衡京工®

JINGTONG

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PRODUCT CATALOGUE

Stabilize your Bridge & Roads.

About us

Hengshui Jingtong Engineering Rubber Co., Ltd. was established in 2010, focusing on the production of rubber products for engineering fields such as highways, bridges, buildings, tunnels, and railways. We have over 10 years of industry experience, equipped with modern production and testing equipment, as well as a professional technical team, dedicated to providing customers with the most suitable products and attentive services.

The company adheres to the business philosophy of 'quality for survival, reputation for development,' continuously enhancing technical strength and improving product quality to meet customer demands. Our products have passed multiple certifications including ISO and GB, and hold several invention and utility model patents, widely exported to countries such as Italy, France, Peru, Israel, Malaysia, and Kenya. Even for complex profiles and products made from different materials, we can customize according to your design.

We sincerely welcome domestic and foreign trade professionals and clients to visit, guide, and explore cooperation, and jointly discuss development opportunities! We look forward to establishing and developing a long-term trade partnership with your company!

ISO 45001 Certificate

ISO 14001 Certificate

ISO 9001 Certificate

CE Certificate

RoHS Certificate

RoHS Test Report

Contents

Butyl Sealing Tape Series Products

· Single-sided Butyl Tape

Aluminum Foil Butyl Tape

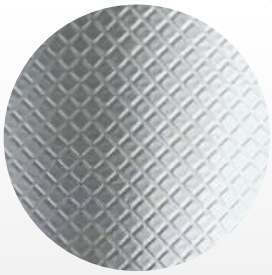
Aluminum foil butyl tape is a roll of waterproof sealing tape made of butyl rubber and polyisobutylene adhesive as the base material, combined with anti-oxidizing aluminum foil and release paper. Compared with other butyl tapes, the aluminum foil layer offers additional advantages such as reflecting heat and blocking ultraviolet rays. The backing of the aluminum foil also enhances the strength and durability of the tape, making it suitable for applications requiring heat resistance, weathering resistance and moisture resistance

Specifications

- Product name: aluminum foil butyl tape
- Material: aluminum foil, butyl rubber
- Butyl rubber color: White, Black, Gray
- Aluminum foil color: Silver, Blue, Red, Golden, Customizable
- Thickness: 1.0 mm, 1.2 mm, 1.5 mm, 2 mm, 3 mm
- Width: 50–500 mm
- Length: 5 m, 10 m, customizable
- Service Life: 5–10 years
- Type: smooth aluminum foil butyl tape, grid aluminum foil butyl tape, diamond aluminum foil butyl tape

Smooth aluminum foil butyl tape

Square aluminum foil butyl tape



Diamond aluminum foil butyl tape

Aluminum Foil Butyl Tape Technical Data						
-	Item			Standard	Results	Valuation
1	Persistent adhesion(Min)		Upper surface	≥20	48	Pass
			Lower surface		37	
2	Heat-resistant properties (80 ˚C, 2 h)			No flow, no crack, no deformation	No flow, no crack, no deformation	Pass
3	Low temperature flexibility (-40 ˚C)			No crack	No crack	Pass
4	Adhesive performance on sheer condition (N/mm)		Waterproofing roll	≥ 2.0	5.3	Pass
5	Peel strength (N/mm)		Waterproofing roll	≥ 0.4	1.4	Pass
			Cement mortar board	≥ 0.6	1.4	Pass
6	Peel strength retention rate(%)	Heat treatment (80 ˚C, 168 h)	Waterproofing roll	≥ 80	99	Pass
		Saturated calcium hydroxide solution, 168 h	Waterproofing roll	≥ 80	96	Pass
			Cement mortar board		128	Pass
		Soaking treatment, 168 h	Waterproofing roll	≥ 80	85	Pass
			Cement mortar board		124	Pass

Features:

- Easy to operate
- Environmentally friendly, non-toxic and odorless
- Chemical resistance, weather resistance and corrosion resistance
- Good tracking ability of material shape change
- High bonding strength and tensile strength, good elasticity, good elongation performance
- Excellent compatibility with most traditional materials
- Strong adaptability to changes in substrate conditions and cracking
- High adhesion, water resistance, sealing, high and low temperature resistance, dimensional stabilit

Applications

Aluminum foil butyl tape is mainly used for repairing steel structure factory roofs, metal roofs, and other construction projects; sealing and waterproofing of pipes and fans against buildings; sealing and waterproofing of glass curtain walls, doors and windows; bonding and sealing in automotive assembly, etc.

Roof waterproofing

Bonding and sealing in automotive assembly

Gap between floor and floor mat

Ground crack

Non-Woven Butyl Tape

Non-woven butyl tape is a type of single-sided tape made from non-woven fabric and butyl rubber, widely used in sealing, bonding, and waterproofing across various industries. Non-woven fabric as the backing for the tape provides good strength and stability, while butyl rubber adhesive offers excellent adhesion and sealing performance.

Specifications

- Product name: Non-woven butyl tape
- Thickness: 0.5–2 mm or customized
- Width: 50/80/100 mm or customized
- Color: White, Black, Gray
- Construction temperature: -5 °C to +45 °C
- Liner: non woven + white release paper
- Adhesive: single-sided adhesive
- Packing: carton + pallet
- Shelf life: 12 months

Applications

It is suitable for sealing and repairing RV roofs, windows, trailers, fifth-wheel trailers, doors, aerodynamic vehicles, box trucks, vents, bus and camper roofs, etc.

Splicing of tunnel waterproof board.

The sealing of the joint of the gutter.

Features:

- Excellent sealing performance.
It has excellent adhesion and sealing performance, effectively preventing the penetration of water, air, and dust.

- Weather resistance.
It can withstand ultraviolet rays, moisture, and high temperatures, suitable for both indoor and outdoor environments, with strong durability.

- Flexibility.
The non-woven structure provides good flexibility, allowing it to adapt to irregular surfaces and curves.

- Ease of use.
It is convenient to use, no special tools required, and can be torn off directly, and is suitable for quick repairs and sealing.

- Environmentally friendly and safe.
It is safe and environmentally friendly, and is suitable for situations with high environmental requirements.

- Good adhesion.
It can achieve strong adhesion on various materials (such as metal, wood, plastic, etc.), ensuring sealing effectiveness.

- Waterproof.
It is suitable for humid environments, and can effectively prevent moisture penetration, and is widely used in construction and automotive fields.

- Chemical resistance.
It has good resistance to various chemicals, and is suitable for industrial and construction applications.

Butyl Sealing Tape Series Products

· Double-sided Butyl Tape

Strip Butyl Sealing Tape

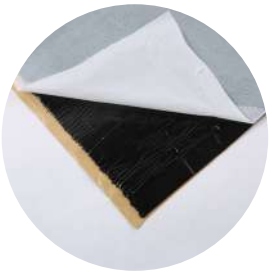
Strip butyl sealing tape is mainly made of butyl rubber and poly isobutene blending. In accordance with special production formula, using the latest patented technology, through special process that produce environmental friendly type double sided butyl adhesive tape. It has strong adhesion to various surfaces. What's more, it also has excellent weather resistance, aging resistance and good water resistance. To the pasted surface, it features seal, shock absorption, protection, etc. In addition, strip butyl sealing tape does not contain any solvents, it is not shrink, not emit toxic gases. And convenient construction makes it become a rare waterproof sealing material in the construction. Widely used in foundation engineering roof waterproof, underground facilities waterproof, tunnel, water supply and drainage works and so on.

Specifications

- Product name: double sided butyl tape.
- Material: butyl rubber and poly isobutene blending.
- Color: black.
- Width: 1 cm - 10 cm.
- Thickness: 1-3 mm.
- Service life: more than 20 years.

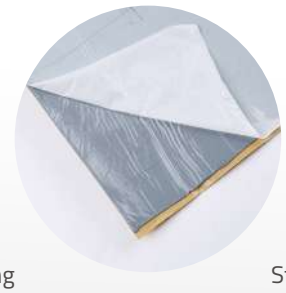
Strip butyl sealing tape with white and black sealant.

Strip butyl sealing tape with black sealant.



Strip butyl sealing tape yellow sealant.

Strip butyl sealing tape sealant color.



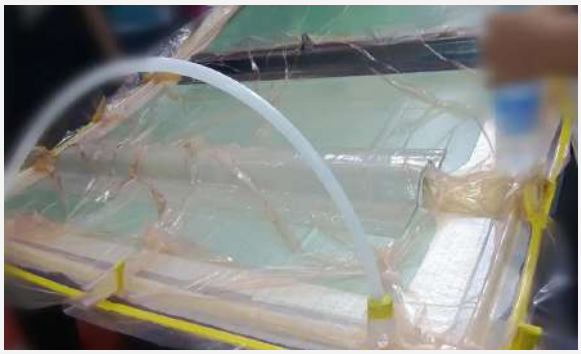
Strip butyl sealing tape gray sealant.

Features:

- Convenient construction,reduce waste, cost-effective.
- UV resistance property,waterproof, good anti oil effect, acid and alkali resistance.
- Sound insulation, shock absorption.
- No solvent, no shrinkage, no poison.
- Strong adhesion
- High temperature resistance: the highest resistance to temperature can be 90°C
- Can be customized.

Applications

- Sealing and shockproofing for automobiles and household appliances
- Air-tight and waterproof treatment for residential ventilation ducts, doors, and windows
- Waterproof sealing in the wind power industry and shipbuilding industry
- Waterproof sealing treatment for construction joints in subway tunnels
- Waterproof treatment for roofs, underground areas, and building structure joints
- Cement, wood, PC, PE, PVC, EPDM, CPE materials' adhesion.



Plastic adhesion

Sunshine board sealing

Color steel plate splicing

Sun room waterproof sealing

Block Shape Butyl Sealant

Block shape butyl sealant is a kind of environmental friendly, non solidified self adhesive sealant. It can maintain its plastic and sealing properties without crack and harden in a wide temperature range. What's more, its excellent weather resistance, acid and alkali resistance, good air tightness and electrical insulation properties make it have good adhesion to glass, aluminum alloy, galvanized steel, stainless steel and other materials. And due to its extremely low water vapor transmission rate, block shape butyl sealant with elastic sealant together can form an excellent anti moisture system. Block shape butyl sealant is applicable for all kinds of machinery, pipe, glass installation, cable joints and other seals as well as buildings, water conservancy projects, etc.

Specifications

- Product name: block shape butyl sealant.
- Material: isobutene polymer and butyl rubber blending.
- Color: black.
- Specific Gravity (g/m^3): 1.10-1.30 g/m^3.
- Operating temperature: -20 °C- 80 °C.
- Temperature resistant range: -40 °C - 130 °C.
- Maximum temperature bearable: 160 °C.
- Water vapor transmission rate: < 0.01 g/m^2 per day.
- Solids content: 100%.
- Hot weightlessness: 0.1%.
- Shearing strength: 0.13 MPa.
- Storage condition: -10 °C - 35 °C, in a cool, dry and ventilated place.
- Storage period: 12 months.
- Transportation: Block shape butyl sealant is non dangerous, so it is suitable for all kinds of transport such as truck, train, boat and plane, etc.
- Note: When block shape butyl sealant matches use with other rubber, compatibility test should be done.

Features:

- Heat resistance.
- Strong adhesion.
- High air tightness.
- Weather resistance.
- Electrical insulation.
- Excellent sealing effect.
- Excellent UV resistance.
- Acid and alkali resistance.
- Can be reused and no waste.
- Environmental friendly material.
- Extremely low water vapor transmission rate.
- No solvent, no fog, non vulcanization, with permanent plasticity.
- Need no curing period, saving floor area. (1 minute curing time).

Applications

Block shape butyl sealant is applicable for the building doors and windows glass, curtain wall, refrigerator, freezer, train and car, etc.

Block shape butyl sealant can be used for insulating glass.

Block shape butyl sealant is applicable for the windshield of a car.

Butyl Windscreen Sealant

Butyl windscreen sealant, also known as butyl rubber sealing strip or butyl sealing tape, is a black synthetic butyl rubber sealant. It is commonly used in the installation of automatic windshields, particularly in the sealant tape between the glass and metal areas. This sealant tape has excellent adhesion and weather resistance, and can effectively prevent moisture and air infiltration, thereby maintaining a permanent seal between the glass and metal. In addition, it can withstand temperature changes and UV exposure, ensuring the waterproof performance of the welded joints and extending the vehicle's lifespan.

Specifications

- Appearance: Black
- Specifications: Roll packaging
- Technical Performance:
  - Peel strength ≥ 0.2 kN▪m (for stainless steel)
  - High-temperature resistance test 80 °C × 4 hours without flow
  - Low-temperature resistance test -40 °C × 4 hours without cracking

Advantages

- **Good adhesion.**

It can firmly adhere to glass and metal surfaces without easily coming off.

- **High and low temperature resistance.**

It maintains its performance in both extremely cold and hot environments, resistant to deformation or aging.

- **Waterproof sealing.**

It provides long-lasting waterproof sealing effect and prevents moisture penetration.

- **Easy operation.**

Typically, simply peel the tape off the release paper and apply it to the contact surfaces between the windshield and the vehicle body according to the proper method.

Applications

- Good adhesion strength to materials such as glass, metal, and plastic;
- Installation, sealing, reinforcement, vibration damping, sound absorption, and sound insulation in speaker systems in the electronics industry;
- Sealing, shock absorption, sound absorption, and sound insulation for refrigerators and air conditioners;
- Sealing between kitchen cabinets, bathtubs, sinks, and the edges of walls, as well as sealing between walls;
- Waterproof sealing treatment in automotive and marine assembly;
- Waterproof sealing treatment at joints in steel structure buildings;
- Electrical insulation sealing and flame retardant for metal components.

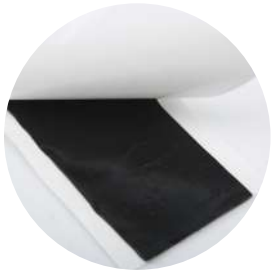
Headlight seal

Pipe connector seal

Butyl Semi-Solid Vibration Damping Block

Butyl semi-solid vibration damping blocks are made from butyl rubber, featuring excellent sealing properties, heat resistance, cold resistance, and elasticity. This material can maintain stable performance under extreme temperature conditions, adapting to various environmental needs.

This damping block is commonly used in the connection points of refrigerators and outdoor units of air conditioners, to effectively reduce the vibrations generated during operation, thereby lowering noise and enhancing user comfort. By absorbing and dissipating vibration energy, it not only extends the lifespan of the equipment but also improves its operational efficiency.



Specifications

- Material: Butyl rubber
- Color: Black
- Shape: Pad with a certain thickness
- Size: 2 cm × 2 cm × 2 mm (L × W × H) or custom

Features:

- **Durable.** The aging resistance and corrosion resistance of rubber materials ensure the long-term effectiveness of the vibration damping block.
- **Weather resistance.** It is oxidation-resistant and UV-resistant, and is suitable for various environmental conditions.
- **Easy installation.** It can be cut into different shapes and sizes as needed, convenient for use on various devices.
- **Temperature stability.** It maintains stable performance over a wide temperature range.
- **Vibration damping effect.** It reduces the transmission of vibrations generated by the machine to the building structure by providing a soft medium between the air conditioner outdoor unit and the bracket.
- **Noise reduction function.** It reduces noise caused by vibrations, especially at night or in quiet environments, improving living comfort.

Installation Method

1.Clean the installation surface to ensure it is free of oil and dust;

2.Select an appropriate shock absorbing pad based on the size and weight of the air conditioner outdoor unit;

3.Place the shock absorbing pad between the bottom of the air conditioner outdoor unit and the bracket;

4.Use screws or other fastening methods to secure the air conditioner outdoor unit to the bracket.

Precautions

- Regularly check the condition of the shock absorbing pad; replace it promptly if there is wear or aging.
- Ensure that the shock absorbing pad is installed securely to avoid instability of the air conditioner outdoor unit due to improper installation.
- Consider environmental factors, such as the impact of temperature changes on the performance of rubber materials. conditioner outdoor unit to the bracket.

Rubber Inflatable Series Products

Rubber Inflated Culvert Balloon

The rubber inflated culvert balloon, also known as the bridge inflatable core mold, is an expandable and contractible cylindrical bag made of rubber with a fiber-reinforced layer, featuring excellent tensile strength, elasticity, and air-tightness. It is primarily used to form cavities in concrete components.

When manufacturing hollow components, the inflatable core mold is placed in the middle of the component and is expanded by injecting compressed air. The inflated core mold can withstand the pressure of concrete, thus effectively replacing traditional wooden, bamboo, and steel molds. When in use, simply open the valve, and the airbag will deflate, making it easy to remove from the cavity.

Category

Based on the shape of the rubber inflated culvert balloon, it can be divided into the following common types: rectangular, round, regular octagonal, flat octagonal, reducer, and elliptical.

Rectangular

Round

Regular octagon

Flat octagon

Reducer

Oval

Rubber Inflated Culvert Balloon Specifications	
Round ϕ220 mm × 8.5 m	
Round ϕ260 mm × 10.5 m	
Round ϕ360 mm × 14 m	
Round ϕ390 mm × 14 m	
Round ϕ520 mm × 17 m	
Octagonal ϕ360 mm × 760 mm	Reducer ϕ360 mm × 600 mm × 11 m
Octagonal ϕ460 mm × 760 mm	Reducer ϕ460 mm × 600 mm × 14 m
Octagonal ϕ560 mm × 760 mm	Reducer ϕ560 mm × 600 mm × 17 m
Octagonal ϕ710 mm × 760 mm	Reducer ϕ710 mm × 600 mm × 21 m
Octagonal ϕ560 mm × 780 mm × 17 m	
Octagonal ϕ710 mm × 800 mm × 21 m	
Octagonal ϕ460 mm × 550 mm × 14 m	
Oval ϕ360 mm × 520 mm × 17 m	
Oval ϕ360 mm × 480 mm × 14 m	

Using Pressure Gauge	
Diameter (mm)	Inflation Pressure (MPa)
150	0.080
160–190	0.080
200–220	0.070
230	0.060
240–280	0.050
300–370	0.045
380–480	0.040
500–520	0.035
550–600	0.030
620–680	0.025
700	0.020

Requirements for the rubber inflated culvert balloon for hollow core precast beams

- When installing the rubber inflated culvert balloon, the length specifications of the hollow core precast beams are usually 8 m, 10 m, 13 m, 16 m, 20 m, 25 m, and 30 m; lengths exceeding 30 m are generally not designed as hollow core beams.

