PILLAR

# PILLAR GASKETS

NIPPON PILLAR PACKING CO., LTD.

GPLC 9629L-1

# PILLAR GASKETS


**Spiral Wound Gasket** ____ P1 - 2

- **General purpose type**
  - No. 2600 Pillarfoil® Expanded Graphite Spiral Wound Gasket
  - No. 2300 Pilaflon® PTFE Spiral Wound Gasket
  - No. 2700 Spiral Wound Gasket For High Temperature
- **Spiral Wound Gasket For Specific Use**
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  - No. 2502LT/EOS General Use Thin Type Gasket For Joint Sheet Replacement

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- No. 5003-NBR Aramid Fiber Composite Rubber Sheet Gasket
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- No. 4400 · 4401 Pilaflon® PTFE Solid Gasket
- No. 4001· 4002· 4003 Low Creep PTFE Sheet Gasket
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- No. 6633 Expanded Graphite Sheet Gasket with Metal Foil
- No. 6631 Expanded Graphite Sheet Gasket with Metal Plate
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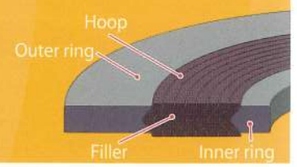
# Spiral Wound Gasket




The spiral wound gasket is a gasket wrapped in a spiral shape and overlapped by a tape-shaped thin metal plate (hoop). The wound is molded in a V-shaped cross section and a nonmetallic material that combines cushioning and sealing properties.
We are offering not only standard spiral wound gaskets using expanded graphite and PTFE filler but also spiral wound gasket specialized for some products and optimized for a wide range of applications.

## Spiral Wound Gasket For General Use

### PILLAR No. 2600 Pillarfoil® Expanded Graphite Spiral Wound Gasket

Pillar No.2600 stands for the Spiral Wound Gasket using Pillarfoil (expanded graphite) tape for the filler.
In addition to sealing performance and pressure resistance, this spiral wound gasket has other characteristics such as demonstrating of a high balance reliability and wide temperature range resistance that improve its performance.
※Almost all 2603-EEE sizes, with ANSI 150~1500LB and JIS10~63K, are available and can be immediately supplied.

**Main applications** It is used for pipe flange of most lines requiring high reliability including high temperature · high pressure steam · ammonia etc.

### PILLAR No. 2300 Pilaflon® PTFE Spiral Wound Gasket

Pillar No.2300 filler is characterized by the use of 100% PTFE soft tape that has an outstanding chemical resistance and is soft and elastic.
※Almost all 2303-EEE sizes, with ANSI 150~600LB and JIS is 10~40K, are available and can be immediately supplied.

**Main applications** General chemicals, corrosive gases, Chemical resistance required line pipe flange, valve hood etc.

### PILLAR No. 2700 Spiral Wound Gasket For High Temperature

Pillar No.2700 has Pillarfoil (expanded graphite) tape placed in the middle layer of the filler, it has inorganic-fiber tape rich in resilience and arranged in the inner and outer layers. It is especially resistant to a temperature that can reach 450℃ or more (in the presence of oxygen), temperatures that are difficult to handle with No.2600.
※Depending on its application, the inorganic-fiber tape can be arranged in the inner or outer layer.

**Main applications** High temperature / high-pressure steam etc. that is difficult to handle with No.2600

Gaskets for special applications such as Compression Gauge Spiral Wound Gasket (Pillar No. 2620) or Spiral Wound Gasket for oxygen (Pillar No. 2300 S) are also available. Please contact us for any other special application.

| Pillar No. | 2300 | 2600 | 2700 | 2600LT | 2600LTL |
|---|---|---|---|---|---|
| Operating temperature (℃) | -200~+260 | -200~+600 ※1 | -200~+650 | -104~+300 | -200~+300 |
| Max. pressure (MPaG) | 15.5(Class 900) | 43.1(Class 2500) | 43.1(Class 2500) | 15.5(Class 900) | 15.5(Class 900) |
| Min. designed tightening stress y (N/ mm²) | 68.9 | 68.9 | 68.9 | 44.8 | 44.8 |
| Gasket factor m | 3 | 3 | 3 | 2 | 2 |
| Min. tightening stress Y (N/mm²) ※2 | 39.2 | 39.2 | 78.5 | 29.4 | 29.4 |

※1 For use under an oxidizing atmosphere, it is ~ 450℃.
※2 "Y"is the necessary minimum tightening stress which takes account of the contact area of the gasket.





