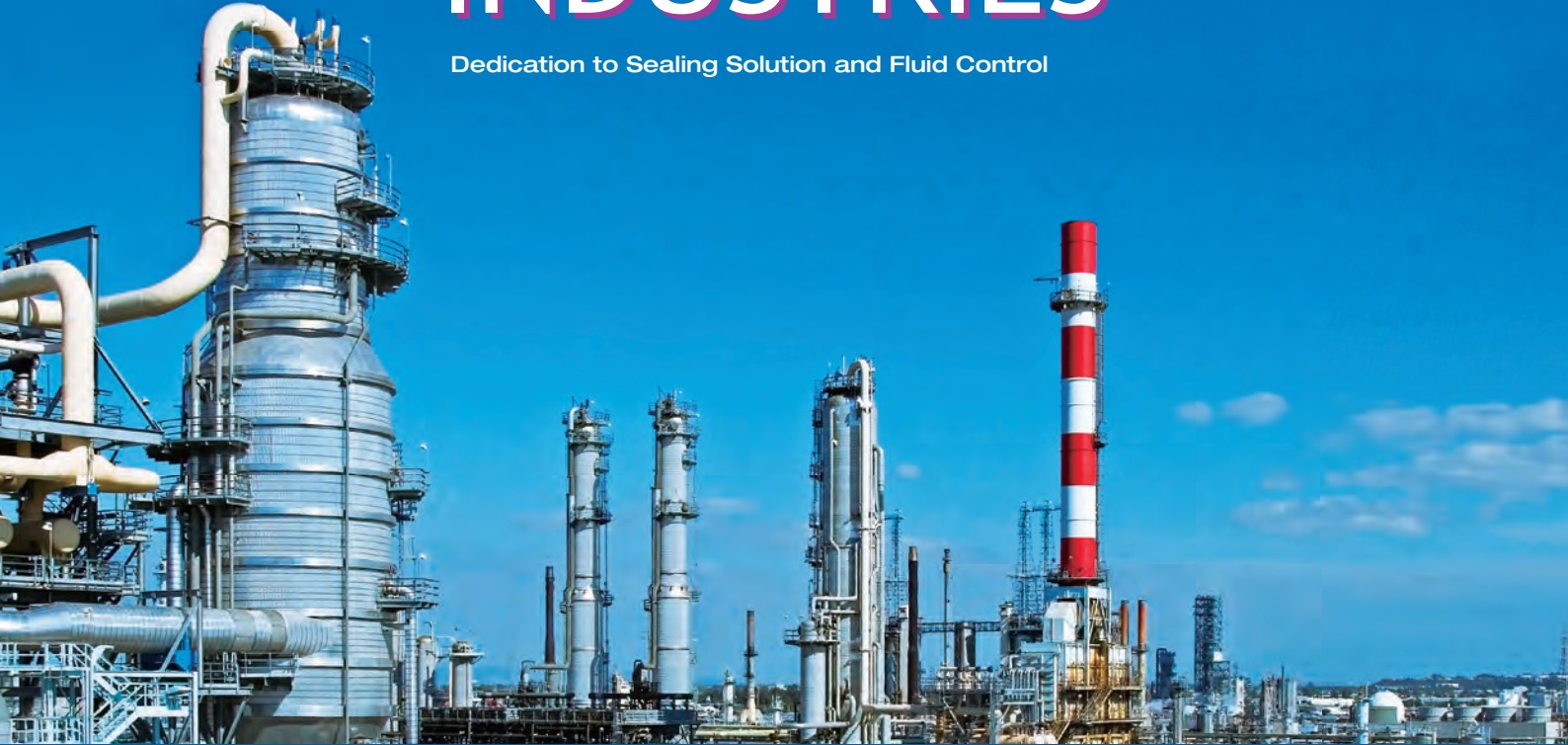


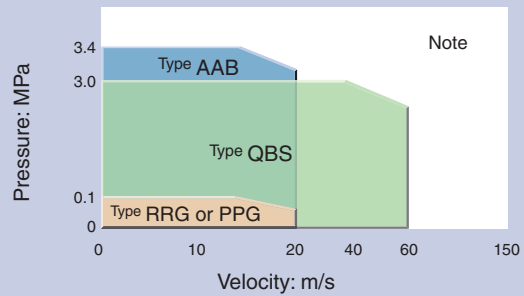


Pillar Products for OIL and GAS INDUSTRIES

Dedication to Sealing Solution and Fluid Control



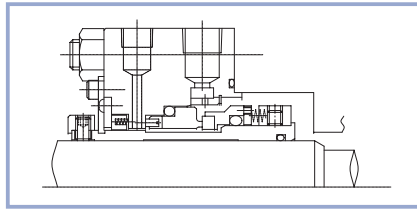
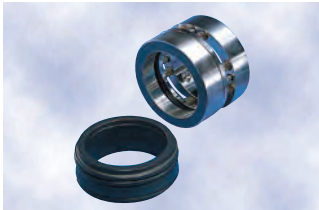
Selection of seal for pump



Mechanical Seals

Type AAB

Rotating multi-spring seal



SiC (Tungsten Carboide) vs Carbon & Fluoro Elastomer, 316 SS

Features & Benefits

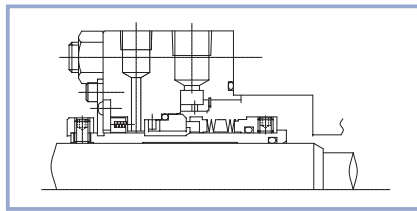
The mechanical seal of this type is a typical balance seal of Pillar seals, used for any industries since olden times. It uses the standardized rotating seal to be compatible to the dimension, construction and application of equipment used, and used multi-spring to demonstrate the stabilized performance in a wide range of application. This model is categorized in API 682. Seal type A

Performance

Pressure: 4.2MPa (610psi), Velocity: 20m/s, Nom.size: ϕ 20-250
Application: Process pump, Mixer, Blower

Type WQR

Rotating welded metal bellows Seal



SiC vs Carbon & Fluoro Elastomer, 316 SS

Features & Benefits

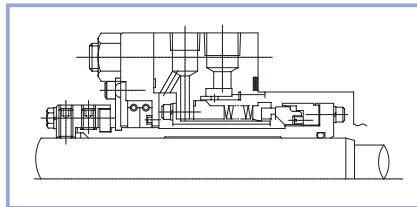
The bellows pack is a rotary type metal bellows seal that can be also attached to the pump compatible to ISO or DIN, and can provide the effect for countermeasure against operation failure of shaft packing type. Since the inconel is used for bellows material, it can be applicable to a wide of fluid. This model is categorized in API 682. Seal type B

