

# Gasket Catalogue



# CONTENTS

<b>Company Introduction</b>	03
<b>Our Clients in China</b>	05
<b>Non Metallic Gasket Sheets</b>	07
Compressed Fiber Gasket Sheets	08
PTFE & Reinforced PTFE Gasket Sheets	10
Graphite Gasket Sheets	12
Reinforced Graphite Sheets	13
Cut Gaskets	14
Tape Gaskets	15
Chemical Compatibility	17
<b>Metal &amp; Semi Metallic Gaskets</b>	19
Fishbone™ Gaskets	20
Ring Joint Gaskets	21
Spiral Wound Gaskets	22
Kammprofile Gaskets	26

**● Non Metallic Gasket Sheets**

Compressed Fiber Gasket Sheets



PTFE & Reinforced PTFE Gasket Sheets



Graphite & Reinforced Graphite Gasket Sheets



Tape Gaskets



**● Metal & Semi Metallic Gaskets**

Fishbone™ Gaskets

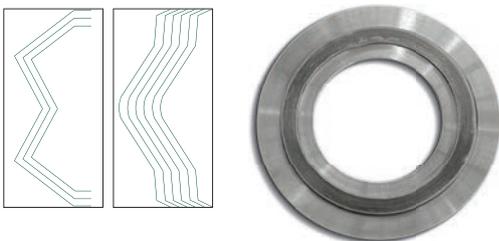


Ring Joint Gaskets



Licensed Under  
API Spec. 6A-1069

⚡ & SU Patented & Improved Spiral Wound Gaskets

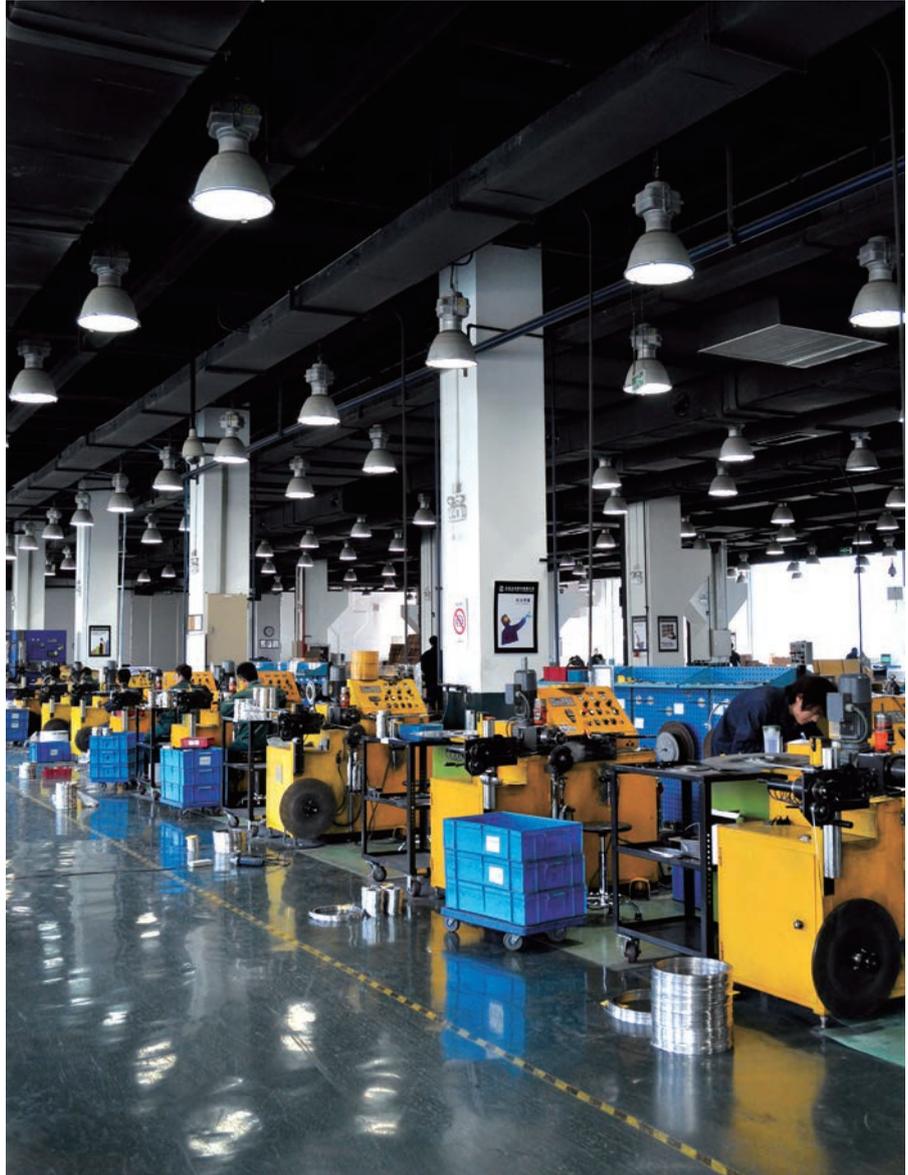


Kammprofile Gaskets



AIGI Environmental Inc. 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*

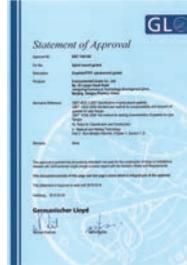
## **Our Mission**

*“Create a Safer, Cleaner and More Reliable Manufacturing Environment”*

## ● Our Quality Commitment



*ISO 9001 & ISO 14001 Certified*



*Germanischer Lloyd Approval*



Licensed Under  
API Spec. 6A-1069

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.

AIGI Environmental Inc. 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 & Procedures*

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

AGI Environmental Inc. 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

Heavy machinery  
Road construction machinery  
Equipment manufacture



#### Chemical

> 266 Clients

Fine chemical  
Daily-use chemical  
- Caustic  
- Sulfuric acid, etc.



#### Petrochemical

> 112 Clients

Ethylene  
Methyl alcohol  
Oil refining  
Coking



#### Steel

> 162 Clients

Cold & hot rolling  
Puddling  
Steelmaking



#### Power

> 324 Clients

Nuclear plant  
Thermal power  
Hydro electric power  
Wind power