- For culvert balloons below 13 m in length, the inner culvert balloon is generally made of rubber; for culvert balloons above 16 m in length, there is more flexibility in the choice of inner culvert balloons, which can be rubber, wood, or steel.

- During the construction process, the rubber inflated culvert balloon is placed inside the rebar cage, inflated with compressed air to form the desired cavity shape, and withstands the pressure during concrete pouring. After use, it can be deflated and removed from the cavity, allowing for multiple reuse.

Hollow core precast beam

Rubber inflated culvert balloon placed into the rebar cage

Rubber Inflatable Pipe Plug

Rubber inflatable pipe plugs are a type of internal intercepting flow device made from high-quality rubber, featuring excellent burst strength, elasticity, and flexibility. They are primarily used for intercepting flow in drainage pipelines and are widely applied in the fields of water supply and drainage, civil engineering, and fire rescue. This inflatable bag expands through air injection, causing its wall to closely adhere to the inner wall of the pipeline, thereby achieving the purpose of sealing the pipeline.

Specifications (Customizable)

- Material: Natural rubber, synthetic rubber materials (such as nitrile rubber, neoprene, etc.).
- Pressure rating: 0.1–1.0 MPa.
- Diameter range: The rubber inflatable pipe plug has a wide range of diameters, from a few centimeters to several tens of centimeters, to accommodate different sizes of pipelines.
- Length: The length of the rubber inflatable pipe plug varies according to the pipeline length and sealing requirements.
- Inflatable equipment: Air pump or blower

Rubber inflatable pipe plug air pump inflation port

Rubber inflatable pipe plug blower inflation port

Rubber Inflatable Pipe Plug Specification				
Item	Classification	DN (mm/inch)	Length	Weight (kg/set)
1	Natural rubber water plug	50/2"	110 mm	0.1
2		75/3"	130 mm	0.16
3		100/4"	150 mm	0.3
4		150/6"	190 mm	0.6
5		200/8"	230 mm	0.85
6		250/10"	280 mm	1.3
7		300/12"	330 mm	2.1
8		400/16"	440 mm	5.1
9		500/20"	610 mm	8
10		600/24"	710 mm	9.5
11	2 layers rubber and 1 layer cloth	300	1 m	4.5
12		400	1 m	6.5
13		500	1 m	8
14		600	1 m	10
15		700	1.05 m	12.5
16		800	1.2 m	16.5
17		900	1.35 m	20.5
18		1000	1.5 m	25.5
19		1100	1.65 m	30.5
20		1150	1.725 m	33.3
21		1200	1.8 m	36.5
22		1500	2.25 m	50
23		1600	2.4 m	56.5
24		1800	2.7 m	71.5

Features:

● Good sealing performance.
Rubber material has excellent elasticity and air-tightness, allowing for complete sealing of pipelines.
● Highly adaptability.
It is suitable for pipelines made of different materials and shapes, such as circular, oval, square, etc.
● Easy installation.
The rubber inflatable pipe plug can be quickly installed in place through air inflation, making the operation simple.
● Cost-effective.
Compared to other plugging methods, rubber inflatable pipe plugs are more affordable and can be reused.
● Corrosion resistance.
Certain rubber materials have good corrosion resistance, making them suitable for sealing pipelines in the chemical industry.
● Environmentally friendly & Safe.
Using rubber inflatable pipe plugs does not produce harmful chemicals, making them environmentally friendly.

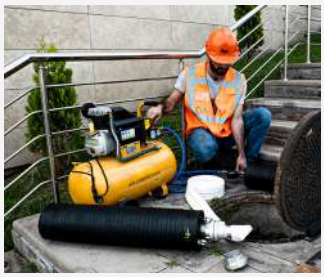
Applications

● Pipeline maintenance.
During pipeline repairs or replacements, the rubber inflatable pipe plug can be used for temporary sealing to prevent sewage or pollutants from entering the pipeline.
● Pipeline inspection.
During pipeline internal inspection, rubber inflatable pipe plugs can be used to isolate the inspection area, ensuring a clean inspection environment.
● Drainage system maintenance.
In urban drainage system maintenance, rubber inflatable pipe plugs can be used to block drainage pipelines for water-tight testing or cleaning operations.
● Industrial pipeline cleaning.
In the process of industrial pipeline cleaning, rubber inflatable pipe plugs can be used to isolate the cleaning area, preventing leakage of cleaning fluids.
● Construction.
In construction, rubber inflatable pipe plugs can be used for temporary sealing of pipelines to prevent contamination and damage during the construction process.


Pipeline maintenance


Construction


Industrial pipeline cleaning


Pipeline Inspection

High Pressure Pipeline Blocking Airbag

High pressure pipeline blocking airbag adopts a bionic design, inspired by silkworm cocoons, using rubber as the sealing material, combined with interwoven high tensile strength fibers. This unique structure not only enhances the durability of the product but also improves its sealing performance. According to different user requirements, the product can be customized with various pressure parameters, ranging from 0.15 MPa to 0.6 MPa, ensuring reliable blocking effects in various applications. Its high safety makes high pressure pipeline blocking airbag an ideal choice for pipeline maintenance and emergency response, effectively preventing leaks and environmental pollution, and ensuring the safety of operators.

Specifications

High pressure pipeline blocking airbag is safer and more convenient compared to other blocking methods. Depending on the specifications, it can block water levels from 1 to 30 meters, and is suitable for pipelines with a diameter of DN 300–6000 mm. In addition, airbags can also be customized for other deep water levels and large specifications.

High Pressure Pipeline Blocking Airbag Water Depth 10 m Specification

DN (mm)	Length (mm)	Weight (kg)	Available Pressure ≤ MPa	Blocking Water Depth ≤ m
300	0.8	6	0.2	10
400	1.0	10	0.2	10
500	1.3	12	0.2	10
600	1.4	18	0.2	10
800	1.7	28	0.2	10
1000	2.2	45	0.2	10
1200	2.4	55	0.2	10
1350	2.6	75	0.2	10
1400	3.0	85	0.2	10
1500	3.2	100	0.2	10
1650	3.6	135	0.2	10
1800	3.8	150	0.2	10
2000	4.0	200	0.2	10
2200	4.4	245	0.2	10
2500	4.7	300	0.2	10
2800	5.0	360	0.2	10
3000	5.2	400	0.2	10
4000	6.0	600	0.2	10

Features

- High pressure resistance
- Aging resistance
- Impact resistance
- High safety factor
- Fast blocking speed, reusable multiple times
- Easy and quick to install and remove

Applications

It is widely applicable for water closure tests of various pipelines, maintenance and blocking of municipal pipelines, as well as operations such as dredging, cleaning, water blocking, and leak sealing.

Precautions

- Clear the pipeline opening to a length greater than the length of the pipeline blocking airbag. Remove oil, sand, concrete and other substance inside the pipeline to ensure the interior is clean and free of burrs, to avoid affecting the blocking effect or even puncturing the airbag.
- During the use of the product, it is prone to scratches and punctures. To ensure the safety of construction personnel, after airbag blocking, an alternative plan must be in place in case of airbag damage after the plug is inflated, before proceeding with construction.
- It is strictly prohibited to rely solely on the inflatable plug for sealing before allowing personnel to enter the pipeline.
- For blocking at a water depth of up to 5 m, an airbag pressure of 0.1–0.15 MPa is recommended; For blocking at a water depth of up to 10 m, an airbag pressure of 0.13–0.2 MPa is recommended.
- The function of the cast steel inflatable pull ring is to pull the steel wire rope (No. 14 and above), and the airbag needs to be fixed at the wellhead to prevent displacement.
- The airbag must be used within the same model of pipeline and must not be substituted with a smaller size.
- When inflating, pay attention to the pressure gauge and do not exceed the pressure limit.

Accessories

High pressure pipeline blocking airbag includes a cast steel inflatable pull ring, shock-resistant pressure gauge, sealing tape, 10-meter high pressure pipe, and connectors.

Accessories

Connector

High pressure pipe

Variable Diameter Pipeline Sealing Airbag

The variable diameter pipeline sealing airbag is a device used for sealing underground pipelines. It is primarily composed of soft metals and multi-layer polymeric materials to form an airtight sealing bag. Both sides of the bag are equipped with waterproof adhesive strips that can withstand high temperatures. When the inflation reaches a certain pressure, the strip will tightly adhere to the pipeline and cable, achieving complete waterproofing. In addition, the inflation port contains self-filling polymeric materials to prevent gas leakage.

Specifications

The variable diameter pipeline sealing airbag comes in various specifications and can be customized according to the diameter and material of the pipeline.

Variable Diameter Pipeline Sealing Airbag Specifications

Item	Applicable Pipe Diameter (mm)	Inflation pressure (MPa)	Using Water Depth (≤m)	Initial Diameter (mm)	Length (mm)	Weight (kg)
U150-300	150-300	0.2	10	135	500	2.5
U200-400	200-400	0.2	10	180	600	4
U200-500	200-500	0.2	10	180	750	5
U300-600	300-600	0.15	8	280	750	10
U400-800	400-800	0.15	8	380	900	18
U500-1000	500-1000	0.15	8	460	1050	25

Features

● Variable diameter.
This airbag can adapt to pipelines of different diameters, allowing it to work effectively in various applications.

● Sealing performance.
It is primarily used to prevent the infiltration of moisture, sewage, and other substances, and ensure the safety and cleanliness of the internal environment of the pipeline.

● Durable materials.
Made from high-strength, corrosion-resistant materials, it can withstand harsh working environments, and ensure long-term use.

● Easy installation.
The installation process is quick and convenient, allowing for rapid sealing work and reducing downtime.

● Wide applications.
It is suitable for municipal pipelines, power, communications, and many other fields, capable of being used in pipelines of different materials (such as PVC, steel, etc.).

● Self-filling function.
Built-in polymeric materials can self-fill under certain pressure to prevent gas leakage.

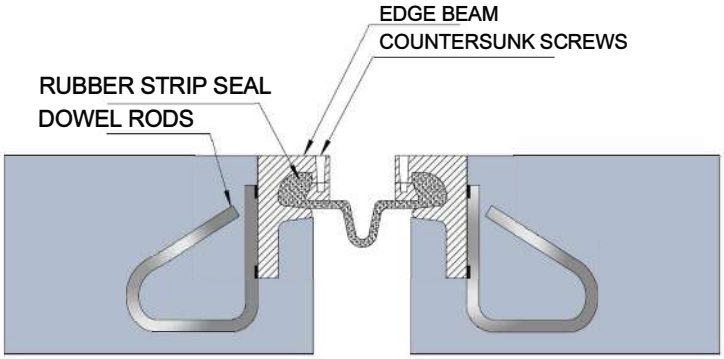
● Durability.
The product can withstand harsh environments, with a service life of up to 20 years.

Construction Requirements

- Prohibit the use of over pressure
- Personnel are prohibited from approaching during inflation
- It is prohibited to flatten the ground beyond 0.05 MPa
- Pay attention to using a sturdy rope to pull the airbag
- Pay attention to cleaning pipeline debris before placing airbags
- Pay attention to preventing toxic gases in pipelines
- Pay attention to shading and store at room temperature

Bridge Joints Series Products

· Longitudinal movements of up to 80 mm

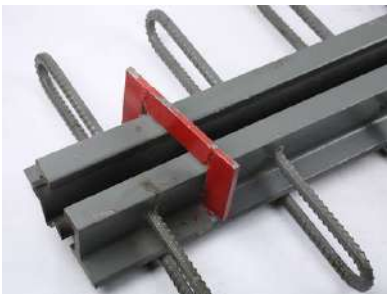


Strip Seal Expansion Joints

Strip seal expansion joints accommodate movements up to 80 mm, consisted of countersunk screws, edge beam, rubber strip seal and dowel rods. Based on cross-sectional shape, they are classified into five types: GQF-C, GQF-F, GQF-E, GQF-Z,GQF-RG and GQF-M. Fully embedded in the road surface, these joints help prevent cracks due to temperature changes. Typically placed at bridge ends, between beams and abutments, or at hinge joints, they incorporate rubber noise-reduction boards, reducing traffic noise by up to 80%.

Specifications

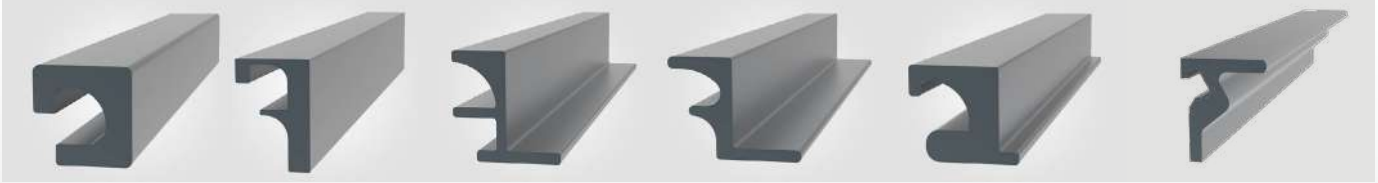
- Rubber material: chloroprene rubber (CR) or natural rubber (NR).
- Head Type: Straight or nose



Strip seal expansion joints with straight head

Strip seal expansion joints with nose

- Cross-sectional shape: GQF-C, GQF-F, GQF-E, GQF-Z GQF-RG and GQF-M.



GQF-C GQF-F GQF-E GQF-Z GQF-RG GQF-M

Specification of Strip Seal Expansion Joints					
Item	Displacement (mm)			Expansion resistance (kN/m)	
	Horizontal displacement	Vertical displacement	Horizontal shear displacement	Compression	Longitudinal shearing
GQF-C30	30	± 12	± 20	≤ 4	≤ 6
GQF-C50	50				
GQF-C60	60				
GQF-C80	80				
GQF-F30	30	± 12	± 20	≤ 4	≤ 6
GQF-F50	50				
GQF-F60	60				
GQF-F80	80				
GQF-E80	80	± 12	± 20	≤ 4	≤ 6
GQF-Z80	80	± 12	± 20	≤ 4	≤ 6

Note: Strip seal expansion joints in other dimensions can be manufactured upon your request.

Features:

- Strip seal expansion joints are retractable and solid on both directions parallel and perpendicular to the bridge axis to ensure vehicles runs smoothly and no noise.
- Strip seal expansion joints can prevent rainwater permeation and dirt clogging.
- Strip seal expansion joints are simple and easy to install, check, maintain and clean.
- High strength, can withstand the weight of vehicles and pedestrians.

Strip seal expansion joints are retractable through the middle slot

Simple single gap joint is easy to install

Applications

- Strip seal expansion joints are suitable for kinds of bridges which are curved, slope, skew and wide. They can also perform well on both new-built bridges and bridges have been built, both asphalt and concrete bridge surface. It also can be used in the highway.
- Having a limited depth of the structure and being able to be installed quickly, strip seal expansion joints are extremely well-positioned to replace the damaged one in a restoration project.

Strip seal expansion joints installed in end of bridge

Strip seal expansion joints are installed in highway

Strip seal expansion joints are used in connection of bridges

Strip seal expansion joints are installed in highway

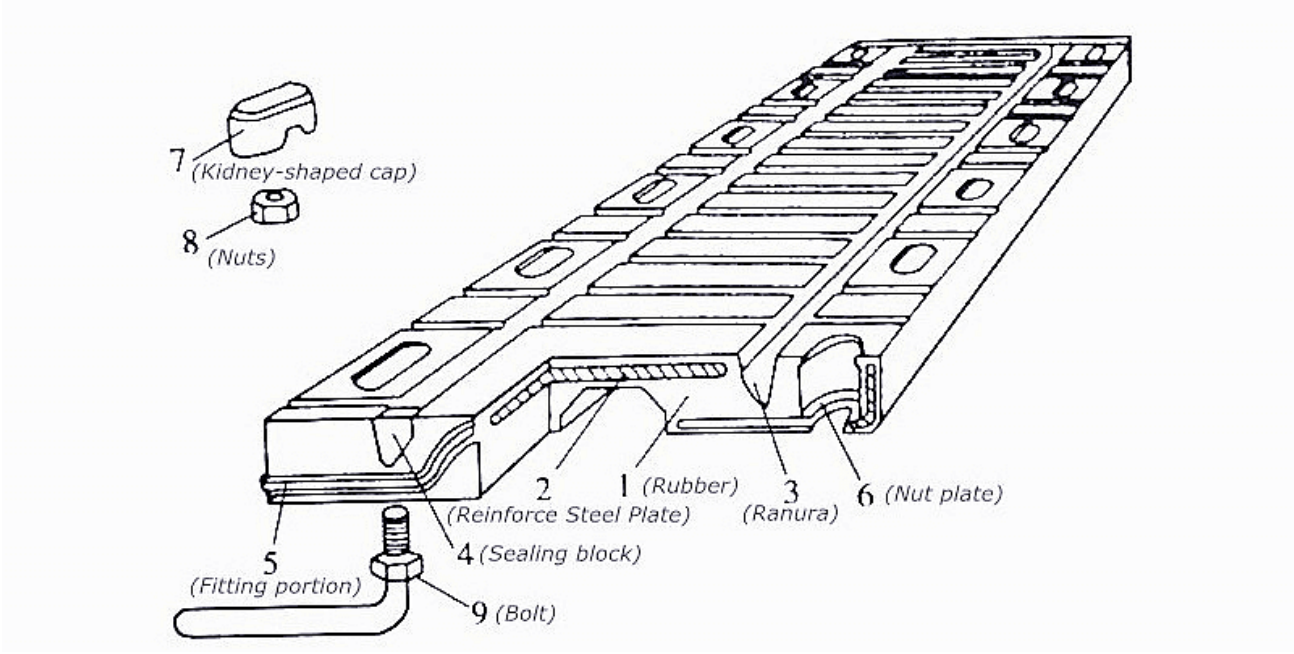
Rubber Bridge Expansion Joints

Rubber bridge expansion joints are mainly made of rubber, steel plate and angle iron. Steel plates are set in the rubber bridge expansion to strengthen the bearing capacity and they can slide freely along the angle iron to meet the expansion deformation of main grid.

Because of the excellent sealability and shock-absorbing effect of rubber, rubber bridge expansion joints do well in proofing water and reducing noise. The elasticity of rubber plates and its shear deformation in the telescopic channel helps the whole device to realize telescopic motion.