## Spiral Wound Gasket For Specific Use

### PILLAR No. 2600LT/LTL For Low Tightening Stress and High Density

It is a spiral wound gasket that adopts Pillarfoil tape after special processing, as a filler material, which greatly enhances sealing performance. Therefore, the sealing performance will be continued even when it comes to low tightening surface stress,
No. 2600 LTL shows excellent seal performance with cryogenic fluid (LNG · LPG) etc. where a reduction in tightening stress can not be avoided.

**Main applications** Used for Fluids that require strict sealing performance, such as fluids that vaporize and leak (LNG · LPG), for piping with low-temperature thermal cycle load applied such as the use in an extremely low-temperature range, etc.

### PILLAR No. 2502LT-EOS General Use Thin Type Gasket for Joint Sheet Replacement

This gasket is developed to obtain further long-term stability and reliability in general-purpose line such as steam in which joint sheet is heavily used. It is designed so that replacement from the joint sheet gasket can be performed without placing design changes on the piping or the joint side, and by simply applying this product to the existing piping. This gasket can be used in various applications such as the expansion of applicable range.

**Specifications**
- Size: JIS10K10A~250A (Product thikness 3.2mm)
- Max. pressure: 1.4MPaG (JIS10K)
- Operating temperature: -50~450℃
- Gasket factor (m): 2
- Min. designed tightening stress (y): 25.5N/mm²
- Min. tightening stress (Y): 29.4N/mm²

## Spiral Wound Gasket's Part Number Display Method

PILLAR No. **2 6 0 3 N - E E E**

It refers to spiral wound gasket

**Filler**

| Pillar No. | Material |
|---|---|
| 3 | Pilaflon soft tape |
| 5 | Non asbestos tape |
| 6 | Pillarfoil tape |
| 7 | Inorganic fiber tape + Pillarfoil tape |

**Gasket type**

| Pillar No. | Shape |
|---|---|
| 0 | Ordinary |
| 2 | Compression gauge |

**Gasket shape**

| Pillar No. | Shape |
|---|---|
| 0 | Basic form (No inner /outer rings) |
| 1 | With inner ring |
| 2 | With outer ring |
| 3 | With inner & outer ring |

**Outer ring material**

| Material code | | Material |
|---|---|---|
| Standard material | E | 304 or equivalent |
| Non-standard material | U | 430 or equivalent |
| | G | 316 or equivalent |
| | L | 304L or equivalent |
| | H | 316L or equivalent |
| | T | Titanium |
| 0 | | No outer ring |

**Inner ring material**

| Material code | | Material |
|---|---|---|
| Standard material | E | 304 or equivalent |
| Non-standard material | U | 430 or equivalent |
| | G | 316 or equivalent |
| | L | 304L or equivalent |
| | H | 316L or equivalent |
| | T | Titanium |
| 0 | | No innter ring |

**Hoop number**

| Material code | | Material |
|---|---|---|
| Standard material | E | 304 or equivalent |
| Non-standard material | G | 316 or equivalent |
| | H | 316L or equivalent |
| | T | Titanium |
| | A | Aluminum |
| | L | 304L or equivalent |
| | Y | ASTM UNS S06600 (or equi.) |
| | J | 321 or equivalent |
| | K | 347 or equivalent |

**Application**

| Pillar No. | Application |
|---|---|
| None | For general use |
| LT/LTL | Low tightening stress high density type |
| N | For nuclear (2600 type only) |
| S | For oxygen (2300 type only) |
| Y | With rib |

**Flange type / Gasket shape**

| | |
|---|---|
| Flat face | Gasket with inner & outer ring |
| Raised face | Gasket with inner & outer ring |
| Male-female | Gasket with inner ring |
| Tongue & groove | Basic type gasket<br>Gasket with inner ring |
| Groove to flat | Basic type gasket<br>Gasket with inner ring |

# Joint Sheet Gasket

The joint sheet gasket is a gasket made from a fibrous material or expanded graphite as the main raw material, rubber is uniformly mixed as a binder, and then stretched by a heating roll. The size of the original plate is large so that it can be applied to a large diameter. It can be customized and cut at the site to meet requested dimensions and shapes.
This is suitable for general-purpose services such as water, steam, oil, etc., therefore, it is widely used in a wide range of industries.

