ZAOQIANG DACHENG RUBBER CO., LTD.

WATER STOPS

Make your construction job easier

Responsive service in place

Comprehensive line of waterstops for concrete structures.

http://www.waterstop.org

DACHENG

ABOUT

Our business & company

Zaoqiang Dacheng Rubber Co., Ltd. has become the professional manufacturer of waterstops after several years' effort. We have been focusing on research and development in recent years and we've made great achievement in waterstop industry. All members of Dacheng devote themselves to providing our customers with superb quality waterstops series and responsive service.

We look forward to the opportunity to help answer all of your Water Stop questions. Our most important achievement is the long list of satisfied clients, large & small, who have honored us with their trust. Our site is updated constantly so please check back to see the latest addition of newest updates, custom products, and professional services from us.

Water stop is a special type of hydraulic cement. It is non-corrosive, non-rusting, instantly setting compound for plugging and stopping water or fluid leaks in concrete structures or masonry surfaces. When mixed with plain water to a thick consistency and hand formed into a plug, it will stop flowing or leaking even under water pressure.

Water Stops Classification

Water Stop

- Rubber Water Stop (common rubber water stop, water-swelling rubber water stop, rubber water stop with steel edge) .
- PVC Water Stop
- EVA Water Stop

Water Stop Strip

- PZ Type
- BW Type

1.

Common Rubber Water Stop

Common rubber water stop, made of quality SBR, neoprene rubber or natural rubber, is one of the widest types for concrete structure to prevent liquid leaking in or out. Generally, it is designed to be cast in the concrete.

Features & benefits

- High elasticity.
- Excellent high movement accommodation.
- Adjust for subsidence and seismic movements.
- Hot vulcanized site joints.

2.

Water-swelling rubber water stop

It is made from water-swelling rubber water line on the basis of the ordinary rubber water stop, in addition to special waterproof line function. It will swell when contacted with water, which offers good effect of waterproof and water stop by enhancing tightness between the water stop and structures. As a result, waterproof performance is improved and the problem of circle seepage which puzzles people for a long time is solved. This series of products have been used widely in some underground constructions and have gotten excellent results.

Feature

- Waterproof wire adopted water-swelling rubber which will be self-swelling when contacted with water. So under the function of waterproof wire, the concrete and water can seal better and waterproof performance can be more excellent as well.
- The sections are divided into high-strength area, waterproof area and the installation area, which take unequal thickness structures according to the unique function of every area. So each part of the sections can get uniform and reasonable force.
- Formwork folder system contact surface is large in construction and difficult to dislocate.
- Setting hole designed on the installation area is convenient to fix with the nearest steel bar, which is difficult to move with easy construction and firm installation.

3.

Rubber Water Stop with Steel Edge

Steel-edge water stop is a modification of traditional rubber water stop with steel plate rings being inserted into the middle of vulcanized rubber. High liquid-tightness and high absorption of shear movements make the steel-edge water stop a recommended choice for expansion, contraction joints and other construction fields with high pressure and structure variable.

Features & benefits

- Galvanized steel plate for high rust and corrosion resistance.
- With punched holes on the steel plate for easy installation.
- Adjustable to high movements and deformations.
- Excellent fastness between the steel plates and surrounding concrete.