Structure

Rubber bridge expansion joints are consisted of rubber, reinforce steel plate, ranura, sealing block, fitting portion, nut plate, kidney-shaped cap, nuts and bolt.



Type 1

Type 2

Specifications

- Material: rubber, steel plate and angle iron.

Specification of Rubber Bridge Expansion Joint				
Model	Movement	Module length	Module depth	Weight
	(mm)	(mm)	(mm)	(kg/m)
30	± 15	2000	33	18
50	± 25	2000	43	25
80	± 40	2000	46	34
100	± 50	2000	54	45
160	± 80	2000	84	88
200	± 100	2000	71	135
330	± 165	1000	100	280

Accessories:

Kidney-shaped cap

Curved screw bolt

Ring

Features:

- Rubber bridge expansion joints are made of prime-quality rubber, have anti-aging and have a long service life.
- Wear resistance, corrosion resistance.
- Rubber bridge expansion joints can withstand the weight of vehicles and pedestrians.
- During installation, bolt holes on the bottom and each junction are filled with adhesion agent which makes the whole rubber bridge expansion joints be highly water-resistant.
- Rubber bridge expansion joints can ensure vehicles runs smoothly and no noise.

Application

Rubber bridge expansion joints for movements of up to 60 mm apply to normal bridges. Compared with expressway, rubber bridge expansion joints are more suitable for being installed on the flyovers. They are also good choices for building new bridges.

Rubber bridge expansion joint is used in expressway

Rubber bridge expansion joint installed in end of bridge

Rubber bridge expansion joint is used in flyover

Rubber bridge expansion joint used in connection of bridges

Asphaltic Plug Joint

Asphaltic plug joint (also referred to as TST bridge joint) for movements up to 50 mm is a simple bridge expansion joint filled with asphalt. TST (crushed stone) elastic material is a special type of elastic-plastic material with high viscosity. Being heated sufficiently to melt, it can be poured into gravel and will be shaped into asphalt concrete form after molding to bear vehicle load. Asphaltic plug joint can simultaneously give attention to some opposing performance requirements. For example, it can perform well in both high and low temperature (-25°C – 60°C), both permeability and viscosity. As a result, asphaltic plug joint can be used for wide temperature region to prevent vehicle-jumping at bridgehead. And bridge can be opened to traffic after two hours of construction.

Specification of TST Bridge Joints				
Stretching (mm)	Slot Tidth (mm)	Slot Depth (mm)	Beam end clearance (mm)	Weight
10	80-100	≥20	15	18
20	160-200	≥50	20	25
30	240-300	60-75	25	34
40	320-400	70-100	40	45
50	400-500	75-120	50	88

Features

- High elasticity.

TST bridge joints can adapt the load deformation and vehicle load well.

- Good performance.

TST bridge joints have good low-temperature flexibility and high-temperature stability.

- Easy to construct.

TST bridge joints can be installed easily and conveniently without blocking traffic.

- Open to traffic quickly.

Bridge can be opened to traffic in two hours after TST bridge joints are installed. If cooling is accelerated, the bridge can be open to traffic in an hour.

- Shock-absorbing.

TST bridge joints can absorb vibration of vehicle impact and make cars go smoothly.

- Long service life.

Being strict accordance with the requirements of the production and installation of expansion joints, TST bridge joints generally have a longer service life.

- Low cost & high cost-effective.

Application

- TST bridge joints are for movements up to 50 mm are suitable for small and medium-span bridges. Because of good performance under both high and low temperature, TST bridge joints can be used in different zones to ensure traffic safety.

- TST bridge joints also can be used in the road and expressway.

Asphaltic plug joint is used in the connection expressways

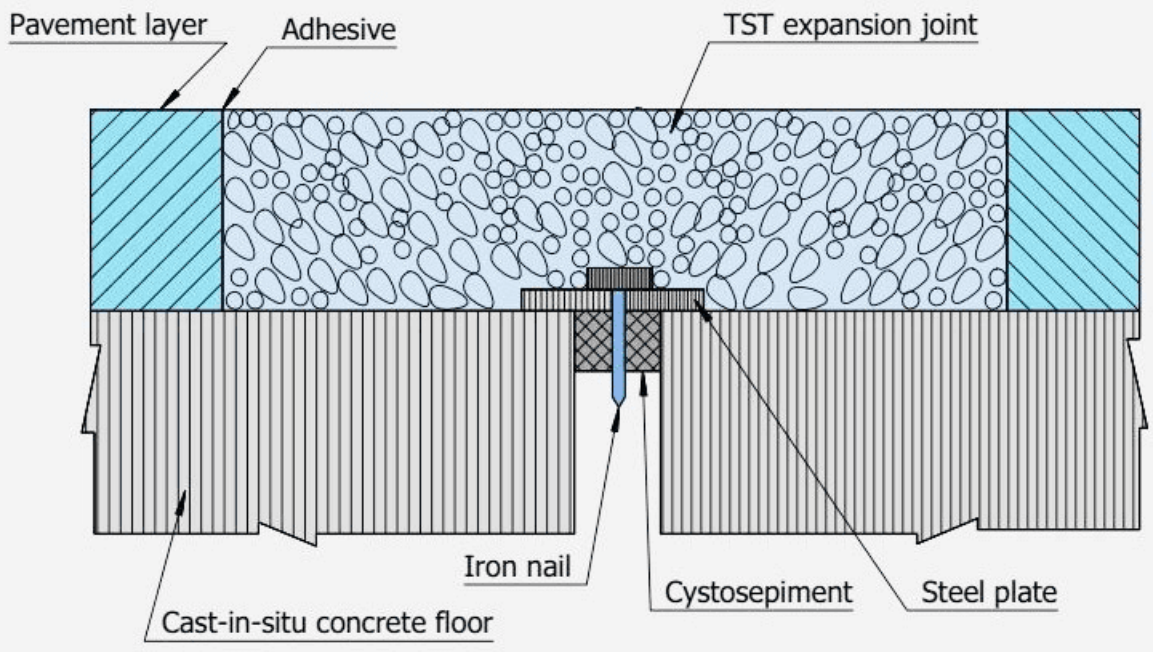
Asphaltic plug joint used in end of road

Asphaltic plug joint used in connection of bridges

Asphaltic plug joint is used in end of bridge

Installation

Asphaltic plug joint can be installed with adhesive in the connection of bridges easily. And it can condense quickly and will not affect the normal traffic.



Implantable Expansion Joint

Implantable expansion joint is a kind of simple bridge expansion joint. It is made of rubber and reinforced steel. And it is must be free to telescopic in both directions of parallel and vertical. Installing the implantable expansion joint not only can provide a smooth and continuous vehicle lane but also can avoid cracks in the upper asphalt concrete. In addition, implantable expansion joints can make the rainwater flow away through drainage pipe to avoid damage to rubber. Compared with other bridge expansion joints, implantable expansion joints with simple structure are easy to install and replace. Implantable expansion joint is an economical choice for customers.

Specification

- Reinforced bar diameter: 8 mm.
- The thickness of rubber: 13–16 mm.
- The width of rubber: 430 mm.
- Note: specific specifications can be customized.

Features

- Provide a smooth vehicle lane Without changing the bridge under the conditions of stress.
- Good drainage function.
- Avoid cracks in the concrete floor.
- Prevent infiltration of concrete slurry.
- Simple structure, easy to install.
- Economic choice, less cost.

Application

Implantable expansion joint is widely used in the bridge, road and expressway to provide a smooth vehicle lane.

Implantable expansion joint rolls has simple structure

Implantable expansion joint with drainage pipe

· Longitudinal movements of between 80 and 1200 mm

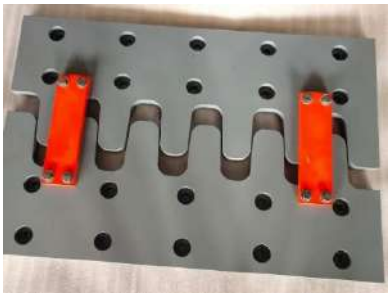
Finger Expansion Joints

Finger expansion joints are designed to handle movements of 80 mm to 1,200 mm are composed by steel finger plates, CR sheet, anchor bolts and other components. The rubber sheet is placed on the retractable steel, and anchor bolts help to fix the whole structure. The orientation of the fingers is in the direction of vehicle travel, which can reduce noise and improve driver's comfort. There is a drainage channel which allows rainwater to enter the bridge's drainage system, hanging beneath the joint.

Type

Type 1

Type 2



Type 3

Type 4

Type 5

Type 6

Note: Other types also can be customized.

Specification of Finger Expansion Joints						
Type	Movements (mm)	Thickness (mm)	Anchor bolt	Width (mm)	Height (mm)	Height of set layer (mm)
80	80	28	M18 × 180	750	33	≥ 120
100	100	28	M18 × 180	790	33	≥ 120
120	120	30	M18 × 180	830	35	≥ 120
140	140	30	M18 × 180	870	35	≥ 120
160	160	30	M20 × 200	940	35	≥ 130
180	180	32	M20 × 200	980	37	≥ 130
200	200	32	M20 × 200	1020	37	≥ 130
220	220	32	M20 × 200	1040	37	≥ 130
240	240	34	M20 × 200	1060	39	≥ 150
260	260	34	M20 × 200	1120	39	≥ 150
280	280	34	M20 × 200	1170	39	≥ 150
300	300	34	M20 × 200	1270	39	≥ 150
320	320	36	M24 × 240	1290	41	≥ 150
340	340	36	M24 × 240	1350	41	≥ 150
360	360	36	M24 × 240	1410	41	≥ 150
400	400	36	M24 × 240	1470	41	≥ 150

Note: Other specifications also can be customized.

Features:

- Simple structure & low height.
- Minimize noise and vibration.
- Maximize vehicle's driving smoothness.
- Anti-skidding.
- Be highly water-resistant (Equipped with waterproof device).
- Low cost & high cost effectiveness.
- Widespread use.
- Easy to install.

Applications

Finger expansion joints are suitable for both new bridges and existing bridges. They are also good choices for the large-span bridges and do well in replacing the old ones. Finger expansion joints are widely used among steel box girders, among concrete beams, and between steel box girders and concrete beams. Finger expansion joints also can be used in expressway.

The bridge is being built with finger expansion joints

A bridge that has been built with finger expansion joints

Finger expansion joints are used in end of bridge

Finger expansion joints are installed in connection of bridges

Modular Expansion Joints

Modular expansion joints, also called GQF-MZL modular bridge joints, are composed by boundary beams, middle beams, cross girders, displacement control systems, bridge bearings, anchoring components and rubber sealing belts. modular expansion joints are suitable for longitudinal movements of 80 mm to 1200 mm. Having good bearing capacity and stability, modular expansion joints can accommodate movements in every direction and rotations about every axis. Their individual displacement control and load transfer systems enable bridges to adapt the movement of the beam caused by temperature and ensure the traffic safety.

Top of modular expansion joint

Bottom of modular expansion joint

Specification of Multiple-Gap Expansion Joints

Type	Displacement (mm)	Width (mm)	Interval (mm)	Height of Support Beam (mm)
MZL-80	80	80-160	50-130	700
MZL-160	160	160-320	80-240	700
MZL-240	240	240-480	160-400	800
MZL-320	320	320-640	220-540	800
MZL-400	400	400-800	310-710	800
MZL-480	480	480-960	400-880	800
MZL-560	560	560-1120	490-1050	800
MZL-640	640	640-1280	550-1190	800
MZL-720	720	720-1440	590-1310	800
MZL-800	800	800-1600	620-1420	900
MZL-880	880	880-1760	700-1580	900
MZL-960	960	960-1920	780-1740	900
MZL-1040	1040	1040-2080	810-1850	900
MZL-1120	1120	1120-2240	890-2010	900
MZL-1200	1200	1200-2400	970-2170	900

Features:

● Safe & reliable.

The load-bearing structure and displacement control system of modular expansion joints are separate parts. When under stress, these two parts will not interfere with each other and have a clear division of labor to provide security assurance.

● Uniform displacement.

Modular expansion joints meet the requirements of high processing and assembling precision to make sure that they can be flexible and proceed uniform displacement.

● Strong adaptability.

Each junction adopts the structure which can both slide and be rotatably to content the demand of various kinds of bridges.

● Save steel.

In every displacement control cabinet, all the middle beams are supporting one cross beam which is benefit to large-displacement bridges. This structure can reduces the quantity of beams, the volume of control cabinet and saves steel.

Applications

Modular expansion joints for longitudinal movements of 80 mm to 1,200 mm can be widely applied on the bridges which are slope, wide, curved and skew. They are used in highway bridge decks, bridgehead and other places to prevent bridges from appearing cracks cause by climate change. It also can be used in expressway.

The large-span bridge is being built with multiple-gap expansion joints

A large-span bridge that has completed with multiple-gap expansion joints

Multiple-gap expansion joints are being installed in bridge

The large-span bridge is being built with multiple-gap expansion joints

A large-span bridge that has completed with multiple-gap expansion joints

Multiple-gap expansion joints are being installed in bridge

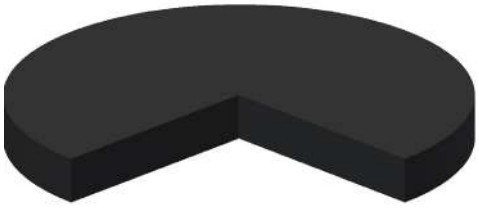
Bearing Pads Series Products

Round Laminated Bearing Pad

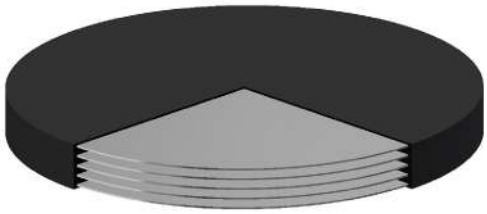
Round laminated bearing pad is one of the most important shape laminated bearing pad. Standard round laminated bearing pad is made of chloroprene rubber (CR) or natural rubber (NR). The chloroprene rubber laminated bearing bed is suitable for -25 °C to 60 °C. The natural rubber laminated bearing pad, which is also called cold resistant bearing pad can be used in -40 °C to 60 °C

Structure of round laminated bearing pad

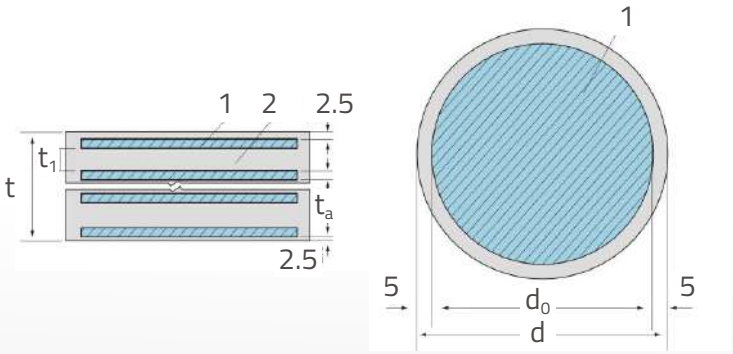
Round laminated bearing pad has similar structure with rectangular laminated bearing pad. It is made of NR or CR rubbers with several steel plate inserted. The rubber and steel plate are inserted, glued and vulcanized together for stable and even bearing load and tensile strength. Except that, we can supply the round elastomeric bearing pad, which is made of all rubber without reinforced plate.



Round elastomeric bearing pad without inserted plates.



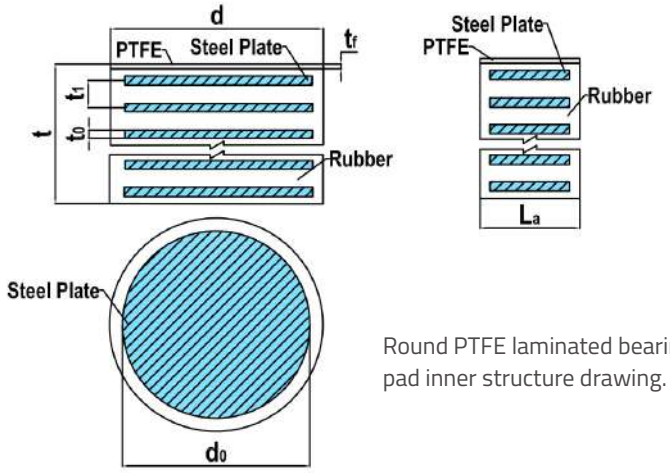
Round laminated bearing pad with inserted plates.



Round bearing pad profile.

Round laminated bearing pad inner structure.

In some applications, which need sliding for shock reduction. We can supply the sliding round laminated bearing pad for you. Sliding round laminated bearing pad, also called PTFE round laminated bearing pad, it is composed of rubbers, steel plates and PTFE board. 2 mm to 3 mm PTFE board are added onto the round laminated bearing pad to form the PTFE bearing pad.



Round PTFE laminated bearing pad inner structure drawing.

PTFE board supplies smooth and sliding surface for horizontal deflection.

Specifications of round laminated bearing pad

- Material: chloroprene rubber (CR) and natural rubber (NR).
- Diameter: 150–1050 mm.
- Thickness: 30–230 mm.
- Steel plate quantity: 2-5.

Common Specifications of Round Laminated Bearing Pad

Type	Diameter (mm)	Thickness (mm)
RBPS-01	150	30
RBPS-02	225	55
RBPS-03	300	70
RBPS-04	450	96
RBPS-05	750	148
RBPS-06	1050	230

Features

- Simple structure.
- High loading capacity.
- Easy installation. It can be installed in any direction.
- Even prestress.
- Good elasticity.
- Excellent shock absorption performance.

Application

- Round laminated bearing pad is commonly used in the applications where the inclination is larger than 10°.
- It is widely used in the curved bridge, skew bridge and column pier bridge.

Round laminated bearing pad in bridge construction.

Round laminated bearing pad is easy installation in any direction.

Round bearing pad is suitable for skew bridge.

Round bearing pad is suitable for curved bridge.

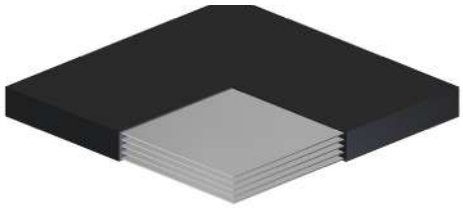
Rectangular Laminated Bearing Pad

Rectangular laminated bearing pad, one of most popular type in laminated bearing pad, is made of chloroprene rubber (CR) or natural rubber (NR). The chloroprene rubber laminated bearing pad is suitable for environments where the temperature ranges from -25 °C to 60 °C. If the working temperature ranges from -40 °C to 60 °C, you can choose the natural rubber for raw material.