**Our Clients in China**



**Mining**  
*> 108 Clients*

Mining machinery  
 Open pit mining  
 Underground mining



**Pulp & Paper**  
*> 61 Clients*

Pulping  
 Paper & pulp engineering



**Pump & Valve**  
*> 137 Clients*

Pump  
 Valve



**Shipbuilding**  
*> 47 Clients*

Ship-repair & maintenance  
 Shipbuilding



**Automotive**  
*> 68 Clients*

Heavy-duty automobile  
 Passenger vehicles



**Aluminium**  
*> 40 Clients*

Electrolytic aluminium  
 Aluminium oxide  
 Aluminium fabrication



**Food & Pharmaceutical**  
*> 101 Clients*

Food  
 Pharmaceutical

# Non Metallic Gasket Sheets



Compressed Fiber  
Gasket Sheets



PTFE Gasket Sheets



Graphite Gasket Sheets



Tape Gaskets



*Fully Automatic Compressed Fiber Sheet Manufacturing Line*



*Hydraulic Control for High Pressure*



*High Precision Calender*



*Digital Control Panel*

# Sheet Gaskets

## ● Compressed Fiber Gasket Sheets

### • AIGI 300G Aramid Fiber Sheets



AIGI 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	ASTM F-36	7~17%
Recovery	ASTM F-36	≥ 45%
Stress Relaxation Rate	ASTM F-38	25%
Tensile Strength	ASTM F-152	6MPa
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  
1.5m × 2.0m , 3.0m × 2.0m

### • AIGI 350G Steamed Aramid Fiber Sheets



AIGI 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	8MPa
Sealability	ASTM F-37	0.06ml/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  
1.5m × 2.0m , 3.0m × 2.0m

## 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.

AIGI Environmental Inc. has 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 aging & UV resistant
- Non flammable & Vacuum resistant



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



## ● PTFE Sheets

### • AIGI 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%

#### Standard Sizes

Thickness		Sheet Size L x W	
inch	metric	inch	metric
1/16"	1.0mm	39" x 39" 59" x 59"	1.0m x 1.0m 1.5m x 1.5m
-	1.5mm		
-	2.0mm		
-	2.5mm		
1/8"	3.0mm		
-	4.0mm		
-	4.5mm		
-	5.0mm		
-	6.0mm		

