



PILLAR EDP™ Packing Series

EDP17

(P/#6710+P/#6617)

Emission Defense Packing

Designed to meet the most demanding
Fugitive Emission requirements for valves.

**World's first Fugitive Emission
compatible PTFE FREE Packing**



PILLAR Corporation

**PTFE
FREE**

Organization	Standard
API (American Petroleum Institute)	API STD 622 3rd. Edition(Including high temp. test) certified. Used in numerous OEM valves qualified for API 624 STD. and API 641 STD.
ISO (International Organization for Standardization)	ISO15848-1 Class BH tested and qualified in numerous OEMs valves
Ta-Luft (Technische Anleitung zur Reinhaltung der Luft)	Ta-Luft/VDI2440 certified
Shell plc	Shell MESC 85/203, 85/204 (PILLAR's flexible graphite)



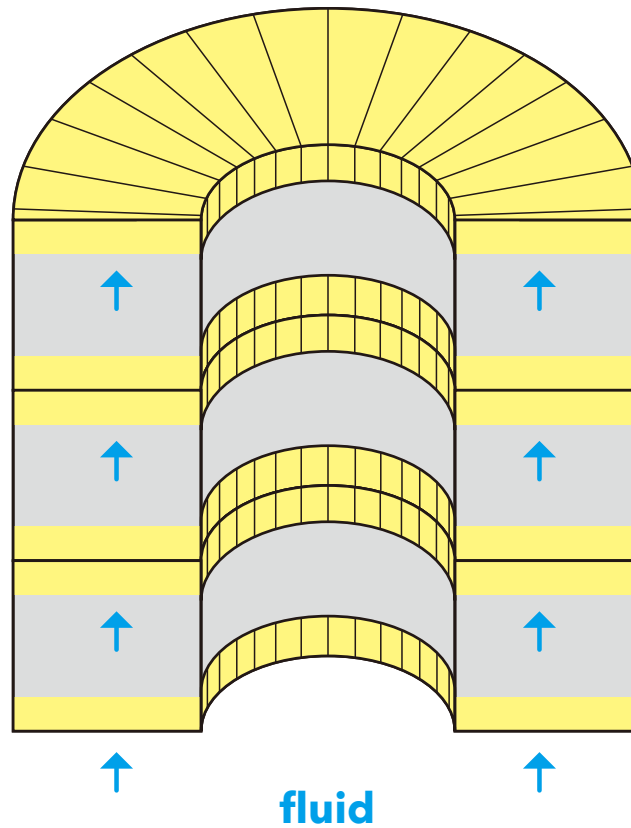
(P/#6710)



(P/#6617)

Capable of in house mass production.

Structure



 **Lids** (Impermeable treatment section)

Specification

pH : 0 to 14

Temperature : -270°C ~ +650°C (-454 ~ 1200°F)
*below 450°C (850°F) under the oxidizing atmosphere

Pressure : ASME class 4500
(77.6MPaG, 776barG, 11250psiG)

Application : 1) Refinery, Petro-chemical
2) Chemical
3) Cryogenic, e.t.c.

API622 FE & HT test report



API 622 Testing Summary (Fugitive Emission Section Only)

Customer: Nippon Pillar Packing Co., Ltd.
7-1 Shinmachi 1-chome
Nishi-ku, Osaka 550-0013 Japan

Work order: 121191
Start date: 10-30-2023
End date: 11-7-2023

Packing Information

Packing Description: Nippon Pillar EDP17X
Packing Set: Three die-formed tape style rings with two braided graphite wipers
Packing Cross Section: 1/4"
Test Fixture: Linear Actuated API 622 Test Fixture

Testing Criteria

Maximum Allowable Leakage	100	PPM
Test Pressure (Ambient)	600	PSIG
Test Pressure (500°F)	600	PSIG
Test Media	99%	Methane
Recommended Nut Torque	29.5	Ft-Lbs
Tested Stem Travel Per Stroke	4	Inches
Stroke Time	22	Seconds per Stroke
Cycle Time	45	Seconds per Cycle
Test Standard	API 622 3 rd Edition	