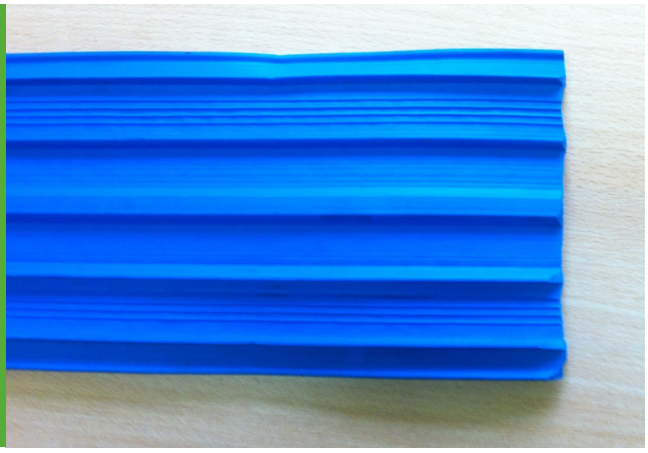
Parameters of rubber water stop

No.	Item		Parameter
1	Hardness shore A		60±5
2	Tensile strength ≥		8 MPa
3	Elongation at break ≥		380%
4	Compression set	70 °C × 24 h % ≤	35
		23 °C × 168 h % ≤	20
5	Brittleness temperature ≤		-45
6	Hot-air aging 70 °C × 72 h	Hardness shore A ≤	+8
		Tensile strength N/mm²≥	10
		Elongation change rate %≤	20

4.

PVC WATER STOP

PVC water stop, being embedded in the concrete joints, acts as a continuous watertight diaphragm to prevent any seepage of liquids in construction joints which are subject to hydrostatic pressure. It is designed for expansion or contraction joint; meanwhile, it can accommodate lateral and transverse movements which make it capable to suit the moving joints.



Features & benefits

- High tensile strength.
- Superior elongation capability.
- Excellent inherent elasticity and impermeability.
- High resistance to acids, ozone, seawater even diesel oil.

Parameters of PVC Water Stop

No.	Item			Parameter
1	Hardness shore A			≥ 65
2	Tensile strength ≥			10 MPa
3	Elongation at break ≥			300%
4	Tearing strength kN/m ≥			25
5	Brittleness temperature ≤			-30
6	Hot-air aging	70 °C × 72 h %	Hardness shore A ≤	+8
			Tensile strength N/mm² ≥	10
			Elongation at break ≥	240

5.

EVA WATER STOP

EVA (ethylene vinyl acetate) waterstop is manufactured from polyvinyl chloride, EVA resin and a variety of additives by special production processes. It is used for water leakage and permeation prevention in building construction joints by taking advantage of elastic deformation property of elastomer material.

Features & benefits

- Resistant to abrasion.
- Resistant to corrosion and chemicals.
- Excellent elasticity.
- Excellent waterproof performance.
- Resistant to weather and excellent durability.

Parameters of EVA Water Stop

No.	Item		Parameter
1	Tensile strength at break (MPa)		≥ 16
2	Elongation at break (%)		≥ 550
3	Tear strength (kN/m)		≥ 60
4	Watertightness (30 min without leakage) (MPa)		0.3
5	Cold bending (°C)		≤ 35
6	Stretching and shrinkage amount of heating (mm)	Stretching	< 2
		Shrinkage	< 6
7	Hot air aging 70°C × 168 h	Tensile strength retention at break (%)	≥ 80
		Hot air aging 70°C × 168 h	≥ 70
		100 % elongation appearance	Without crack
8	Alkali resistance 110% $Ca(OH)_2$ normal temperature 168 h	Tensile strength retention at break (%)	≥ 80
		Alkali resistance 110% $Ca(OH)_2$ normal temperature 168 h	≥ 90

RUBBER WATERSTOP PROFILES

Rubber, PVC, EVA Water Stop Shape

WT-01

WT-02

WT-03

WT-04

WT-05

WT-06

WT-07

WT-08

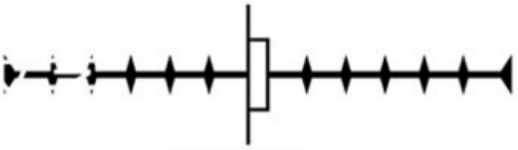
WT-09

Water Stop with Steel Side Shape

SSWT-01

SSWT-02

SSWT-03



SSWT-04

SSWT-05

SSWT-06

SSWT-07

SSWT-08

How to select suitable water stops?

Select the material of water stop by the rules below

When selecting the material of water stop, you should consider the media (acid, alkali, salt, oil, solvent and various corrosive gases) that bring effects for water stop. When it is used in acid-base environment, you should select neoprene water stop. When it is used in oil, you'd better select chemigum water stop.

