



**ENVIRONMENTAL GASKET  
COMPANY LIMITED**

## Gasket Catalogue



*"Creating a Safer, Cleaner and More Reliable Manufacturing Environment"*



*Administration Headquarters*



*50,000m<sup>2</sup> Manufacturing Plant and Logistics Center*



**ENVIRONMENTAL GASKET COMPANY LIMITED**

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An Export Affiliate of AEG Industrial Group of Companies, Limited



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API Spec. 9A-1009

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**EGC**

G823-201100V1.0E

**EGC**

ISO 9001, ISO 14001 & GB/T28001 Certified



### ● Non Metallic Gasket Sheets

Compressed Fiber Gasket Sheets



PTFE & Reinforced PTFE Gasket Sheets



Graphite & Reinforced Graphite Gasket Sheets



Cur Gaskets



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### ● Metal & Semi Metallic Gaskets

Ring Joint Gaskets



Kamprofile Gaskets



Traditional V Type Spiral Wound Gaskets



3X & 5U Patented & Improved Spiral Wound Gaskets







Environmental Gasket Company Limited is an established manufacturer specializing in static sealing technologies. Our aim is to provide a full range of solutions for our customers' static sealing requirements, along with being a strategic partner for their static sealing needs. Through continuous efforts, we have become a leading company in static sealing technologies in the Chinese market.

With our industry leading manufacturing and technical capabilities, our Nanjing headquarters and factories use state-of-the-art international manufacturing equipment and automated processes. We utilize proven methods in process control to ensure each product and manufacturing process are controlled under a strict standardized quality system and tested in our advanced sealing test centre. Through this, we provide the most advanced product quality, lead time and services in the Chinese sealing industry.



*Clean, Safe and Reliable Workshop*

## Our Mission

*"Create a Safer, Cleaner and More Reliable Manufacturing Environment"*



ISO 9001, ISO 14001 & GB/T28001 Certified

03



## Our Quality Commitment



ISO 9001, ISO 14001 and GB/T 28001 Certified



Germanischer Lloyd Approval



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Production management and Quality Control are key features in any company producing high quality products and providing outstanding service. We utilize world-class modern production management and quality control, while continuing to import the most advanced equipment. With superior technology and innovative management, the company has grown into one of the largest static sealing manufacturers in China.

Environmental Gasket Company is one of the few companies in the local gasket industry which has an integrated test laboratory center for sealing devices. More than 60 percent of its equipment is imported or self-developed. In our static sealing test center, there is a full range of testing instruments including:

- German pressure testing equipment, for compressive strength testing of gasket material
- pressure test pumps, mainly for testing a gasket's hydraulic pressure limits
- universal test machine, for testing tensility,
- compression and bending performance machines,
- non-metallic gasket compression testing machine, for testing rebound performance of non-metallic gaskets, among others.

All of the testing methods meet relevant international standards and GB standards. Test data can be processed by computer automatically including data collection, report generation and printing, all at an international standard.

## Sealing & Testing Facilities



*World-class Testing Equipment & Processes*



ISO 9001, ISO 14001 & GB/T28001 Certified

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**We are the most established gasket manufacturer in the Chinese market, and now going international.**

Environmental Gasket Company has established a comprehensive client base with more than 3000 large and medium-sized industrial enterprises, including Steel, Textile, Petrochemical, Nonferrous Metal, Machinery, Pulp and Paper, Power, Mining and other Industries and has cemented cooperative ties with many research institutes.

### Our Clients in China



General Engineering > **478 Clients**



Chemical > **266 Clients**



Petrochemical > **112 Clients**



Steel > **162 Clients**



Power > **324 Clients**



### Our Clients in China



Mining > **108 Clients**



Pulp & Paper > **61 Clients**



Pump & Valve > **137 Clients**



Shipbuilding > **47 Clients**



Automotive > **68 Clients**



Aluminium > **40 Clients**



Food & Pharmaceutical > **101 Clients**







# Non Metallic Gasket Sheets



Compressed Fiber Gasket Sheets

PTFE Gasket Sheets

Graphite Gasket Sheets

Cut Gaskets



Fully Automatic Compressed Fiber Sheet Manufacturing Line



Hydraulic Control for High Pressure



High Precision Calendar



Digital Control Panel



## Sheet Gaskets

### ● Compressed Fiber Gasket Sheets

#### • ENVIRONMENTAL 300G Aramid Fiber Sheets



ENVIRONMENTAL 300G is produced using an advanced thermal rolling technology, consisting of aramid fibers and special binders, which makes for a high quality universal material in general gasket applications.

#### Technical Data

Description	Results
Density	1.6-1.9g/cm <sup>3</sup>
Max. Temp	200°C
Max. Continuous Temp.	150°C
Max. Pressure	100bar
Continuous Pressure	40bar
Compressibility	7-17%
Recovery	≥45%
Stress Relaxation Rate	ASTM F-38 25%
Tensile Strength	ASTM F-152 68MPa
Sealability	ASTM F-37 0.06ml/min

Media: mostly designed for oil, lubricant & water

#### Thickness

inch	metric
1/32"	0.8mm
-	1.0mm
1/16"	1.6mm
-	2.0mm
1/8"	3.2mm
-	4.0mm

\* Standard length \* width: 1.5m \* 1.5m , 3.0m \* 1.5m

#### • ENVIRONMENTAL 350G Steamed Aramid Fiber Sheets



ENVIRONMENTAL 350G consists of special steamed aramid fibers and stretch binders. They make excellent gaskets, especially in steam applications.