Results

Number Mechanical Cycles Required	1,510
Number Mechanical Cycles Completed	1,510
Number Thermal Cycles Required	5
Number Thermal Cycles Completed	5
Packing Adjustments Allowed	0
Packing Adjustments Made	0
Status	Pass

Stem Seal Leakage (PPMv)		Gland Torque (Ft-Lbs)	
Avg.	Max.	Avg.	Max.
16.6	44	26.3	29.5

Tested By:

Witnessed By: _____



API 622 Testing Summary (High Temperature Test Section Only)

Customer: Nippon Pillar Packing Co., Ltd.
7-1 Shinmachi 1-chome
Nishi-ku, Osaka 550-0013 Japan

Work order: 121446
Start date: 12-20-2023
End date: 12-23-2023

Packing Information

Packing Description: Nippon Pillar EDP17X (#6617-X + #6710)
Packing Set: Three die-formed tape style rings with two braided graphite wiper rings
Packing Cross Section: 1/4"
Test Fixture: Linear Actuated API 622 Test Fixture

Testing Criteria

Maximum Allowable Leakage	100	PPM
Test Pressure (Ambient)	600	PSIG
Test Pressure (750°F)	200	PSIG
Test Media (Ambient)	99%	Methane
Test Media (750°F)	99%	Helium
Recommended Nut Torque	29.5	Ft-Lbs
Tested Stem Travel Per Stroke	4	Inch
Stroke Time	20	Seconds per Stroke
Cycle Time	42	Seconds per Cycle
Test Standard	API 622 3 rd Edition	

Results

Number Mechanical Cycles Required	300
Number Mechanical Cycles Completed	300
Number Thermal Cycles Required	3
Number Thermal Cycles Completed	3
Packing Adjustments Allowed	1
Packing Adjustments Made	1
Status	Pass

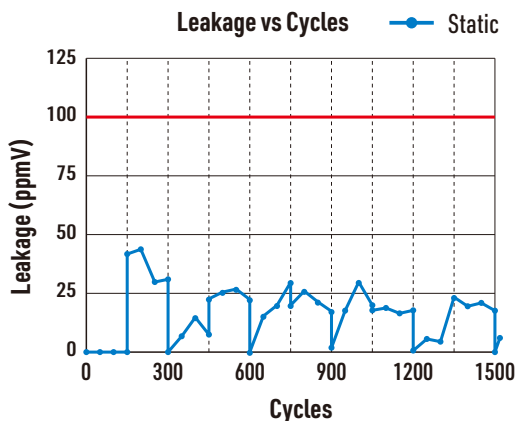
Stem Seal Leakage (PPMv)		Gland Torque (Ft-Lbs)	
Avg.	Max.	Avg.	Max.
13.5	50	27.3	29.5

Tested By:

