

New & Best Value

# DONG IL R&C's Products

Marine, Vessel Parts



Civil Engineering Material Parts



Industrial Products



**DONG IL R&C Co., Ltd.**





## We will make reliable goods that you can trust

Dongil R&C Co., Ltd. Was established in July, 1995.

The company has been specialized in the design and development processes of rubber fender and other rubber products.

Since then, our company has studied, developed and manufactured general industrial products together with other rubber products for construction and civil engineering among various fields.

We strongly believe that it is our duty to make a contribution to the development of rubber products.

With accumulated knowledge and technologies, we focus on the execution of various projects.

We are trying our best to provide our customers with the best-quality products and services.



## Introduction

Since the foundation as the company specialized in design and development of rubber-related product on July, 1995, Dongil R&C has researched, developed and manufactured the rubber products for general industry, construction and civil work with duty and strong will for the development of rubber product.

Dongil R&C has performed various projects with accumulated knowledge and technology and has made an effort to provide customer with the best-quality product and optimized service.

With the belief that survival of company depends on the competitiveness reinforcement through endless technology development and self-innovation, Dongil R&C has not saved the investment to the nurture of competent persons and the development of new technology. Dongil R&C secures the outstanding original technology for the manufacture of high value added product by enlarging business area with decisive facility investment and realizing multi-items, customized manufacture system meeting customer's request.

**With the company motto of solidarity, quality innovation and customer's satisfaction.**

Dongil R&C has realized perfect responsibility from development to design, manufacture, installation and maintenance in order to provide customer with the best satisfaction. With the belief that only the person challenging to something survives and only the company realizing R&D and technical investment endlessly survives, Dongil R&C will lead the rubber industry of the 21st century.

CEO of Dongil R&C Co., Ltd.

Do-woo Park



## History

It is the trace of Dongil R&C.

### 2010~

December 2012	Designated for development project under purchasing condition (Navy – Murena skirt development project)
July 2012	Joined as a member of Korea International Trade Association
July 2012	Submitted patent application for concrete sleeper anti-vibration pad
May 2012	Submitted patent application for pile driver cushion
December 2011	Industrial-academic collaboration (Dong-A University)
March 2010	Expanded material production plant

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### 2000~ 2009

October 2009	Acquired the certificate of Clean Workplace
August 2009	Acquired the certificate of Oil Fence Model Recognition
May 2009	Acquired the certificate of INNOBIZ
February 2009	Acquired the certificate for R&D department
February 2009	Applied the patent of dual-film oil fence
May 2008	Acquired the utility model right for rubber packing
December 2007	Enlarged the factory of industrial product.
June 2007	Appointed as the company specialized in part
July 2005	Acquired KS certificate of rubber fender
May 2005	Acquired the certificate of ISO-9001
July 2004	Enlarged the factory of gas holder diaphragm and rubber hose
November 2003	Changed company name into Dongil R&C
July 2003	Enlarged the factory of fire plant and nuclear plant products
March 2003	Moved company to the new building located in Eogok Local Industry Complex of Yangsan
May 2001	Developed drum liner and began its manufacture

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### 1995~ 1999

April 1999	Constructed technical cooperation relationship with Japanese company, Mont Co., Ltd.
October 1997	Enlarged the factory of rubber fender
July 1995	Founded Seojin Industry



There is no limit in the effort to access customer with reliance



Manufacture of the product satisfying customer



Quality management system relieving customer

Manufacture of the product giving priority to customer



Dongil R&C will do its best for customer-concentrated management with accumulated technology, careful quality control, optimized delivery and optimized price.



# Current Status of Certificates and Intellectual Properties

Name	Standard	Type	Initial Registration Date	Certifying Institution
KS	KS M 6709	Certification	2005.07.07	Korean Standards Association
ISO	9001	Certification	2006.05.04	Korean Standards Association
Rubber packing	20-0440028	Utility Model	2008.05.14	Korean Intellectual Property Office
Double webbed oil fence	10-0259938	Patent	2010.01.28	Korean Intellectual Property Office
Pile driver cushion	2012-0047085	Patent (application)	2012.05.03	Korean Intellectual Property Office
Anti-vibration pad for concrete sleeper	2012-0078803	Patent (application)	2012.07.19	Korean Intellectual Property Office
Exclusive R&D department	2009 350099	Certification	2009.03.23	Korean Industrial Technology Association
INNOBIZ	R9111-1159	Certification	2009.05.22	Small and Medium Business Administration
Model approval for Oil fence	오-100	Certification	2009.08.20	Korea Coast Guard
Clean workplace	55980	Certification	2009.09.18	Korean Occupational Safety & Health Agency
Professional parts and materials company	4256	Certification	2007.06.08	Ministry of Commerce, Industry and Energy
Industrial-academic collaboration	-	Agreement	2011.11.08	Dong-A University Industrial-Academic Collaboration Group





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# Marine, Vessel Parts

- ◉ Rubber Fender
- ◉ Gate Seal
- ◉ Grout Seal
- ◉ Immersed Tunnel Gasket
- ◉ Rubber Packing & Gasket
- ◉ Oil Boom



# DONG IL R&C Marine, Vessel Parts

## Main Products



Air Fenders



Ship Fenders



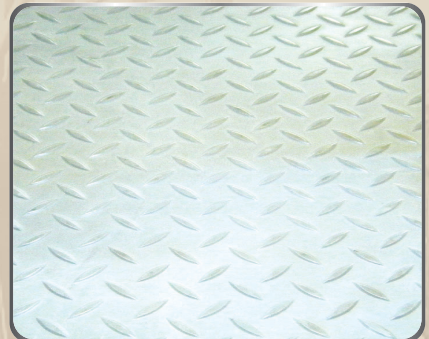
System Fenders



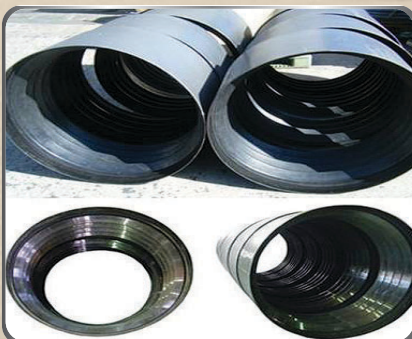
Rubber Packing



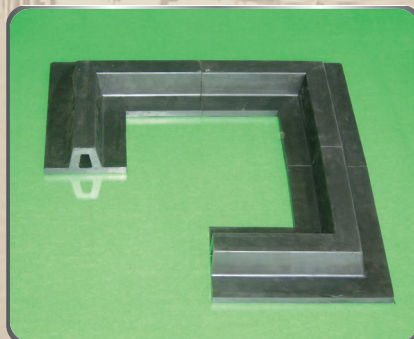
Oil Boom



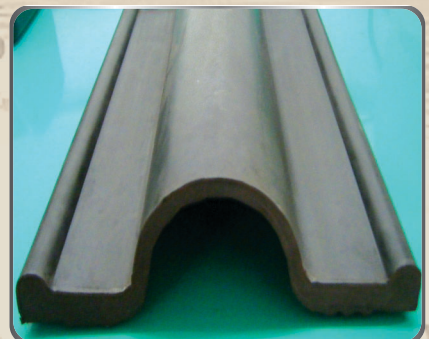
Rubber Sheet & Mat



Grout Seal



Gate Seal



Rubber Gasket

## I Rubber Fender

It is used to protect ship or harbor facility by absorbing impact and conflict generated when ship comes alongside harbor or moors with elastic transformation of rubber.