## PILLAR No. 5600 Technograph® Sheet (Non-Asbestos Joint Sheet)

Pillar No. 5600 is a sheet gasket composed of expanded graphite and inorganic fiber as a main raw material, ensuring strength with aramid fiber and composing with a rubber binder. In addition to its excellent sealability under high-temperature steam conditions, it has an excellent flexibility in handling properties, a lineup with large plate size which can correspond to large diameter equipment. (Standard and customized size products are available).

**Specifications**
- Operating temperature ··· -50℃~+260℃
- Max. pressure ··· 4.0MPaG

**Main applications**
Pipe flange, manhole, and valve bonnet using water, steam or oil,

**Dimensions**

| Sheet size (mm) | 1270 x 1270 | | 1270 x 3810 | | 2540 x 3810 | |
|---|---|---|---|---|---|---|
| Standard thickness (mm) | 0.5 | 0.8 | 1.0 | 1.5 | 2.0 | 3.0 |

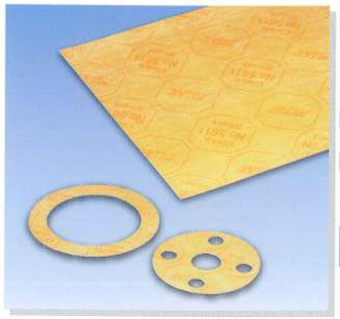
**Design specifications**

| | |
|---|---|
| Min. designed tightening stress y (N/mm²) | 25.5※ |
| Gasket factor m | 2.75※ |
| Min. tightening stress Y (N/mm²) | 14.7 (Water/oil related fluid)<br>39.2 (Gas related fluid)※ |

※The value depends on the gasket thickness, it shows the typical value (when t = 1.5).

## PILLAR No. 5611 General Purpose Non-Asbestos Joint Sheet

Pillar NO. 5611 is a general-purpose joint sheet composed of inorganic and aramid fiber and combined with a rubber binder. It is characterized by a high elasticity, less creep and smooth surface, which makes it well-fitted to the flange surface and gives it an excellent sealing performance. (Standard and customized size products are available).



**Specifications**
- Operating temperature ··· -50℃~+120℃
- Max. pressure ··· 3.3MPaG (JIS 20k)

**Main application**
Pipe flange using water, steam or oil, manhole, and valve bonnet

**Dimensions**

| Sheet size (mm) | 1270 x 1270 | | 1270 x 3810 | | 2540 x 3810 | |
|---|---|---|---|---|---|---|
| Standard thickness (mm) | 0.5 | 0.8 | 1.0 | 1.5 | 2.0 | 3.0 |

**Design specifications**

| | |
|---|---|
| Min. designed tightening stress y (N/mm²) | 25.5 ※ |
| Gasket factor m | 2.75 ※ |
| Min. tightening stress Y (N/mm²) | 14.7 (Water/oil related fluid)<br>39.2 (Gas related fluid) ※ |

※The value depends on the gasket thickness, it shows the typical value (when t=1.5).





# Rubber Sheet Gasket

Rubber sheet gasket is a gasket utilizing rubber's rich elasticity and chemical resistance.

Number Display Method

Pillar Number **5002 – NBR**

Product No. — Rubber material code

## PILLAR No. 5003-NBR Aramid Fiber Composite Rubber Sheet Gasket

Pillar No.5003 is a composite reinforced rubber sheet gasket with aramid short fibers in NBR.
It shows excellent pressure resistance, creep resistance and corrosion resistance.

**Specifications**
- Operating temperature ··· -30℃~+120℃
- Max. pressure ··· 2.6M PaG

**Main applications**
Seawater pipe flange, high-rise building clean water pipe, hydrostatic test gasket, insulation gasket.

**Dimensions**

| Sheet size (mm) | 1270x1270 | | | |
|---|---|---|---|---|
| Standard thickness (mm) | 1.5 | 2.0 | 3.0 | 6.0 |

## PILLAR No. 5002 Rubber Sheet With Cloth Gasket

Pillar No.5002 is a rubber sheet gasket reinforced, higher than No.5001, with a special fiber cloth .
For rubber materials (NBR and CR) are prepared as standard.

