

# **Product** Catlogo



## XAbout usX

Hebei Huiwo Import & Export Trading Co.,Ltd, founded in 2011, based on the factory is a professional operation of import and export company. Mainly engaged in all kinds of waterproof material, chemical raw materials, plastic resins, rubber products , pesticides, metals and minerals, building materials, and other products import and export business.

With the identity of both manufacturer and international trade company, we supply the best products and the best service: for best quality, lower price and considerate service.



Honesty, reliance, to consider for the customer, is our principle. Our company is not a giant, but a child, we are growing , and thanks for all the cooperators.



# **%** Culture philosophy**%**



## **%**Goal of the company**%**





# **%Product Show%**



Best construction materials and service for the world!



## %Main Product※

## Swelling Waterstop



**Bentonite Waterstop** 

**Production Waterstop** 

## **Product Introduction:**

The swelling waterstop is a new rubber product that based on raw rubber materials, with a polymer material, throughing chemical modification. It has the characteristics of rubber and swelling to proof water.

They can be divided into bentonite waterstop and production waterstop.

The swelling waterstop have the excellent flexibility, expansion ability, plasticity when water intrude.

The swelling waterstop is widely used in tunnels, subway, sewage plant, the municipal pipe network,Culvert, dam, bridge construction, water conservance, hydropower projects, building underground,Structure construction joints, expansion joints and waterproofing of concrete work required.

## The Main Technical Performance Indicators::

	Item	Indicators			
	Item	PN-150	PN-220	PN-300	
1	Volume expansion ratio (%) $\geq$	150	220	300	
2	High-temperature flow of (80 ℃x5H)	No flowing	No flowing	No flowing	
3	Low-temperature test(-20°C x5H)	No embrittlement	No embrittlement	No embrittlement	

## Size And Packaging:

25mm x 20mm x 5meter (30 Meter/box)

20mm x 15mm x 6meter (36 Meter/box)

20mm x 10mm x 9meter (54 Meter/box)

(20mm\*5mm,20\*20mm,20\*30mm 30\*40mm 30\*50mm 50\*50mm)

Various specifications, the length of the expansion ratio to meet a variety of design requirements.

Also the production of putty-type slow-expanding type, to strengthen the network type, such as various type of water swelling waterstop article.

We could produce as requirements.



## Area Of Uses:

- ♦ Vertical and horizontal concrete construction joints
- ♦ Junction of old and new buildings
- ♦ Around wall pipe (including pipe and cable ducts)
- ♦ Can be constructed in irregular surface
- ♦ Sealing the gap of all kinds of buildings, tunnels, underground engineering and hydraulic engineering.Such as tunnels, viaducts, river bridges, riverbanks and irrigation works hinge et al.

## Main Advantages:

- $\diamond$  Fast and easy installation.
- $\diamond$  Can be construct in both cold and hot weather, and can be used in the irregular surface;
- ♦ Active sealing performance and permanent stability;.
- $\diamond$  Economical.
- ♦ Easy to transport, avoid moisture and compressive deformation.
- ♦ The best construction joint waterproofing products by Domestic and international practice proved.

## **Storage And Shelf Life:**

Storage in shade and dry condition. Avoid from frost, water, moisture and high temperature. 18 months if kept follow instructions.

## **Precautions:**

No hazardous during normal condition use. It is recommended to take the safety standard and precaution for application and storage.



## **Rubber Waterstop**

#### **Product Introduction:**

Rubber waterstop is based on the natural and synthetic rubber, mixed with auxiliaries, through physics and chemistry technology, to be made of.

The specifications will be the type of bridge , mountain, and P,U,Z,T,H,E,Q type, etc.

According to the usage, they also can be classified to buried type, and back to place type.

This type of waterstop has the good flexibility, abrasion resistance, aging resistance, avulsion resistance, and ability to adapt to the deformation, good performance of proof water, and wide temperature range of  $-45^{\circ}$ C to 60 °C.