🕒 **Purpose** : harbor, pier, ship, loading yard, dock, etc.























## Gate Seal

It means the material or device for preventing leakage, which is installed in side and bottom of gate or top when gate is submerged in water. It requires high property of abrasion resistance, recovery, ozone resistance and weather resistance.

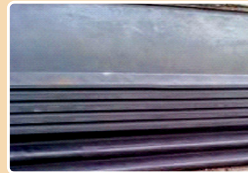
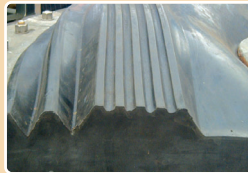
🕒 **Purpose** : dam, gate, lock, canal, ship and gate seal for mixer facility

Type					
					
					
					

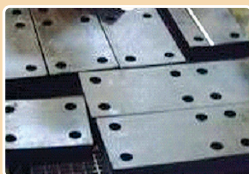
• P type rubber : It is usually used for gate packing and it is widely applied to refrigerator and heating cabinet

### Super Gate Seal

🕒 **Purpose** : It is installed in dam and large-sized gate. Because air is injected for use, its adherence and application are superior.



### Multy Pad

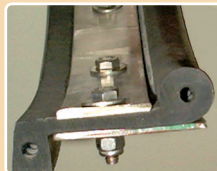
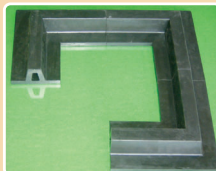


🕒 **Purpose** : Horizontal large-sized gate like lock and canal

### Dock Gate Seal

🕒 **Purpose** : Gate for the structure like ship

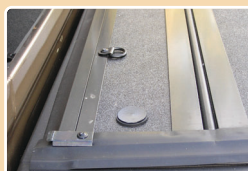
🕒 **Spec** : Various



### Other products



Gate seal and bug screen for vehicle entrance



Gate of subway



Window packing



Doorframe packing

## | Grout Seal

Grout Packer is used in grouting construction method, which injects a filler into gaps and hollows on the ground for prevention of water leak and stability of soil during civil engineering works.

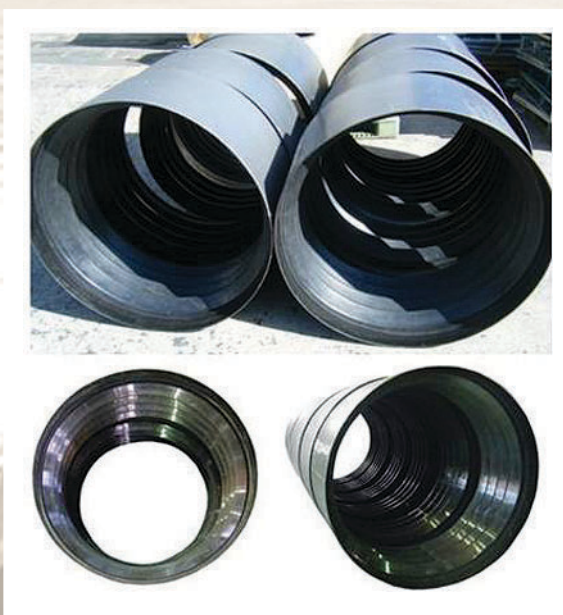
A wrinkled seal is designed to prevent the case from collapsing by grout pressure and prevent backflow of grout material. Rubber seal is applied to prevent damaging of the case by gas and water generated inside.

The critical function of these inflatable packers are to seal jacket legs from bottom side and to withstand the load of grout column rest on it.

Grout packers provide a strong and reliable seal between the jacket leg and pile facilitating depositing of grout material to provide stability to the structure. These can be supplied in different sizes to suit any jacket leg and pile as per the specific requirement of the customer.

Our make grout packer have got an enviable track record and have performed to the entire satisfaction of various clients.

Grout packers are available in wide range from 24 inch od to 120 inch od pile. Special size can also be developed as per clients' requirements. Dipti grout packer assembly can also be supplied with suitable mud wiper to prevent mud penetration from the bottom side of jacket.





## Rubber Packing, Gasket and Diaphragm

It means the material applied to vessel connecting side, in which liquid or air is tightened, or to the area, through which the axis for connection, revolution or reciprocating motion passes. If it is applied to the area without motion, it is called gasket.

Depending on structure pressure, temperature and motion of sealing place such as window packing, filter press packing and facility gasket, filling materials are various.



### ● Immersed Tunnel Gasket

Special gasket used in new underwater tunnel construction method, which manufactures tunnel structure on land and assembles the structure underwater



### ● Auto cable cover belt

Used for the purpose of protecting electric cable of devices moved by electricity at port facilities and shipyards, preventing inflow of foreign substances into trench, and preventing on-site accident from losing of footing

- Maintenance expense unnecessary
- Perfect protection of cable
- Easy installation and repair
- Works in any climate





## Marine Pollution Protection Product

### Oil Fence

It is installed when the work to transfer oil is performed or there is a risk of oil spill during oil supply to ship. It is used for protecting dangerous accident, preventing enlargement of spilled oil during accident and collecting oil in easy and rapid way. The product can prevent oil spill on sea and prevent floating material and garbage flowing into stream and harbor. It is possible to prevent the pollution of stream or sea by installing the product in discharging place permanently.

#### Characteristic

- Main body cloth of oil fence has superior property of oil resistance and water resistance.
- Special rubber with superior property of oil resistance and weather resistance is coated in polyamid woven fabrics so there is no decolorization, color change and material transformation although it is used for a long time.
- High-class zinc plating is applied to chain, shackle and anchor point to maximize corrosion prevention.
- The product has high tensile strength and tear strength. It is not damaged well during the works such as towing, unfolding or withdrawing.
- It is so strong that it can maintain its original shape in strong wind, serious tide change and wild weather.
- User can connect the desired length.
- Damage of one section does not give an effect to entire floating ability. It is possible to detach the damaged section and repair or replace it.
- Air can be supplied in a remote place so if air is not sufficient after installation for a long time, air can be supplemented.

Dongil Boom acquired the certificate of model recognition from Korea Coast Guard.

Type	Main body unit		Connection unit	Purpose
	Height above water(cm)	Depth under water(cm)		
C Type	Higher than 60	Higher than 90	Higher than 150	For ocean

### DONGIL BOOM (Oil Sweeping Boom)

As the type similar to oil fence, it is installed in the side of water surface cleaner). It is used for collecting spilled oil in oil collector installed in water surface cleaner.