**Specifications**
- Operating temperature ··· 0 ℃~+100℃
- Max. pressure ··· 1.0M PaG

**Main applications**
Seawater pipe flange, high-rise building clean water pipe, hydrostatic test gasket.

## PILLAR No. 5001 Rubber Sheet Gasket

Pillar No.5001 is a sheet gasket of rubber alone, general purpose seat gasket. it can be sealed even with a low tightening stress.
It can be manufactured using NBR, CR, CSM, EPDM, FKM, VR, SBR, and SI.

**Specifications**
- Operating temperature ··· 0 ℃~+100℃ (NBR)
- Max. pressure ··· 1.0M PaG

**Main applications**
Water, oil and gas pipe flange.

# Pilaflon® Gasket

Pilaflon gasket is made from PTFE resin simple substance, various filler mixing, and a combination with other materials. It is a gasket that makes the most of the excellent properties of PTFE resin.
Therefore, it has many characteristics such as chemical resistance, flame resistance, cleanliness, and electricity resistance. it is widely used from general-purpose chemical industry such as petrochemical, soda, papermaking etc. it is used in industrial field, food industries, and medicine.

## 4400 • 4401 Pilaflon® PTFE Solid Gasket

Pillar No. 4400 · 4401 is a gasket made by parts filled by PTFE or unfilled parts after cutting, molding, and machining. Unfilled gaskets are clean and very resistant to the chemical. Gaskets with filler are excellent for mechanical strength.
No.4400 manufactured by punching/lathe processing and NO 4401 manufactured by knife processing are used.

Number Display Method

Pillar No. **4400 - G2**
Product No. — Material code

| Material | | |
|---|---|---|
| Material | Main filler | Features |
| W2 | Unfilled | Excellent chemical resistance and cleanliness |
| G2 | Glass fiber | Excellent cold flow resistance. |
| R4 | Carbon fiber | Excellent creep resistance at high temperature and high pressure. |

※PTFE filler can be manufactured according to the application.

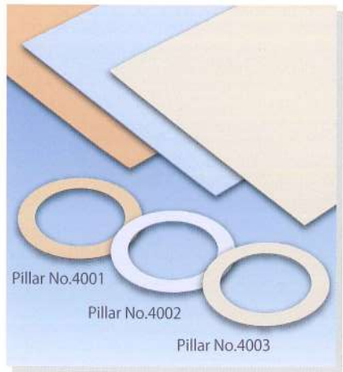
**Specifications**
- Operating temperature ··· -100℃~+100℃
- Max. pressure ··· 2.0M PaG

**Main applications**
Various instruments requiring chemical resistance · Pipe flanges Resin coated equipment which needs to be protected from contamination.

## 4001 • 4002 • 4003 Low Creep PTFE Sheet Gasket

Pillar No. 4001 · 4002 · 4003 prepared the filler with PTFE as the main raw material and proprietary manufacturing method, improving the creep characteristic which becomes a problem mainly with the PTFE gasket.

(We also prepare standard and special size processed products)




**Specifications / Overview**

| Pillar No. | 4001 | 4002 | 4003 |
|---|---|---|---|
| Filler Material | Silica type | Special glass type | Barium type |
| Features | Low creep property<br>Acid resistance | Large compression characteristics | Low creep<br>Alkali resistance |
| Application | General purpose<br>Strong acid (excluding hydrofluoric acid) | Low tightening case · Application wrapping gasket substitute | Strong alkali<br>Oxygen/food |
| Temp.(℃) | -210~+260 | -210~+260 | -210~+260 |
| Max. pressure (MPaG) | 8.3 | 5.1 | 8.3 |
| PxT(MPaG •℃) | Below 860 | Below 860 | Below 860 |
| Service Guide | General purpose PTFE sheet gasket also suitable for ashing hydrogen, water, steam and others. (Not suitable for strong alkali) | Piping that requires low fastening pressure such as glass lining piping (not suitable for strong alkali exceeding 80℃) | Strong alkali<br>Suitable for oxygen and food service |

**Dimensions**

| Sheet size (mm) | 1500x1500 | | |
|---|---|---|---|
| Standard thickness (mm) | 1.5 | 2.0 | 3.0 |



Pilaflon® Gasket

# Pilaflon® Gasket

## Pilaflon® PTFE Jacket Gasket

Pilaflon PTFE jacket type gasket is a gasket wrapped around core material with non-asbestos sheet between pilaflon sheets. Pilaflon's chemical resistance and sealability combined with the elasticity of the core demonstrate superior performance. Compared to the Pilaflon solid gasket, stress relaxation is small even at high load, it demonstrates an excellent performance thanks to relatively low thickness of Pilaflon.