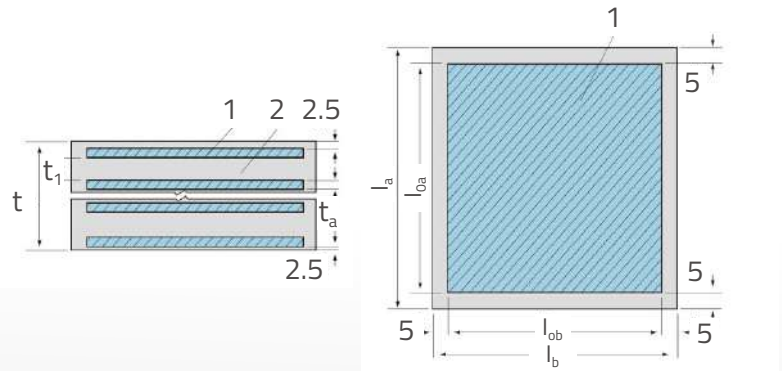
Structure of rectangular laminated bearing pad

Rectangular laminated bearing pad is made of rubber layer and inserted reinforced steel plates. The steel plates and rubber layers are glued and then vulcanized together to form a strong and high bearing load laminated bearing pad. Besides, we can also supply the rectangular elastomeric bearing pad, which has no reinforced steel plate. Compared with rectangular elastomeric bearing pad, the rectangular laminated bearing pad can supply higher loading capacity and extend the bridge lifespan.

Rectangular elastomeric bearing pad without inserted plates.



Rectangular laminated bearing pad with inserted plates.

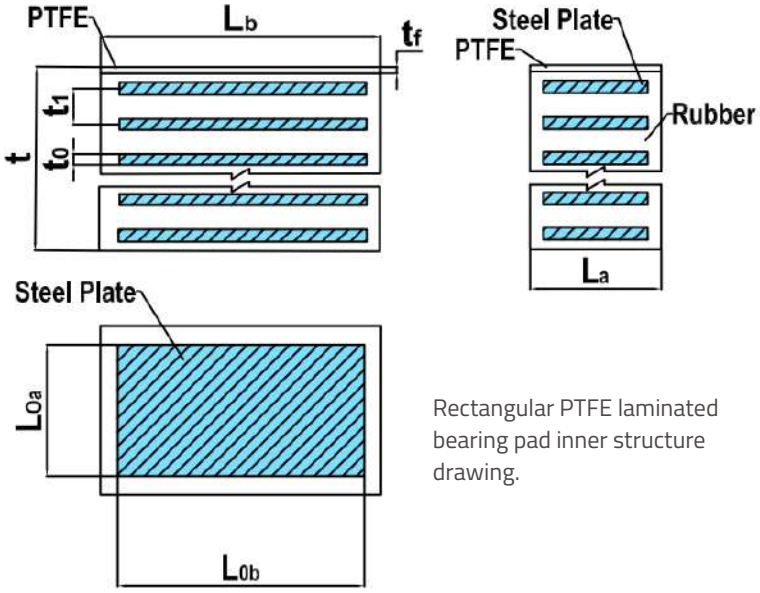


Rectangular bearing pad profile.

Rectangular laminated bearing pad inner structure.

PTFE rectangular laminated bearing pad

Except for the standard square laminated bearing pad, we can also supply the PTFE rectangular laminated bearing pad for you to achieve smooth horizontal deflection. Add a PTFE board on laminated bearing pad to form the sliding laminated bearing pad (PTFE laminated bearing pad).



Rectangular PTFE laminated bearing pad inner structure drawing.

PTFE board supplies smooth and sliding surface for horizontal deflection.

Specifications

- Material: chloroprene rubber or natural rubber.
- Steel plate quantity: 2-5.
- Bearing pad width: 100–700 mm.
- Bearing pad length: 200–800 mm.
- Bearing pad thickness: 28–120 mm
- Steel plate thickness: 2–5 mm.

Common Specs of Rectangular Laminated Bearing Pads			
Item	Length (mm)	Width (mm)	Thickness (mm)
RLBPS-01	200	100	28
RLBPS-02	250	250	52
RLBPS-03	400	350	56
RLBPS-04	600	550	70
RLBPS-05	800	700	120

Features

- Excellent vertical stiffness to bear heavy vertical load.
- Transfer the pressure from upper bridge structure to bridge pier.
- Excellent elasticity to adapt to the beam end rotation.
- Large shear deformation to satisfy the horizontal displacement.

Application

- Rectangular laminated bearing pad is suitable for the places where the slope inclination is larger than 10°.
- It can also be used in the straight bridge or right bridge.

PTFE Bearing Pad

PTFE bearing pad, also called Teflon bearing pads, is an important material in bridge construction. The dimpled PTFE sheet bonded to the laminated bearing pad for structure friction coefficient reduction and displacement capacity improvement. It provides a sliding surface for expansion accommodation, the elasticity of the bearing pad is high enough to suit the rotation of beam end, and also the shear deformation is efficient to cope with the horizontal of the superstructure. Here are round and rectangular two main shapes of PTFE bearing pad introduced to you.

Classification

PTFE bearing pad can be divided into round PTFE bearing pad and rectangular PTFE bearing pad according to different shapes. They can be used in different bridge types. The rectangular PTFE bearing pad is widely used in the straight bridge or right bridge. The round Teflon bearing pad is widely used in the skew bridge, curved bridge and other bridges.

Round PTFE bearing pad.

Rectangular PTFE bearing pad.

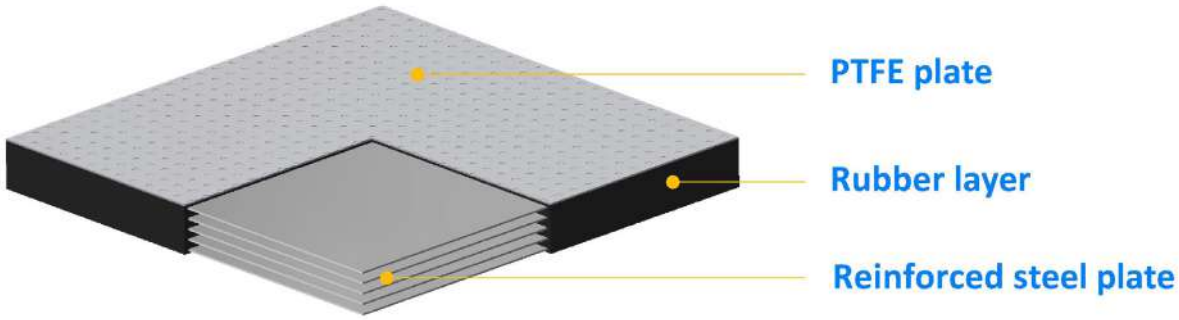
Structure

The Teflon bearing pad is composed of natural rubber or chloroprene rubber and Teflon plate.
The natural rubber or chloroprene rubber and reinforced steel plates are vulcanized to form the standard laminated bearing pad. Then bond the dimpled Teflon plate onto pad and form the PTFE bearing pad.

Round PTFE bearing pad inner structure.

Rectangular PTFE bearing pad inner structure.

Specification



- Rubber material: chloroprene rubber (CR) or natural rubber (NR).
- PTFE plate thickness: 2–3 mm.
- PTFE plate color: white or black.
- Bearing pad thickness: 23–197 mm.
- Round bearing pad diameter: 150–800 mm.
- Rectangular bearing pad length: 150–750 mm.
- Rectangular bearing pad width: 100–700 mm.
- Detailed specifications: Refer to the PDF: PTFE bearing pad.

Features

- Small friction coefficient.
- Larger shear capacity.
- Suitable for large span bridge construction.
- Excellent buffering and shock isolation.
- Withstand vertical load and rotation.

Round PTFE laminated bearing pads on skew bridge.

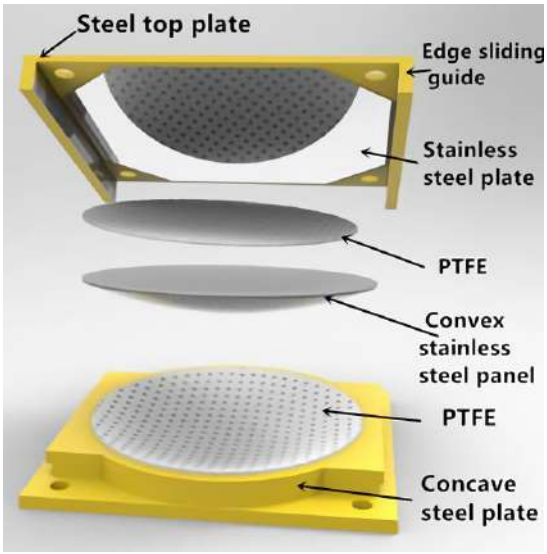
Application

- It is suitable for large span, multi-span continuous beam and simply supported beam and other large displacement bridges.

- It can also be used as the sliding plate in continuous beam pushing construction and T beam transverse sliding.

Rectangular PTFE bearing pads on right bridge.

Spherical Bridge Bearing



Spherical bridge bearing, also called spherical bearing, spherical bearing pad, is designed to ensure vertical and horizontal forces transferring under control which is a connection devices between superstructures and substructures. It consists of steel plate enclosed with edge sliding guide and stainless steel panel for sliding controlling, under the stainless steel panel is a PTFE sheet, which is recessed into the steel to a depth and contains a special lubricant to ensure permanent lubrication of the sliding surfaces. Then there is a stainless steel panel with a convex bottom face to facilitate rotations. The bottom component is concave steel plate that covered with a recessed PTFE sheet to transfer whether horizontal or vertical forces safely.

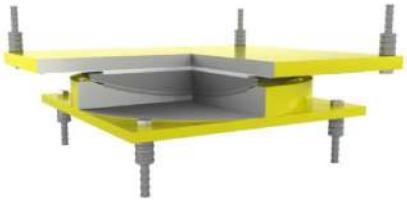
Classification

The spherical bridge bearings are classified into three types according to different sliding direction.

- Fixed type. Provide rotations capacity from any direction only.
- Guided type (Uni-directional sliding). Rotation plus movement in one direction.
- Free sliding (multi-directional sliding). Rotation plus movement in all directions.

Fixed spherical bridge bearing.

Guided spherical bridge bearing.



Free sliding spherical bridge bearing.

Features

- Available in any directions movements.
- For the PTFE sheet, there are minimum sliding friction coefficient.
- PTFE sheet with lubricant to reduce sliding friction.
- Accommodate high rotations and any directional movements.
- Suitable for low temperature regions.
- The effect on concrete reaction is homogeneous.
- Strong enough for long time service.
- Complying with BS EN-1337, KS4424, AASHO, ISO or other custom standards.

Specification

- Material: steel and PTFE sliding plate.
- Working temperature range:
  - Normal type: -25 °C to +60 °C.
  - Cold resistant type: -40 °C to +60 °C.
- Friction coefficient: (in condition of PTFE layer with silicon grease lubrication and stresses about 30 MPa)
  - Normal temperature: 0.03.
  - Low temperature: 0.05.
- Bearing horizontal force
  - Guided type: Horizontal force is 10% vertical bearing capacity.
  - Fixed type: horizontal force is 10% vertical bearing capacity.
- Vertical bearing capacity:
  1000, 1500, 2000, 2500, 3000, 4000, 5000, 6000, 8000, 9000, 10000, 12500, 15000, 17500, 2000 kN.
- Displacement
  - In longitudinal direction
    · 1000–2500 kN, 50/100 mm.
    · 3000–20000 kN, 50/100/150 mm.
  - In transverse direction: ± 40 mm.
- Popular specifications
  - Fixed type spherical bridge bearing.
  - Guided type spherical bridge bearing.
  - Free sliding type spherical bridge bearing.

Application

- Spherical bridge bearings are designed for bridges or structures where very high vertical, horizontal and lateral loads are needed.
- It is can also be used in places where large rotational structural displacement are needed to be accommodated.
- Spherical bridge bearing can be used in different complex bridges, such as curved bridges, skew bridges, right bridges.

Construction site of structure spherical bearing.

Construction site of bridge spherical bearing.

Spherical bearing for building structure stability.

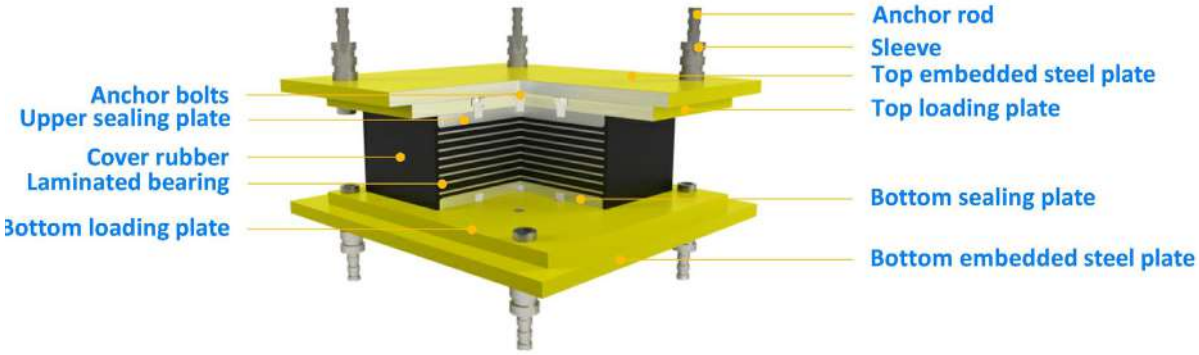
Spherical bearing for bridge durability.

High Damping Rubber Bearing

High damping rubber bearing, also called HDR bearing pad, is one of seismic isolation bearing. It has excellent seismic isolation performance to effectively reduce the bridge damage caused by earthquake.

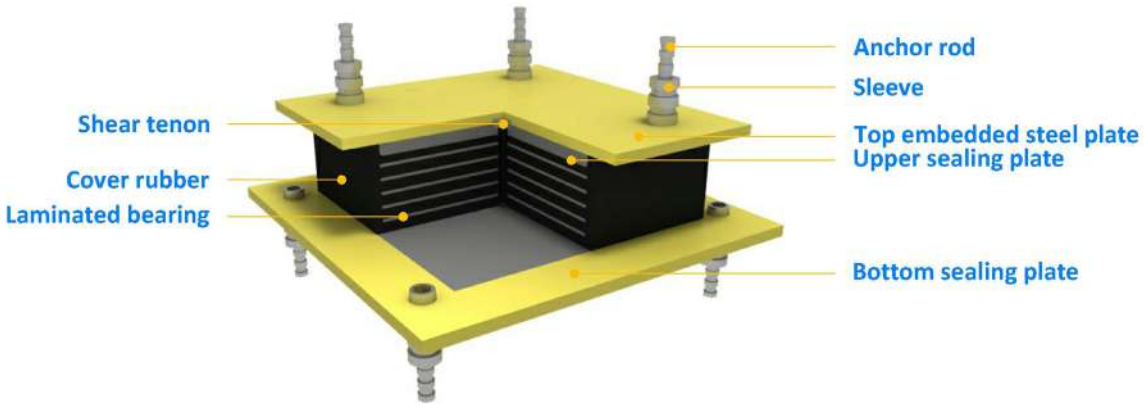
HDR bearing pad is composed of specialized designed rubber with high damping performance, sandwiched together with steel plate layer. When installing, the high damping rubber bearing is commonly used with top and bottom steel plate and connection accessories.

Oint structure



HDR (I) rubber bearing.

It is designed with top and bottom embedded steel plate. And the rubber bearing is connected with pier and beam by sleeve. The top and bottom loading plate is connected with sleeve by anchor bolt. The top and bottom embedded steel plate is connected with sleeve by welding.



HDR (II) rubber bearing.

It is designed with top embedded steel plate and without bottom embedded steel plate. The bottom loading bearing is connected with sleeves with anchor bolts. The top embedded steel plate is connected with top loading plate with shear tenon. And the top embedded steel plate is connected with sleeve by welding.

Damping structure

- Fixed type (HDR rubber bearing). The high damping rubber has excellent horizontal shear performance to bear the horizontal force. It can absorb vibration through large displacement in horizontal direction and hysteretic energy.
  - Rectangular HDR rubber bearing.
  - Round HDR rubber bearing.

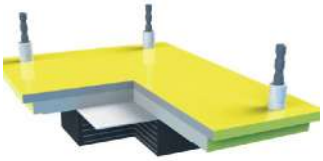
- Sliding type (LNR rubber bearing). The displacement is achieved by sliding friction. The top stainless steel plate and PTFE sliding plate can reduce friction coefficient and achieve large displacement for shock absorption.
  - Rectangular LNR rubber bearing.
  - Round LNR rubber bearing.

Specification

- Working temperature range: -40 °C to +60 °C.
- Rad: 0.006 rad and 0.008 rad.
- Damping ratio:
  - HDR (I) bearing rubber: 15%.
  - HDR (II) bearing rubber: 12%.
  - LNR bearing rubber: 10%.
- Technical parameters
  - HDR (I) bearing rubber – Rectangular Fixed
  - HDR (I) bearing rubber – Round Fixed
  - HDR (II) bearing rubber – Rectangular Fixed
  - HDR (II) bearing rubber – Round Fixed
  - LNR Rubber Bearing – Rectangular Sliding
  - LNR Rubber Bearing – Round Sliding

Rectangular HDR rubber bearing.

Round HDR rubber bearing.



Rectangular LNR bearing rubber.

Round LNR bearing rubber.

Feature

- Excellent horizontal displacement. absorb shock energy effecively.
- Excellent reset structure. there is no residual displacement.
- High damping material. 10% to 18% damping capacity for shock absorption.
- Wide range structure for different environments and displacement requirements.
- Economical and high performance for lower total construction budget.
- Easy installation and replacement for lower maintenance cost.

Application

High damping rubber bearing is widely used in the quake-prone areas for bridge, building and other constructions.

Installation.

Replacement.

High damping rubber bearing under the building.

High damping rubber bearing under the flyover.