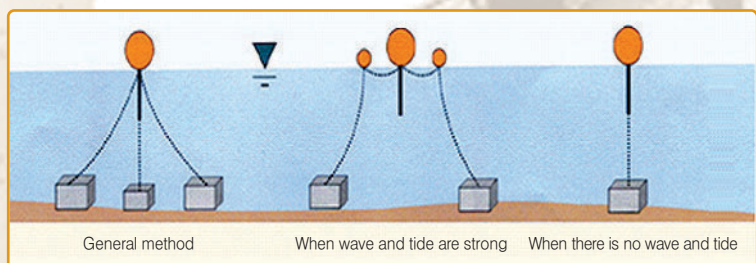
Standard spec				
Height	1m	1.5m	1.8m	2m
Height	15 ~ 22m			

#### Characteristic

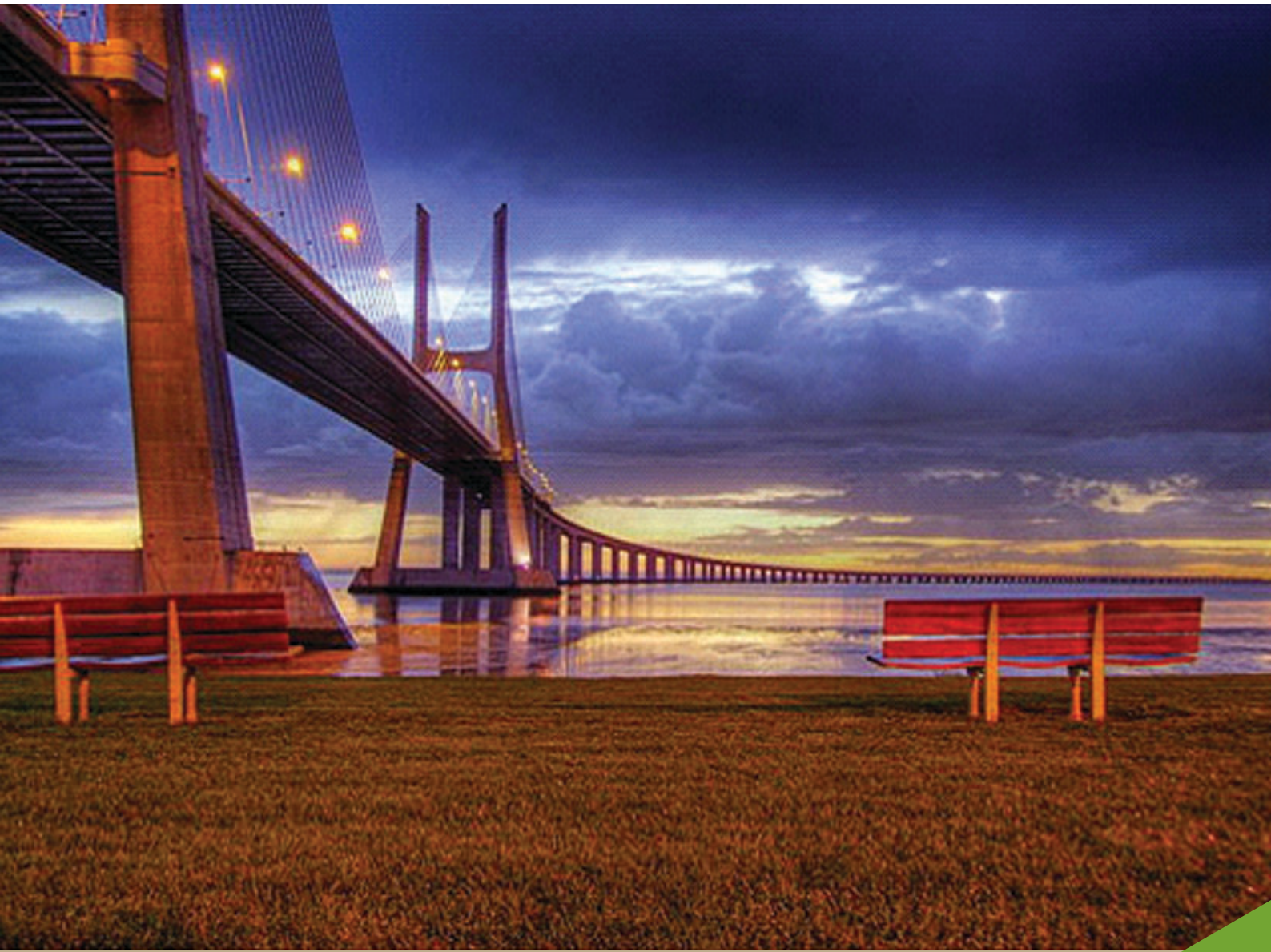
Cover rubber is made with polychloroprene rubber that has superior oil resistance, water resistance, weather resistance, ageing resistance and durability. Underwater unit is made with polyamid composite material, whose wrap yarn and weft yarn are same so it has high tensile strength of more than 300KN/m.

### Silt Protector

It is installed under water in order to protect the diffusion of filth material generated during the construction in stream or ocean. It consists of floating unit, rod unit and anchor unit. It has the structure strong against tremendous energies such as tide, wave and wind. Its effect to prevent diffusion of filth material is very outstanding from minimum 45% to maximum 95%.







# Civil Engineering Material Parts

- Tank Seal
- Rail Pad
- Elastic Bearings Pad
- Rubber Dam
- Other Products

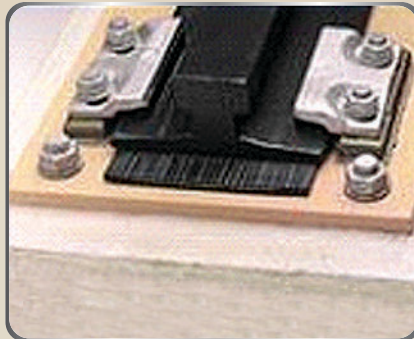


# DONG IL R&C Civil Engineering Material Parts

## Main Products



Tank Seal



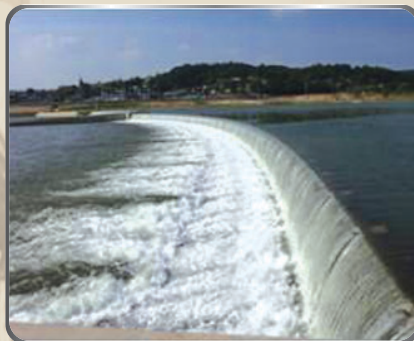
Rail Pad



Rubber Water Stop



Elastic Bearings Pad



Rubber Dam



Anti-vibration Rubber Pad



# Tank Seal

1. It is used to prevent the loss of stored hydrocarbon product by creating film in depository and installing it oil company, depository, terminal and pipeline storing gasoline, jet fuel, diesel, petroleum and condensate. It is an important product to save resource and protect environment.

The company's tank seal has the advantages for preventing evaporation loss generated in the process to store volatile liquid, preventing fire and securing safety.

Tank seal is applied to floating roof, which rises or falls depending on liquid flow. It is the system to protect the surface of liquid and minimize the space between liquid and roof to restrict evaporation. The company's product can decrease more than 94% of evaporation loss with specialized design.

