

GASKETS FOR THE PROCESS INDUSTRY



Fast, flexible and reliable

Freudenberg Sealing Technologies offers specially manufactured flat gaskets in a wide variety of shapes – whether classically round or customized according to drawing – particularly fast and flexible. For the special requirements of the process industry, a large selection of sealing materials are available that meet all segment-specific requirements. The most modern testing techniques guarantee the highest quality standards. The production process is highly precise as well as flexible with regard to the shape and quantity ordered.

AREAS OF APPLICATION

General area of application

Flat gaskets are used for the static sealing of two sealing surfaces. These are frequently the flange joints in pipe systems for the chemical industry, but they are also used in a variety of plant elements such as valves, fittings and pumps in the food, beverage and pharmaceutical industries.

Available dimensions

The maximum available part size is 500 mm x 2,300 mm, with a thickness of 0.5 mm to 8 mm.

GASKET MATERIALS

Special gasket with high performance materials

Freudenberg Sealing Technologies offers flat gaskets made of materials specifically manufactured for the requirements of the process industry. Especially in the chemical industry, the chosen sealing materials have to withstand media of mild to severe aggressiveness, as well as high temperatures and pressures. Likewise, the sealing material should compensate for the macro-unevenness of the flanges.

In the process industry, inert materials are primarily in demand. In the food industry, for example, this is due to the cleaning concentrates used in CIP/SIP cleaning (Cleaning In Place / Sterilization In Place). In the pharmaceutical and chemical industries, it is above all the aggressive solvents and chemicals that make high performance materials necessary. Freudenberg Sealing Technologies offers premium flat gasket materials with excellent chemical and thermal resistance – suitable for every application.

70 EPDM 291

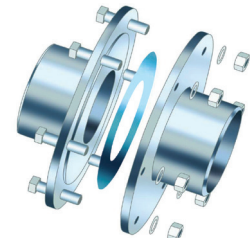
The black EPDM 291 is considered a standard material for the process industry. It is characterized by good media resistance in hot water and steam (permanently up to +180 °C, for a short time up to +210 °C), as well as in acids, alkalis and organic solvents. Gaskets made of EPDM are ideally suited for use especially in CIP/SIP media. EPDM 291 is free of plasticizers and contains minimal any extractable components.

75 Fluoroprene® XP 41

The blue Fluoroprene XP is a highly fluorinated material that almost reaches the performance of a perfluoroelastomer. Fluoroprene XP is extremely stable in polar media such as water, acid and alkali, as well as in non-polar media such as fats, oils and hydrocarbons. This universal material can also withstand high temperatures (up to +200 °C). This makes Fluoroprene XP the ideal solution for CIP/SIP processes and for especially demanding process industry applications.

70 NBR 438

Black NBR exhibits excellent low temperature flexibility and elastic properties due to a low amount of acrylonitrile. Gaskets made of NBR are particularly suitable for applications where there are high mechanical forces. NBR is also highly resistant in hot water (up to +100 °C), oils, diluted acids, fats and waxes. Furthermore, NBR shows excellent abrasion resistance.



Expanded PTFE

Freudenberg Sealing Technologies also offers flat gaskets made of PTFE, such as the expanded PTFE FG-360 (ePTFE). Expanded PTFE is particularly pure and is chemically resistant and flexible. Gaskets made of expanded PTFE are characterized by high resistance at different temperature cycles. In addition, it prevents cold flow. Especially for applications in the chemical industry, this material is also an optimal solution as a result of the corresponding TA Luft approval.

Numerous other material variants are available on request. For example, Freudenberg Sealing Technologies also offers a fiber-reinforced graphite gasket (FG-120) and a silica-filled flat gasket made of modified PTFE (FG-180).

VALUES FOR THE CUSTOMER

- Availability within one week of small batch series in the case of sheet materials customarily kept in stock
- Numerous special premium sealing materials for the food, beverage, pharmaceutical and chemical industries
- Highly precise production process that allows maximum flexibility in terms of shape and quantity
- Highest quality standards
- Economical manufacturing process compared to water jet cutting

MATERIAL	HARDNESS SHORE A	COLOR	TEMPERATURE RANGE IN °C	CONFORMITY/APPROVALS
EPDM 291	70	black	-50 to +150 (static) -40 to +150 (dynamic)	<ul style="list-style-type: none"> • FDA 21 CFR 177.2600 • 3-A[®] Sanitary Standards Class II • EU (VO) 1935/2004 and 2023/2006 • USP Ch. 87 and Ch. 88 – Class VI – 121 °C • NSF 51 und 61 • ADI free
Fluoroprene [®] XP 41	75	dove	-15 to +200	<ul style="list-style-type: none"> • FDA 21 CFR 177.2600 • 3-A[®] Sanitary Standards Class I • EU (VO) 1935/2004 and 2023/2006 • USP Ch. 87 and Ch. 88 – Class VI – 121 °C • NSF 51 • ADI free
NBR 438	70	black	-25 to +100	<ul style="list-style-type: none"> • FDA 21 CFR 177.2600 • 3-A[®] Sanitary Standards Class II • EU (VO) 1935/2004 und 2023/2006 • ADI free
FG-360 (expanded PTFE)		white	-268 to +315	<ul style="list-style-type: none"> • FDA 21 CFR 177.1550 • EU (VO) 1935/2004 and 2023/2006 as well as 10/20011 • USP Ch. 88 – Class VI – 121 °C • TA Luft - VDI 2440 and 2200

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