Pillar No.4430AF

Number Display Method

Pillar No. **4430 - AF**
Product No. — Shape symbol

**Main applications**
- Maintenance hatch of oil refinery / chemical plant / tank cover
- Pipe flange of glass / resin / porcelain lining
- Pipe flange using corrosive chemical (liquid / gas)
- Other, pipe flanges requiring insulation

**Product No.**

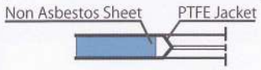
| Pillar No. | Name | Shape | Horizontal construction | Spec. | Standard size |
|---|---|---|---|---|---|
| 4410 | Turning type Pilaflon jacket type gasket | | It is a jacket type gasket that shapes the Pilaflon material into right angles which makes the following cross section shape : | -80~+120℃<br>2.0MPaG ※ | Ø30~Ø500 |
| 4411 | Turning type Pilaflon jacket type gasket | | | | |
| 4420 | Crimp style Pilaflon jacket type gasket | | It is covered by Plaflon tape from the inside and heat sealed at one place.It is suitable for large diameters (Ø 200 or more) and for irregular shapes. | -80~+120℃<br>2.0MPaG※ | JIS standard<br>5K<br>10K<br>16K<br>20K<br>30K |
| 4421 | Crimp style Pilaflon jacket type gasket | | | | |
| 4430 | Lip shaped Pilaflon jacket type gasket | | It is a jacketed gasket with a notch in a 1 mm thick Pilaflon disk, with a center core. | | |
| 4431 | Lip shaped Pilaflon jacket type gasket | | | | ASME standard<br>Class 75<br>Class150<br>Class300 |
| 4432 | Lip shaped Pilaflon jacket type gasket | | | | |
| 4432 S | Pilaflon soft jacket type gasket | | To makes more local surface pressure, inner core's inner side is made thicker than the one of No.4432. | -30~+120℃<br>2.0MPaG※ | |

※FH: 5.4 MPaG

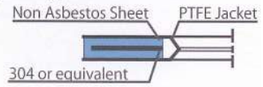
**Shape symbol**

Depending on the configuration of the core material, the shape is classified into the following two types:

| | |
|---|---|
| AF | The core material is composed only of the joint sheet. |
| FH | 304 (or equivalent) is inserted between the core. |



Pillar No.4430AF



Pillar No.4430FH

# Pillarfoil® Sheet Gasket

The Pillarfoil sheet gasket is a gasket utilizing expanded graphite's excellent flame resistance, chemical resistance, sealing property, elasticity, etc.
There are features such as flexible material, good fit with flange surface, usable from cryogenic temperature to high temperature, etc. It is used in a wide range of industries.

## PILLAR No. 6633 Pillarfoil® Expanded Graphite Sheet Gasket with Metal Foil Hylamina®

Pillar No. 6633 is an expanded graphite sheet gasket in which 316 L (or equivalent) metal foil is laminated in a pillar foil.
This gasket is excellent in handleability which improves the breakage resistance and tear resistance, while maintaining the excellent characteristics of the expanded graphite sheet.
We also have a lineup of Pillar No.6633N for nuclear power.

| Dimensions | Sheet size (mm) | 1000x1000 | | | | | |
|---|---|---|---|---|---|---|---|
| | Standard thickness (mm) | 0.5 | 0.8 | 1.0 | 1.5 | 2.0 | 3.0 |

## PILLAR No. 6631 Pillarfoil® Expanded Graphite Sheet Gasket with Metal Plate

Pillar No. 6631 is an expanded graphite sheet gasket reinforced with stainless steel thin plate.
It can be used with higher pressure than Pillar No. 6630.