## ● Reinforced PTFE Sheets

### • AIGI 126 Glass Fiber Reinforced PTFE Sheets



AIGI 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	ASTM D92-00 2.1~2.3g/cm <sup>3</sup>
Tensile Strength	ASTM D1708-06 > 20MPa
Compressibility	ASTM F36-99 >9.5%
Recovery	ASTM F36-99 > 36%
Stress Relaxation Rate	ASTM F38-00 < 66.9%
Elongation at Break	ASTM D1708-06 210%

#### Standard Sizes

Thickness		Sheet Size L x W	
inch	metric	inch	metric
1/16"	1.5mm	39" x 39"	1.0m x 1.0m
-	2.0mm		
1/8"	3.0mm		
1/16"	1.5mm	59" x 59"	1.5m x 1.5m
-	2.0mm		
1/8"	3.0mm		
-	4.0mm		
-	5.0mm		

• **AIGI 128**  
**Barium Sulfate Reinforced PTFE Sheets**



AIGI 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	ASTM D92-00	2.21g/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

• **AIGI 129**  
**Silica Filler Reinforced PTFE Sheets**



AIGI 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

※ AIGI Environmental Inc. 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: AIGI 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 handleability. 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	0.06ml/min
Tensile Strength	ASTM F - 152	> 4MPa
Maximum Temp	Non oxidizing	1600°F (870°C)
	Oxidizing	850°F (450°C)
Maximum Pressure		2000 psi (140 bar)



### Standard Sizes

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

※ Please consult with AIGI Environmental Inc. 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: AIGI 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
AIGI 39A	0.2mm	1/16"	1.6mm	39" x 39" 59" x 59"	1.0m x 1.0m 1.5m x 1.5m
AIGI 39B	0.1mm		-		
AIGI 39C		1/8"	3.2mm		
AIGI 39D	0.05mm	-	4.0mm		
AIGI 39E		-	5.0mm		
AIGI 39H *		-			

\* Only L x W 1.0m x 1.0m is available.  
Please consult with AIGI Environmental Inc. 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**



*Fully Automatic Gasket Cutting Machine*

AIGI Environmental Inc. , 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.



# Tape Gaskets

## ● AIGI I35 Tape Gaskets

### Features & Benefits

- Graphite tape with glue on the rear
- Nickel reinforced graphite
- Excellent sealing performance
- Wide range temperature & outstanding chemical compatibility

### Technical Parameters

Description		Results
PH		0 ~ 14
Maximum Temp	Non oxidizing	650°C
	Oxidizing	450°C
Maximum Pressure		12 Mpa



### Application

Concentrated sulfuric acid , Concentrated nitric acid , Chloroazotic acid , and all medium.

### Standard Sizes

W x H x L (mm x mm x m)		W x H x L (in x in x ft)	
3 x 3 x 60	6 x 3 x 50	1/8 x 1/8 x 197	1/4 x 1/8 x 164
14 x 3 x 30	19 x 3 x 20	9/16 x 1/8 x 98	3/4 x 1/8 x 65
25 x 5 x 15	38 x 5 x 10	1 x 3/16 x 50	1½ x 3/16 x 33

## ● AIGI ePTFE Tape Gaskets

### Features & Benefits

- Strong intensity & excellent creep resistance
- Flexible material achieves excellent sealing performance
- Applied in low temp.
- Forms wide range shapes & economical
- Self-adhesion & easy installation

### Technical Parameters

Description	Results
Temp. Range	-268 ~ 315 °C
PH	0 ~ 14
Maximum Pressure	Vacuum ~ 21 Mpa

Conforms to FDA 21CFR 177.1550

### Application

All medium except molten alkali metal, high temperature fluorine, partial arenes compound.

Applied in all types flanges, manhole, joints, pipeline and other devices.

### Standard Sizes

W x H x L (mm × mm × m)		
1 × 1 × 30	12 × 5 × 5	25 × 10 × 23
3 × 1.5 × 30	16 × 6 × 4.5	30 × 5 × 5
5 × 2 × 23	19 × 7 × 4.5	50 × 5 × 12
6 × 2.5 × 15	20 × 7 × 30	
9 × 3 × 7.5	25 × 10 × 4.5	