"Tank seal provides supplementary insulation function so it is possible to save operation cost and decrease potential danger by maintaining low pressure. It prevents air infiltration via the top of floating roof."

2. It is used to prevent dissolution of oxygen in liquid depository. It prevents corrosion of high-cost depository and pipe, protects facility and maintains purity of stored solution.

3. Use to capture methane gas from the sewage treatment plant.



## Comparison of evaporation loss of general tank

Tank Sizes	Tank Diameter (feet)						
	25	50	75	100	125	150	175
Pounds per year							
Tank that applies tank seal	25,184	121,692	297,121	322,336	534,792	770,488	1,179,900
Tank that does not apply tank seal	2,190	3,313	4,673	7,387	9,573	11,570	15,520

Regardless of tank size, skillful worker and supervisor provide perfect service from product manufacture to installation and construction.

Related spec : ASTM D 1621,0 1622  
KS M 6518, KS M 6519, KS M 6672

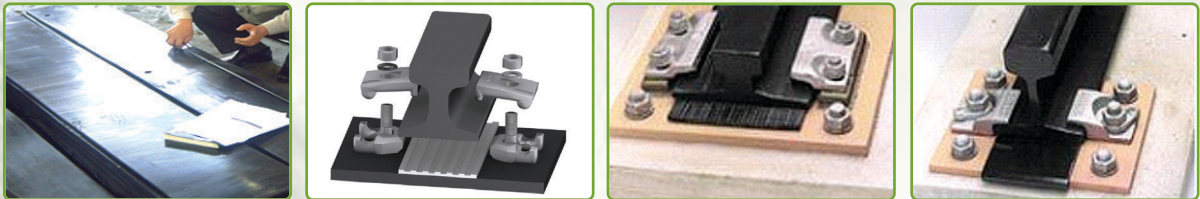
※ Existing plating has generated non-environmental factors in industry and limited metal has been available. It is applied to diaphragm of vacuum plating by reinforcing disadvantage.





## Rail Pad

It is designed to resist earthquake in the bottom of Goliath Crane rail and driving rail. It has been used as the rail for various cranes, hoists, tracks, structures, facilities and heavy machines.




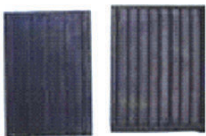
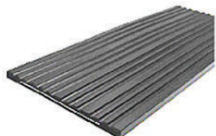
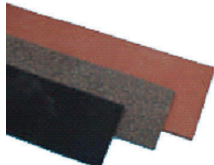
Rail pad provides buffering space in the interval between rail and tie and prevents abrasion of surface. It protects tie and facility by insulating electricity and absorbing impact of rail. Depending on rail spec, applied crane and weight, the company is manufacturing the product that meets shear force abrasion and weight.

It absorbs local power delivered to rail in wide side evenly and relieves transformation and abrasion of rail and structure by reducing noise and vibration.

### Characteristic

- Superior elongation, tensile strength and elasticity.
- High effect in vibration, impact and noise prevention.

### Type

일반형			High hardness	
Flat type	Curve type	Steel plate insertion type	Flat type	Fiber combination type
				
Characteristic	General		고경도	
Hardness	65~75 ShoreA		80~95 ShoreA	
Activated strength	(2~7ton) 30~75MN/m (175~340kips/in)		Higher than (7~10ton, EVA) 1000 MN/m (6000kips/in)	
Specific resistance	Higher than 109Ω /cm		Higher than 109Ω /cm	

### 표준규격

(단위: mm)

Applied	Width	Rail Width	Thickness	Static deflection
50K	127	130	6	0.60이내
50K	127	120	6	
73K	130	140	8	
73K	134	140	8	
74K	140	140	6	
100K	141	145	12	
100K	150	155	7	
100K	150	155	10	
120K	330	370	12	



# Bearing Pad for Supporting Bridge

It connects the top and bottom structure of bridge and overpass. It is the product with superior weather resistance and dynamic characteristic, which is designed to deliver the load applied to the top structure to bottom structure effectively, absorb expansion of top structure and relevant change between top and bottom structures and enable entire structure to maintain safety against thermal change, impact and movement.

## Structure of bearing pad



## Function and characteristic of bearing pad

- ▶ It absorbs load of top structure and delivers it to bottom structure effectively.
- ▶ It is good for wide skew bridge and curve bridge.
- ▶ It is free from the movement caused by shear transformation and elastic transformation.
- ▶ It can support the load of 8~3,000Ton depending on load contact area and material strength.
- ▶ Its maintenance and construction are convenient.
- ▶ It is economic.

## Structure of bearing pad

1. It is installed in the interval between top structure of bridge and its foundation. It supports top structure, grants degree of freedom, absorbs expansion depending on the change of temperature and load and relieves earthquake vibration.
2. Various designs are available depending on contact area, design method and rubber material and it can cope with expansion and change so it can be widely applied to skew bridge and curve bridge as well as horizontal bridge.

## Durability of bearing pad

1. Bearing pad shall stand against dynamic changes of top plate of bridge(horizontal movement, load change and expansion) and support vertical load of top plate.
2. Bearing pad shall secure sufficient durability for long-term dynamic change and minimize shape change for long-term use.
3. Bearing pad shall secure outstanding durability against ozone, UV ray, heat and basic because it is exposed for a long time.
4. The characteristic of rubber decides durability and lifespan of bearing pad so it shall be manufactured on the basis of abundant experience in the process from prime material selection to mixture and vulcanization. It is important to possess the testing machine with precise function and perform continual quality control for verification.

## Type of bearing pad

1. **Bearing pad for supporting bridge** : KS product (KS F 4420)
2. **Lead rubber bearing pad (LRB)** : Lead core is inserted in the center of bearing pad. It secures stability against movement by absorbing large horizontal energy with the natural yield to long-term load.

## Classification by function

1. **Fixed side restraints bearing**
2. **One-way**
  - TF : Transversely fixed side restraints bearing
  - LF : Longitudinally fixed side restraints bearing
3. **FR** : Free sliding in all direction bearing





## Spillway Gate (Improved Rubber Dam)

### Spillway Gate (Improved Rubber Dam) Steel Panel With Inflatable Rubber Dam

The improved Rubber dam is a kind of fluid expansion movable dam which air or water is put in an airbag to facilitate standing and over-turning. It was developed to make up for the problems of the existing rubber dam such as the safety from flowing materials, water-level control.

Certain unit airbags are fixed on basic structures all over the section in the river. It is possible to maintain the desired water level because the airbags support the whole iron panel. It is possible to control water levels freely through the supply and discharge of air in an airbag. As an angle sensor is installed on a panel, it is possible to maintain the desired water level automatically or manually.