Performance

Pressure: 2.0MPa (290psi), Velocity: 25m/s, Nom.size: ϕ 20-100
Application: Utility pump, Middle pressure pump

Type QBS

Welded metal bellows Seal



SiC vs Carbon, 316 SS

Features & Benefits

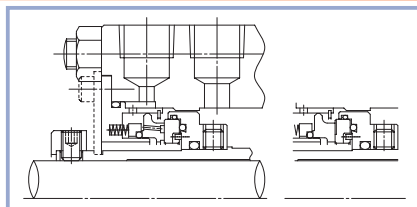
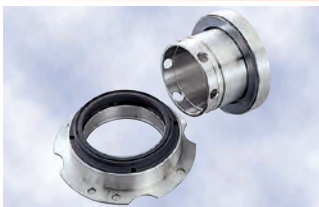
The mechanical seal of this type is a stationary type seal, using a double bellows of welded metal without no shaft packing, which provides the excellent resistance against pressure. Since it provides the excellent follow-up performance and does not require any consideration for heat resistance limit of packing material, it is suitable to high-temperature use. This model is categorized in API 682. Seal type C

Performance

Pressure: 3.0MPa (435psi), Velocity: 60m/s, Nom.size: ϕ 23-180
Application: High temperature liquid

Type RRG.PPG

dry contact seal / dry gas seal



SiC vs. Premium Carbon & Fluoro Elastomer, 316 SS

Features & Benefits

These mechanical seal is used in tandem seal as containment seal. RRG: This is a dry contact seal. The seal ring is grooved for reduction of load and is impregnated with special lubricant, it can assure the stable sealing performance for a long time. PPG: This is a dry gas seal. The seal surface of rotating ring is uniquely grooved, to use the hydro dynamic pressure effectively by the multi-independent grooves. These arrangement are 2CW-CS in API 682.