#### Technical Data

Description	Results
Density	1.6-1.9g/cm <sup>3</sup>
Max. Temp	250°C
Max. Continuous Temp.	200°C
Max. Pressure	100bar
Continuous Pressure	55bar
Compressibility	ASTM F-36 7-17%
Recovery	ASTM F-36 ≥45%
Stress Relaxation Rate	ASTM F-38 15%
Tensile Strength	ASTM F-152 88MPa
Sealability	ASTM F-37 0.05ml/min

Media: mostly designed for steam & water

#### Thickness

inch	metric
1/32"	0.8mm
-	1.0mm
1/16"	1.6mm
-	2.0mm
1/8"	3.2mm
-	4.0mm

\* Standard length \* width: 1.5m \* 1.5m , 3.0m \* 1.5m





## PTFE Gasket Sheets

Polytetrafluoroethylene (PTFE), a fluoropolymer with exceptional chemical resistance and is the most widely used plastic in the sealing industry. The only known chemical products to attack PTFE are liquid alkaline metals and free fluorine. It has a fairly good temperature range from cryogenic to plus 260°C, excellent electrical insulation properties, anti-stick, impact resistance and low coefficient of friction.

PTFE gasket sheeting products are manufactured by mixing pure PTFE powder with other fillers then sintering or extruding the gasket product. Virgin or pure PTFE sheets with no fillers are rarely used for gasket sheet materials as they tend to creep or cold flow under pressure. Creep which is defined as a loss of tightness, measurable by torque loss when the gasket is compressed, causes the gasket to change shape and cold flow resulting in a loss of bolt load, a loss of gasket compression and eventually a leak.

Because of this problem with pure PTFE gasket material, it is generally accepted that a filled PTFE gasket material will have superior performance. Glass is the most common filler used in PTFE sealing materials with others being carbon, graphite, bronze, etc. These fillers give the PTFE extra structural strength and creep resistance.

Environmental Gasket Company have a number of reinforced or filled PTFE gasket sheeting products that are suitable for various applications and can be provided in sheet or cut gasket formats.

### Features & Benefits

- Chemical resistant PH 0 - 14
- Temperature range -240°C to 260°C
- High residual stress
- Environmentally friendly
- Non ageing & UV resistant
- Non flammable & Vacuum resistant



Please consult with your Environmental Gasket Company representative for full details on our PTFE gasket styles, materials, sizes and specifications.



### ● PTFE Sheets

- ENVIRONMENTAL 36 Virgin PTFE Sheets



### Features & Benefits

- Excellent corrosion resistance
- Widely used in most applications
- Ideal choice for replacing asbestos material

### Technical Data

Description	Results
Temp. Range	-200--260°C
Max. Continuous Pressure	1.03MPa
Density	2.2g/cm <sup>3</sup> ± 0.1
Tensile Strength	15-18MPa
Compressibility	> 15%
Recovery	> 35%

### Thickness

Inch	metric
-	1.0mm
1/16"	1.6mm
*	2.0mm
1/8"	3.2mm

\* Other available thickness: 2.5mm, 3.5mm, 4.0mm, 4.5mm, 5.0mm, 6.0mm  
Standard length \* width: 1.0m \* 1.0m, 1.5m \* 1.5m

### ● Reinforced PTFE Sheets

- ENVIRONMENTAL 126 Glass Fiber Reinforced PTFE Sheets



ENVIRONMENTAL 126, PTFE reinforced with glass fiber.

### Features & Benefits

- Avoids creep relaxation and emission
- Improved chemical resistance
- Improved hardness
- Excellent deformation resistance

### Technical Data

Description	Results
Temp. Range	-200--260°C
Max. Continuous Pressure	4.0MPa
Density	2.1-2.3g/cm <sup>3</sup>
Tensile Strength	ASTM D92-00 ASTM D1708-06 > 20MPa
Compressibility	ASTM F36-99 > 5.5%
Recovery	ASTM F36-99 > 36%
Stress Relaxation Rate	ASTM F38-00 < 66.5%
Elongation at Break	ASTM D1708-06 210%

### Thickness

Inch	metric
-	1.0mm
1/16"	1.6mm
*	2.0mm
1/8"	3.2mm

\* Other available thickness: .4mm, 5.0mm  
Standard length \* width: 1.0m \* 1.0m, 1.5m \* 1.5m







### • ENVIRONMENTAL 128 Barium Sulfate Reinforced PTFE Sheets



ENVIRONMENTAL 128, PTFE reinforced with barium sulfate

- Features & Benefits**
- Avoids creep relaxation and emission
  - Improved chemical resistance
  - High corrosion & compression resistance