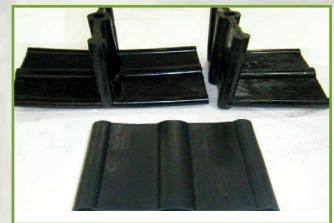


## I Hydrogel Rubber Water Stop

It is applied to the connection parts of various areas such as subway, water & sewage and harbor. It is the product to prevent crack and leakage caused by differential settlement. The first water stop is performed through the elasticity of rubber. Because it is made with special modified rubber, when it contacts water, it is expanded up to the size of 8 times, filling space completely and performing perfect water stop.

### ▶ Characteristic

- ① It has superior elasticity. Because special modified rubber is used as a main material, compression and recovery from transformation are good.
- ② It displays superior water stop function from low temperature to high temperature. Because of hydrophilic property of special modified rubber, when it contacts water, it is expanded up to the size of 3~8 times.
- ③ Its construction is convenient and it displays the best effect in water stop function against water leakage and water infiltration. When it contacts water, it is not expanded. The bound side has expansion power and it is expanded after it is released so that water tightness is improved and structure is not damaged.
- ④ It has superior durability, water resistance and chemical resistance and it is not affected by water quality. It maintains same water expansion when it contacts electrolytic solution such as sea water, cement and water.
- ⑤ It can be conveniently applied to subway structure, retaining wall, floor, joint, pipe slab, H section steel, expansion joint, tunnel connecting area, secondary concrete product and water stop segment where water leakage is active.



## I P.T.F.E Sliding Pad

- It has superior non-viscosity, frictional coefficient, electric property, heat resistance, chemical resistance and weather resistance. Without long-term repair and maintenance, it can be used stably for a long time.
- Large-sized pipe, boiler, tank, expressway pier, railroad pier, MSS for bridge manufacture, ship load out, ship pipe.
- Customized spec can be manufactured.







# Industrial Products

- ◉ Rubber Lining
- ◉ Rubber shovel blade for snow removal
- ◉ Flexible Joint
- ◉ Rubber Chute

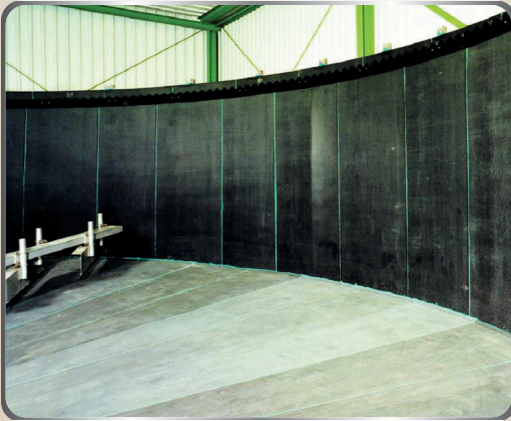
# Material Selection Guide

30~31

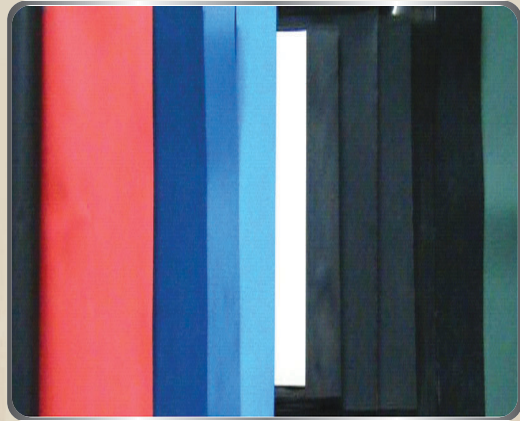


# DONG IL R&C Industrial products

## Main Products



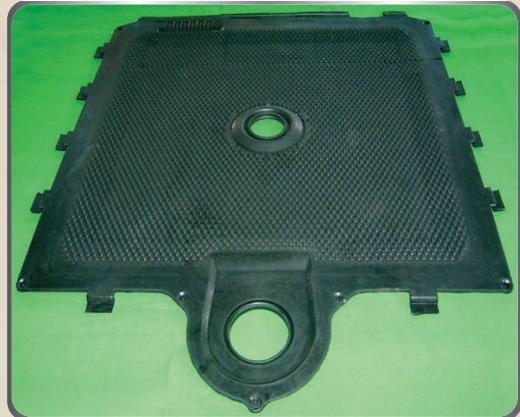
Rubber Lining



Rubber Sheet



Ceramic Rubber Chute



Diaphragm



Tube Packing



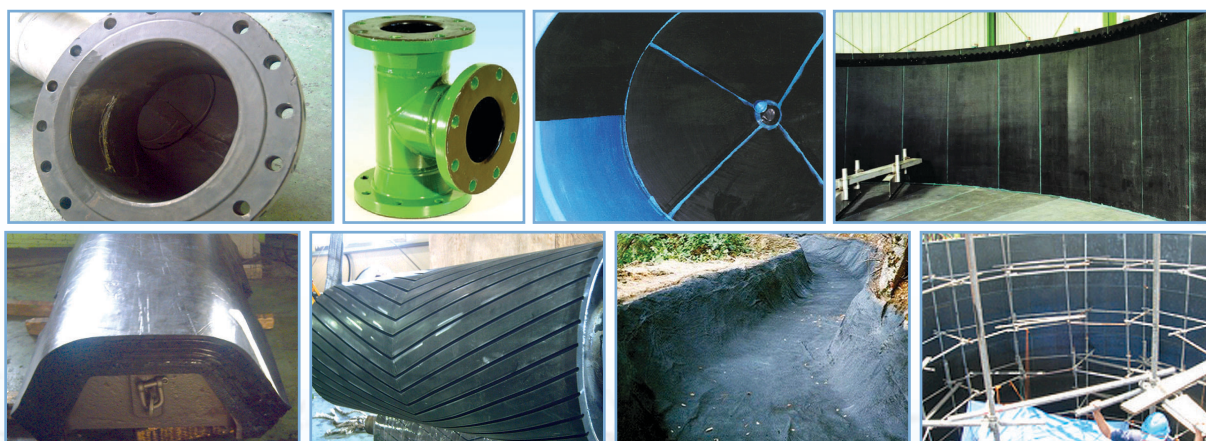
Rubber Parts



## Rubber Lining

It is the treatment to coat metal with rubber and protect high-cost facility from corrosion. Generally, coating thickness is 3~5mm but sometimes, more than 10mm is used depending on condition.

**Purpose :** It is used to protect facilities such as ready mixed concrete, concrete hopper, aggregate storage and measuring bin from abrasion. It is used to protect storage tank facility containing fresh water, sea water and chemical agent.



### Characteristic of rubber lining

- ⦿ Superior chemical resistance
- ⦿ Outstanding adhesive strength
- ⦿ Economic anti-corrosion treatment
- ⦿ Reliable construction
- ⦿ Convenient partial repair during use

### Rubber Liner

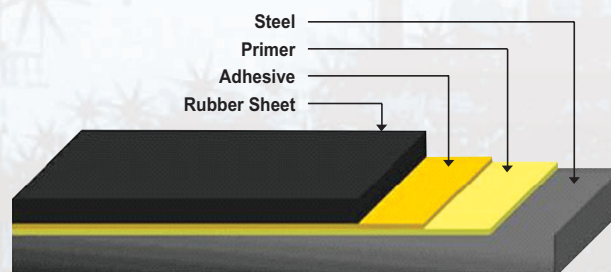
- 1) It is manufactured with special rubber, which has superior abrasion resistance, high tensile strength and superior tearing resistance, so its durability is superior.
- 2) External heteromorphy of liner is superior so it is not clogged by treated material and it is easy to clean the inside.
- 3) Price is lower than metal liner, partial repair is convenient and it is economic.