Performance

Pressure: 0.1MPa (14.5psi), Velocity: 20m/s, Nom.size: ϕ 20-130
Application: Process pump

Type Phoenix Seal®

Non-Contact dry gas seal



Features & Benefits

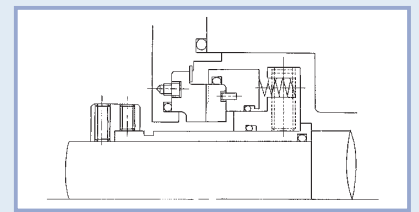
Bi-directional type non-contact dry gas seal

Multi-independent hydrodynamic pressure distribution generated by multi-independent grooves gives more stable seal performance.

(US 5664748, 5529318 EU Pending)

Performance

Pressure: 10MPa (1450psi), Velocity: 150m/s, Nom.size: ϕ 50-200
Application: Turbine, Blower, Compressor

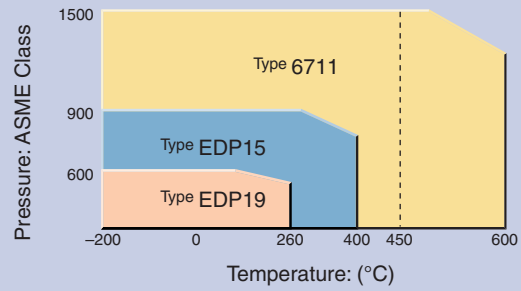


Carbon vs Sic & Fluoro Elastomer, 316 SS

Note: When selecting the mechanical seal for range exceeding the conditions shown above, consult NIPPON PILLAR.

It is advised to select the mechanical seal of proper type carefully, as the pressure and peripheral speed limits indicate the maximum value respectively.

Selection of valve packing



Gland Packings

Type EDP15*

Pillarfoil® Braided Packing



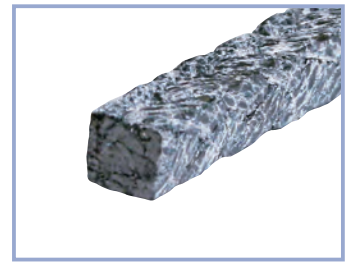
Features & Benefits

Pillar style EDP 15/No. 6315CL-EDP15 is made from high grade flexible graphite Pillarfoil® yarn that is externally reinforced by inonel wire mesh. The packing is treated with a special lubricant to ensure excellent sealability.

Performance

Temperature: -200 ~ +400°C (-328 ~ +750°F) *
 Pressure: 15.5MPa (2200psi) ASME class 900
 pH: 0 to 14 (except strong oxidizers)

* On the condition the temperature of the packing remains below +660°F (+350°C)



Type EDP19*

PTFE fiber Braided Packing for low torque



Features & Benefits

Pillar style EDP 19/No.4519 is manufactured with a carbon fiber core encapsulated by a pure PTFE braid. This unique combination gives you the outstanding characteristics of both carbon and PTFE.

Performance

Temperature: -29 ~ +260°C (-20 ~ +500°F)
 Pressure: 10.3MPa (1400psi) ASME class 600
 pH: 0 to 14

Type 6711*

Pillarfoil® Braided Packing



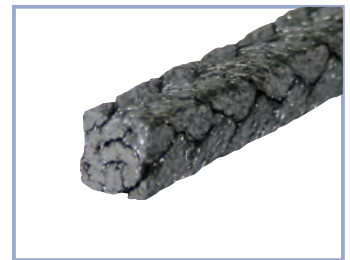
Features & Benefits

Pillar style No. 6711 is made from a Pillarfoil® yarn with braid over braid construction, reinforced by inonel wire.

Performance

Temperature: -200 ~ +600°C (-328 ~ +1100°F) *
 Pressure: 25.9MPa (3700psi) ASME class 1500
 pH: 0 to 14 (except strong oxidizers)

* in steam +840°F(+450°C) atmosphere



Type 6501L

Carbonized fiber packing



Features & Benefits

Pillar style No. 6501L is a square braid packing made from Pillar carbonized yarn impregnated with a PTFE dispersion and lubricant.