Lead Rubber Bearing

Pot bearing is a kind of new type bearing which is composed of pot, elastomeric pad, stainless steel plate, sealing ring and other components. It is designed for bearing the combinations of vertical loads, horizontal loads, longitudinal and transverse displacements and rotations. Pot bearing is ideal bearing for large bridge with the features of large horizontal displacement, light weight, simple structure and easy operation.

Function of lead core bearing pad

- Top and bottom plates: transfer loading and constraint deformation of lead core.
- Lead plug: dissipate energy and decrease displacement.
- Steel reinforcing plates: increase vertical stiffness and constraint deformation of lead core.
- Internal rubber layers: support structure weight, accommodate rotation and displacement, recovery moving bearing to the original position.
- Rubber cover: protect reinforced steel plates and rubber layers.

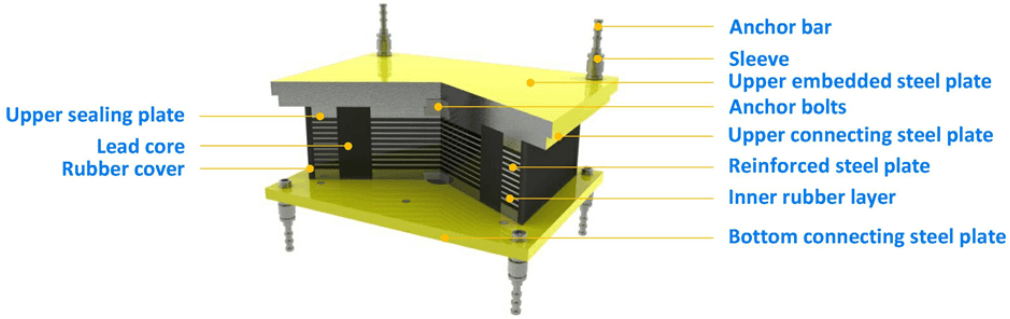
Feature

- Stable vertical stiffness and excellent vertical loading capacity.
- Suitable horizontal stiffness. Satisfy the earthquake vibration and normal displacement. It can enlarge the vibration cycle to 1.5 to 3 seconds.
- Excellent damping performance.
- Good energy dissipation capacity.
- Adjustable lead core area. It can suit different damping ratio through adjusting wire diameter and sectional area.
- Excellent durability, cycle fatigue resistance, acid and alkali resistance.
- Long lifespan. 60–80 years long lifespan for durability.
- Easy installation and replacement for lower maintenance costs.

Specification

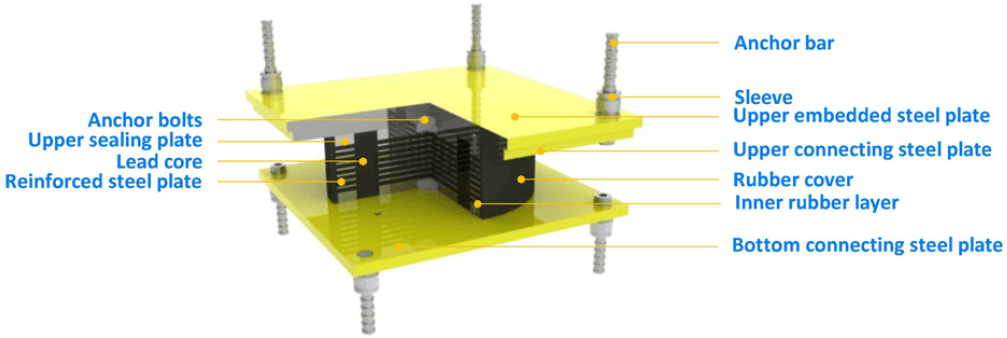
- Shear modulus: 0.8 MPa, 1.0 MPa, 1.2 MPa.
- Working temperature range: -25 °C to +60 °C.
- Lead core quantity: single or multiple.
- Shape: rectangular and round.
- Technical parameter
  - Rectangular lead rubber bearing specifications
  - Round lead rubber bearing specifications

Rectangular lead rubber bearing.



Round lead rubber bearing with single lead core.

Round lead rubber bearing.



Rectangular lead rubber bearing with four lead core.

Application

Lead rubber bearing, main branch of seismic isolation system, is widely applied to the large sized structures such as road bridges, rail bridges and nuclear power station to minimize damages from dynamic loads like earthquake.

Lead rubber bearing fixation.

Lead rubber bearing in the construction site.

Lead rubber bearing for bridge construction.

Lead rubber bearing for steel bridge construction.

Pot Bearing

Pot bearing is a kind of new type bearing which is composed of pot, elastomeric pad, stainless steel plate, sealing ring and other components. It is designed for bearing the combinations of vertical loads, horizontal loads, longitudinal and transverse displacements and rotations. Pot bearing is ideal bearing for large bridge with the features of large horizontal displacement, light weight, simple structure and easy operation.

Working Principle

There is an elastomeric pad in the pot of the pot bearing, it has fluid properties when it in the state of three-phase stressed, making use of this feature can achieve large rotation of the bearing. In addition, when a relative motion occurs between the PTFE plate which placed on the piston and the stainless steel plate, horizontal displacement can be achieved. Pot bearing can meet the requirements of large end reaction, large horizontal displacement and large rotation, it is suitable for the bridge with large span and large end reaction.

The production of pot bearing in the workshop.

The assembly of pot bearing in the workshop.

Categories

According to the displacement ability, pot bearing can be divided into three types: fixed pot bearing (GD), guided sliding pot bearing (DX) and free sliding pot bearing (SX). Fixed pot bearing and guided sliding pot bearing can also be divided into common pot bearing and damping pot bearing. The appearance of these pot bearings is similar, but the difference of internal structure directly determines whether the bridge can be displaced.

Fixed Pot Bearing – Rotation Performance Only

Fixed pot bearing consists of top and bottom steel plates, stainless steel plate, piston, brass sealing ring and elastomeric pad. The internal sealing ring enables the piston to rotate under load. This kind of pot bearing has rotation performance but restricts all displacement in planar axis.

Fixed pot bearing can keep the loads between the superstructure and substructure transferring under control.

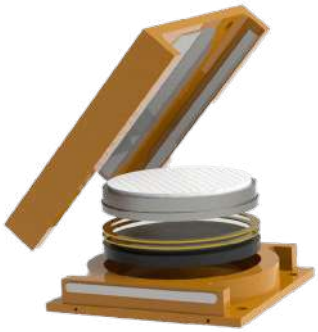
Fixed pot bearing has the characteristics of simple structure and light weight.

Guided Sliding Pot Bearing – Rotation performance & one-direction sliding

Guided sliding pot bearing is identical in construction to free sliding pot bearing, but two guides are fixed at the top steel plate for bearing pad movement limitation. It has vertical rotation performance and one-way sliding performance. And there are two kinds of types about this protect: edge guided sliding pot bearing and center guided sliding pot bearing.

Edge guide sliding pot bearing can carry the weight of bridge, it is compact and light.

Center guided sliding pot bearing has the same performance as edge guided sliding pot bearing.



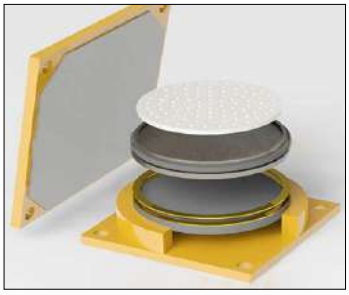
Edge guided sliding pot bearing allows one way direction movement.

One center guided sliding bearing also allows one way movement.

Free Sliding Pot Bearing – Rotation performance & multi-direction sliding

Free sliding pot bearing has the same structure with the fixed pot bearing, besides there also a PTFE plate above the piston to enable the bearing to slid in all directions. It has vertical rotation, vertical and horizontal sliding performances.

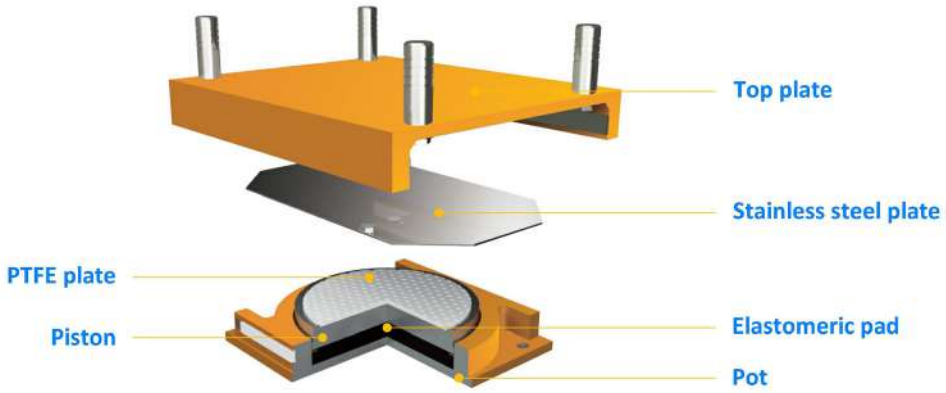
Free sliding pot bearing facilitates rotations and movements in every direction.



Free sliding bearing with the PTFE above the piston to overcome high friction and for better movement.

Different model

GPZ highway bridge pot bearing



- Specification
  - Fixed pot bearing
  - Guided sliding pot bearing
  - Free sliding pot bearing
- Technical parameter
  - Vertical rotation angle of bearing: not less than 40'.
  - Vertical bearing capacity: 1000–50000 kN, it is divided into 28 levels, the horizontal bearing capacity of non-slip surface is 10% of vertical.
  - Friction coefficient
    - · Normal temperature type bearing: μ ≤ 0.04.
    - · Cold resistant type bearing: μ ≤ 0.064.

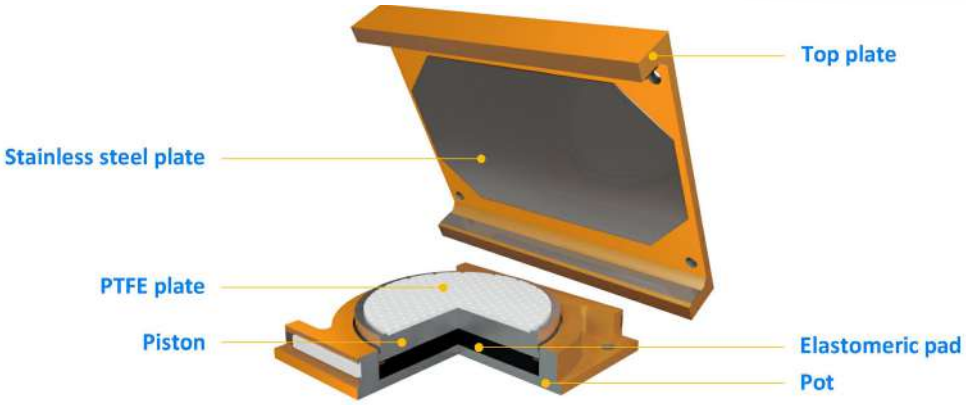
Displacement of GPZ Highway Bridge Pot Bearing

End Reaction/Type	Maximum Displacement the longitudinal direction of bridge (mm)			Maximum Displacement the transverse direction of bridge (mm)		
	GD	SX	DX	GD	SX	DX
1000–3000 kN	0	±50, ±100	±50, ±100	0	±5, ±10	0
3500–9000 kN	0	±100, ±150	±100, ±150	0	±10, ±15	0
10000–30000 kN	0	±150, ±200	±150, ±200	0	±15, ±20	0
32500–50000 kN	0	±200, ±250	±200, ±250	0	±20, ±25	0

Physical Properties of Rubber Materials of Bearing

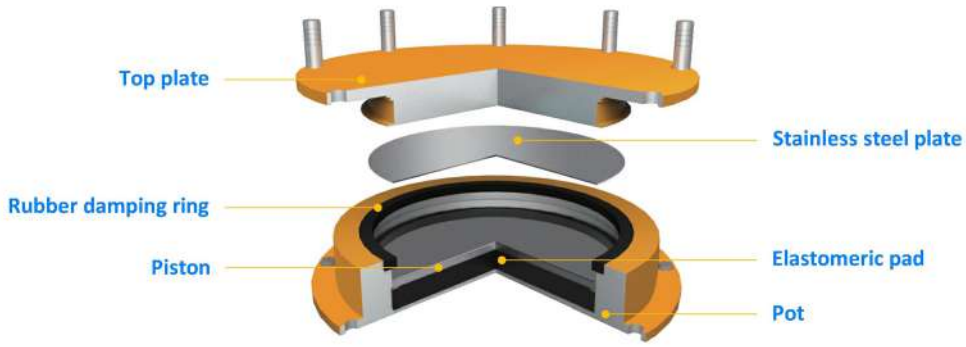
Item/Rubber Type		Neoprene	Natural Rubber	EPDM
Hardness (shore A)		60 ± 5	60 ± 5	60 ± 5
Tensile Strength		≥17.0	≥17.5	≥15.2
Elongation at Break		≥400%	≥400%	≥350%
Brittleness Temperature		≤-40 ˚C	≤-50 ˚C	≤-60 ˚C
Constant EN Compression Set (70 ˚C, 22 h)		≤20%	≤25%	≤25%
Resistance of Ozone Aging (Test Condition: 25–50 pphm, 20% Elongation, 40 ˚C, 96 h)		no cracking	no cracking	no cracking
Air Oven Aging Test	Test Condition (˚C × h)	100 × 70	70 × 168	100 × 70
	Reduction Rate of Tensile Strength	<15%	<15%	<15%
	Reduction Rate of Elongation at Break	<40%	<20%	<40%
	Change of Hardness	<+15	<+10	<+10

GPZ (II) highway bridge pot bearing



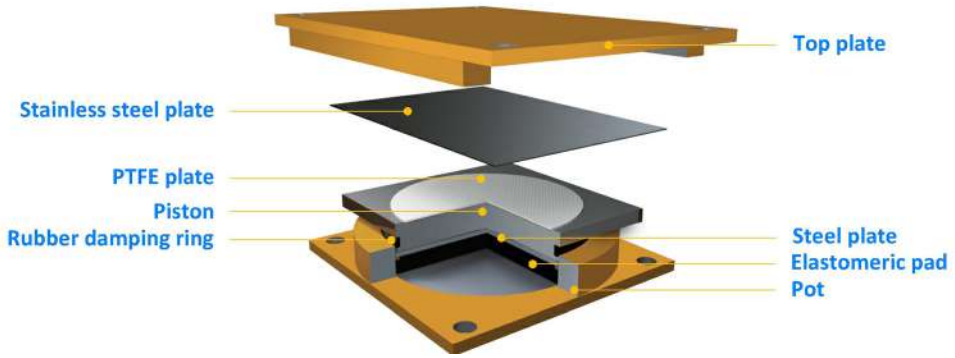
- Specification
  - Fixed pot bearing
  - Guided sliding pot bearing
  - Free sliding pot bearing
- Technical parameter
  - The actual bearing capacity of the pot bearing is 100% of the design bearing capacity, and it allows an overload of 10%.
  - When the pot bearing is between -25 °C and 60 °C, the minimum value of the design friction coefficient is 0.03; when it is between -40 °C and 60 °C, the minimum value of the design friction coefficient is 0.06.
  - The design maximum rotation angle of the pot bearing is 0.02 rad.

GPZ(III) highway bridge seismic pot bearing



- Specification
  - Fixed pot bearing
  - Guided sliding pot bearing
- Technical parameter
  - **Design bearing capacity of pot bearing**: 0.8–60 MN, it is divided into 31 specifications.
  - **Rotation angle of pot bearing**: 0.02 rad.
  - **Design friction coefficient of guided sliding pot bearing (condition: anti-seismic bearing, non-earthquakes, add grease)**
    - Normal temperature type bearing: the minimum value is 0.03.
    - Cold resistant type bearing: the minimum value is 0.06.
  - **Horizontal force of bearing**: seismic fixed pot bearing in all direction and seismic guided sliding pot bearing in non-slip direction is 20% of design bearing capacity.

GPZ (KZ) highway bridge seismic pot bearing

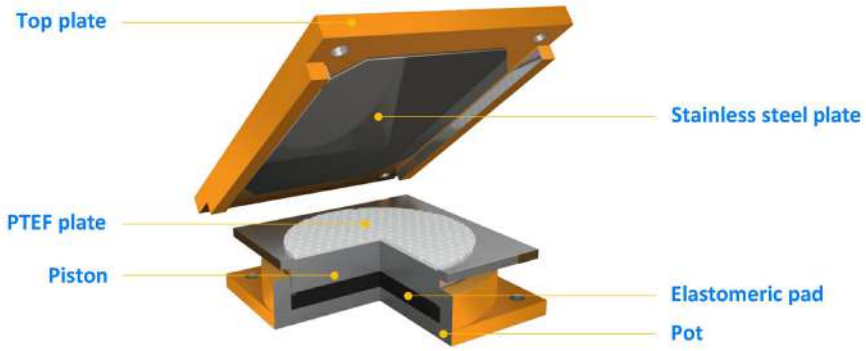


- Specification
  - Fixed pot bearing
  - Guided sliding pot bearing
  - Free sliding pot bearing
- Technical parameter
  - **Design reaction of bearing (vertical bearing capacity):** 0.8–60 MN, it is divided into 31 specifications.
  - **Horizontal bearing capacity**
    · The horizontal bearing capacity of fixed pot bearing in all directions is equivalent to 20% of the design reaction.
    · The horizontal bearing capacity of guided sliding pot bearing in the direction that perpendicular to the bridge is equivalent to 20% of the design reaction.
  - **Rotation angle of the pot bearing:** the design rotation angle of pot bearing is 0.02 rad.

Displacement of GPZ (KZ) Seismic Highway Bridge Pot Bearing

Specification/ Type	Maximum Displacement the longitudinal direction of bridge (mm)			Maximum Displacement the transverse direction of bridge (mm)		
	GD	SX	DX	GD	SX	DX
0.8–3	0	±50, ±100, ±150	±50, ±100, ±150	0	±40	±3
3.5–9	0	±100, ±150, ±200	±100, ±150, ±200	0	±40	±3
10–30	0	±150, ±200, ±250	±150, ±200, ±250	0	±40	±3
32.5–60	0	±200, ±250, ±300	±200, ±250, ±300	0	±50	±3

GPZ (2009) pot bearing



- Specification
  - Fixed pot bearing
  - Guided sliding pot bearing
  - Free sliding pot bearing
- Technical parameter
  - **Design bearing capacity of pot bearing:** 0.4–60 MN, it is divided into 33 levels.
  - **The vertical curve inner rotation angle**: 0.02 rad, and it adapts to any rotation angle in horizontal curve.
  - The horizontal force that the bearing can withstand: the horizontal force of fixed pot bearing in all directions and guided sliding pot bearing in one direction is 10% of the vertical bearing capacity.
  - **Design friction coefficient of pot bearing**
    · Normal temperature (-25°C to 60°C): μ ≤ 0.03.
    · Cold resistant (-40°C to 60°C): μ ≤ 0.06.