## Technical Data Of Rubber Watetrstop:

No.		B 型	S 型	J	
1	Shore A Hardness		60±5	60±5	60±5
2	Tensile strength (MPa) ≥		15	12	10
3	Elongation at break $(\%) \ge$		380	380	300
	Compression set (%)	$70^{\circ}C \times 24h \leq$	35	35	35
4		$23^{\circ}C \times 168h \leqslant$	20	20	20
5	Tear strength $(kN/m) \ge$		30	25	25
6	Brittleness temperature (℃) ≤		-45	-40	-40
	Heat air aging $(70^{\circ}C \times 168h)$	Shore A Hardness change $\leq$	+8	+8	
7		Tensile strength (MPa) ≥	12	10	
	(70 C × 1081)	Elongation at break $(\%) \ge$	300	300	
8	(ozone ageing) 50pphm: 20%,, 40°C, 48h		No chap	No chap	No chap
9*	Metal adhered in rubber	Type R destroy (MPa)	≥6	≥6	≥6

\*Note : The item that metal adhered in rubber just tested by Centrally placed expansion joint with steel plate



## **PVC** waterstop

#### **Product Introduction:**

PVC waterstop is made by Premium grade PVC resin and all kinds of chemical, through mixing, granulation, extrusion process.

It takes full advantage of elastic deformation characteristics of polyvinyl chloride resin to stop leakage,seepage in the tectonic seam.Also, it has the features of corrosion resistance and good durability.

PVC waterstop is mainly used in foundation project of construction join and deformation joint, which integrated when concrete pouring. Such as, dam, culvert, tunnels, water diversion aqueduct liquid structures, underground facilities, etc.



#### **Technical Date:**

No.	Test Item	Performance indicators
1	Shore Hardness (HA)	≥65
2	Elongation intension, MPa	≥12
3	elongation at break, %	300
4	tear strength, KN/m	≥25

#### Size:

280×6,300×4,300×6,300×8,300×10,350×8,350×10 etc.

#### Samples:



## V-240\*3.5



## **O-320\*3.7**



#### **Construction Method:**

The construction method of PVC waterstop is the same as rubber waterstop. To joint flat with the face of beton when be pouring and to bond tightly in the joint part. It need to quake the beton fully with a suitable force to integrate well, in order to get the prefect effect of waterproofing.

Due to the case of there maybe many sharp corners of stons and rebar in the couse of construction, Pls pay attention to avoiding mechanical damage.

When positioning the waterstop, make sure that no overturn, no contort. Or else, to adjust in time.

When pouring,to prevent excursion. The connector can be joined by binder or soldering, to ensure fastness.

Case:









## **Steel Edge Waterstop**

### **Product Introduction:**

The section of the steel edge waterstop is non-uniform thickness, divided into strong area and watersproof area, and uniform forced in every area.

Steel plate's additional mounting holes connect to steel bar, fixation not to displacement. Good bonding of galvanized steel and concrete, makes better waterproof properties.

The steel edge waterstop is a new waterproofing product that takes galvanized steel strip and natural rubber as raw materials to combine together.

It takes the excellent natural rubber which has good resistance of aging and all kinds of stabilizer as the main, provides superior self-adhesive.

Also with the performance of not flowing in high temperature in summer, and no brittle in low temperature in winter; And excellent performance of water resistance, acid and alkali resistance and aging resistance.

Long lifespan, non-toxic, and good for the environment, all of that basically can overcome these deficiencies of pure rubber waterstop.

Also this composite product has dual function, to slow the water seepage velocity, on the other side, galvanized steel has a good adhesion with concrete, so the steel edge waterstop can bear large pulling force and torque, which ensure the rubber waterstop not making loose and fall off within the range of effective deformation in the concrete.Improved the effect of waterproofing.









## **Geosynthetic Clay Liner**

#### **Product Introduction:**

Geosynthetic Clay Liner(GCL) is a new type of geosynthetic materials. It is mixed by a natural grading sodium bentonite particles and corresponding admixture as raw material, through the acupuncture technology and equipment, fixed bentonite particles between geotextile and plastic woven cloth and blanket to be maded of. Bentonite waterproof carpet has all the characteristics of geotechnical material, but also has excellent waterproof performance (permeability).



Bentonite waterproof carpet according to the production process can be divided into: acupuncture method of sodium base bentonite waterproof carpet, acupuncture effect of sodium base bentonite waterproof blanket and sodium base bentonite waterproof carpet adhesive method.

Sodium based on bentonite waterproof carpet as a new type of ecological environmental protection, composite , impervious material, with its unique performance of seepage prevention is widely used in water conservancy, environmental protection, transportation, railway, civil aviation, civil engineering, etc. , specific used in the basis of the landfill treatment and caps, artificial lakes, reservoirs, channels, rivers, roof garden of anti-seepage, basement, subway, tunnel, underground passage, seepage of underground buildings and so on.