Performance

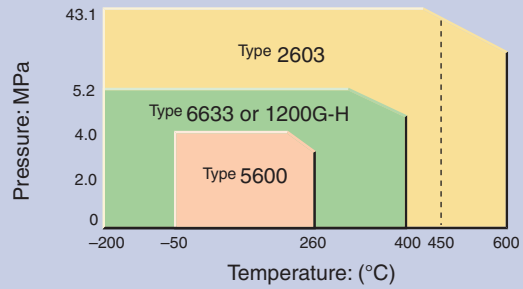
Temperature: ~ +200°C (~ +390°F) *
 Pressure: 1.0MPa (140psi)
 Shaft speed: 20m/s (4000rpm)
 PV: 9.8MPa · m/s
 pH: 2 to 12 (except strong oxidizers)

* For fluid exceeding +176°F(+80°C), the cooling unit is to be attached



* These products have gotten the patent

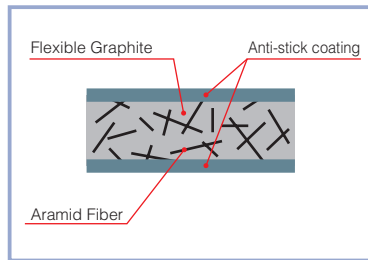
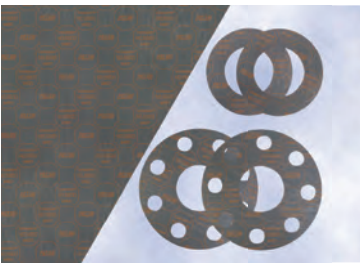
Selection of gasket



Gaskets

Type 5600

Non-asbestos joint sheet (for general application)



Features & Benefits

Pillar style 5600 is joint sheet gasket which is compounded from flexible graphite, inorganic-fiber and aramid-fiber with rubber binder. This has superior flexibility and easy to handle. Additionally we have various size of sheets, also for large size equipment.

Performance

Temperature: -50~260°C (-58~+500°F)
 Pressure: 4.0MPa (580psi)
 Application: Flanges for pipe, Equipment

Code: VG-5600 - (thickness) × (width) × (length)

Type 6633

Metalfoil inserted Pillarfoil® Sheet

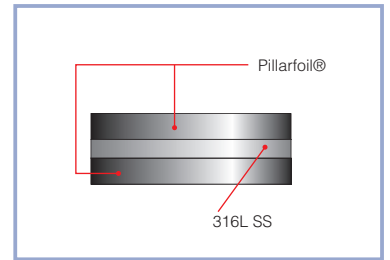
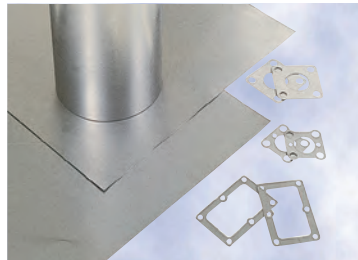
Features & Benefits

Flexible Graphite sheet reinforced by stainless steel foil.

This has superior heat resistance and flexibility as well as sealability, and easy to handle.

Performance

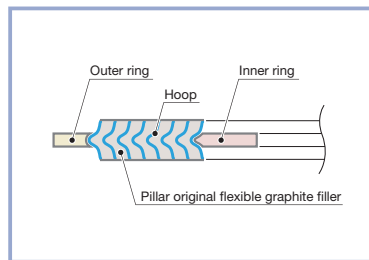
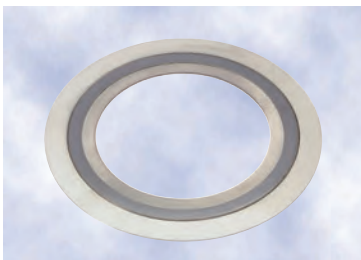
Temperature: -200~400°C (-328~+750°F), Pressure: 5.2MPa (754psi)
 Application: Flanges for pipe, Equipment



Code: VG-6633 - (thickness) × (width) × (length)

Type 2603

Pillarfoil® spiral wound gasket



Features & Benefits

Spiral wound gasket using Pillarfoil filler

It is superior in gas sealability, heat resistance and chemical resistance. It can be used in vacuum, LNG, nuclear application as well as general application.