Witnessed By: _____



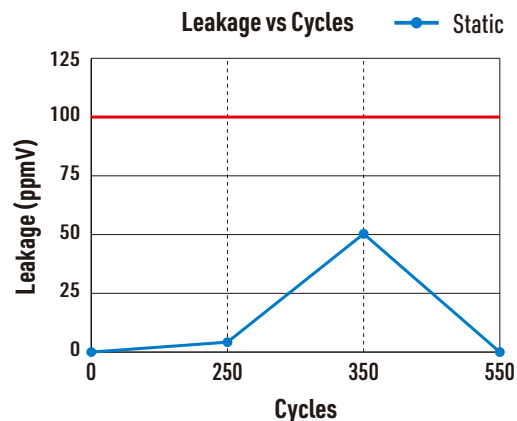
No adhesion



No extrusion



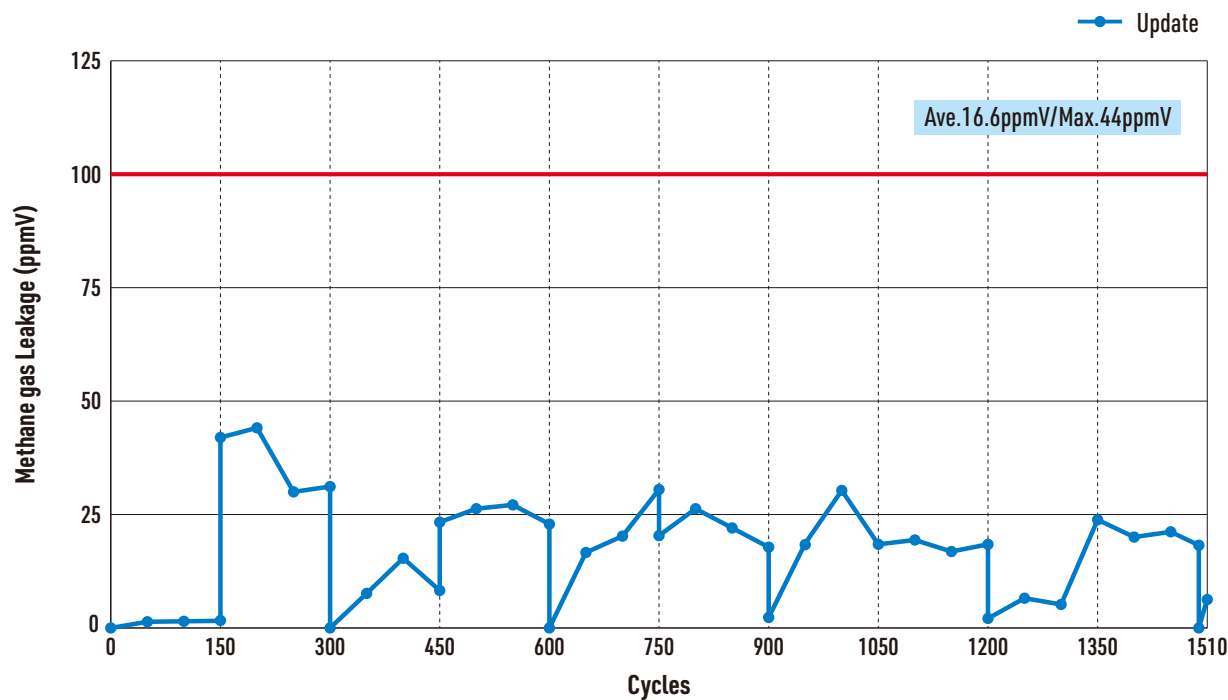
No adhesion



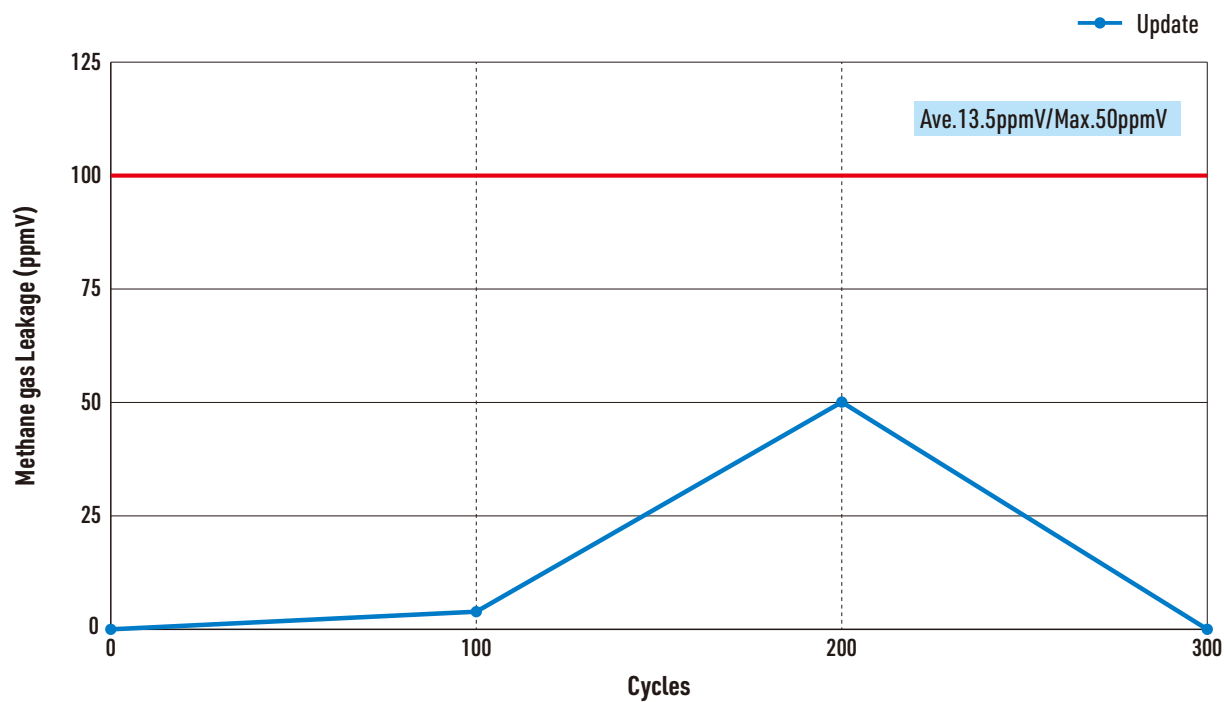
No extrusion

Technical data

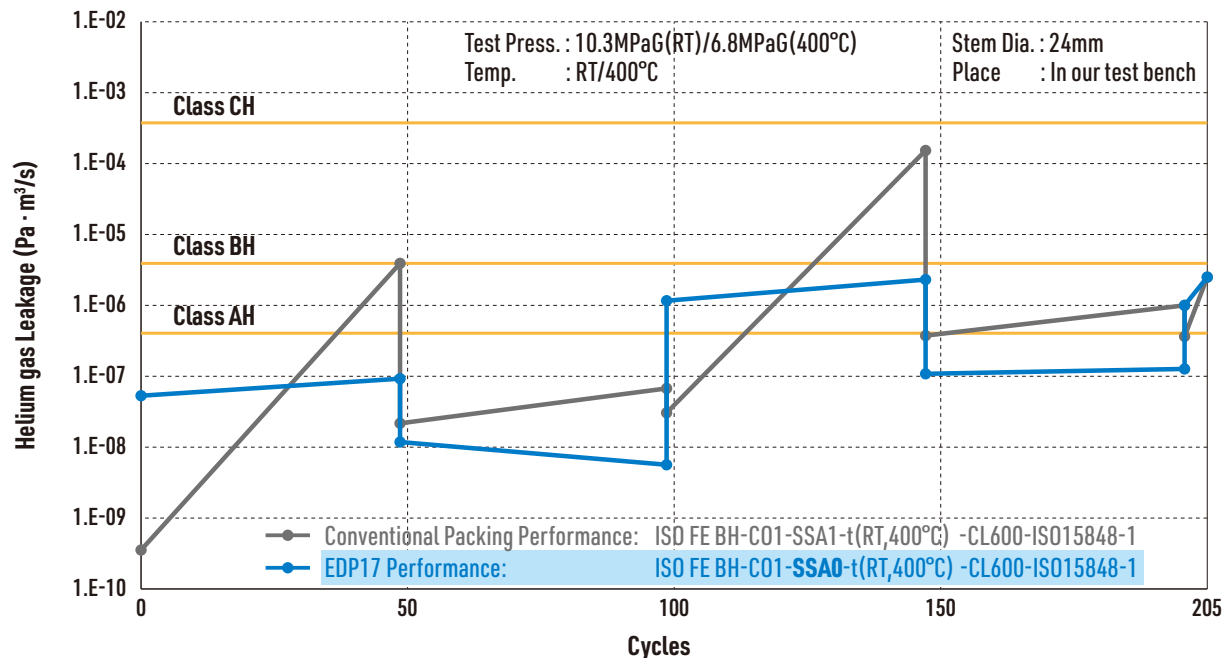