Please consult us for further information about: Thickness, stainless steel specification (thickness · material)

## PILLAR No. 6630 Pillarfoil® Expanded Graphite Sheet Gasket

Free sized adhesive (one side) expanded graphite Pillarfoil sheet gasket.

| Dimensions | Sheet size (mm) | 600x600 | | | 1000x1000 | | |
|---|---|---|---|---|---|---|---|
| | Standard thickness (mm) | 0.38 | 0.5 | 0.76 | 1.0 | 1.5 | 2.0 | 3.0 |

※Free size with adhesive (one side) Expanded graphite tape Pillar No. 6660 · Pillar No. 6670 is also available. Please use it for repairing on-site repair etc.

Pillarfoil® sheet gasket specifications

| Physical properties | | Pillar No.6633 | Pillar No.6631 | Pillar No.6630 |
|---|---|---|---|---|
| Gasket factor m | | 2 | 2 | 2 |
| Min. tightening stress Y(N/mm²) | | 24.5 | 24.5 | 24.5 |
| Pressure rating | | ASME class 300 | ASME class 300 | JIS 16K |
| Operating temperature (under oxidizing atmosphere) ℃ | | -200~+400 | -200~+400 | -200~+400 |
| Thermal conductivity (W/w・℃) (Normal temperature) | Horizontal | 138 | 147 | 173 |
| | Vertical | 5.0 | 3.5 | 5.2 |
| Electric resistance (Ω・m) | Horizontal | $7.0x10^{-6}$ | $4.6x10^{-6}$ | $4.6x10^{-6}$ |
| | Vertical | 0.50 | 0.904 | 0.904 |
| Main applications | | Pipe flange handling water, steam, oil, solvent, acid and alkali, lid of pressure vessel | | |





# Metal Gasket

The metal gasket used under severe conditions was manufactured to withstand high temperature, high pressure, and chemicals according to the characteristics of various metals under strict quality control. Soft steel, pure iron, copper, stainless steel, etc. are used as metal materials. Generally, the appropriate difference in hardness between the metal gasket and the flange is about HB30.

Number Display Method

Pillar Number **1500 - D**

Product No. — Metal material code

● Metal gasket cross-sectional shape · Metal material list

| Sectional shape | Name | Pillar No. / Material: Aluminum | Copper | Pure iron | Extremely mild steel | 304 or equivalent | 304L or equivalent | 316 or equivalent | 316L or equivalent | 321or equivalent | F5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Corrugated gasket | | 1200-C | | 1200-S | 1200-E | | | | | |
| | Serration gasket | | 1300-C | | 1300-S | 1300-E | 1300-L | 1300-G | 1300-H | | |
| | Plain metal gasket | 1400-A | 1400-C | | 1400-S | 1400-E | 1400-L | 1400-G | 1400-H | 1400-J | |
| | Octagonal ring joint gasket | | | 1500-D | 1500-S | 1500-E | 1500-L | 1500-G | 1500-H | | 1500-F |
| | Oval ring joint gasket | | | 1501-D | 1501-S | 1501-E | 1501-L | 1501-G | 1501-H | | 1501-F |
| | Pressure seal ring gasket | | | 1502-D | 1502-S | 1502-E | 1502-L | 1502-G | 1502-H | 1502-J | 1502-F |
| | Lens ring gasket | | | 1503-D | 1503-S | 1503-E | 1503-L | 1503-G | 1503-H | | 1503-F |
| | Delta ring gasket | | | 1504-D | 1504-S | 1504-E | 1504-L | 1504-G | 1504-H | | 1504-F |
| | Metal hollow O-ring | | | | | 1700-E | | | | 1700-J | |

## ●Specifications

The metal gasket has different performance depending on its shape. Refer to the table below and select the gasket shape. (Note: Table below presents the material in the case of stainless steel)

| Pillar No. | Name | Max. pressure (ASME class) | Min. designed tightening stressy (N/mm²) | Gasket factor m | Flange surface roughness (μmRa) |
|---|---|---|---|---|---|
| 1200 | Corrugated gasket | 300 | 52.4 | 3.75 | 0.8 |
| 1300 | Serration gasket | 900 | 69.6 | 4.25 | 1.6 |
| 1400 | Plain metal gasket | 2000 | | | |
| 1500 | Octagonal ring joint gasket | 4500 | | | |
| 1500RX | Octagonal ring joint gasket for high pressure | 5000 | | | |
| 1500BX | Octagonal ring joint gasket for ultrahigh pressure | 20000 | 179.3 | 6.50 | 0.8 |
| 1501 | Oval ring joint gasket | 4500 | | | |
| 1502 | Pressure seal ring gasket | 2500 | | | |
| 1503 | Lens ring gasket | 15000 | | | |
| 1504 | Delta ring gasket | 2000 | | | |
| 1700 | Metal hollow O-ring | 4500 | | | |