## Chemical Compatibility

Chemical	AI GI 38	AI GI 39	AI GI 300	AI GI 350	AI GI 127	AI GI 128	AI GI 129
Acetic acid(10%)	A	A	A	A	A	A	A
Acetic acid(100%)	A	A	B	B	A	A	A
Acetic aldehyde	A	A	B	B	A	A	A
Acetone	A	A	A	A	A	A	A
Acetylene	A	A	A	A	A	A	A
Acidum benzoicum	A	A	B	B	A	A	A
Air	A	A	A	A	A	A	A
Aircraft fuel	A	A	C	C	A	A	A
Aluminium acetate	A	A	A	A	A	A	A
Aluminium chloride	A	A	A	A	A	A	A
Aluminium oxide	A	A	A	A	A	A	A
Ammonia	A	A	B	B	A	A	A
Ammonia carbonate	A	A	A	A	A	A	A
Ammonium hydroxide	A	A	A	A	A	A	A
Amyl acetic	A	A	B	B	A	A	A
Aniline	A	A	B	B	A	A	A
Benzene	A	A	C	C	A	A	A
Benzenedicarboxylic acid	A	A	A	-	A	A	A
Benzyl ether	A	A	C	C	A	A	A
BFG(blast furnace gas)	A	A	A	A	A	A	A
Bitumen	A	A	A	A	A	A	A
Bleach solutions	A	A	A	A	A	A	A
Boiler feed water	A	A	A	A	A	A	A
Boracic acid	A	A	A	A	A	A	A
Borax	A	A	A	A	A	A	A
Brine	A	A	A	A	A	A	A
Bunker fuel	A	A	C	C	A	A	A
Butane	A	A	C	C	A	A	A
Butanoic acid	A	A	A	A	A	A	A
Butanol	A	A	A	A	A	A	A
Calcium chloride	A	A	A	A	A	A	A
Calcium hydroxide	A	A	A	A	A	A	A
Calcium hypochlorite	A	A	A	A	A	A	A
Calcium sulfate	A	A	A	A	A	A	A
Carbon dioxide	A	A	A	A	A	A	A
Carbon disulphide	A	A	C	C	A	A	A
Castor seed oil	A	A	B	B	A	A	A
Chlorinated biphenyl	A	A	C	C	A	A	A
Chlorine	A	A	C	C	A	A	A
Chloroacetic acid	A	A	C	C	A	A	A
Chloroethane	A	A	C	C	A	A	A
Chromic acid	A	A	C	C	A	A	A

Chemical	AI GI 38	AI GI 39	AI GI 300	AI GI 350	AI GI 127	AI GI 128	AI GI 129
Copper acetate	A	A	A	A	A	A	A
Copper sulfate	A	A	A	A	A	A	A
Creosote	A	A	B	B	A	A	A
Crude oil	A	A	A	C	A	A	A
Cyclohexanone	A	A	B	B	A	A	A
Cyclohexylamine	A	A	C	C	A	A	A
Diesel oil	A	A	C	C	A	A	A
Dimethylformamide	A	A	C	C	A	A	A
Ethane	A	A	A	A	A	A	A
Ethanolamines	A	A	A	A	A	A	A
Ether	A	A	B	B	A	A	A
Ethyl acetate	A	A	B	B	A	A	A
Ethyl alcohol(ethanol)	A	A	A	A	A	A	A
Ethylene	A	A	A	A	A	A	A
Ethylene glycol	A	A	B	B	A	A	A
Ethylene glycol hydraulic fluid	A	A	A	A	A	A	A
Fatty acid	A	A	A	A	A	A	A
Formaldehyde	A	A	A	A	A	A	A
Formamide	A	A	B	B	A	A	A
Formic acid(10%)	A	A	A	A	A	A	A
Formic acid(85%)	A	A	B	B	A	A	A
Frenon 12	A	A	A	C	A	A	A
Frenon 22	A	A	A	C	A	A	A
Glycerin	A	A	A	A	A	A	A
Heptane	A	A	C	C	A	A	A
Hydraulic oil	A	A	C	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	B	B	B
Isooctane	A	A	A	A	A	A	A
Isopropyl alcohol	A	A	A	A	A	A	A
Kerosene	A	A	C	C	A	A	A
Lactic acid 50%	A	A	A	A	A	A	A
Lime water	A	A	A	A	A	A	A
Magnesium sulfate	A	A	A	A	A	A	A
Maleic acid	A	A	A	A	A	A	A
Methane	A	A	A	A	A	A	A
Methyl alcohol(methanol)	A	A	A	A	A	A	A