#### Performance

Coefficient of expansion $(m1/2g) \ge 24$	Mass per unit $(g/m^2)$ $\geq$ 4500	Longitudinal fracture strength (KN/m) ≥6
Transverse fracture strength $(KN/m) \ge 6$	Fracture growth rate of longitudinal (%) ≥10	Fracture growth rate of transverse $(\%) \ge 10$
Vertical permeability coefficient (cm/s) ≤5×10-11	Peel strength (N) $\geq$ 40	Hydrostatic test (0.5Mp) 24h no leakage



# Flashing

## Material:

PVC, PE, EVA, ECB, etc.

## **Application:**

Railway, highway, tunnel, water conservancy, reservoir, construction basement, rooftop waterproof, etc.

## **Characteristic:**

High intensity and elongation rate.

With good waterproofing and seepageproofing.

Acid-resistant, acid-alkali and acid- erode.

Without chemistry pollution.

Good felt for easily used.

## Size:

Thickness: 0.20mm-2.00mm Width : 1000mm-6000mm (According to the clients' requirement)

## **Product Introduction:**

Flashing is a new meterial that based on the high-molecular polymer as basic material. It not only can prevent leakage of liquid ,but also can prevent volatilization of gases. So, it is widely used in instruction, transportation, metro, tunnel, and other engineering construction.

Flashing is a geomembrane that thickness is  $\geq 0.8$ mm.

## Function And Application And Characteristic:

The main function of flashing board is to prevent the volatilization of gases and leakage of liquid. The effect in rock engineering is to prevent leakage and segregate, also have the effect of strengthen and protection. It mainly used in embankment dam, heap stone dam, masonry dam, concrete dam, tailing dam, sewage reservoir, channel, liquid storage pool,etc.

The width is about 4-6m, and the weight is 200—1500g/m2. Tensile strength, highly tearresistant, physical and mechanical performance index is hig; High strength,good performance of extension and flexility, acid and alkali resistant, corrosion resistant, ageing resistant, seepage resistant performance, and non chemistry pollution.

It can satisfy the needs of impermeable, segregate, reinforce, crack control, consolidate in the field of water conservancy, municipal, construction, transportation, metro, tunnel, andother engineering construction.





## Geomembrane

## **Product Introduction:**

Geomembrane is a recombination material that based on the plastic film as the backing material. Composited with non-woven fabrics. Its seepage proformance mainly depends on the seepage properties of plastic film.

At present, the main plastic film with the application of seepage proofing, mainly included polyvinyl chloride (PVC) and polyethylene (PE), EVA (ethylene/vinyl acetate copolymer), the ECB (ethylene vinyl acetate modified asphalt blending geomembrane) used in the application of tunnel, is a kind of high polymer chemistry flexible material, small specific gravity, good extensibility, deformation capacity to adapt to, corrosion resistance,



low temperature resistant, high corrosion resistance, good low temperature resistance, and good performance of frost resistance.

Varieties Index Item	Low-density polyethylene Geomembrane (LDPE)	high-density polyethylene geomembrane (HDPE)		EVA
Itelli		ordinary type	environmental	
Tensile strength (MPa)	≥14	≥17	≥25	≥18
elongation at break (%)	≥400	≥400	≥550	≥600
right-angled tearing strength (N/mm)	≥50	≥80	≥110	≥90
water vapor penetration coefficient (g·cm/cm·s·pa)	≤1.0x10-16	≤1.0x10-16	≤1.0x10-16	≤1.0x10-16
Operating Temperature Range	+70°C∼-70°C	+70°C∼-70°C	+70°C∼-70°C	+70°C∼-70°C
environmental stress cracking resistance (F20·h)	-	-	≥1500	-
oxidative induction time for 200°C(min)	-	-	≥20	-

## Physical And Mechanical Properties Of Geomembrane

## **Mechanism of Action:**

The main mechanism is that plastic film obstruct the leakage channels of the earth dam with its impervious, to sustain the pressure and adapt to the deformation of dam body with its larger tensile strength and elongation; The non-woven fabric is a kind of high polymer chemical short fiber material, it formed by needling or hot to sticking, having high tensile strength and extensibility. Through combining with the plastic film, not only increased the tensile strength and puncture resistance of plastic film, but also increased the friction coefficient of the contact surface because of the rough for the non-woven fabric surface, also it is advantageous to stabilization for the composite geomembrane and the protective layer. At the same time, they have a good effect on the erosion resistance for bacteria and chemical, not afraid of acid, alkali, and salt, in the cases of no sunshine, will be a long service life.



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