**Technical Data**

Description	Results
Temp. Range	-268-260°C
Max. Continuous Pressure	3.5MPa
Density	2.21 g/cm <sup>3</sup>
Tensile Strength	ASTM D1708-06 >18MPa
Compressibility	ASTM F36-99 7-15%
Recovery	ASTM F36-99 > 45%
Stress Relaxation Rate	ASTM F38-00 < 70%
Elongation at Break	ASTM D1708-06 120%

**Thickness**

inch	metric
-	1.0mm
1/16"	1.6mm
-	2.0mm
1/8"	3.2mm

### • ENVIRONMENTAL 129 Silica Filler Reinforced PTFE Sheets



ENVIRONMENTAL 129, PTFE reinforced with silica filler

- Features & Benefits**
- Avoids creep relaxation and emission
  - Improved chemical resistance
  - High corrosion & compression resistance

**Technical Data**

Description	Results
Temp. Range	-268-260°C
Max. Continuous Pressure	3.5MPa
Density	ASTM D92-00 2.1 - 2.3g/cm <sup>3</sup>
Tensile Strength	ASTM D1708-06 >18MPa
Compressibility	ASTM F36-99 6-15%
Recovery	ASTM F36-99 > 45%
Stress Relaxation Rate	ASTM F38-00 < 70%
Elongation at Break	ASTM D1708-06 155%

**Thickness**

inch	metric
-	1.0mm
1/16"	1.6mm
-	2.0mm
1/8"	3.2mm

\* Environmental Gasket Company can cut gaskets from a wide variety of non-metallic materials other than those mentioned, such as elastomers, calendared fibers etc.  
Please contact us for gaskets in other materials cut to your applications requirements.



### ● Graphite Gasket Sheets

Product Code: ENVIRONMENTAL 38

Graphite sheet is made from naturally occurring graphite flakes, after processing the graphite from its mined ore state to purify and expand it, the flakes are calendared into pure graphite sheets with no binders or fillers. With the lack of binders and fillers there is no significant volume loss in gaskets being used at high temperatures and the gaskets will not harden like compressed fibre gaskets containing elastomer binders.

Graphite's outstanding thermal stability, excellent compressibility and a superior chemical resistance makes it one of the best gasket materials in the sealing industry today, with the only down side being graphite's less handle ability. Due to graphite sheet being a lot more fragile than other gasket materials they must be handled and installed with care.



**Technical Parameters**

Description	Results
Stress Relaxation Rate	ASTM F - 38 < 5%
Compressibility	ASTM F - 36 40%
Recovery	ASTM F - 36 8-17%
Sealability	ASTM F - 37 0.05ml/min
Tensile Strength	ASTM F - 152 > 4MPa
Maximum Temp	Non oxidizing 1600°F (870°C)
Maximum Pressure	Oxidizing 850°F (450°C)
	2000 psi (140 bar)

#### Standard Sizes

Thickness		Sheet Size L x W	
inch	metric	inch	metric
-	1.0mm		
1/16"	1.6mm	39" x 39"	1.0m x 1.0m
-	2.0mm	59" x 59"	1.5m x 1.5m
1/8"	3.2mm		
-	4.0mm		

\* Please consult with Environmental Gasket Company for other non-standard size and specifications.

- Features & Benefits**
- Low permeability to gases and liquids
  - Flexible, soft texture
  - Resistant to most mediums
  - Asbestos free & No health hazard
  - Environmentally compatible
  - Suitable to use at temperature ranges from 250°C to 3000°C
  - No binders, will not age or harden
  - Has long term compressibility and recovery stability
  - No cold or warm flow
  - Excellent resistance to thermal shock
  - Easy to cut and punch





## Reinforced Graphite Sheets

Product Code ENVIRONMENTAL 39

To improve the performance of graphite sheet for handling during cutting and installation metal foil inserts of various types are added. Environmental Gasket Company has a number of reinforcement materials available from perforated or tanged stainless steel to flat pure nickel foil.



Perforated or Tanged Stainless Steel Insert  
Graphite sheet impregnated with perforated stainless steel foil



Flat Stainless Steel Insert  
Graphite sheet impregnated with flat stainless steel foil



Flat Nickel Insert  
Graphite sheet impregnated with flat nickel foil

Item	Reinforced Graphite Sheet Styles					
	39A	39B	39C	39D	39E	39H
Reinforcement Style	Tanged			Flat		Flat
Reinforcement Material	Carbon Steel	304 SS	316L SS	304 SS	316L SS	Nickel

## Standard Sizes

Item	Reinforcement Thickness	Gasket Thickness		Sheet Size L x W	
		inch	metric	inch	metric
ENVIRONMENTAL 39A	0.2mm				
ENVIRONMENTAL 39B	0.1mm	1/16"	1.6mm	39" x 39"	1.0m x 1.0m
ENVIRONMENTAL 39C		*	2.0mm	59" x 59"	1.5m x 1.5m
ENVIRONMENTAL 39D	0.05mm	1/8"	3.2mm		
ENVIRONMENTAL 39E		-	4.0mm		
ENVIRONMENTAL 39H *					

\* Only L x W 1.0m x 1.0m is available.  
Please consult with Environmental Gasket Company for other non-standard size and specifications.

Graphite and Reinforced Graphite is available in both sheet format and pre cut to suit all standard Chinese and International flange standards and non standard sizes or alternatively cut to drawing for the application it is to be used for.