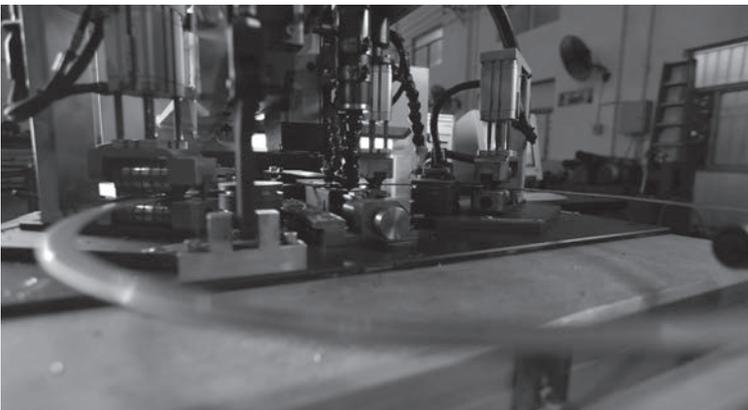
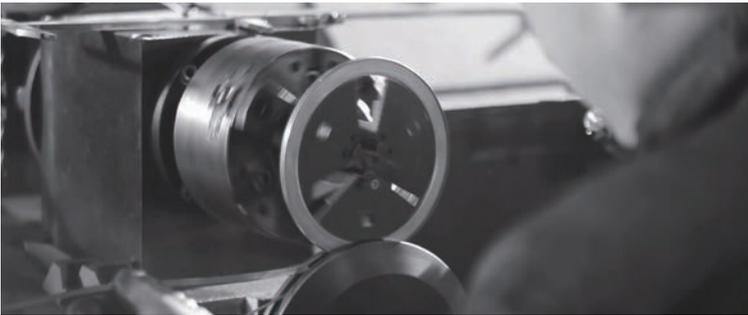
# Chemical Compatibility

Chemical	AIGI 38	AIGI 39	AIGI 300	AIGI 350	AIGI 127	AIGI 128	AIGI 129
Methyl chloride	A	A	C	A	A	A	A
Methyl ethyl ketone	A	A	C	C	A	A	A
Methylphenol	A	A	B	B	A	A	A
Mineral oils 1#	A	A	B	C	A	A	A
Mineral oils 3#	A	A	C	B	A	A	A
Naphtha	A	A	C	C	A	A	A
Natrium sulfurosum	A	A	A	A	A	A	A
Nitric acid 20%	A	A	C	A	A	A	A
Nitric acid 40%	A	A	C	C	A	A	A
Nitric acid 96%	C	C	C	C	A	A	A
Nitrobenzene	A	A	C	C	A	A	A
Octylene	A	A	C	C	A	A	A
Oleinic acid	A	A	A	A	A	A	A
Oleum	A	A	C	C	A	A	A
Organic phosphate	A	A	B	B	A	A	A
Oxalic acid	A	A	C	C	A	A	A
Oxygen	A	A	B	B	A	A	A
Palmitnic acid	A	A	A	A	A	A	A
Paraffin wax	A	A	C	C	A	A	A
Pentane	A	A	C	C	A	A	A
Phenol carbonate	A	A	B	B	A	A	A
Phenols	A	A	B	A	A	A	A
Phosphoric acid	A	A	B	A	A	A	A
Postassim nitrate	A	A	A	A	A	A	A
Potassium acetate	A	A	A	A	A	A	A
Potassium chloride	A	A	C	C	A	A	A
Potassium chromate	A	A	A	A	A	A	A
Potassium hydroxide	A	A	B	B	B	B	B
Potassium hypermanganate	B	B	A	A	A	A	A
Potassium methyl carbonate	A	A	A	A	A	A	A
Propane	A	A	B	A	A	A	A
PTFE	A	A	C	A	A	A	A
Pyridine	A	A	B	-	A	A	A