Feature

- Providing longer service life compared to elastomeric bearing pad.
- Large horizontal displacement and large bearing capacity.
- Accommodate rotations at any axis and the appropriate movements of the bridge.
- Totally detachable, and easy to dismantle if any element has to be replaced.
- Saving steel and reduce costs.

Pot bearings are packaged with plastic.

Specification

- Material: steel, Elastomer.
- Shape: round and rectangular.
- Hardness (shore A): 55–65.
- Capacity: 1000–70000 kN.
- Displacement: 0–300 mm.
- Normal temperature type bearing: suitable for -25 °C to 60 °C.
- Cold resistant type bearing: suitable for -40 °C to 60 °C.
- Certification: CCC, SGS, CE, ISO.
- Package: plastic, wooden or tin box.

Pot bearing in the wooden box.

Application

Pot bearing is mainly used in such fields

- Bridge which the structure with rotations in various directions.
- Large curved or skewed bridge.
- Highway.
- Other fields which also need to meet the need of large load and rotation.

Guided sliding pot bearing is used for bridge.

Pot bearings are used for highway.

The installation of pot bearing.

Waterstop Strip Series Products

Butyl Waterstop for Concrete

Butyl waterstop for concrete is a high-performance waterproof material specifically designed for concrete structures, primarily used to control moisture penetration and ensure the sealing of concrete joints. Its main component is butyl rubber, which has excellent elasticity and durability.

Specifications

- Material: Butyl rubber
- Color: Black
- Thickness: 20 mm, 25 mm, 30 mm, 32 mm, 42 mm, Custom
- Length: 5 m, 10 m, 15 m, 20 m, 38 m, 48 m, Custom
- Operating temperature: -30 ° F to 200 ° F

Features

- No drying required, saves time
- Low temperature resistant, moisture resistant
- Self-adhesive application, easy to install, no special treatment required
- Solvent-free, non-toxic, non-polluting
- Excellent sealing performance, durable, long service life
- Aging resistant, non-shrinking, non-hardening, non-oxidizing

Applications

- Precast concrete wall panel systems
- Sanitary and storm sewer manholes
- Underground utility vaults
- Utility vaults, portable water tanks and box culverts
- Pipes (round, oval, flat-base elliptical and arch types)
- Wet wells

Precast concrete wall panel systems

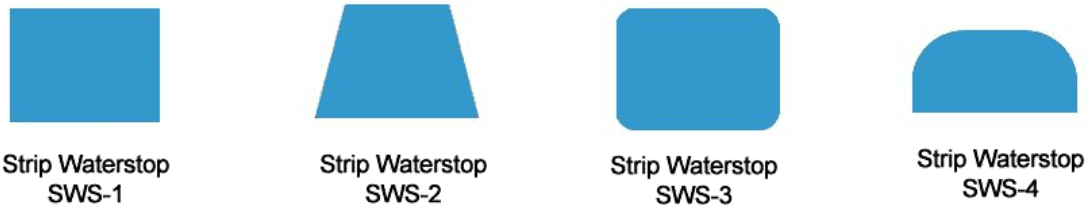
Wet well

Water tanks

Bentonite Waterstop

Bentonite waterstop is a kind of hydrophilic water sealing product coming with incomparable durability and higher water absorption no less than 300%. Unlike traditional clay based waterstops, this one utilizes rubber as base material to form a controlled, moisture active sealant - that means the bentonite waterstop will not expand to point losing much of integrity even being washed away by water during continually expansion.

Types



Strip Waterstop SWS-1

Strip Waterstop SWS-2

Strip Waterstop SWS-3

Strip Waterstop SWS-4

Properties

Physical properties	Test method	Result
Color	-	Black
Specific gravity	ASTM D-71	1.35 ± 5%
Hydrocarbon content	ASTM D-4	47% (min)
Volatile matter	ASTM D-6	1% (max)
Penetration, cone at 77˚F, 150 gm, 5 sec.	ASTM D-217	40 mm ± 5%
Application temperature	-	-10˚F to 125˚F
Service temperature	-	-30˚F to 180˚F

Other bentonite waterstops for specific applications are also available in our company as shown follow:

Bentonite waterstop with expanded metal

Bentonite waterstop with expanded metal is a new type water sealing product. The added expanded steel mesh (or nylon mesh as your request) effectively enhances the tensile strength of the waterstop and improves the overall construction quality.

Bentonite waterstop with grouting pipe

The perfect match of bentonite waterstops and grouting pipes extremely improve the performance of the water-proofing capability. Once the leakage of water occurs, you can plug the crack through pouring chemical grout into the pipe, instead of slotting and drilling a hole on the construction surface.

Sizes

- Width: 10 mm, 15 mm, 20 mm, 30 mm, 40 mm, 50 mm.
- Height: 10 mm, 20 mm, 30 mm, 25 mm, 40 mm, 50 mm, 60 mm.
- Color: black, red and other colors also can be customized.
- Package:
  - 15 mm × 20 mm and 20 mm × 30 mm: 25 meters / box
  - 30 mm × 50 mm: 10 meters / box
  - Your nominated types of packages are also available.
- Note: Other specifications also can be customized.

Bentonite waterstop packed in carton.

Many cartons of bentonite waterstop.

Features & benefits

- Quality sodium bentonite clay and rubber materials.
- Moisture activated.
- Strong, durable with high cost effectiveness.
- High water absorption with excellent compression seal.
- High expansion control ability for preserving its integrity.
- Controlled internal pressure in surrounding concrete to avoid spalling and cracks.
- Withstand high water pressure.
- Capable to self-healing.
- Easy and fast to transport and install.
- Easy to joining.
- Non toxic.

Applications

- Joints with limited movements.
- Construction joints and sheet pile joints.
- Water containment and reservoirs.
- Water and sewage treatment.
- Primary and secondary structures.
- Manholes and elevator pits, manure pits
- Tunnels, culverts, dams, water tanks and canals.
- Pipe penetrations.
- Swimming pools and parking garages.
- Retaining walls.
- Precast concrete structure.
- Foundations and basements.
- Slabs and king post.
- Fast track projects

PZ Waterstop

PZ waterstop is a new type hydrophilic watertight product manufactured of quality vulcanized rubber and other additives, which make it expansible with physical properties of rubber. Comparing with bentonite waterstop and butyl rubber waterstop, this one has following characters:

Properties

Physical properties		PZ-150	PZ-250	PZ-400	PZ-600
Hardness (shore A)		42±7	42±7	45±7	48±7
Tensile strength		3.5 MPa (min)	3.5 MPa (min)	3 MPa (min)	3 MPa (min)
Elongation		450% (min)	450% (min)	350% (min)	350% (min)
Expansion rate		1.5	2.5	4	6
Repeated water immersion test	Tensile strength	3 MPa (min)	3 MPa (min)	2 MPa (min)	2 MPa (min)
	Elongation	350% (min)	350% (min)	250% (min)	250% (min)
	Expansion rate	1.5	2.5	3	5
Low temperature bending (-20 ˚C*2 h)		No crack	No crack	No crack	No crack

Sizes

15 mm × 20 mm, 20 mm × 30 mm, 20 mm × 50 mm, 30 mm × 50 mm, 10 mm × 40 mm or others as your request.

Package

- 15 mm × 20 mm and 20 mm × 30 mm: 25 meters / box.
- 30 mm × 50 mm: 10 meters / box.
- Your nominated types of packages are also available.

PZ strip waterstop before boxing

PZ strip waterstop in pallet package.

Features & benefits

- Easy and quick to install.
- Slow expansion type is also available as your request.
- Smaller size but uncompromising water swelling property.
- Eliminate elastic fatigue caused by excessive compression.
- Excellent water resistance, chemical resistance and anti-aging property.
- High watertight properties - once exposed to water, PZ waterstop will expand one to five times to fill all irregular surfaces, holes and spacing of surrounding concrete.
- Much stronger taking advantages of cross-linked chemical structure at the atomic level.

Applications

- Settling pond.
- Pipe penetration.
- Water reservoirs.
- Deformation and concrete construction joints of civil engineering.
- Water conservancy and hydropower projects, etc.

Rubber Waterstop Ring

Rubber waterstop ring is a ring-shaped waterproof material made of macromolecule inorganic water-absorbing swelling materials and refined rubber. It is commonly sleeved in the middle of the bolt or strainer and embedded in the cast-in-place concrete wall to achieve great waterproof effects. As it expands when exposed to water and seals the gap, therefore, it is also known as swellable waterstop ring or swellable seal ring.

Properties

Item	Index
Volume expansion ratio	≥ 3
Flow at high temperature (80 ˚C × 2 h)	No flow
Low temperature test (-20 ˚C × 2 h)	No fragile

Specification

- Inner (outer) diameter: 14 (40), 16 (40), 18(40), 20 (45), 25 (50), 30 (60), 35 (60) mm;
- Thickness: 10 mm.
- Executive standard: GB/T18173.3-2002.
- Classification: PN rubber waterstop ring, PZ rubber waterstop ring

PN rubber waterstop ring

The putty water stop ring,is mainly used to fill the concrete expansion joints, construction joints, and honeycombing, serving as a water stop seal. Its expansion rate is relatively high, which can reach more than 300%. This allows it to quickly expand and block in the pipes or structural joints when it encounters water, preventing water flow. The putty water stop ring is usually used in situations where higher water resistance is required, such as basements, swimming pools, sewage treatment projects, etc.

PZ rubber waterstop ring

The product water stop ring water stop ring is mainly used for the anti-corrosion of iron parts such as steel bars and pipes that pass through the construction joints and cracks of structures. It is made of water-expandable rubber, which has the characteristic of expanding upon contact with water. When it encounters moisture, the rubber expands to form a tight seal, demonstrating strong resilience and extensibility, thereby achieving excellent waterproof sealing effects. The expansion rate of the product water stop ring is generally low, usually used in situations where the water resistance requirement is not very high.

Package

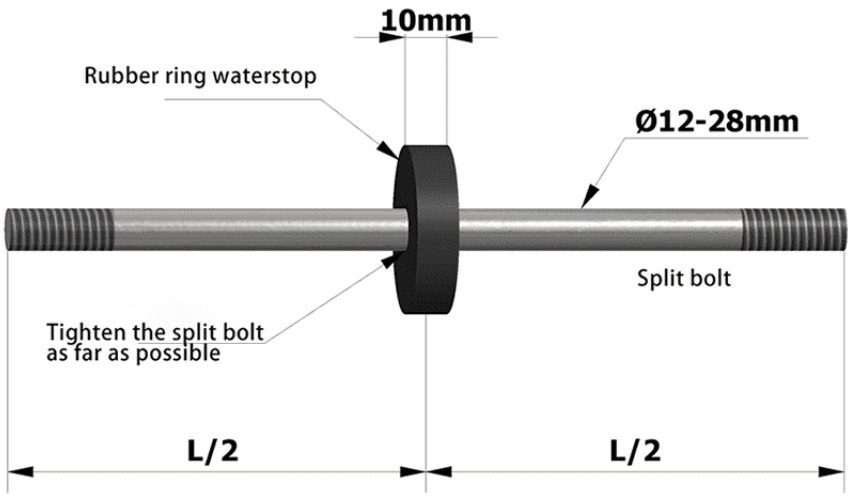
- Carton packed with plastic film.
- Carton size (L × W × H): 35 × 35 × 17 cm.
- 500 pcs/carton with inner diameter of 25, 30 mm.
- 1000 pcs/carton with inner diameter of 14, 16, 18, 20 mm.

Inner package

Outer package

Installation

In the concrete formwork, there are many gaps between the split bolts and the surrounding concrete. Pressure water will inevitably seep into these gaps along the split bolt and cause water leakage. If a swellable waterstop ring is provided in the middle of the split bolt, when the water seeps into the gap, the waterstop ring will expand and fill the gap after expansion to achieve waterproof effects.



L： Split bolt length

Features & benefits

- Up to 300% volume expansion rate.
- Simple structure and easy to construction.
- Simple working principle and strong visibility.
- Nontoxic, Corrosion resistance, reliable quality;
- Reliable and durable, no leakage occurs during various construction process.
- Speed up the construction progress, save labor, time and reduce the cost of raw materials.
- Easy to be understood and accepted by the design, supervision, owner and construction parties.

Tunnel Segment Gasket

The tunnel segment gasket is crucial for tunnel longevity, protecting against groundwater and other intrusions. We offer EPDM and natural rubber gaskets, including porous options to reduce compressive stress during installation. Our gaskets feature aging resistance, high compressive strength, and low compression set. To enhance waterproofing, we provide a composite gasket with an added layer of water-swelling rubber for dual-seal protection. If leakage occurs, the hydrophilic rubber expands to provide a secondary waterproof barrier.

Specifications

- Hardness: 70±5 Shore A.
- Tensile strength: ≥ 15 MPa.
- Elongation: ≥ 400%.
- Compression set (-70°C × 24 h) : ≤ 25%.
- Low temperature brittleness: ≤ -50°C.
- Color: black.
- Type:
  - EPDM/natural rubber tunnel segment gaskets.
  - Composite tunnel segment gaskets with water swelling rubber.

EPDM tunnel segment gasket.

Composite tunnel segment with water swelling rubber.

Feature

- Easy to install.
- Excellent flexibility.
- Strict production process.
- High compressive strength.
- Excellent weather resistance.
- Good waterproof performance.
- Aging resistance, corrosion resistance.
- Durability, being resistant to chemical attack and microbiological degradation.

We have strict production process.

The factory of producing tunnel segment gaskets.

Applications

- Subway.
- Tunnel.
- Culvert.
- Infrastructure project.
- Underground constructions.
- Water conservancy project.

Tunnel segment gaskets used in concrete slabs.

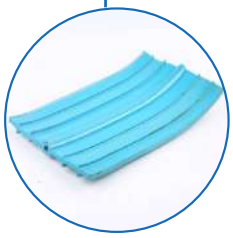
Tunnel segment gasket used in the tunnel.

Waterstop Series Products

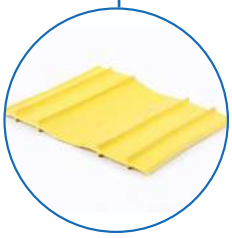
PVC Waterstop

The PVC waterstop is embedded in the concrete joint to form a continuous waterproof diaphragm, prevent liquid leakage at the structural joint, and is suitable for expansion or contraction joints under hydrostatic pressure, and can adapt to horizontal and longitudinal displacement. Its material is high quality polyvinyl chloride, adding plasticizer and stabilizer and other chemical additives.

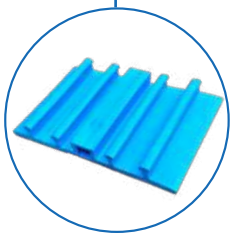
Category



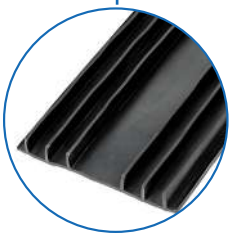
PVC waterstop with center bulb



PVC waterstop without center bulb



Back stick PVC waterstop with center bulb



Back stick PVC waterstop without center bulb

Properties

Physical properties	Test methods	Minimum value
Water absorption	ASTM D-570	< 5%
Tear resistance	ASTM D-624	300 psi
Specific gravity	ASTM D-792	1.4 ± 0.05
Hardness shore A15	ASTM D-2240	79 ± 3
Tensile strength	ASTM D-638 Type IV	2000 psi
Ultimate elongation	ASTM D-638 Type IV	300%
100% modulus	ASTM D-638 Type IV	725 psi
Low temperature brittleness (Tb) ˚F (˚C)	ASTM D-746	-35 (-37) passed
Stiffness in Flexure	ASTM D-747	600 psi
Ozone Resistance	ASTM D-1149	No Failure
Accelerated Extraction, CRD-572		
Tensile	CDR - C- 572	1850 psi
Elongation	CDR - C- 572	350%
Effect of Alkali, CRD-572		
Weight Change	CRD-572	0.0015
Change in Hardness Shore A	ASTM D-2240	± 5 points

Installation

In general, the right way of waterstop installation determines the performance in preventing waters and other waterborne chemicals. Any deflection and misalignment should be avoided - that means the best way of installation is to fix the PVC waterstop to the surrounding steel. So for easy installation, three economical methods are provided by our company as shown in the picture:

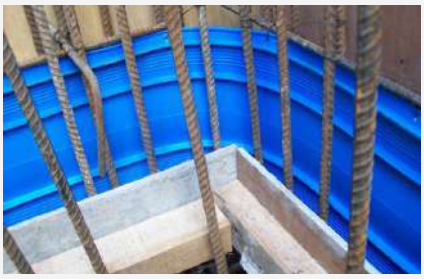
- Punched flanges
- Grommets
- Hog rings or clamps

Features & benefits

- High tensile strength.
- Superior elongation capability.
- Excellent inherent elasticity and impermeability
- High resistance to acids, ozone, seawater even diesel oil.
- Extremely alkalis, chlorinated water and other waterborne chemicals resistant.
- Not susceptible to fatigue deterioration as with metal or rubber.
- High quality meet even exceed the industrials standard.
- Never discolor concrete.
- No electrolytic action with surrounding metals.
- Capable to withstand hydrostatic pressure.
- Heat weldable in conjunction with electric splicing irons.
- Withstand the expansion and contraction movement of the joints.
- Capable to taking care of any deflection or displacement arising caused by temperature changing or differential settlement of foundation.
- Supplied in coils for easy handling with high flexibility.
- Easy to install by tethering the outer flanges of the PVC waterstop to adjacent a reinforcing bars.