## ●Material

Metal gaskets are made from the materials shown in the table below. Select the optimal material according to the hardness difference between the operating temperature and the flange.

| Material: Sorting | Name | Code | Hardness HB | HRB | Max. Temp.(℃) |
|---|---|---|---|---|---|
| Standard material: Carbon steel | Xtrm mild steel | S | 120 | 70 | 540 |
| | Pure iron | D | 90 | - | 540 |
| Stainless steel | 304 or equivalent | E | 160 | 84 | 800 |
| | 304L or equivalent | L | 150 | 81 | 800 |
| | 5Cr-0.5Mo steel(F5) | F | 130 | 74 | 650 |
| | 316 or equivalent | G | 160 | 84 | 800 |
| | 316L or equivalent | H | 150 | 81 | 800 |
| Non ferrous metal | Copper | C | 50 | - | 350 |
| | Aluminum | A | 30 | - | 430 |
| Nonstandard: Stainless steel | 321 or equivalent | J | 160 | 84 | 870 |
| | 347 or equivalent | K | 160 | 84 | 870 |
| Non ferrous metal | Monel | M | 150 | 74 | 815 |
| | Titanium | T | 160 | 77 | 800 |

# Semi Metallic Gasket

Semi-metallic gaskets are gaskets that combine metallic materials with non-metallic materials such as expanded graphite and millboard. Using cushion of composite material, we have both heat resistance close to that of metal gasket and high sealability. Expanded graphite coated metal corrugated gaskets and metal jacketed gaskets are available and are used in a very wide industrial fields range.

## PILLAR No. 1200G-H Expanded Graphite Coated Metal Corrugated Gasket

Pillar No.1200G-H is a gasket with a structure in which both surfaces of a metal plate (316L or equivalent) and the one subjected to corrugated (corrugated) are laminated with a PILLARFOIL® sheet. It has many excellent features such as high sealability at low tightening, high compression amount, and high followability respecting equipment precision.

**Specifications**

- Operating temperature ··· -200 ℃~+450℃ (In the case of oxidizing atmosphere, ~ 400℃)
- Max. pressure ··· 5.2MPaG (Class 300)

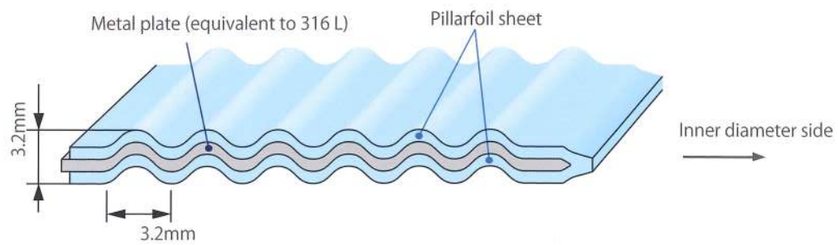
**Main applications**

Pipe flange / valve bonnet used for high temperature steam, oil etc.

**Design specifications**

| | |
|---|---|
| Min. designed tightening stress y(N/mm²) | 25.5 |
| Gasket factor m | 2 |
| Min. tightening stress Y(N/mm²) | 39.2※ |

※"Y" indicates the necessary minimum tightening stress which takes account of the contact area of the gasket.




Structure of Pillar No. 1200 G-H

※Please contact us for enquiries regarding 1.6 mm thickness lineup.



Semi Metallic Gasket

# Semi Metallic Gasket

## Metal Jacket Gasket

The metal jacket gasket is a semi-metallic gasket in which the outer side of the mill board material, heat resistant thread etc., is covered with a thin metal plate. It can also cope with complicated plane shape and large diameter. Metal jacketed gasket with a superior sealing performance, surface treated with Pillarfoil is availabe.

