Plastic Blind Ditch

The plastic blind ditch is composed of a plastic core body wrapped with filter cloth. The plastic core is made of thermoplastic synthetic resin as the main raw material. After modification, in the hot melt state, thin plastic filaments are extruded through the nozzle, and then the extruded plastic filaments are welded at the nodes through the forming device. , Forming a three-dimensional three-dimensional network structure. The plastic core has a variety of structural forms such as rectangle, hollow matrix, circular hollow circle and so on. This material overcomes the shortcomings of traditional blind ditch.

It has high surface opening rate, good water collection, large porosity, good drainage, strong pressure resistance, good pressure resistance, good flexibility, adapt to soil deformation, and good durability. Light weight, convenient construction, greatly reduced labor intensity of workers, and high construction efficiency. Therefore, it is generally welcomed by the Engineering Bureau and is widely used.

[Plastic Blind Ditch]

The plastic blind ditch is composed of a plastic core wrapped with filter cloth. The plastic core is made of thermoplastic synthetic resin as the main raw material. Whose main function is to sieve sand and clay so as to avoid blockage.

This product has four shapes, including rectangular shape with many holes, rectangular shape with empty center, round shape with many holes, round shape with empty center.It is a kind of 3D structural geosynthetic, which is applied to keep the water and land, increase the greening area, and improve the environment.

Plastic Blind Ditch Features:

- The surface water absorption rate is extremely high.
- High compressive strength, its compression rate is lower than 10% under 250KPa pressure.
- With anti-aging agent, it is durable, and it can be stable even if it is placed under water or soil for decades.
- Compressive resistance and flexibility, it can also be used for curved roads and other curved positions. If the backfill depth is about 10cm, it can also be backfilled with a bulldozer.
- Due to the above characteristics, the various problems that have occurred in the traditional blind ditch in the past, such as uneven settlement or partial occlusion due to overload, and no gaps caused by crushing, can be solved by plastic blind ditch materials.
- Since it is formed by thermal melting and does not use adhesives, it will not cause collapse due to adhesive aging and peeling.

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APPLICATION

The Plastic Blind Draints are used in railway construction, highway construction, airport runway, golf course, football field, large lawn, landscaping, expressway, landfill, slope retaining wall, tunnel and other large-scale drainage projects.

1. Reinforcement and drainage of road and railway subgrade shoulders;

2. Drainage of tunnels, subway underground passages, and underground cargo yards;

3. Soil and water conservation for hillside land and side slope development;

4. Vertical and horizontal drainage of various retaining walls;

5. Drainage of slippery ground.

SPECIFICATIONS OFPLASTIC BLIND DITCH

Plastic Blind Ditch									
Item	Specification								
	Square Shape				Circular shape				
Type	MF	MF	MF	MF	MY	MY	MY100	MY150	MY200
	730	1435	1550	1235	60	80			
Outer size(width * thickness) (mm)	70*30	140*35	150*50	120*35	Φ60	Φ80	Φ100	Φ150	Φ200
Cannula size(width * thickness) (mm)	40*10	40*10*2	40*20*2	40*10*2	Φ25	Φ45	Φ55	Φ80	Φ120
weight≥(g/m)	350	650	750	600	400	750	1000	1800	2900
Porosity≥(%)	82	82	85	82	82	82	84	85	85
Flat rate 5%≥	60	80	50	70	80	85	80	40	50
Flat rate 10%≥	110	120	70	110	160	170	140	75	70
Flat rate 15%≥	150	160	125	130	200	220	180	100	90
Flat rate 20%≥	190	190	160	180	250	280	220		

BENEFITS OF PLASTIC BLIND DITCH

1. The constituent fibers of the plastic blind ditch are filaments of about 2mm, which are fused and formed at the mutual joints to form a three-dimensional mesh body. The principle is the same as the principle of the truss of the steel structure. The surface opening is 95-97%, which is more than 5 times that of the porous tube and 3-4 times that of the resin mesh tube. The surface water absorption rate is extremely high.
2. Because it is a three-dimensional structure, its porosity is 80-95%, and the space and management are the same and it is light. The compressive performance is more than 10 times stronger than that of the resin of the pipe structure. Therefore, even if it is compressed due to overload, it is a three-dimensional Because of the structure, the residual voids are also more than 50%, there is no problem of no water flow, and there is no need to consider that it will be crushed by earth pressure.
3. High compressive strength, its compression rate is lower than 10% under 250KPa pressure.
4. With anti-aging agent, it is durable, and it can be stable even if it is placed under water or soil for decades.
5. Compressive resistance and flexibility, it can also be used for curved roads and other curved positions. If the backfill depth is about 10cm, it can also be backfilled with a bulldozer.
6. Due to the above characteristics, the various problems that have occurred in the traditional blind ditch in the past, such as uneven settlement or partial occlusion due to overload, and no gaps caused by crushing, can be solved by plastic blind ditch materials.
7. Since it is formed by thermal melting and does not use adhesives, it will not cause collapse due to adhesive aging and peeling.

PROJECTS CASE OF PLASTIC BLIND DITCH

[Soil and water conservation for slope land development in Algeria]

[Landfill project drainage in Guinea]

PLASTIC BLIND DITCH CONSTRUCTION

Construction method of blind ditch :

1.Excavation of blind ditch

The excavation of blind ditch is the core link of blind ditch drainage construction. The following steps need to be followed when digging a blind trench:

• Clean the surface: Remove debris, vegetation, etc. from the excavation area and keep the construction area clean.

• Measure the markings: According to the design requirements, mark the excavation area to ensure that the starting and ending points of the blind ditch are accurate.

• Excavating blind trenches: Use mechanical or manual methods to excavate blind trenches. The width and depth of the excavation should meet the design requirements.

• Slope treatment: Slope treatment is carried out on both sides of the blind ditch to maintain the stability of the slope.

• Clean the drainage channels: Remove debris, silt, etc. in the blind ditch to ensure smooth drainage.

2.Filling of blind ditch

The filling of blind ditches is to improve the drainage capacity and stability of blind ditches. Things to note when filling blind trenches:

• Select filler: Choose filler with good water permeability and uniform particles, such as sand, gravel, etc.

• Filling method: Use layered filling method. The thickness of each layer of filler should generally not exceed 30 cm, and it needs to be compacted after filling.

• Slope treatment: After filling the blind ditch, perform slope treatment to improve the stability and erosion resistance of the slope.

• Check the drainage effect:After filling is completed, the drainage effect of the blind ditch needs to be checked to ensure smooth drainage and no accumulation of water.

3.Maintenance of blind ditch

Maintenance of blind ditches is a key link to ensure long-term and effective operation of blind ditches. The following points need to be noted during maintenance:

• Regular inspection: Regularly check the drainage effect of the blind ditch, and deal with it promptly if water accumulation, blockage, etc.

• Drainage channel cleaning: Regularly clean debris, silt, etc.In the drainage channel to ensure smooth drainage.

• Repair damage: If the blind ditch is found to be damaged or collapsed, repair it in time to ensure the structural stability of the blind ditch.