Applications:

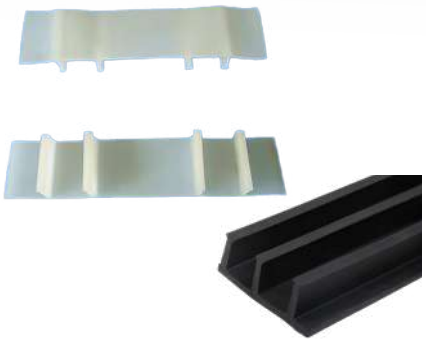
- Ideal for movement joints.
- Suitable for above or below grade applications.
- Suitable in portable water tank.
- Water and sewage treatment facilities.
- Liquid retaining structures such as dams, canals water reservoirs, lock and aqueducts.
- Tunnels and culverts.
- Foundations and basements.
- Parking decks, bridge decks and abutments.
- Elevator pits, roof and floor slabs.
- Primary and secondary containment structures.



PVC waterstops for building foundation constructions.

PVC waterstops for bridge decks constructions

EVA Waterstop



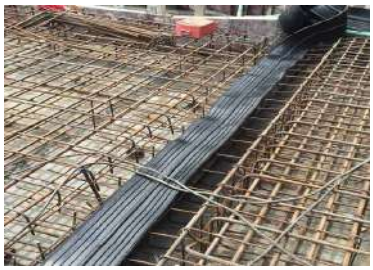
EVA water stop belt is a new type of water stop material, made of polyvinyl chloride, EVA resin and a variety of additives through a special process, with high elasticity and high tensile strength, not easy to be damaged by stretching, and has excellent corrosion resistance, suitable for underground engineering and sewage treatment facilities. Widely used in building infrastructure joints to prevent leakage, in line with international standards.

Properties

Item		Parameter
Tensile strength at break (MPa)		≥ 16
Elongation at break		≥ 550%
Tear strength (kN/m)		≥ 60
Watertightness (30 min. without leakage) (MPa)		0.3
Cold bending (˚C)		≤ 35
Stretching and shrinkage amount of heating (mm)	Stretching	< 2
	Shrinkage	< 6
Hot air aging 70 ˚C × 168 h	Tensile strength retention at break	≥ 80%
	Elongation retention at break	≥ 70%
	100 % elongation appearance	Without crack
Alkali resistance 110% $Ca(OH)_2$ normal temperature 168 h	Tensile strength retention at break	≥ 80%
	Elongation retention at break	≥ 90%

Feature

- High elasticity and tensile strength.
- Excellent weather resistance.
- Excellent waterproof performance.
- Corrosion resistance, acid and alkali resistance.
- It can withstand high Hydrostatic pressure.
- It can bear shocks of heavy turbines, earthquakes and floods.
- High flexibility, easy to install.



EVA waterstop is used in foundation to prevent seepage.

Applications

- Foundation.
- Constructions.
- Retaining walls.
- Parking garages.
- Bridge.
- Deck abutments.
- Storage tanks.
- Tunnels.
- Dams, canals.
- Water reservoirs.
- Water and waste water treatment facilities.
- Primary and secondary containment structures.

EVA waterstop is used in retaining walls.

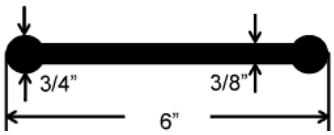
Rubber Waterstops

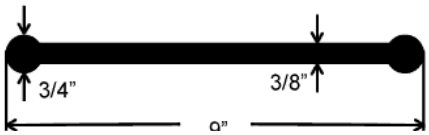
Rubber waterstop, made of quality SBR (styrene butadiene rubber), neoprene rubber or natural rubber, is one of the widest types for concrete structure to prevent liquid leaking in or out. Generally, designed to be cast in the concrete, rubber waterstops are ideal for applications where high physical properties of rubber are required. For example, reservoirs, dams and other water retaining or excluding applications with high movements or water pressure.

Main types

Dumbbell type

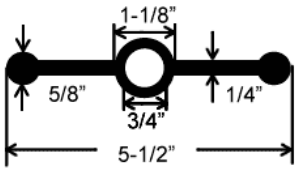
Dumbbell type water stops, with flat web section, are ideal for construction and partial contraction joints with little or no movements.

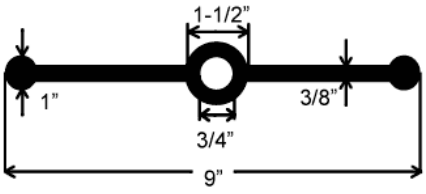


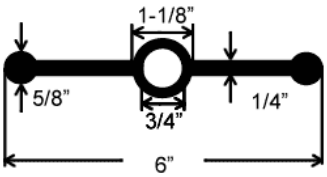


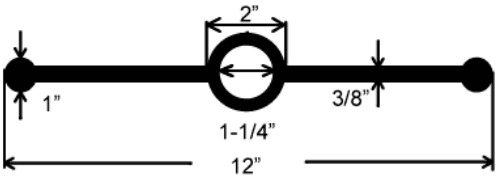
Center bulb type

Center bulb type waterstop, as its name implies, features its center bulb which makes it ideal for contraction and expansion joints including high lateral, transverse and shear movements. Meanwhile, it is perfect for withstanding the subsidence of the joints.









Materials properties

SBR and neoprene rubber, as the most common materials for rubber waterstop manufacturing, are used extensively in United States and the worlds. The SBR water stop is preferred for water containment, while neoprene rubber waterstops are recommend for applications of sewage disposal or chemical industries. As your request, natural rubber, EPDM, Nitrile and Silicone waterstops are also available.

Physical properties	Test methods	SBR	High tensile neoprene rubber	Natural rubber
Water absorption 2 days at 70 ˚C (% change)	ASTM D-471	5% (max)	5% (max)	5% (max)
Hardness shore A	ASTM D-2240	65	65	65
Tensile strength	ASTM D- 412	3000 psi (min)	2500 psi (min)	3500 psi (min)
Tensile strength at 300% Modulus	ASTM D-412	1150 psi (min)	1150 psi (min)	1450 psi (min)
Ultimate elongation	ASTM D-412	450% (min)	450% (min)	500% (min)
Compression set 22 hours at 70˚C (% original deflection)	ASTM D-395	30% (max)	40% (max)	30% (max)
Accelerated aging 96 hours at 70˚C (% of tensile strength before aging)	ASTM D-573	80% (min)	80% (min)	80% (min)
Accelerated aging 96 hours at 70˚C (% of elongation before aging)	ASTM D-573	80% (min)	80% (min)	80% (min)
Ozone resistance 7 days at 50 PPHM at 70˚C, 20% elongation	ASTM D-1149	No crack	No crack	No crack

Features & benefits

- High elasticity.
- High elongation.
- Excellent high movement accommodation.
- Capable to withstand high hydrostatic head.
- Adjust for subsidence and seismic movements.
- Hot vulcanized site joints.

Applications

- Ideal for high movements joints.
- Water containments.
- Water excluding.
- Tunnels and civil engineering structures.
- Water and waste treatments.
- Dams, reservoirs, and spillway.
- Chemical areas.
- Irrigation canals, sea walls and culverts.

Steel-Edge Waterstop

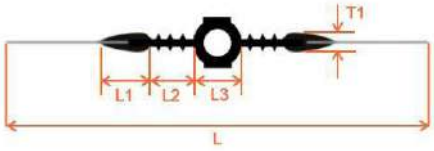
The steel-edge water stop belt is made of steel plate embedded in the traditional rubber water stop belt. It has high sealing property and good shear deformation absorption capacity, and is suitable for high-pressure structures such as expansion and contraction joints. When the structure settlement, concrete shrinkage or creep, the rubber part of the steel-edge water stop belt can be stretched thin to ensure that the adhesion between the steel plate and rubber and concrete is not affected, and can withstand greater tension and torque to prevent concrete loosening, fracture and crack leakage.

Properties

Physical properties		B standard	C standard
Hardness shore A		60 ± 5	60 ± 5
Tensile strength		2175 psi (min)	1740 psi (min)
Ultimate elongation		380% (min)	380% (min)
Permanent compression set 24 hours at 70˚C		35% (max)	35% (max)
Permanent compression set 168 hours at 23˚C		20% (max)	20% (max)
Brittle temperature		-45˚C (max)	-45˚C (max)
Tear strength		30 kN/m (min)	25 kN/m (min)
Galvanized steel plate and rubber adhesive (MPa) R type damage		6 (min)	6 (min)
Ozone aging, 50 PPMM, 20%, 48 hours		2 level	2 level
Hot-air aging	Hardness changes (shore A)	8 (max)	8 (max)
	Tensile strength	12 (min)	12 (min)
	Elongation at break	300% (min)	300% (min)

Types

Steel edge waterstops can be made into multiple types and specifications. We list some common and sketch ups and specifications in the following, just refer to them and find the perfect one you like. Besides, we can custom special specs according to your requirements, just contact us for more information.



Type	Plan drawing	L	L1	L2	L3	T1	Thickness of steel plate
SEWST-1		350 mm	40 mm	39 mm	38 mm	20 mm	0.8 mm
SEWST-2		350 mm	40 mm	-	-	30 mm	0.8 mm
SEWST-3		350 mm	40 mm	40 mm	35 mm	30 mm	0.8 mm
SEWST-4		350 mm	40 mm	39 mm	38 mm	30 mm	0.8 mm
SEWST-5		350 mm or 450 mm	40 mm	39 mm	38 mm	30 mm	0.8 mm
SEWST-6		350 mm	40 mm	-	-	20 mm	0.8 mm

Other sizes

Beside the above normal types, our company supplies a range of steel-edge rubber waterstop in a range of length and plate thickness to suit your specific needs.

Size	Length		Thickness of steel plate	Thickness of flat rubber part
	Rubber part	Overall length		
SEWSS-1	146 mm	300 mm	0.6 mm	6 mm
SEWSS-2	196 mm	350 mm	0.8 mm	8 mm
SEWSS-3	246 mm	400 mm	0.8 mm	10 mm
SEWSS-4	296 mm	450 mm	1.0 mm	10 mm
SEWSS-5	346 mm	500 mm	1.0 mm	12 mm

Features & benefits

- Quality EPDM rubber with high tensile strength.
- 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.
- High adhesion between the steel plates and the rubber.
- Excellent fastness between the steel plates and surrounding concrete.
- Custom types are welcomed.

Applications

- A diagram of steel-edge waterstop
- Water conservancy projects.
- Dams, tunnels and channels.
- Basements of high-rise building.
- Slabs and wall junctions.
- Duct piece joint of shield segment tunnel.
- Construction, expansion and contraction joints.
- Conduit joints and infrastructure deformation joints.
- Underground engineering.

Steel edge waterstop for foundation waterstop.

Steel edge waterstop for boundary waterproof.

Ω Type Inserted Rubber Waterstop

Ω-type embedded rubber water stop belt is a flexible rubber water stop belt, with a semi-circular structure in the middle and a flat structure on both sides, which is suitable for stretching and compression deformation of expansion joints. After construction, it can be installed in a slot on the concrete surface as a waterproof measure for later remediation. If the expansion joint is leaking, the Ω type water stop belt can be added, and it can be replaced when damaged. The water stop belt has high elasticity, corrosion resistance and long service life.

Specification

- Material: natural rubber, neoprene rubber, EPDM etc.
- Width: 200–400 mm. Other specifications also can be customized.
- Length: We can customize any length according to your request.
- Temperature range: -45°C to +60°C.

Features & benefits

- High elasticity and compressive deformability.
- Corrosion resistance, wear resistance.
- Removable, easy to install and replace.
- Aging and tear resistance, long service life.
- Good adapt to deformation ability.
- Excellent waterproof performance.

Application

- Underground construction.
- Dam.
- Storage tank.
- Water reservoirs.
- Swimming pool.
- Bridge.
- Tunnel.
- Water and waste water treatment facilities.

Reinforced Waterstops

Our company can provide a range of butyl self-adhesive rubber waterstops, reinforced waterstops (waterstop with internal steel plate, waterstop with external steel bar, waterstop with swelling strips) and your nominated others according to your requirements.

Butyl Self-Adhesive Rubber Waterstop

The adhesive strip on the waterstop is made of butyl rubber, which has good elasticity and aging resistance, can adapt to structural deformation, and has self-adhesive properties, facilitating construction and reducing complexity and costs.

Before Film Removal

After tearing the film

Details

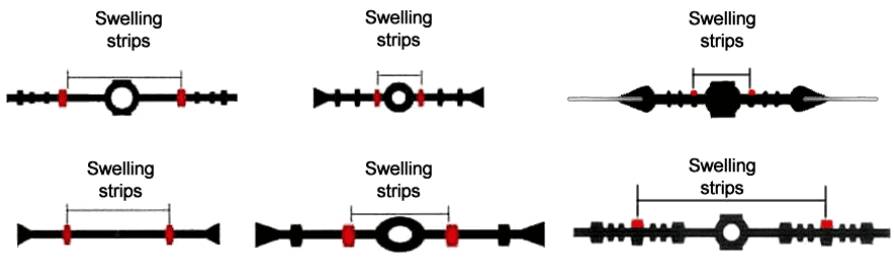
Waterstop with expansible strips

Expansible strips (red part as shown in the picture) extremely increase the adhesion between the waterstop and the surrounding concreted, meanwhile, it solves the problem of circular-leaking. So the waterstops with expansible strips are widely used as enhance anti-leaking products.

Waterstop with expansible strips

Specification

- Materials: PVC / Rubber / HDPE, TPV or other as your request.
- Width: 200 mm to 400 mm.
- Thickness: 6 mm to 12 mm.
- Applications: Construction joints, Expansion and contraction joints, etc.
- Structural:



Waterstop with expansible strips products

Waterstop with expansible strips prefabrications

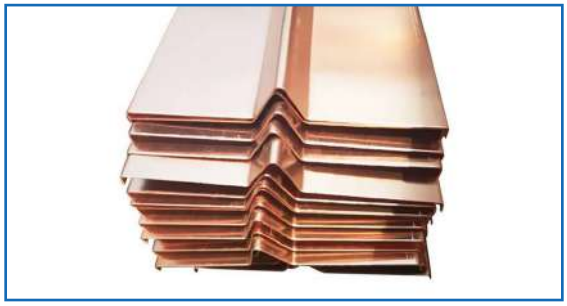
Metallic Waterstop

Metallic waterstop is generally made from galvanized steel, stainless steel and copper sheets. It is commonly used as a fluid-tight diaphragm that embedded in concrete structures for water retaining. It has high strength, great integrity and durability and can withstand high hydrostatic heads of water pressure against the joint. In addition, it gives excellent resistance to most corrosive or aggressive fluids leaking into the joints. Meanwhile, it is a good choice for ozone, corrosive even extremely elevated temperature environments.

To reduce the butt-welding during installation, a series of metallic waterstops including flat or vertical L, T and cross are available for all direction changes.

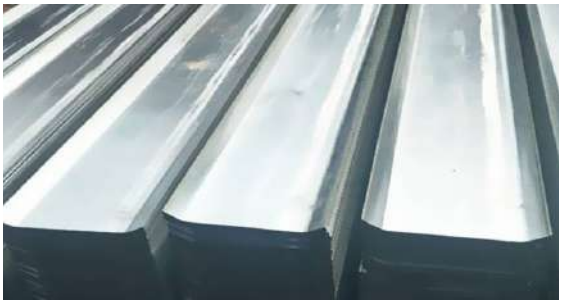
Stainless steel waterstop specifications

- Type: Stainless steel waterstop
- Width (mm): 200-500 mm
- Thickness (mm): 1.0/1.2/1.5/2.0/3.0 mm
- Package Length: 1-2.3 m
- Material Type: Stainless Model 304/316
- Application: Construction Concrete Joint
- Drawing: Acceptable
- Jointing: Type welding



Copper waterstop specifications

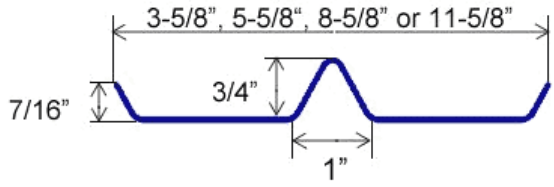
- Type: Copper Waterstop
- Width: 150/225/275/300/325 mm etc. Customized
- High Temp. Resistance: 2,552 °F (1400°C)
- Material: Cu T2
- Thickness: 1-3 mm
- Normal Length: 1/2/3 m



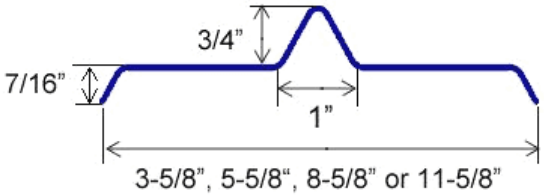
Galvanized waterstop specifications

- Type: Medium Thickness Plate
- Production Process: Cold Rolled
- Surface Treatment: Galvanized
- Width: customized
- Length: customized
- Surface: Galvanized Coated
- Material: Q235/Q235B/Q345/Q345B/Q195/St37/St42 /St37-2/St35.4/St52.4/St35

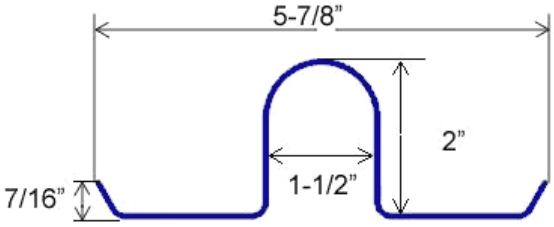
Type



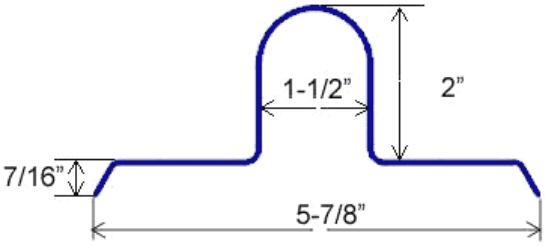
Metallic waterstop MW-01



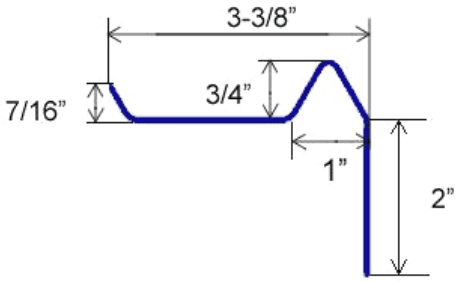
Metallic waterstop MW-02



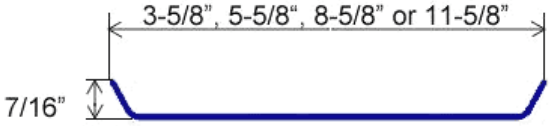
Metallic waterstop MW-03



Metallic waterstop MW-04



Metallic waterstop MW-05



Metallic waterstop MW-06

Features & benefits

- High quality raw materials.
- High tensile strength.
- Broad spectrum corrosion resistance.
- Extreme heat resistance.
- Extreme cold resistance.
- Superior ozone and weathering resistance.
- Fire-proofing.