Chemical	AIGI 38	AIGI 39	AIGI 300	AIGI 350	AIGI 127	AIGI 128	AIGI 129
Sea water	A	A	A	A	A	A	A
Sillicon oil	A	A	A	A	A	A	A
Soap lye	A	A	A	A	A	A	A
Sodium aluminate	A	A	A	A	A	A	A
Sodium carbonate	A	A	A	A	A	A	A
Sodium chloride	A	A	A	A	A	A	A
Sodium cyanide	A	A	A	-	A	A	A
Sodium hydroxide	A	A	B	A	A	A	A
Sodium sillicate	A	A	A	-	A	A	A
Sodium sulfide	A	A	A	A	A	A	A
Starch	A	A	A	A	A	A	A
Steam	A	A	A	A	A	A	A
Steam condensate	A	A	A	A	A	A	A
Sulfuric acid 20%	A	A	C	A	A	A	A
Sulfuric acid 50%	A	A	C	A	A	A	A
Sulfurous acid	A	A	B	A	A	A	A
Sulphur dioxide	A	A	B	A	A	A	A
Tannic acid	A	A	A	-	A	A	A
Tartaric acid	A	A	A	-	A	A	A
Toluene(toluol)	A	A	C	A	A	A	A
Transformer oil	A	A	B	A	A	A	A
Trichloroethane	A	A	C	A	A	A	A
Trichloromethane	A	A	C	C	A	A	A
Turpentine	A	A	C	A	A	A	A
Urea	A	A	A	-	A	A	A
Vanadium	A	A	A	A	A	A	A
Vinyl chloride	A	A	C	C	A	A	A
Water	A	A	A	A	A	A	A
White spirit	A	A	C	A	A	A	A
Xylene	A	A	C	A	A	A	A

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

# Metal & Semi Metallic Gaskets



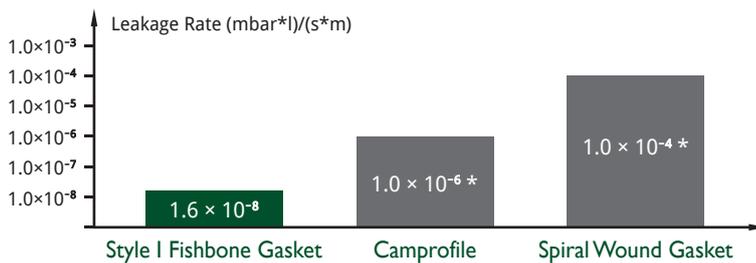
## Fishbone™ Gaskets



Replace **ALL**  
Spiral Wound Gaskets & Camprofile Gaskets !

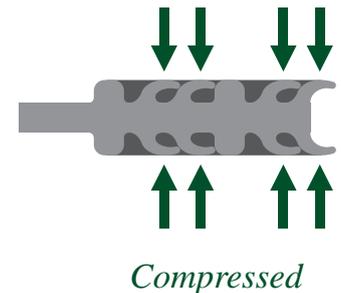
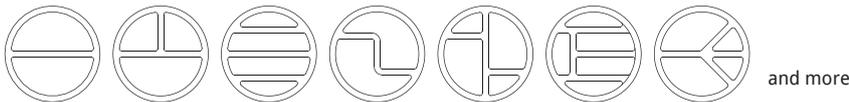
- **1,000,000** times lower leakage than TA-LUFT Test limit
- **25** times lower leakage than CFET Test limit
- **Pass** API 6FB Fire Test

### TA-LUFT Test – VDI Guideline 2440 & VDI Guideline 2200



(\* Average values from accredited international laboratory)

Heat Exchanger is available!



### The Fishbone™ Gasket Design & Advantages

#### Design

- Helical concentric bevelled ribs, each side covered with Graphite, PTFE or Mica
- Unitary design with or without a centering ring
- Rounded, non-sharp contact surface
- Unique Stop-Step design



#### Advantages

- Internally self-energized and by fluid pressure for better sealing performance
- Interchangeable with all spiral wound gaskets and Camprofile gaskets
- Will not damage flange like Camprofile gaskets and spiral wound gaskets
- Prevents over-compression of sealing element

## ● Ring Joint Gaskets

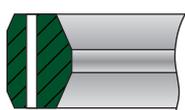
Product Code: AIGI 30

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.

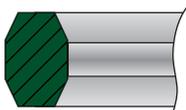
Series R  
Oval



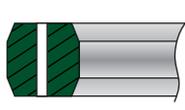
Series RX



Series R  
Octagonal



Series BX



### Ring Joint Gasket Styles

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

### Materials

Common materials used for the manufacture of ring joint gaskets:

- Soft Iron
- Low Carbon Steel
- Stainless Steel
- Monel®
- 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
5Cr1/2Mo	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



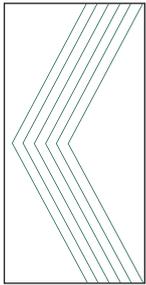
Licensed Under  
API Spec. 6A-1069

## ● Spiral Wound Gaskets

### ● Traditional V Type Spiral Wound Gaskets

Product Code: AIGI 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.
- Diameter up to 4m.