### ● Cross-sectional shape of metal jacket gasket · List of metal materials

Metal jacket gaskets are characterized by their coated metallic materials. The gasket characteristics of each material are shown in the table below.

| | Material | | Pillar No. | Flange surface roughness(μmRa) | Max. temp. (℃) | Max. pressure (MPaG) | Min. designed tightening stress y(N/mm²) | Gasket factor m |
|---|---|---|---|---|---|---|---|---|
| Standard goods | Stainless steel | 304 or equivalent | E | 1.6 | 530 | 4.9 | 62.1 | 3.75 |
| | | 316 or equivalent | G | | | | | |
| | Non ferrous Metal | Copper | C | | 400 | | 44.8 | 3.50 |
| | Carbon steel | Extreme mild steel | S | | 530 | | 52.4 | 3.75 |
| Nonstandard goods | Stainless steel | 304L or equivalent | L | | | | 62.1 | 3.75 |
| | | 316 or equivalent | H | | | | | |
| | | 316L or equivalent | F | | | | | |
| | Non ferrous metal | Aluminum | A | | 400 | | 37.9 | 3.25 |
| Pillarfoil application (1650/1654) | | | | 6.3 | ※530 | 9.8 | 39.2 | 3.00 |

※400 ℃ in case of oxidizing atmosphere

**Number Display Method**

Pillar Number **1050 C - E**

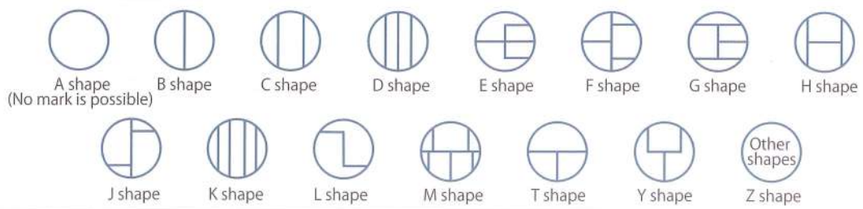
Product No. / Shape symbol / Metal material code

| Pillar No. | 1050 | 1054 | 1056 | 1150 | 1650 | 1654 |
|---|---|---|---|---|---|---|
| Name | Single coating | Double coating | Corrugated coating | Round coating | Single coating with Pillarfoil | Double coating with Pillarfoil |
| Shape | | | | | | |
| Standard core | Millboard | Millboard | Millboard | Heat resistant yarn | Millboard | Millboard |
| Surface material | None | None | None | None | Pillarfoil | Pillarfoil |

| Cover metal material | | |
|---|---|---|
| | Code | Material |
| Standard goods | E | 304 or equivalent |
| | G | 316 or equivalent |
| | C | Copper |
| | S | Extreme mild steel |

(Note) Please consult us in case of using special core materials other than the combinations above .

### ● Planar shape and shape symbol



# ePTFE Gasket

ePTFE is a unique material produced by processing polytetrafluoroethylene resin (PTFE) into a marshmallow shape having a fine continuous porous structure by special stretching processing. These gaskets make full use of ePTFE's chemical resistance, heat resistance, and flexibility, as a material to meet the demands of new industrial fields such as cushioning materials, heat insulating materials and insulation materials used in clean rooms. ePTFE's contamination-free properties make it a polyvalent and a largely used material.

## PILLAR No. 3300-F PTFE Joint Sealant

It is a product of rod type (Pillar No. 3300-F) of uniaxially stretched ePTFE with adhesive on one side. Because it is a reel winding, it is economical to cut it to the required dimensions and use it. It has been used as a product for various purposes such as emergency maintenance gaskets in areas requiring chemical resistance such as chemical plants and various applications utilizing the characteristics of ePTFE in clean rooms.

## PILLAR No. 3356 Clean Sanitary Ferrule Gasket

It is an ePTFE made gasket molded for sanitary piping clamp. It is superior in heat resistance, flexibility and sealing performance, it is a gasket that can reduce maintenance cost compared with silicone rubber gasket.

※ Pillar No. 3356-U (made of PFA) is available for Sanitary Screws Union Fittings.



PILLAR

**Follow the instructions, before installation and operation, for your safety.**

*Specifications and dimensions are subject to change without prior notice.

*The data on this catalogue are solely for your reference and are not to be construed as constituting a warranty.

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