### Ceramic Liner

Ceramic has superior abrasion resistance so it is used to the area where abrasion occurs seriously such as the top of aggregate hopper or concrete hopper. Because of the dual structure of ceramic and rubber, it has the superior abrasion resistance performance of ceramic and impact absorbing performance of rubber. Therefore, its life span is 10 times of existing metal liner.

### Rubber type applied to lining

Item	Characteristic	Using temperature condition(°C)
Hard rubber(NRH, SBR, NBR)	Strong adhesive force, chemical resistance, heat resistance	<+100
Natural soft rubber(NRS)	Abrasion resistance, chemical resistance	-30 ~ +80
Butyl(IIR)	Chemical resistance, heat resistance, abrasion resistance	-20 ~ +100
Chlorosulphonated polyethylene(CSM)	Chemical resistance, heat resistance, abrasion resistance	-5 ~ +120
Ethylene propylene(EPDM)	Chemical resistance, heat resistance, abrasion resistance	-20 ~ +100
Chloroprene(CR)	Chemical resistance, abrasion resistance	-20 ~ +100



# Rubber SnowPlow Cutting Edge

## Fast, Clean, Quiet Snow Removal

**Abrasion Resistant Rubber Snow Plow Blades** rubber snow plow blades are made of tough, resilient recycled rubber that outlast steel blades.

rubber snowplow edges need fewer replacements than steel edges, fewer man hours&less down time means lower costs. Rubber edges also absorb damaging shock that would be transmitted to the plow, truck, and driver with a steel edge.



It prevented abnormal one-sided wear and bending effect by inserting special shaped synthetic rubber and nylon reinforced fabric. Also, it reduced frictional force with the surface and maximized physical characteristic supporting effective snow removing work.

Physical Characteristic		Product Standards	
Abrasion Loss	lower than 100mg	130W+2438L+21T	150W+591L+15T
Low Brittle Temperature	-50	130W+2745+21T	162W+579L+26T
Strength of Reinforced Fabric	17kN/m	150W+1040L+40T	156W+775L+15T
Hardness	75±5	150W+988L+45T	156W+596L+15T
Tearing Strength	more than 50kg/cm	150W+579L+25T	200W+800L+50T
Tensile Strength	more than 15MPa	150W+579L+26T	200W+1100L+40T
Rate of advance	more than 300%	156W+550L+15T	215W+800L+50T
Rebound Resilience	32±15%	150W+770L+15T	226W+988L+40T
		155W+261L+15T	226W+792L+40T

Bolt wholes for products or installation other than product standards are manufactureds requested by person who orders.



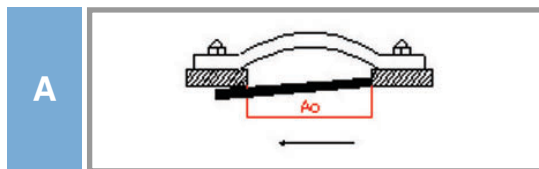
## Rubber Flexible Joint

It is the treatment to coat metal with rubber and protect high-cost facility from corrosion. Generally, coating thickness is 3~5mm but sometimes, more than 10mm is used depending on condition.

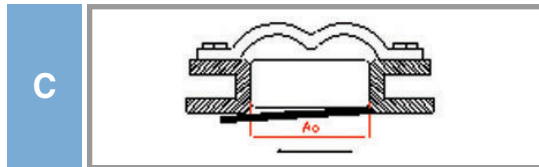
- ④ **Application type** : circle, ellipse, square
  - Product selection depending on using condition decides lifespan.
- ④ **Purpose** : Intake & discharge pipe, dust collector, boiler, gas turbine, etc.
- ④ **Using place** : Fire plant, nuclear power plant, iron works, industrial waste disposal plant, sewage disposal plant, cement plant, chemical plant, etc.



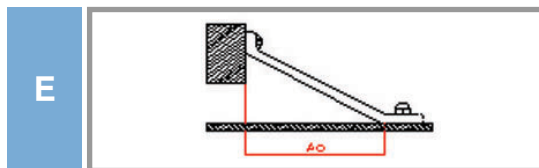
### Type of flexible joint



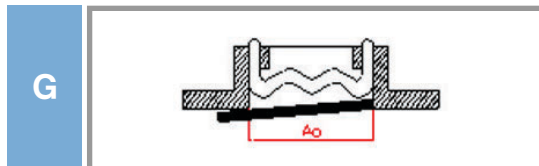
**Application temperature** :  $-60^{\circ}\text{C} \sim 200^{\circ}\text{C}$   
**Absorbed amount of expansion** : Axial compression -30%, Side 10%



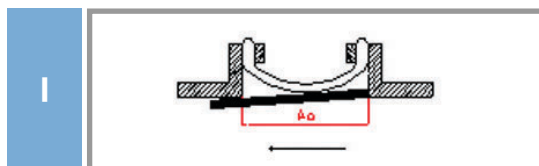
**Application temperature** :  $-60^{\circ}\text{C} \sim 200^{\circ}\text{C}$   
**Absorbed amount of expansion** : Axial compression -30%, Side 15%



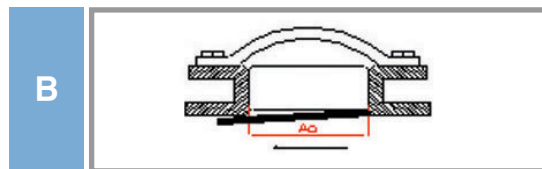
**Application temperature** :  $-60^{\circ}\text{C} \sim 200^{\circ}\text{C}$   
**Absorbed amount of expansion** : Axial compression -20%, Side 10%



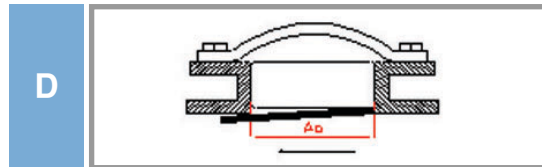
**Application temperature** :  $-60^{\circ}\text{C} \sim 350^{\circ}\text{C}$   
**Absorbed amount of expansion** : Axial compression -50%, Side 15%



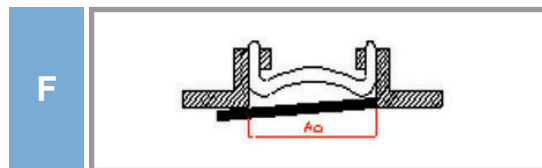
**Application temperature** :  $-60^{\circ}\text{C} \sim 350^{\circ}\text{C}$   
**Absorbed amount of expansion** : Axial compression -50%, Side 20%