## Cut Gaskets

Environmental Gasket Company, utilizing state-of-the-art numerically controlled gasket cutting equipment, cut gaskets to all Chinese and international flange standards as well as non standard gaskets. Gaskets can be cut from a large variety of gasket sheet and non metal materials.

This gasket cutting technology allows us to cut standard flange gaskets and non standard gaskets to any shape, size or quantity to the highest precision. Working with our customers' CAD drawings sent to us on disk, C.D. or e-mail, gaskets are produced to the exact size requirements for the application. Additionally, gasket cutting can be programmed from drawings, samples or templates, with no need for special tooling.



Fully Automatic Gasket Cutting Machine



Our gasket cutters operate with all major CAD programs, the latest nesting software, combined with image projection equipment to project the shape of the object onto the sheet, enabling the maximum number of gaskets to be produced with minimal material wastage.



## Chemical Compatibility

Chemical	Environmental 129	Environmental 128	Environmental 127	Environmental 350	Environmental 310	Environmental 300	Environmental 39	Environmental 38
Methyl chloride	A	A	A	A	A	A	A	A
Methyl ethyl benzene	A	A	A	A	A	A	A	A
Methylphenol	A	A	A	B	A	A	A	A
Mineral oils 1#	A	A	A	C	A	A	A	A
Mineral oils 3#	A	A	A	B	A	A	A	A
Naphtin	A	A	A	C	A	A	A	A
Nararum sulfurousam	A	A	A	C	A	A	A	A
Nitic acid 20%	A	A	A	A	A	A	A	A
Nitic acid 40%	A	A	A	A	A	A	A	A
Nitic acid 50%	C	C	C	C	A	A	A	A
Nitrobenzene	A	A	C	A	A	A	A	A
Octylene	A	A	C	A	A	A	A	A
Olefin acid	A	A	A	A	A	A	A	A
Oleum	A	A	C	C	A	A	A	A
Organic phosphorus	A	A	B	A	B	A	A	A
Oxalic acid	A	A	C	A	A	A	A	A
Oxygen	A	A	B	A	B	A	A	A
Paraffinic acid	A	A	A	A	A	A	A	A
Paraffin wax	A	A	C	A	A	A	A	A
Paraffin	A	A	C	A	A	A	A	A
Perind carbonate	A	A	B	A	B	A	A	A
Phenols	A	A	B	A	A	A	A	A
Phosphoric acid	A	A	B	A	A	A	A	A
Potassium nitrate	A	A	A	A	A	A	A	A
Potassium acetate	A	A	A	A	A	A	A	A
Potassium chloride	A	A	C	A	A	A	A	A
Potassium chromate	A	A	A	A	A	A	A	A
Potassium cyanide	B	B	A	A	B	B	B	B
Potassium supermergurate	A	A	A	A	A	A	A	A
Potassium ethoxy carbonate	A	A	B	A	A	A	A	A
Propene	A	A	C	A	A	A	A	A
PTFE	A	A	C	A	A	A	A	A
Purified	A	A	B	-	-	A	A	A

Chemical	Environmental 129	Environmental 128	Environmental 127	Environmental 350	Environmental 310	Environmental 300	Environmental 39	Environmental 38
Sea water	A	A	A	A	A	A	A	A
Silicon oil	A	A	A	A	A	A	A	A
Soap Ye	A	A	A	A	A	A	A	A
Sodium aluminate	A	A	A	A	A	A	A	A
Sodium carbonate	A	A	A	A	A	A	A	A
Sodium chloride	A	A	A	A	A	A	A	A
Sodium cyanide	A	A	A	A	A	A	A	A
Sodium cyanide	A	A	A	A	A	A	A	A
Sodium hydroxide	A	A	B	A	A	A	A	A
Sodium silicate	A	A	A	A	A	A	A	A
Sodium sulfide	A	A	A	A	A	A	A	A
Sorchi	A	A	A	A	A	A	A	A
Steam	A	A	A	A	A	A	A	A
Steam condensate	A	A	A	A	A	A	A	A
Sulfuric acid 20%	A	A	C	A	A	A	A	A
Sulfuric acid 50%	A	A	C	A	A	A	A	A
Sulfuric acid	A	A	B	A	A	A	A	A
Sulfur dioxide	A	A	B	A	A	A	A	A
Tannic acid	A	A	A	-	-	A	A	A
Tartronic acid	A	A	A	-	-	A	A	A
Tolueneethyl	A	A	C	A	A	A	A	A
Trastester oil	A	A	B	A	A	A	A	A
Trichloroethylene	A	A	C	A	A	A	A	A
Trichlorobenzene	A	A	C	A	A	A	A	A
Turpeniline	A	A	C	A	A	A	A	A
Urea	A	A	A	-	-	A	A	A
Vanadium	A	A	A	A	A	A	A	A
Vinyl chloride	A	A	C	A	C	A	A	A
Water	A	A	A	A	A	A	A	A
White spirit	A	A	C	A	A	A	A	A
Xylene	A	A	C	-	-	A	A	A

A = Suitable, B = Dependent on Operating Conditions, C = Unsuitable, - = No Data or Insufficient Evidence