#### Gasket Material

Metal Wound Band: 304SS / 316LSS

Filler Material: Flexible Graphite / PTFE

※ Other materials available upon request.

#### Technical Data

<b>Sealability</b>		≤ 1×10 <sup>-3</sup> cm <sup>3</sup> /s
<b>Max. Pressure</b>		20MPa
<b>Temperature Range</b>	<b>Metal + Flexible Graphite</b>	-250 ~ 870°C
	<b>Metal + PTFE</b>	-200 ~ 260°C
<b>Thickness</b>		3.2/4.5/6.5mm

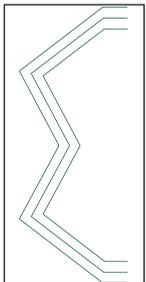
#### Reinforced Style

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

### ● SU & SU Patented & Improved Spiral Wound Gaskets

Product Code: AIGI 35S / 35SU

#### SU-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

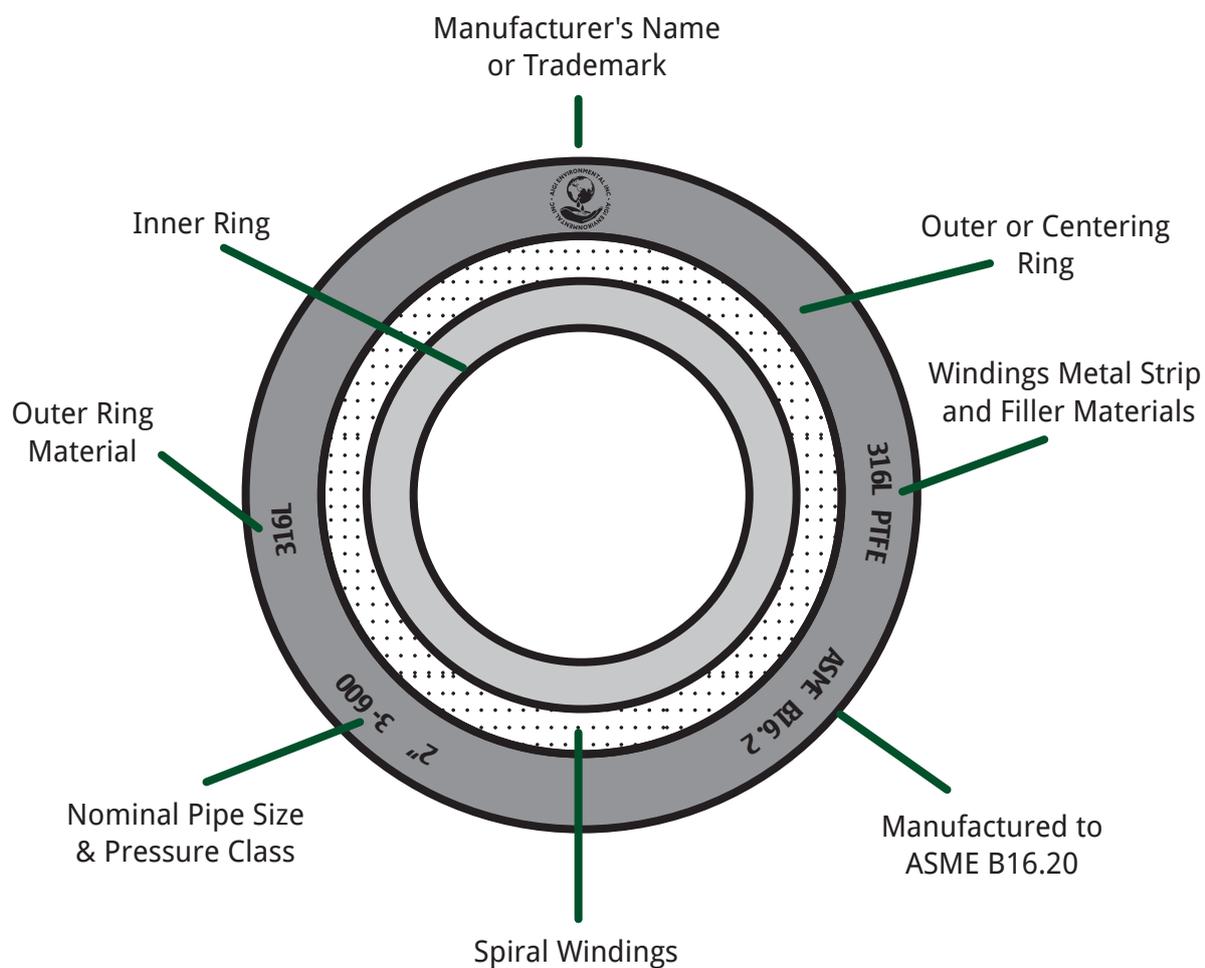
<b>Sealability</b>		≤ 1×10 <sup>-4</sup> cm <sup>3</sup> /s
<b>Max. Pressure</b>		30MPa
<b>Temperature Range</b>	<b>Metal + Flexible Graphite</b>	-250 ~ 870°C
	<b>Metal + PTFE</b>	-200 ~ 260°C
<b>Thickness</b>		3.2/4.5/6.5mm