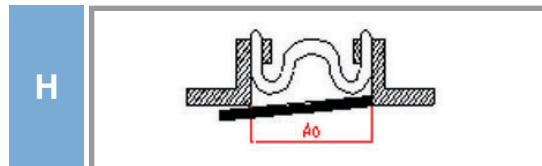
**Application temperature** :  $-60^{\circ}\text{C} \sim 600^{\circ}\text{C}$   
**Absorbed amount of expansion** : Axial compression -30%, Side 10%



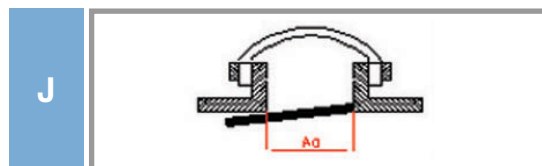
**Application temperature** :  $-60^{\circ}\text{C} \sim 600^{\circ}\text{C}$   
**Absorbed amount of expansion** : Axial compression -20%, Side 20%



**Application temperature** :  $-60^{\circ}\text{C} \sim 200^{\circ}\text{C}$   
**Absorbed amount of expansion** : Axial compression -30%, Side 10%



**Application temperature** :  $-60^{\circ}\text{C} \sim 350^{\circ}\text{C}$   
**Absorbed amount of expansion** : Axial compression -50%, Side 20%



**Application temperature** :  $-60^{\circ}\text{C} \sim 400^{\circ}\text{C}$   
**Absorbed amount of expansion** : Axial compression -30%, Side 20%

## Rubber Chute

### Ceramic Rubber Chute

#### Product spec

Item	Diameter	Length
SMC-600S	600	800
SMC-600L	600	1000

\* 500 ¢, low slump type. Length is changeable.

#### ▶ Lifespan

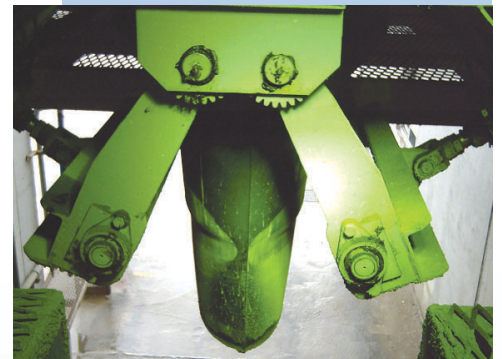
Work amount : 80,000 ~ 130,000mm<sup>3</sup>

#### ▶ Purpose

It is attached to the cement mixer exit of remicon factory

#### ▶ Characteristic

- ① Ceramic of breakaway prevention structure and rubber of abrasion resistance and special reinforcement cloth are applied to cylinder operation unit. It can stand against friction of remicon and lifespan is long.
- ② It is manufactured as the special structure that can relieve the stress focused on the suite folding part. Tearing of folding part is prevented and its structure allows perfect adhesion so loss of remicon is prevented.
- ③ Its quality can't be compared to that of any domestic product. Product is delivered by 1 day after order is made throughout the country.  
Average lifespan: 80,000 ~ 100,000m<sup>3</sup>.



### Ultra Abrasion Resistance Liner

#### Rubber liner

#### ▶ Characteristic

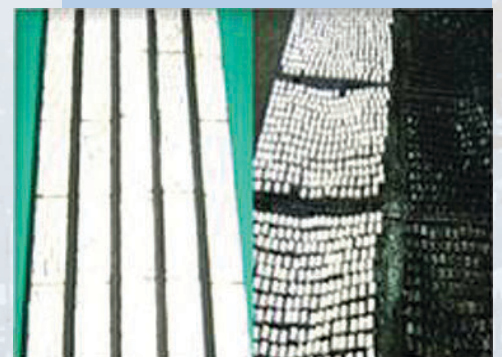
- ① It is manufactured with special rubber, which has superior abrasion resistance, high tensile strength and superior tearing resistance, so its durability is superior. External heteromorphy of liner is superior so it is not clogged by treated material and it is easy to clean the inside.
- ② Price is lower than metal liner, partial repair is convenient and it is economic.

#### ▶ Purpose

Remicon, concrete hopper, aggregate storage and measuring bin, various hoppers that are very abrasive, etc.

#### Ceramic liner

Ceramic has superior abrasion resistance so it is used for the area where abrasion occurs seriously such as the top of aggregate hopper or concrete hopper. Because of the dual structure of ceramic and rubber, it has superior abrasion resistance performance of ceramic and impact absorbing performance of rubber. Therefore, its life span is 10 times of existing metal liner.





## Speciality Rubber Sheet

### Abrasion Resistant RUBBER SHEET

#### Standard Size

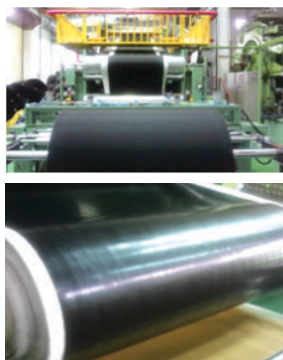
1~50mm thickness × 910~1400mm width

#### Features

- Excellent in anti-abrasion and mechanic properties
- Available in condition of 30℃ below zero ~ 80℃ above zero

#### Application

This product is used in shot machine, sand blast, anti-abrasive packing, liner etc. where anti-abrasion is needed.



#### Standard Size

width(mm)	thickness(mm)	length(M)
910	1.6	20
910	2.4	15
910	3.2	15
910	4.8	10
910	6.4	10
910	9.6	10
1200	1.6	20
1200	2.4	15
1200	3.2	15
1200	4.8	10

Production to order is available for sizes besides above standard sizes.

### Ultra anti-abrasive rubber sheet

As this is produced with special rubber which is excellent in anti-abrasion, high tensile strength, tear resistant strength, lifespan is very long and this has excellent releasing property so that treated material is not easily attached on it.

### Oil Resistant(NBR) RUBBER SHEET

#### Standard Size

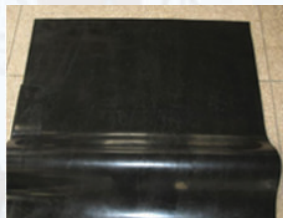
1~50mm thickness × 910~1400mm width

#### Features

This is excellent oil resistant, aging resistant in oils like machine oil, diesel oil, lubricating oil, and gasoline. And this is available in condition of 30℃ below zero~ 80℃ above zero.

#### Application

This is used as oil resistant SEAL and Washer. This is also used as material for worktable that requires oil resistant and used to block oil in workplace for manufacture of car, ship, machinery etc.



#### Standard Size

width(mm)	thickness(mm)	length(M)
910	1.6	20
910	2.4	15
910	3.2	15
910	4.8	10
910	6.4	10
910	9.6	10
1200	1.6	20
1200	2.4	15
1200	3.2	15
1200	4.8	10

Production to order is available for sizes besides above standard sizes.

### E.P.D.M RUBBER SHEET

#### Standard Size

1~50mm thickness × 910~1400mm width

#### Features

This is available in condition of 30℃ below zero~ 100℃ above zero. This is oil resistant, weather resistant, chemical resistant, durable.