## Chemical Compatibility

Chemical	Environmental 38	Environmental 39	Environmental 200	Environmental 110	Environmental 350	Environmental 177	Environmental 128	Environmental 129
Acetic acid (10%)	A	A	A	A	A	A	A	A
Acetic acid (100%)	A	A	B	B	A	A	A	A
Acetic anhydride	A	A	B	A	B	A	A	A
Acetone	A	A	A	A	A	A	A	A
Acetylene	A	A	A	A	A	A	A	A
Acidum benzoicum	A	A	B	B	A	A	A	A
Air	A	A	C	A	C	A	A	A
Aircraft fuel	A	A	C	A	C	A	A	A
Aluminium acetate	A	A	A	A	A	A	A	A
Aluminium chloride	A	A	A	A	A	A	A	A
Aluminium iodide	A	A	A	A	A	A	A	A
Ammonia	A	A	B	A	B	A	A	A
Ammonia carbonate	A	A	A	-	A	A	A	A
Ammonium hydroxide	A	A	A	-	A	A	A	A
Aniline	A	A	B	A	B	A	A	A
Antine	A	A	B	A	B	A	A	A
benzene	A	A	C	A	C	A	A	A
benzothiazylsulfide acid	A	A	A	-	A	A	A	A
benzyl ether	A	A	C	A	C	A	A	A
Bridgman (vacuum gas)	A	A	C	A	C	A	A	A
Bitumen	A	A	A	A	A	A	A	A
Black solvents	A	A	A	A	A	A	A	A
Bleach solvents	A	A	A	A	A	A	A	A
Boiler feed water	A	A	A	A	A	A	A	A
Boric acid	A	A	A	A	A	A	A	A
Bauxite	A	A	A	A	A	A	A	A
Brine	A	A	A	A	A	A	A	A
Bulkier fluid	A	A	C	A	C	A	A	A
Burane	A	A	C	A	C	A	A	A
Butyric acid	A	A	A	A	A	A	A	A
Butyrol	A	A	A	A	A	A	A	A
Calcium chloride	A	A	A	A	A	A	A	A
Calcium hydroxide	A	A	A	A	A	A	A	A
Calcium hypochlorite	A	A	A	A	A	A	A	A
Calcium sulfate	A	A	A	A	A	A	A	A
Carbon disulfide	A	A	C	A	C	A	A	A
Carbon disulfide	A	A	C	A	C	A	A	A
Castor seed oil	A	A	B	A	B	A	A	A
Chlorinated biphenyl	A	A	C	A	C	A	A	A
Chlorine	A	A	C	A	C	A	A	A
Chloroacetic acid	A	A	C	A	C	A	A	A
Chloroethane	A	A	C	A	C	A	A	A
Chlorine gas	A	A	C	A	C	A	A	A

Chemical	Environmental 38	Environmental 39	Environmental 200	Environmental 110	Environmental 350	Environmental 177	Environmental 128	Environmental 129
Copper acetate	A	A	A	A	A	A	A	A
Copper sulfate	A	A	B	A	B	A	A	A
Cresolite	A	A	B	A	B	A	A	A
Crude oil	A	A	B	A	B	A	A	A
Cyclohexanone	A	A	B	A	B	A	A	A
Cyclohexanone	A	A	B	A	B	A	A	A
Cyclohexanone	A	A	B	A	B	A	A	A
Diesel oil	A	A	C	A	C	A	A	A
Dimethylformamide	A	A	C	A	C	A	A	A
Ethane	A	A	A	A	A	A	A	A
Ethandiamines	A	A	B	A	B	A	A	A
Ether	A	A	B	A	B	A	A	A
Ethyl acetate	A	A	B	A	B	A	A	A
Ethyl acrylate	A	A	A	A	A	A	A	A
Ethyl acrylate	A	A	A	A	A	A	A	A
Ethylene glycol	A	A	B	A	B	A	A	A
Ethylene glycol	A	A	B	A	B	A	A	A
Ethylene glycol	A	A	B	A	B	A	A	A
Fatty acid	A	A	A	A	A	A	A	A
Formaldehyde	A	A	A	A	A	A	A	A
Formamide	A	A	B	A	B	A	A	A
Formic acid (10%)	A	A	A	A	A	A	A	A
Formic acid (95%)	A	A	B	A	B	A	A	A
Freon 12	A	A	A	A	A	A	A	A
Freon 22	A	A	A	A	A	A	A	A
Glycerin	A	A	A	A	A	A	A	A
Heptane	A	A	C	A	C	A	A	A
Hydraulic oil	A	A	C	A	C	A	A	A
Hydrobromic acid	A	A	A	-	A	B	B	B
Hydrochloric acid 10%	A	A	C	-	C	A	A	A
Hydrochloric acid 20%	A	A	C	-	C	A	A	A
Hydrochloric acid 37%	A	A	C	-	C	A	A	A
Hydrochloric acid 40%	A	A	C	-	C	A	A	A
Hydrogen chloride	A	A	A	-	A	B	B	B
Hydrogen peroxide	A	A	A	A	A	B	B	B
Isobutane	A	A	A	A	A	A	A	A
Isopropyl alcohol	A	A	C	A	C	A	A	A
Kerosene	A	A	C	A	C	A	A	A
Lactic acid 50%	A	A	A	A	A	A	A	A
Limic water	A	A	A	A	A	A	A	A
Magnesium sulfate	A	A	A	A	A	A	A	A
Malic acid	A	A	A	A	A	A	A	A
Methane	A	A	A	A	A	A	A	A
Methyl alcohol(methanol)	A	A	A	A	A	A	A	A