Performance

Temperature: -200~600°C (-328~+1110°F)*
 Pressure: 43.1MPa (6250psi)
 Application: Flanges for pipe, Equipment
 * in steam +840°F(+450°C) atmosphere

Code: Standard
 With inner ring
 With inner/outer ring

VG-2600-EEO-ANSI (Size) LB-00"
 VG-2601-EEO-ANSI (Size) LB-00"
 VG-2603-EEE-ANSI (Size) LB-00"

Type 1200G-H*

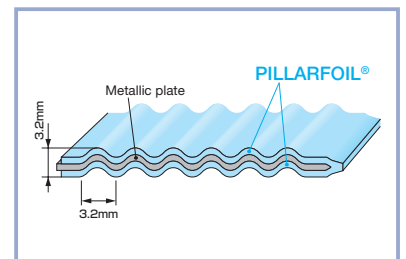
Corrugated Metal with flexible graphite Cover

Features & Benefits

Pillar style 1200G-H is a gasket of such construction that the special Pillarfoil sheet is laminated on both surfaces of metal sheet which is corrugated to concentric form.

Performance

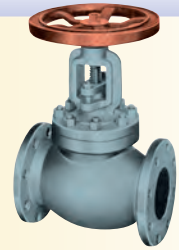
Temperature: -200~400°C (-328~+750°F), Pressure: 5.2MPa (754psi)
 Application: Flanges for pipe, Equipment



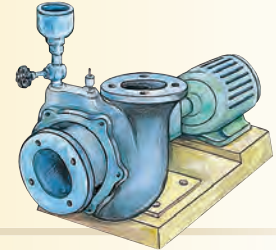
PILLAR Products in Process of REFINERY and PETROCHEMICAL Plants



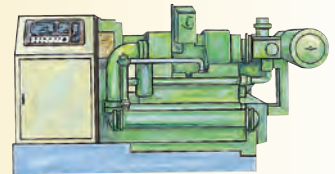
EDP15



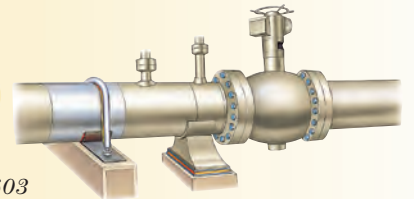
Type QBS



Type PHOENIX SEAL



Type 2603



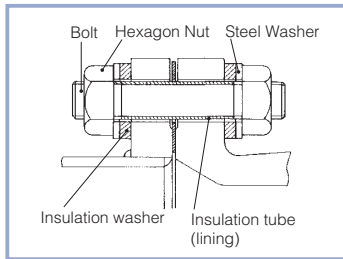
PTFE Products

Type 4650(H)

AC bolts



Code: PF-4650(H)-ANSI - (Size) LB - (Size)"



Features & Benefits

Lined with hard Pilaflon®

With insulation washers and gaskets, it is to prevent galvanic corrosion which may be generated on different metal flanges. PFA insulation diameter is smaller than thread diameter, so enable easy insertion work.

Performance

Temperature: -196~200°C (-320~+390°F)
Application: Flanges for pipe, Equipment

Type 4801

FLUOROGOLD® Slide Bearing

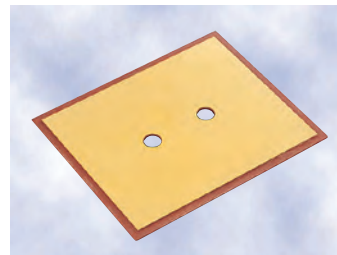
Features & Benefits

To accommodate relative sliding of equipment

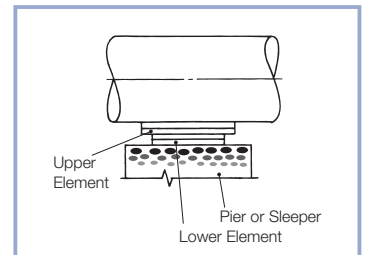
Fluorogold® is a high load slide bearing to accommodate relative movement by earthquakes, temperature difference, wind and so on.

Performance

Load: 0.5~13.7MPa (75~2000psi), Temperature: -60~200°C (-76~+392°F)
Application: Support for pipe, Equipment, Iron structure and apparatus



Code: PF-4801-FC-1010-CS 15L (width) × (length)



Carbon steel and PTFE



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.

* EDP® and PILLARFOIL® are registered trademark of Nippon Pillar Packing Co., Ltd.

NIPPON PILLAR PACKING CO., LTD.

11-48,2-Chome, Nonaka Minami,
Yodogawa-ku, Osaka, 532-0022 Japan

TEL +81 6 6305 2821

FAX +81 6 6302 3300

(URL) <http://www.pillar.co.jp>



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