage and drainage board is relatively large, which will not block the drainage channel due to the sinking of the overlying non-woven fabric (as shown in the figure below), nor will it block the drainage channel due to the insufficient tension of the non-woven fabric tearing and soil entering. The water storage and drainage board can fully retain the drainage space, completely avoiding the occurrence of poor drainage caused by the sinking of plastic protrusions due to non-woven fabric, and will never cause vegetation withering or death due to poor drainage.

WORKING PRINCIPLE

The water storage and drainage board has a dual function of water storage and drainage, especially in terms of water storage. According to the size of rainfall, it can timely eliminate waterlogging caused by a large amount of precipitation. At the same time, it can also store the water required for plant growth, with a water storage capacity of 10-90%, ensuring that the water stored can evaporate to the planting layer during drought, supply water to the plants above, and form a cavity between the impermeable layer of the structure and the soil, allowing air to flow in it, ensuring soil permeability and normal plant growth. In the basic construction of building greening, any form of garden and landscape construction can be carried out on the basis of the water storage and drainage layer, which can effectively ensure the safety of the building greening project.

PROJECTS CASE OF PP (POLYPROPYLENE) STORAGE AND DRAINAGE BOARD



[Landscape Greening in Jordan]



[Roof Garden Project in Belgium]

CONSTRUCTION PRECAUTIONS

1. When used in flower ponds, flower beds, and flower beds in gardens, water storage boards and filter geotextiles are directly used instead of conventional materials (such as filter layers composed of ceramic particles, pebbles, or shells).
2. When used for greening hard interfaces such as new and old roofs or underground engineering roofs, before laying the water storage and drainage boards, the debris on site should be cleaned first, and a waterproof layer should be set according to the design drawings. Then, cement mortar should be used to slope the surface to ensure that there are no obvious bumps or depressions. The water storage and drainage boards should be arranged in an orderly manner, and there is no need to set up additional drainage blind ditches within the laying range.
3. When used for building sandwich panels, the water storage and drainage board is laid on the roof concrete slab, and a single wall is built outside the water storage and drainage board, or concrete is used to protect it, so that underground seepage flows into the blind ditch and collection pit through the overhead space of the drainage board.
4. The water storage and drainage boards should be spliced together around each other, and the gaps during laying should be used as the lower drainage channel. The geotextile filtering and moisturizing layer on top of it should also be overlapped well.
5. After the installation of the water storage and drainage board is completed, the next layer of work can be carried out. The filter geotextile and substrate layer should be laid as soon as possible to prevent soil, cement, and yellow sand from blocking the pores or entering the water storage, water tank, and drainage channels of the water storage and drainage board. To ensure that the water storage and drainage board fully plays its role, an operation board can be laid on the filter geotextile to facilitate greening construction.

CONSTRUCTION LAYING

- After the construction of the waterproof layer and its protective layer is completed, start laying the drainage board. Require the slope of grassroots drainage to meet a range of 2% to 5%;
- Lay the drainage board with the cup shaped mouth facing upwards and the teeth interlocked;
- Cover the drainage board with geotextile, overlapping 10-20cm to prevent mud and water from passing through the geotextile, clogging the water storage and drainage system, causing poor drainage and reduced water storage capacity;
- Lay 10-20mm medium coarse sand on the geotextile to form a permeable filter layer, which can prevent the loss of planting soil;
- Cover with appropriate thickness of planting soil;
- It is necessary to ensure the protection of finished drainage boards. After the installation of the drainage board, it should not be allowed to directly push hand carts on the drainage board. When transporting materials, wooden boards and horse paths should be laid. Ensure that the soil is filled as soon as it is laid.