#### Application

This is strong against chemical material and oil. This is proper for table cover, flooring, building, bridge, project requiring anti-proof, rubber washer, sealing etc. This is available in any place with UV rays, bad weather etc.

#### Standard Size

width(mm)	thickness(mm)	length(M)
910	1.6	20
910	2.4	15
910	3.2	15
910	4.8	10
910	6.4	10
910	9.6	10
1200	1.6	20
1200	2.4	15
1200	3.2	15
1200	4.8	10

Production to order is available for sizes besides above standard sizes.

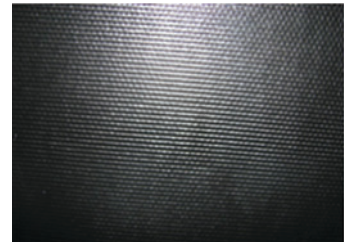
### EPDM RUBBER SHEET FOR WATER-PROOFING

In the civil engineering and construction, demand for EPDM rubber sheet is on the rise. Application is various like in construction structure, civil engineering structure, other concrete structure etc. Especially, this has unique embossed pattern so that releasing agent is not needed. Therefore, adhesion between sheets is easy and this can be used rubber sheet preventing sliding.



## FABRIC INSERTED RUBBER SHEET

- ▶ **Standard Size** 1~50mm thickness × 910~1400mm width
- ▶ **Features** This can be used in environment with normal pressure and temperature. This has high strength and low stress
- ▶ **Application** This has low deformation(elongation) and is effective in preventing tearing of RUBBER. Inserted fabric is NYLON or cotton so that this is widely used as curtain to block chip scrap, packing etc.



## STATIC ELECTRICITY-RESISTANT RUBBER SHEET

- ▶ **Standard Size** 1~50mm thickness × 910~1400mm width
- ▶ **Features** This is anti-static, or film of nonconductor is formed so that electricity does not pass, which can prevent damage by static.
- ▶ **Application** This can be used in manufacture, assembling, dyeing et. of electronic products. And this is also used as decorating material of floor on which machines are processed.



### ANTI-STATIC RUBBER SHEET

This is essential product for safe workplace. This discharges static occurred from nonconductor during work and always makes keep potential difference between human body and anti-static MAT at OV. This is widely used in Clean Room, factory of computer and electrical, electronic products, IC, semi-conductor, faactory of precision optical instrument, place where flammable material is treated in hospital, factory of explosive, place where flammable gas is treated etc.



## RUBBER COATED FABRICS

- This can be used in environment with normal pressure and temperature. This has high strength and low stress.

### Ceramic liner

- Ceramic is very anti-abrasive so that this is used in upper part of aggregate hopper or concrete hopper etc. where severe wear occurs. This is composed of ceramic and rubber, which can bring excellent anti-abrasive and shock absorptive performance. This has lifetime 10 times longer than existing steel plate liner.



### WALL Sheet

- This is installed on the wall in play ground, parking lot etc. as rubber cushion to protect athlete and prevent damage on car. This has various shapes, colors, excellent absorption of shock, easiness in construction and repair, and excellent durability. This also has beautiful appearance so that this is widely used for interior.



### Silicone rubber sheet

- This is high heat resistant rubber usable to 350 centigrade with strong bond energy of Si and O,
- range of use temperature -70~350℃ ● excellent in anti-weather and anti-ozone
- This is used in various fields requiring heat resistant, cold resistant, electricity insulation etc.



### Viton(fluorine) rubber sheet

- Because of C-F bond which is inactive bond structure, this is excellent in heat resistant, flame resistant, and chemical resistant. ● range of use temperature -70~450℃
  - good anti-weather, anti-ozone, anti-oxygen, anti-sun light, anti-gas permeability.
  - Compression set(permanent reduction rate) is low and its anti-aging is excellent.
  - Compared to silicone rubber, this has excellent resistance against oil, fuel, solvent etc. This also has strong resistance against aromatic hydrocarbon and alcohol etc.
- This is widely used in a place that especially requires heat resistant and oil resistant, for example, sealing for fuel system of motorcycle.



### Hovercraft seal

- This is used to produce segment of hovercraft. So this is water proof, airtightness, anti-chemical, anti-abrasive, anti-weather to raise vessel and to move avoiding obstacle.
- This can be used for raincoat, medical goods, fishing tools, bag, boat, diving suit · container etc.





## I Material Selection Guide

각종고무의 물성비교 A : 우수, B : 양호, C : 가, D : 불가

classification	kind of rubber	standard properties			common temperature	
		tensile strength	elongation	hardness		
ultra abrasion resistant	NR, SBR	Min. 150	Min. 350	65±5	-40~75	
abrasion resistant	NR, SBR	Min. 100	Min. 350	75±5		
semi-abrasion resistant	NR, SBR	Min. 50	Min. 250	70±5		
oil resistant	NBR	Min. 100	Min. 350	60±5	-30~120	
CR	CR	Min. 70	Min. 350	60±5	-35~120	
EPDM	EPDM	Min. 76.5	Min. 450	60±5	-50~180	
raw rubber sheet	NR, SBR	Min. 175	Min. 700	40±5	-35~90	
general rubber sheet	NR, SBR	Min. 40	Min. 200	65±5	-30~80	
cloth inserted rubber sheet	NR, SBR	Min. 40	Max. 50	60±5	-20~80	
	CR	Min. 50	Max. 50	60±5	-20~90	
electrical conductive rubber sheet		Min. 100	Min. 350	70±5	-60~200	
Silicone rubber sheet		Min. 45	Max. 150	60±5		
fluoric rubber sheet	Fluoro Elastomers (FKM/FPM) (Viton)	Min. 100	Min. 200	60±5	-25~220	

	characteristic	use
	excellent abrasion resistant and mechanical nature	shot machine sheet, sand blast sheet, abrasion resistant packing
	semi-heat resistant, oil resistant	oil resistant packing, place that needs oil resistant and heat resistant
	ozone resistant, weather resistant, fire resistant, seawater resistant	various packings
	steam resistant, heat resistant, chemical resistant, cold resistant	packing for chemical materials etc., for waterproof
	low hardness, high elasticity	floor sheet, packing, band
	low price	general uses such as floor sheet, various packing etc.
	abrasion resistant, small transformation	curtain to prevent chip fragment in lathe work etc., cloth for raincoat/ bag/shoes etc.
	electrical feature, prevention of static electricity	shelf or floor sheet for electric parts, for removal of static electricity
	surface resistance (top layer) : $107 \sim 109 \Omega/\text{cm}^2$ / surface resistance (bottom layer) : $103 \sim 105 \Omega/\text{cm}^2$	
	most excellent in chemical resistant, heat resistant, oil resistant among all the kinds of rubber • REFLO Powder is applied to the sheet • product with low price to replace existing expensive Viton sheet	– packing for automobile engine, fuel related parts – corrosion resistant packing, diaphragm etc. in chemical factory



# DONG IL R&C's Products ● ● ●



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