API622 FE test report



API622 HT test report



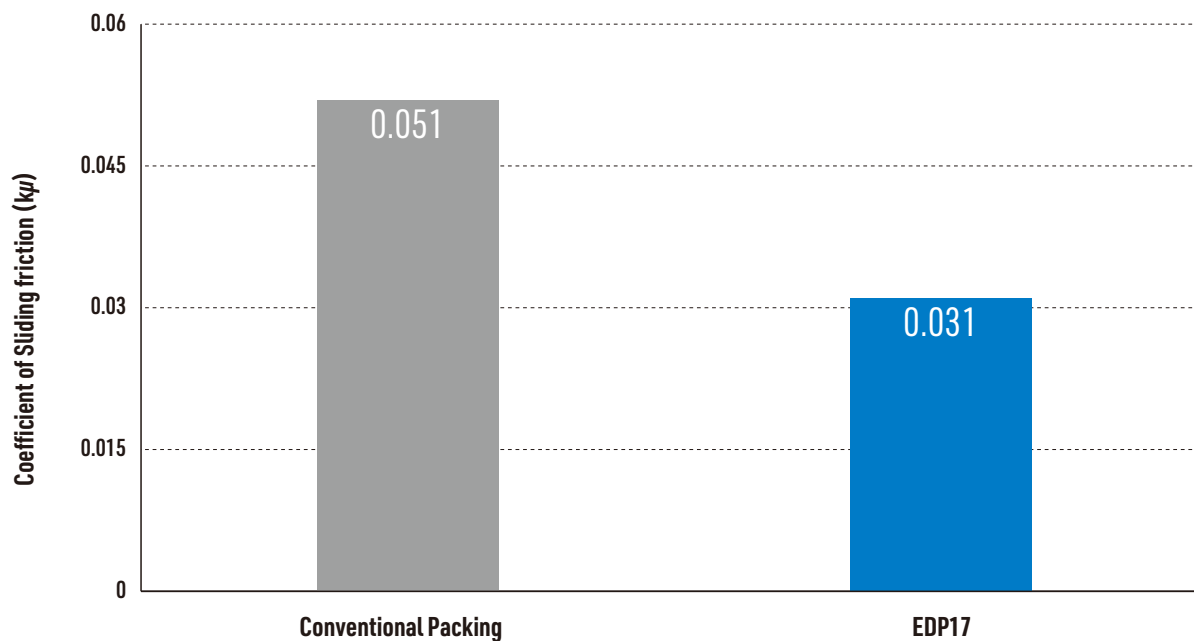
ISO15848-1 test report



EDP17 achieves BH class without the need for re-tightening.

Stem Friction test report

EDP17(6brings) Coefficient of Sliding friction $k\mu$ (at sliding)



EDP17 boasts over 30% lower friction compared to conventional packing design, with a 39% reduction confirmed through testing.

Advantage of PTFE Free packing

Stem Corrosion test report

Tested at 455°C(851°F) over 24 hours.