## Metal & Semi Metallic Gaskets



State-of-the-art Metal Gasket Equipment







## ● Ring Joint Gaskets

Product Code: ENVIRONMENTAL 30

A solid metal gasket that is softer than the mating flange material that is virtually 'crushed' into the flange face, creating a seal by filling imperfections and leak paths with gasket material. Under high sealing stress the gasket deforms but not the flange. They are used predominantly in the petrochemical industry (offshore oil platforms, refineries) due to the high service pressures required in their processes. Ring Joint gaskets are machined to exact specifications and tight tolerances and come in a number of styles.



Series R  
Oval

Ring Joint Gasket Styles  
R Oval or octagonal  
RX Self-energizing gasket  
BX Used in API spec 6A flanges



Series R  
Octagonal

Materials  
Common materials used for the manufacture of ring joint gaskets:



Series BX

- Soft Iron
- Low Carbon Steel
- Stainless Steel
- Monel®



Series BX

- Inconel®
- Incoloy®
- Hastelloy®

### Hardness of Materials

On compression of the flange assembly, it is imperative that the ring joint gasket be significantly softer than the flange groove so that the gasket plastically deforms and not the groove. The use of harder ring joint gaskets can result in flange groove damage.

For this reason, ring joint gaskets are supplied with the following maximum hardness values:

Material	HB Max.	HRB Max.
Soft Iron	90	56
Low Carbon Steel	120	68
SCr1/2Mo	130	72
304 SS	160	83
316 SS	160	83
347 SS	160	83
410 SS	170	86

### Ordering Information

When ordering ring joint gaskets please specify the following:

- Gasket style and number
- Material
- Nominal pipe size and pressure rating or specific gasket dimensions if other than standard



Manufactured to  
API Spec. 6A 2008



## ● Spiral Wound Gaskets

Spiral wound gaskets are made by alternating a formed metal strip and a soft filler material which forms a gasket that produces a very effective seal when compressed between two flanges. The windings of the metal strip acts as a spring, giving the gaskets greater resiliency under varying conditions.

The metal strip and filler materials of spiral wound gaskets can be changed, accommodating different chemical compatibility requirements and fire safety is assured with selecting flexible graphite as the filler material.

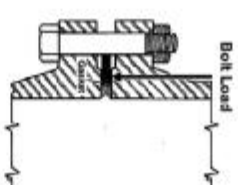


Spiral wound gaskets may include a centering ring, an inner ring, or both. Spiral wound gaskets' outer centering ring ensures the gasket is centered within the flange and acts as a compression limiter. Spiral wound gasket inner rings provide additional radial strength, also reducing flange erosion while protecting the sealing element. The strength and resiliency of spiral wound gaskets make them the ideal choice in a variety of conditions and applications, and are used widely throughout refineries and chemical processing plants, also being very effective for power generation, pulp and paper, aerospace, and a variety of valve and specialty applications.

Spiral wound gaskets are manufactured to a number of specifications the most notably being ASME B16.20, Environmental Gasket Company manufactures in accordance with the guidelines set forth in the ASME B16.20 specifications plus many others to meet industry demands.

### Spiral Wound Gasket Principle

The spiral wound gasket function is based on the metal strip winding/ filler relationship and the flange surfaces. Flange surface roughness should be approximately Ra 3.2 µm. Spiral wound gaskets can be used with flanges having a larger surface roughness, but the bolt loads should be increased to ensure proper function of the gasket. As the gasket is compressed during mounting the soft filler material "flows" into the irregularities of the flange face. The metal winding strip encloses the filler and, at the same time, ensures the strength and elasticity of the gasket. If the gasket has a PTFE filler it must have an inner ring since PTFE permits no further compression. The inner ring prevents the gasket from springing open and penetration of the flowing PTFE into the pipeline. The larger the surface roughness on the flange face, the larger the surface load required to permitting a flow of the PTFE.





### • Traditional V Type Spiral Wound Gaskets

Product Code: ENVIRONMENTAL 35V

#### V-Shaped



#### Features & Benefits

- Uses V-Shaped high quality stainless steel band. Provides reliable performance.
- Uses high quality flexible graphite, which has excellent sealability.

#### Gasket Material

Metal Wound Band: 304SS / 316LSS  
Filler Material: Flexible Graphite / PTFE

✕ Other materials available upon request.