#### Reinforced Style

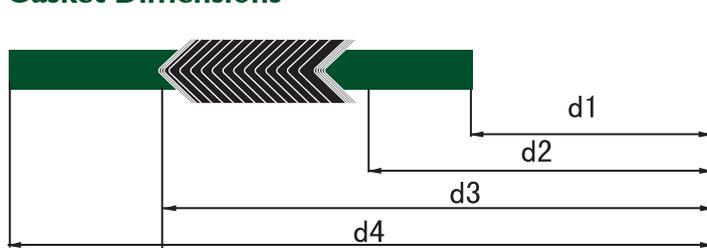
<b>Spiral Wound Only (Style R)</b>	Suitable for tongue and groove, male-female, or groove-to-flat face flanges
<b>Spiral Wound with Inner Ring (Style RIR)</b>	Suitable for male-female face flanges
<b>Spiral Wound with Outer Ring (Style CG)</b>	Suitable for flat face and raised face flanges up to Class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

## Spiral Wound Gasket Identification

Identification as Required by ASME B16.20

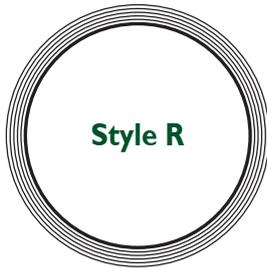


## Gasket Dimensions



- 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



**Style R**

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.



**Style RIR**

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.



**Style CG**

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.



**Style CGI**

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.

## 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

## International Standard

ISO , ASME B16.20 , API601 , JIS B2404 , JPI - 7S - 41 , DIN2699 , BS3381

※ Please consult with AIGI Environmental Inc. 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	CRS	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	+2.4 mm, -0	+0, - 2.4 mm

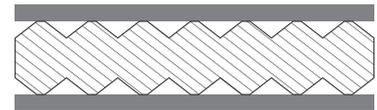
## ● Kammprofile Gaskets



AIGI Environmental Inc.'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:



**AIGI 33A**  
**Base Type**

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



**AIGI 33B**  
**Integral Centering Ring Type**

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



**AIGI 33N**  
**Metal Type**

Achieves excellent sealing performance through relatively low bolt load with outstanding thermal conductivity & strong hardness. For high temp. & pressure and corrosive application.

Temp.: up to materials      Pressure: 0 ~ 16 MPa

### 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:



**AIGI 34A**  
**Base Type**

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



**AIGI 34B**  
**Integral Centering Ring Type**

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

Temp.: up to materials      Pressure: 0 ~ 16 MPa

#### Materials:

##### Metal Core

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

##### Seal Face Material

Expanded Graphite   PTFE

*Together We Achieve More!*



*Administration Headquarters*



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



## **AIGI ENVIRONMENTAL INCORPORATED**

— A Subsidiary of AIGI Group —

81 Suyuan Avenue, Jiangning District, Nanjing 211100, PR China

[www.aigienvironmental.com](http://www.aigienvironmental.com)

AIGI ENVIRONMENTAL INC. reserves the right to change the manufacture process, material and material resources without notice and assumes no responsibility or liability for typographical errors or omissions or for any misinterpretation of the information within the publication.