Application

- Ozone contractor structures.
- Water treatments.
- Bund wall joints.
- Chemical industrials.

HDPE Waterstop

HDPE waterstop, also a kind of plastic waterstop similar to PVC waterstop, are made of quality high density polyethylene materials with high chemical resistance when exposed to hydrocarbons, acids, hot petroleum oils, solvents and diesel fuels, etc. However, the HDPE waterstop is harder, more abrasion and heat resistant than PVC waterstops.

Properties

Physical properties	Test methods	Minimum value
Specific gravity	ASTM D-792	0.941
Hardness shore A	ASTM D-2240	90 ± 3 at 25˚C (77˚F)
Tensile strength	ASTM D-412	4000 psi
Ultimate elongation	ASTM D-412	7.5
Low temperature brittleness ˚F (˚C)	ASTM D-746	-148 (-100) passed
Chemical resistance	ASTM D-471	Meet even exceed
Softening	-	154˚F

Features & benefits

- Strong and durable.
- High resistance to elevate and low temperature.
- Excellent anti-abrasion.
- Superior resistance to chemical liquids, hydrocarbons, acids, solvents, oils, fuels, and other non-polar fluids, etc.
- Resistant to oxidants and reducing agents.
- Not prone to swell and be flexible.
- Easy to butt-weld to form a continuous diaphragm.

Application

- Perfect for primary and secondary containment structure.
- Sewage treatment facilities.
- Fueling areas.
- Mining and refineries facilities.
- Chemical plants
- Liner application

TPV & TPER Waterstops

TPV waterstop, also known as TPER waterstop, made of an alloy of rubber and plastic, acts as a fluid-tight diaphragm with excellent mechanical properties and higher chemical resistance than traditional waterstops. Without plasticizer, stabilizer or fillers, the TPV waterstops will not leech out when exposed to chemical fluids as hydrophilic waterstops.

TPV Waterstop is used as a fluid-tight diaphragm, embedded in concrete, across and along the joint, for primary and secondary containment structures. Chemical Resistant Waterstops are ideally suited for fuel, oil, and other hydrocarbon.

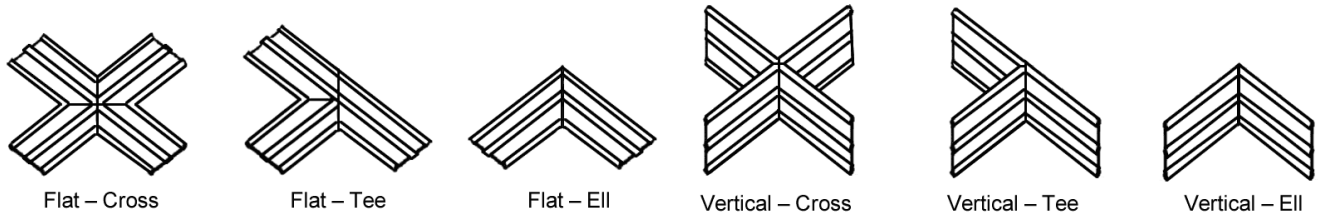
Properties

Physical properties	Test methods	Minimum value
Tear resistance	ASTM D-624	278 psi
Specific gravity	ASTM D-792	0.96
Hardness shore A	ASTM D-2240	90±3 at 25˚C (77˚F)
Tensile strength	ASTM D-412	2300 psi
Ultimate elongation	ASTM D-412	5.3
100% modulus	ASTM D-746	1000 psi
Low temperature brittleness (Tb) ˚F (˚C)	ASTM D-746	-78 (-61) passed
Compression set	ASTM D-395	29% at 25 ˚C (77˚F)
Ozone Resistance	ASTM D-1171	No cracking at 500 pphm
Chemical resistance	ASTM D-471	Meet even exceed
Drinking water safe	NSF / ANSI Standard 61	Meet even exceed
Green certification	Green specification	Meet even exceed

Installation

Normally, the TPV waterstops are embedded into or installed along extend of joints for preventing water and chemical liquid leaking into the joints, which is the weak point in any concrete structure. As to the changes of directions, pre-fabricated products are needed for easy installation.

To enhance the fixing of waterstops, you could fasten them to surround reinforcing bars with the help of steel wires. For easy installation, our TPV comes with punched flanges, brass eyelets, hog rings or clamps as PVC waterstops according your request.



Features & benefits

- Quality recycled thermoplastic elastomeric rubber materials - healthy and environmental friendly.
- Excellent resistance against chemical, ozone, oils, solvents, hydrocarbon and aggressive industrial liquids, etc.
- Not susceptible to ketones, esters, glycols, alcohol, and water solution of acids, salts and bases, etc.
- High resistance to long term temperature changing ranging from -78°F to 275°F.
- High elasticity.
- Superior weather and UV resistance
- Easy to butt-weld.
- low tension and compression set.
- Excellent dynamic fatigue resistance.

Application

- Ideal for primary and secondary containment structures.
- Sewage treatment facilities.
- Fueling containing areas.
- Mining and refineries industries.
- Structures relating to ozone.
- Manure pits and elevator pits.
- Retaining walls and dams.
- Storage tanks and other water reservoirs.
- Canals and tunnels.
- Roof and floor slabs, parking decks and bridge decks.

Sealant Series Products

Polyethylene Closed Cell Foam Board

Polyethylene closed cell foam board is a joint waterstop material made from a mixture of high-pressure polyethylene particles, crosslinking agents, foaming agents, and other raw materials. Its production process includes internal mixing, open mixing, vulcanization, and high-temperature mold shaping. Polyethylene closed cell foam board features a unique closed-cell bubble structure, with an appearance of uniformly distributed honeycomb-like holes, capable of tightly bonding with cement adhesives, demonstrating excellent waterproof and sealing performance.

Specifications

- Material: High molecular polyethylene
- Color: Black
- Common Specifications:

(1400-1800) mm × (3000-4000) mm × 50 mm (Can be cut and processed into boards, strips, etc., with thicknesses ranging from 5-50 mm according to user requirements, with sheet cutting size errors ranging from ±0.2 to ±1.)

Test Items	Unit	Test Results
Density	kg/m^3	≥90
Tensile Strength	MPa	≥0.9
Tear Strength	kg/m^2	≥3.5
Compressive Strength	kg/m^2	≥130
Compression Set	%	≥0.7
Elongation	%	≥70
Water Absorption	g/m^3	≤ 8

Feature

- Stability: Low density, high recovery rate, with an independent bubble structure.
- Waterproof Performance: Low surface water absorption, good impermeability.
- Temperature Resistance: Does not flow (does not melt) at high temperatures, does not crack at low temperatures.
- Corrosion resistance: Resistant to alkali, acid, salt, oil, and other organic solvents, with excellent aging resistance.

Applications

- Highways, expressways, underpasses, subways
- Power plant moisture-proof rooms, cooling towers
- Bridgehead expansion joints, overpasses, elevated bridges
- Hydropower concrete projects, dam slope protection
- Home renovation

Two-Component Polysulfide Sealant

Two-component polysulfide sealant, as known as a two-component, non-sag, premium polysulfide sealant, which is also called polysulfide sealant for building made up of liquid polysulfide rubber, and add tackifying resin, vulcanizing agent, accelerant and fortifier into it. It contains two components and it can vulcanize and crosslink by itself at room temperature. The two components have clear color difference, which makes the mixing more convenient. It can keep good air tightness and water resistance in continuous vibration and temperature changes. In addition, it has a good bonding effect for metal, concrete and other materials.

Product specifications

- Material: Liquid polysulfide rubber.
- Color: Component A is white and component B is black, and the mixture is black.
- Classification:
  - According to flowability: self-leveling and non-slumping.
  - According to movement: ability 20 and 25.
  - According to tensile modulus: low modulus (LM) and high modulus (HM).
- Packaging & Delivery
  - Net Weight: 750 g/piece × 20 pieces, or packed as customers' requirements.
  - Packaging Details: Packed with plastic buckets and then on pallet.
  - Delivery Time: Shipped in 7 days after payment.
- Shelf life: 12 months.

Displacement of GPZ Highway Bridge Pot Bearing	
Projects	Indicators
Density (g/cm^3)	1.25 ± 0.1
Dry Time	≤ 24 hrs
Storage Time	≥ 2 hrs
Elastic Recovery Rate	≥ 70%
Tensile Bond	No damage
Tensile Bond in Water	No damage
Cold/Hot Pressing Adhesive	No damage
Mass Loss Rate	≤ 5%
Executive Standard	JC/T 483-2006

Advantages and Disadvantages of Two-component Polysulfide Sealant	
Advantages	Disadvantages
● Better water resistance.	● Requires mixing, but easily to mix.
● Better physical properties, recovery adhesion, peel adhesion, and tensile adhesion.	● Light colors be a problem.
● Best air tightness among all the sealants.	● Limited filling life, and very short filling life at 100 ˚F.
● Can maintain flexibility over a wide temperature range.	● Slight odor.
● Can resistant water, oils, grease, most solvents, mild acids and alkalis.	● Poorer UV resistance compared with urethane and silicons.
● Cost lower than one component sealant.	● Need primers for porous substrates.

Using method

- Add component B and pigment into component A;
- Stir quickly up and down until it is well mixed;
- Wipe the mixed sealant in the site where is waiting for construction with a small shovel;
- Do not soak and contact with water within 48 hours after construction.

Application

The polysulfide sealant is suitable for outdoor or indoor and can be used to seal both static and dynamic joints:

- Used to caulk at concrete, building, and bridge.
- Used in anti-leakage caulking of various types of expansion joints, such as waterworks, swimming pools, reservoirs, power plants, dams, sewage treatment works and water supply and drainage systems and other projects.
- Used as the joints of precast concrete, and the seams of the glass and construction.
- Used in the seaming of metal siding, and the bonding of aluminum window frame.

Single Component Polyurethane Sealant

Single component polyurethane sealant, as known as a single component, hydrophilic, water activated, hydro active, expandable, waterstop, is also called single component polyurethane hydrophilic expansion waterproofing sealant. When in contact with water, the sealant expands and produces an expanding pressure. The pressure between the expanded sealant and the surrounding concrete structure prevents water penetration through the joint and provides a durable waterproofing solution.

Product specifications

Specification of Single Component Polyurethane Sealant	
Appearance	black
Net Weight	600 ml
Material	polyurethane prepolymers
Application	manholes, culverts, cable ducts, pipes, and more
Place of Origin	Hebei, China
Brand Name	JINGTONG
Shape	long
Feature	adhesion

Technical Properties of Single Component Polyurethane Sealant	
Projects	Indicators
Solids	≥ 85%
Droop	≤ 2%
Dry Time	≤ 24 hrs
Low Temperature flexibility	-20 ˚C, no cracks
Volume Swelling Ratio	220%, 300%, 400%, 500%, 600%
Long-term Soaking Volume Expansion Rate Retention	≥ 90%
Shelf Life	12 months
Corrosiveness	non-corrosive
Executive standard	JG/T 312-2011 JC/T 482-2003 GB/T 18173.3-2014

Advantages

Based on the physical and chemical properties of the polyurethane sealant, it has many advantages. Such as:

- Expansion rate. The polyurethane sealant has a strong expansion capacity. It can expand to 220% or 300%, 400%, 500%, even \ 600% of its own volume.
- Strong adhesion. It can used to steel, HDPE, PVC, and other common building materials, and it also effective to damp surfaces.
- Good weather resistance. It has low temperature flexibility, and its service life of up to 15 to 20 years.
- Environmentally non-toxic. It has good chemical resistance, and it tested can be resistant to hydrochloric acid, salt water, sodium carbonate, potassium hydroxide and other chemicals. In addition, it is safe and non-toxic when in contact with drinking water, belongs to environmentally friendly products.
- Ease to use. It can be applied with a standard caulking gun.

Applications

Polyurethane sealant is widely used in construction, transportation and other industries. Such as the following usage:

• Caulking agent.
The polyurethane sealant is used as caulking agent in the construction of subways, tunnels, underground parkings and other projects.

• Sealing waterproof.
In building construction, it can play a role of sealing waterproof for doors and windows, exterior walls and other parts.

• Water stop.
It can be used as water stop when punctures are found in plumbing, sewer lines and other utility pipes.

The following pictures can visually show the application scenarios of sealant.






Single Component Polyurethane Water-Swelling Sealant

Single-component polyurethane water-swelling sealant is a solvent-free, water-reactive paste that prevents infiltration on irregular surfaces with double-seal water-stop functionality. It combines elastic water-stopping properties with volume expansion upon soaking and cures in humid environments, with curing time varying by temperature and humidity. Ideal for irregular joints, mixed materials, and vertical surfaces, it is available in two types: PJ220 and PJ400, offering a cost-effective choice for customers.

Specifications

- Hardness: 65.
- Temperature range: -40–80 °C.
- Expansion rate: 220%.
- Package specification: 600 ml per unit.
- Package:
  - Single component polyurethane water-swelling sealant is packed in foil papers.
  - Each box has 20 single component polyurethane water-swelling sealants.

Single component polyurethane water-swelling sealant packed in box

Single Component Polyurethane Water-Swelling Sealant Technical Data					
No.	Item			Indicators	
				PJ220	PJ400
1	Solid content			≥ 85%	
2	Density (g/cm^3)			1.3 ± 0.1	
3	Sagging height (50 ± 2) ˚C			≤ 2 mm	
4	Surface cures time			≤ 24 h	
5	Tensile strength after 7 days (MPa)			≥ 0.4	≥ 0.2
6	Softness in low temperature (-20 ± 2) ˚C, 2h			No crack.	
7	Tensile performance	Tensile strength		≥ 0.5 MPa	
8		Elongation at break		≥ 400%	
9	Volume swelling ratio			≥ 220%	≥ 400%
10	Volume swelling retention ratio immersed in water for long time (28d)			≥ 90%	
11	Resistant to water pressure (MPa)			1.5 water impermeable	2.5 water impermeable
12	Actual cure thickness (48 h)			≥ 2 mm	
13	Harmful substance content		Volatile organic compounds	≤ 200 g/L	
			Benzene	≤ 0.1 g/kg	
			Toluene and xylene	≤ 50 g/kg	
			Toluene-2, 4-diisocyanate (TDI)	≤ 5 g/kg	
14	Volume swelling retention ratio after immersed in solution (3d) (This item is carried out by supply and requisitioning parties according to the underground water quality.)		5% calcium hydroxide solution	≥ 90%	
			5% sodium chloride solution	≥ 90%	

Feature

- Good seal and water stop effect.
- Good durability, excellent chemical stability.
- Flexibility, applied to various irregular base.
- Good adhesion, moist ground also can be bonded firmly.
- The rate of mass change is low.
- Construction is simple, easy to operate.
- Environmentally friendly products, safe and non-toxic.
- Economic price.

Application

- Underground constructions.
- Tunnel.
- Protective engineering.
- Subway.
- Sewage treatment tank.
- Construction joints.
- Deformation seam.
- Wall seam.
- Pipe trench.
- Filling and sealing joint of door.
- Sealing joints of window.
- Expressway.
- Bridge.
- Airport runway.

Single component polyurethane water-swelling used with glue gun.

White single component polyurethane water-swelling sealant used in window.

Black single component polyurethane water-swelling sealant in construction joints.

White single component polyurethane water-swelling sealant in wall seam.

White single component polyurethane water-swelling sealant in ground seam.

Black single component polyurethane water-swelling sealant used in pipe trench.

Neutral Silicone Structural Adhesive Sealant

Neutral silicone structural adhesive sealant is a kind of high modulus and high elasticity silicone rubber. It with good weather resistance is easy to use and work well in bad weather. Compared with non-structural adhesive, the structural adhesive sealant with high strength can bear high capacity without damaged. And it can form a strong bond with most of materials without primer. So it not only can be used in constructions but also can be used in glass and ceramics industry. Compared with two-component polysulfide sealant, neutral silicone structural adhesive sealant can be used directly without mixing. In addition, our products are non-toxic, non-polluting products. You can use it without any worries.

Specifications

- Density: 1.5 g/cm^3.
- Elongation: 150%.
- Tensile strength: 100 MPa.
- Color: black, white, gray, transparent, red, green, brown and so on.
- Specification: 590 ml.
- Package: in carton. 20 per carton.

Technical Date of Neutral Silicone Structural Adhesive Sealant		
No.	Item	Technical date
1	Appearance	Smooth paste without bubble or particles.
2	Color	White, black or any other colors.
3	Specific gravity (g/ml)	0.93–0.98
4	sag	None
5	Silicone content	> 96
6	Skinning time (minutes)	≤ 15
7	Full curing time (hours)	10–12 (3 mm thickness)
8	Tensile strength (MPa)	≥ 0.60
9	Maximum elongation ratio	400
10	Hardness shore A (cured)	> 26
11	Service temp (˚C)	-40 to 260
12	Extrusion rate (g/minutes)	370
13	Shelf life (month)	12

Feature

- High strength, high bearing capacity.
- Aging resistance, corrosion resistance.
- Excellent stability and durability.
- Good adhesion and sealing performance, can form a strong bond with most materials.
- Insulation performance.
- It has shock absorption effect.
- High and low temperature resistance.
- Good elasticity and flexibility.
- It can be applied to various materials.
- Easy to use. Single component, don't need to mix.

Neutral silicone structural adhesive sealant is easy to use with glue gun.

Neutral silicone adhesive sealant can be used easily in low temperature.

Application

- The seal of window and door. Aluminum, titanium and plastic steel.
- Glass curtain wall, aluminum plate curtain wall.
- Various kinds of glass.
- Concrete and cement constructions.
- Marble ground and wall.
- Various metals.
- Wood and furniture.
- Ceramics.
- Kitchen.
- Bathroom.

Neutral silicone structural adhesive sealant used in window.

Neutral silicone structural adhesive sealant is used in bathroom.

Neutral silicone structural adhesive sealant used in glass door.

Neutral silicone structural adhesive sealant is used in curtain wall.

衡京工®

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