#### Technical Data

Sealability	5.96x10 <sup>4</sup> ml/cm <sup>3</sup> s	
Max. Pressure	20MPa	
Temperature Range	Metal + Flexible Graphite	-250 ~ 870°C
	Metal + PTFE	-200 ~ 260°C
Thickness	3.2/4.5/6.5mm	

#### Reinforced Style

Spiral Wound Only (Style R)	Suitable for tongue and groove, male-female, or groove-to-flat face flanges
Spiral Wound with Inner Ring (Style RIR)	Suitable for male-female face flanges
Spiral Wound with Outer Ring (Style CG)	Suitable for flat face and raised face flanges up to Class 2500 (42MPa)
Spiral Wound with Inner and Outer Ring (Style CGI)	Suitable for flat face and raised face flanges up to Class 2500 (42MPa)

### • EGC & SU Patented & Improved Spiral Wound Gaskets

Product Code: ENVIRONMENTAL 35S / 35SU

#### EGC Shaped



#### Features & Benefits

- The unique SU-Shaped steel band structure helps provide better recovery ability.
- The angle between the steel band and the flange surface is less than 30°, which prevents damage to the flange surface.

- Flexible Graphite sealing material: High strength, superior sealability, excellent chemical resistance.

#### Gasket Material

Metal Wound Band: 304SS / 316LSS  
Filler Material: Flexible Graphite / PTFE

✕ Other materials available upon request.

#### Technical Data

Sealability	1.32x10 <sup>4</sup> ml/cm <sup>3</sup> s	
Max. Pressure	30MPa	
Temperature Range	Metal + Flexible Graphite	-250 ~ 870°C
	Metal + PTFE	-200 ~ 260°C
Thickness	3.2/4.5/6.5mm	

#### Reinforced Style

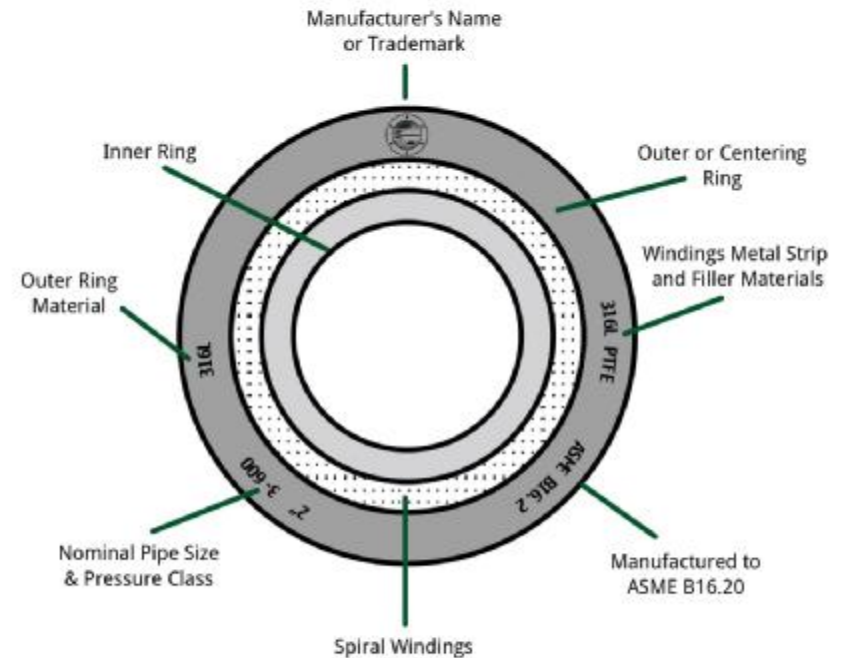
Spiral Wound Only (Style R)	Suitable for tongue and groove, male-female, or groove-to-flat face flanges
Spiral Wound with Inner Ring (Style RIR)	Suitable for male-female face flanges
Spiral Wound with Outer Ring (Style CG)	Suitable for flat face and raised face flanges up to Class 2500 (42MPa)
Spiral Wound with Inner and Outer Ring (Style CGI)	Suitable for flat face and raised face flanges up to Class 2500 (42MPa)

#### SU-Shaped

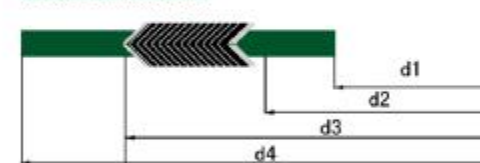


### Spiral Wound Gasket Identification

Identification as Required by ASME B16.20



### Gasket Dimensions







- d1 - Inside Diameter of Inner Ring
- d2 - Inside Diameter of Sealing Element
- d3 - Outside Diameter of Sealing Element
- d4 - Outside Diameter of Outer Ring







## Spiral Wound Gasket Types

 <p><b>Style R</b></p> <p>Basic construction type, inner and outer diameters are reinforced with several plies of metal without filler to give greater stability and better compression and sealing characteristics.</p>	 <p><b>Style RIR</b></p> <p>Style RIR fitted with a solid inner metal ring acting as a compression stop, fills the space between flange bore and ID of the gasket. Prevents accumulation of solids, reduces turbulent flow and minimizes erosion at flange faces.</p>
 <p><b>Style CG</b></p> <p>Style CG fitted with an external ring which accurately centers gasket on the flange face, provides additional radial strength preventing gasket blow-out and acts as a compression stop.</p>	 <p><b>Style CGI</b></p> <p>Style CGI, Similar to a CG gasket but fitted with inter ring giving additional compression limitation and providing a heat and corrosion barrier, protecting windings and preventing flange erosion.</p>