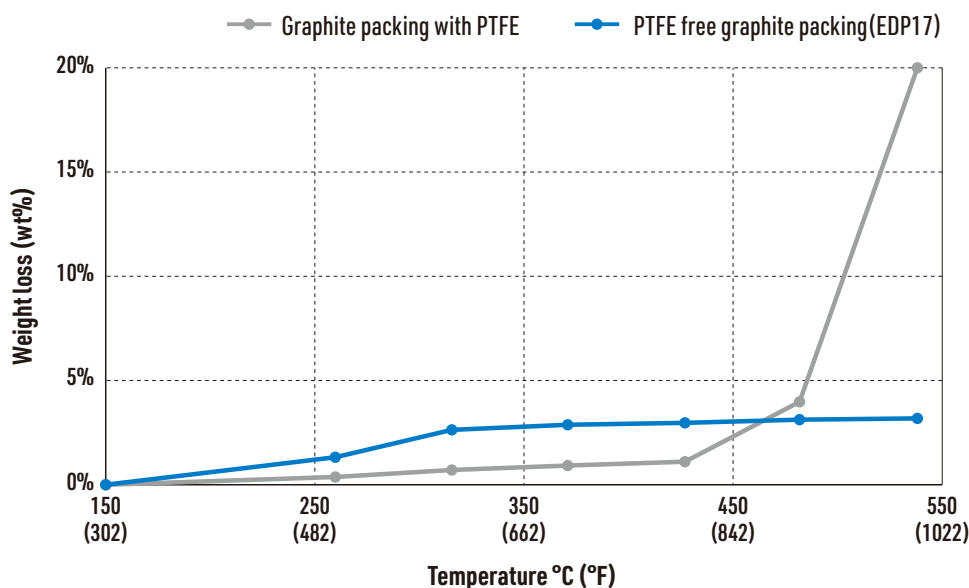
Graphite packing with PTFE



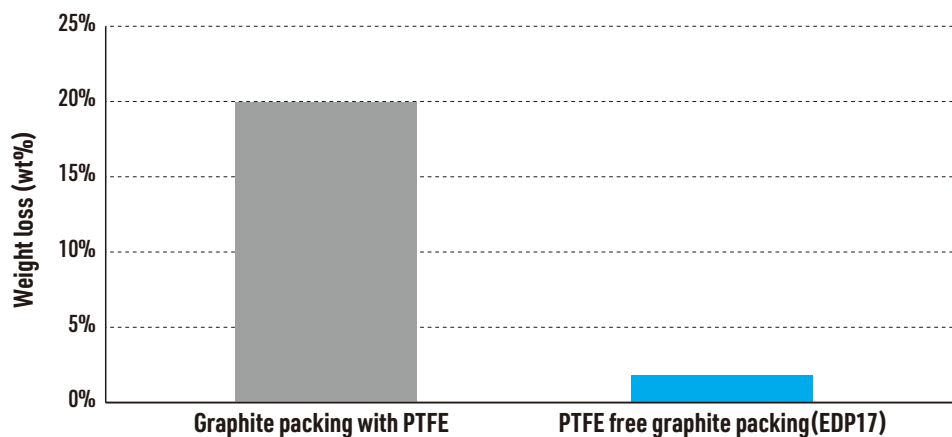
PTFE Free Packing (EDP17)

PTFE decomposes at high temperatures and corrodes metals.

Weight loss test report



Packing weight loss at 538°C (1000°F) × 1hr test report



EDP17 reduces weight loss by 75% compared to graphite packing with PTFE, improving safety margin at high temperatures.

PILLAR

CLEAN SAFETY FRONTIER

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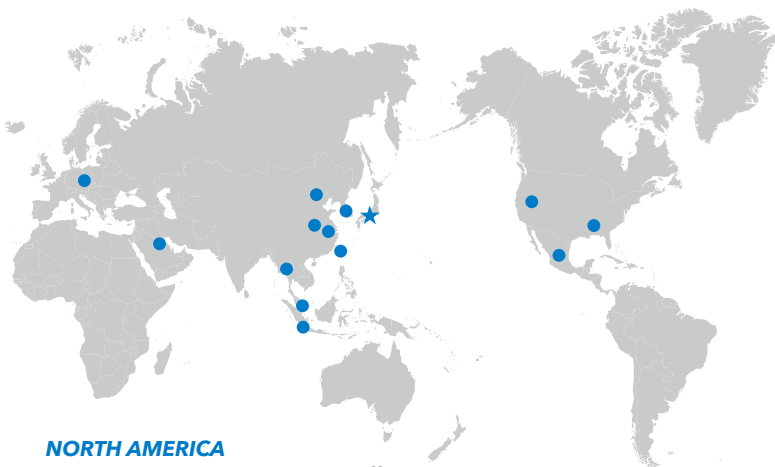
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CAUTION

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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