If there is possible to be eroded by mycete in medium, you should consider the temperature, ultraviolet light, ozone aging, oft-repeated deformation and so on. For low temperature conditions, EPDM water stop would be a good choice.

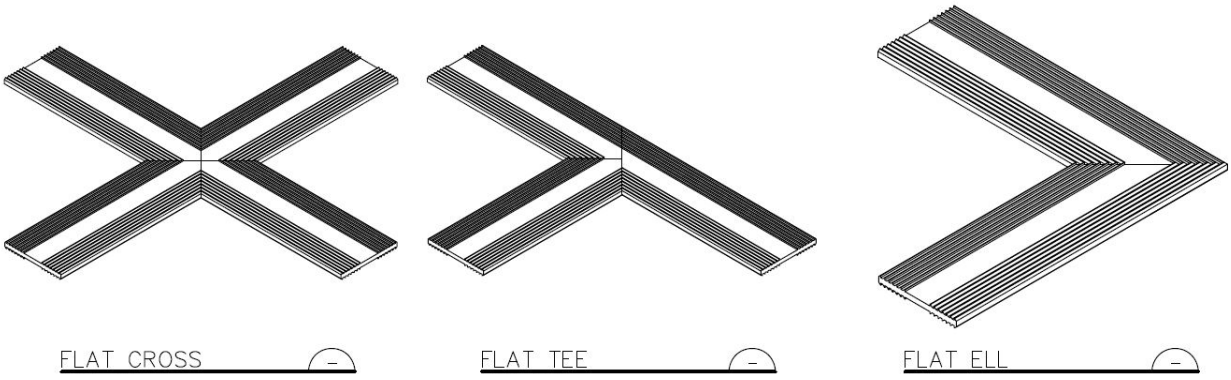
Select the width and thickness of water stop considering three factors below

Horizontal and vertical deformation of movement joint.
Water pressure.
Section size of structure.

Reference table about relations between water stop width, thickness and horizontal &vertical deformation of movement joint.

Width (mm)	Thickness (mm)	Horizontal and vertical deformation of movement joint				
		10	20	30	40	50
200	6	●				
250	6	○	●			
300	6	○	○	●		
350	8-10	○	○	●		
400	12		○	○	●	
450	20				○	●
500	20				○	●
Note: ● is on behalf of "suitable", ○ is on behalf of "usable".						

WATER STOP FABRICATIONS



Key items of installation procedures

- Installed prior to concrete placement.
- Tie off to adjacent rebar through factory in stalled grommets/hog rings.
- Proper alignment with joint (centered in joint).
- Heat welded connections only.
- Proper consolidation of concrete around water stop.
- Split-formwork is often required.

Application

- Dams, locks, canals, water reservoirs and aqueducts.
- Water and waste water treatment facilities.
- Primary and secondary containment structures.
- Culverts and tunnels.
- Storage tanks.
- Retaining walls.
- Bridge and deck abutments.
- Foundations.
- Slabs-on-grade.
- Parking garages.

Water Stop Strip

Water stop strip is a swelling rubber water line on the basis of the ordinary rubber water-stop. It will swell in contact with the structures and increase the tightness between them, which improves water stop and water-proof performance and also solves the problem of circle seepage which puzzled people long term. This series of products have been used widely in some key projects and got excellent results.

BW Type

PZ Type

Classification

Water stop strip can be divided into “unvulcanized rubber putty type (BW type)” and “vulcanized rubber product type (PZ type)". You can select according to different demands of water-proof constructions.

Application

The water swelling bar can be widely applied to various types of concrete structures, such as dams, reservoirs, subway, culverts, tunnels and other underground works.

No.	Item		PZ Type	BW Type
1	Tensile strength / MPa ≥		5	3
2	Elongation at break / % ≥		450	350
3	Expansion rate in volume / %		400	350
4	Repeated water immersion test	Tensile strength / MPa ≥	5	3
		Elongation at break / % ≥	450	350
		Expansion rate in volume / %	300	200
5	Low temperature bending (-20 °C × 2 h)		No crack	

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