### Ordering Information

When ordering spiral wound gaskets please specify the following:

- Gasket standard
- Gasket style
- Nominal pipe size and pressure rating or specific gasket dimensions if other than standard
- Winding and filler materials
- Outer or centering ring and/or inner ring material
- Thickness of gasket if other than standard

Environmental Gasket Company manufactures spiral wound gaskets in accordance with all relevant international and Chinese gasket standards and non standard gaskets up to 4 meters in diameter to suit but not limited to the following flange designations:

ASME B16.20 ASME B16.47 SERIES B (API 605) ASME B16.47 SERIES A (MSS-SP 44)  
 BS 1560 BS 10 BSEN 1092 (BS 4504) DIN FLANGES JIS FLANGES FRENCH NF STANDARD

\* Please consult with Environmental Gasket Company for all your standard and non standard gasket requirements.



## Spiral Wound Gasket Specifications

### Temperature Range of Common Metals

Material	Minimum	Maximum	Abbreviation	Guide Ring Colour Code per ASME B16.20
304 SS	-195°C	760°C	304	Yellow
304L SS	-195°C	760°C	304L	No Colour
316L SS	-100°C	760°C	316L	Green
317L SS	-100°C	760°C	317L	Maroon
321 SS	-195°C	760°C	321	Turquoise
Carbon Steel	-40°C	540°C	CR5	Silver
INCOLOY® 800	-100°C	870°C	IN 800	White
INCOLOY® 825	-100°C	870°C	IN825	White
INCONEL® 600	-100°C	1,090°C	INC 600	Gold
INCONEL® 625	-100°C	1,090°C	INC 625	Gold
INCONEL® X750	-100°C	1,090°C	INX	No Colour
MONEL® 400	-130°C	820°C	MON	Orange
Nickel 200	-195°C	760°C	NI	Red
Titanium	-195°C	2,000°C	TI	Purple

### Temperature Range of Spiral Windings

Material	Minimum	Maximum	Abbreviation	Guide Ring Colour Code per ASME B16.20
Flexible Graphite	-212°C	510°C	F.G.	Gray
PTFE	-240°C	260°C	PTFE	White

### Thickness

Nominal Thickness	Compressed Thickness
3.2 mm	2.4/2.6 mm
4.5 mm	3.2/3.45 mm
7.3 mm	5.0/5.25 mm

### Standard Tolerances for Windings

Gasket Diameter	ID	OD
≤ 25 mm	+0.4 mm, -0	+0, - 0.8 mm
25 - 610 mm	+0.8 mm, -0	+0, - 0.8 mm
610 - 915 mm	+1.2 mm, -0	+0, - 1.6 mm
915 - 1525 mm	+1.6 mm, -0	+0, - 1.6 mm
1525 mm and above	+2.4 mm, -0	+0, - 2.4 mm





## Kammprofile Gaskets



Environmental Gasket Company's kammprofile gaskets are semi metallic gaskets that can be used for most applications from low to very high pressure. The gaskets consist of a metal core with corrugated grooves and a soft layer of sealing material bonded to either face. The corrugated metal core is a very effective seal in applications where high temperatures, high pressures and fluctuating conditions exist, especially at high seating loads. The sealing layers protect the flange faces from damage and have excellent sealing properties when supported by the corrugated metal core.

The kammprofile gasket was developed as an alternative to both traditional metal jacketed and spiral wound gaskets.

### Serrated Compound Gaskets or Camprofile / Kammprofile

#### Types & Configurations:



ENVIRONMENTAL 33A

#### Base Type

For confined locations, including male and female, tongue and groove, and recessed flange arrangements



ENVIRONMENTAL 33B

#### Integral Centering Ring Type

Ensures optimum gasket positioning, suitable for raised and flat flange arrangements



ENVIRONMENTAL 33C

#### Floating Centering Ring Type

Compensate expansion and contraction during thermal cycling, suitable for raised and flat flange arrangements



ENVIRONMENTAL 33D

#### Convex Root Base Type

Compensates for flange weakness and counteracts flange rotation, suitable for male and female, tongue and groove, and recessed flange arrangements



ENVIRONMENTAL 33E

#### Convex Root Integral Centering Ring Type

Suitable for raised and flat flange arrangements



ENVIRONMENTAL 33F

#### Convex Root Floating Centering Ring Type

Suitable for raised and flat flange arrangements

### Kammprofile Compound Gaskets

Kammprofile compound gaskets consist of a special wave-serrated elastic frame metallic core and with a soft gasket material bonded to each face. The wave-serrated section shape has better compressibility and resilience. The wave corrugated compound gaskets can adapt to extreme fluctuations in temperatures and pressures.

#### Types & Configurations:



ENVIRONMENTAL 34A

#### Base Type

For confined locations, including male and female, tongue and groove, and recessed flange arrangements



ENVIRONMENTAL 34B

#### Integral Centering Ring Type

Ensures optimum gasket positioning, suit for raised and flat flange arrangements

#### Materials

##### Metal Core

304 SS 304L SS 316 SS  
316L SS 321 SS Carbon Steel

##### Seal Face Material

Expanded Graphite PTFE

