multiFlon® Gasket Sheet PRO

Multidirectionally expanded PTFE

Multidirectional ePTFE Sheet Gasketing

multiFlon® PRO - Gasket Sheets are made from 100% pure multidirectional ePTFE.

It consists solely of highest grade PTFE resins that offer an almost unlimited chemical resistance.

During installation, gaskets made from **multiFlon® PRO** sheets adapt perfectly to flange roughness, unevenness and usual irregularities of used flanges.

In service, stressed with temperature cycling and external forces, **multiFlon® PRO** keeps high gasket stress and forms an optimum thin gasket with high blow-out safety.

With **multiFlon® PRO** sheet gasketing you can cover a wide range of metal flange shapes in demanding aggressive surroundings.

For the use in high purity applications **multiFlon® PRO** GMP sheets with ink-free marking are available on request.

Typical Applications

Components
Large diameter standard flanges, piping systems, apparatus flanges, complex geometries

Flange Types
Steel flanges and high grade FRP components

Media
Highly agressive chemicals, all media in food and pharma applications (**multiFlon® PRO** - Gasket Sheets are also available with embossed marking or unbranded, for highest demanding food and pharma applications)

Key Features

- made from pure multidirectionally expanded Teflon™ PTFE
- easy manufacture into all gasket shapes
- chemically inert (except for molten or dissolved alkali metals and elemental fluorine gas - please contact our technical service for questions)
- suitable for high temperatures
- highly compressible
- highly conformable to the sealing surface
- reliably tight and blow-out safe
- 100% resistant to ageing in the applicable range of use (see technical data)
- reduces service and operating costs

Technical Data

Material
100 % pure multidirectionally expanded PTFE

Temperature Range of the material
-240°C up to +270°C, intermittent to +315°C

Chemical Resistance
resistant to all media in the range of pH 0 to 14, except for molten and dissolved alkali metals and elemental fluorine gas at high temperatures and pressures

Recommended Operating Range
Vacuum to 40 bar at -240°C to +230°C, depending on the individual application up to 200 bar

Tests and Certificates
TA-Luft (VDI 2440) up to 230°C and VDI 2290 @ 40bar He
BAM for gaseous and liquid Oxygen
Material conforming to:
FDA 21 CFR 177.1550 (PTFE)
EG1935 and relating regulations for extraction limits and GMP
USP Class VI (not intended for implantation in the human body)
EU 1907/2006 (REACH) with Annex XVII and it´s amendments

Gasket Sheet PRO multiFlon®

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Available Standard Sizes

Type	Size [mm]	Thickness [mm]
multiFlon® PRO 05	1500 x 1500	0,5
multiFlon® PRO 10	1500 x 1500	1
multiFlon® PRO 15	1500 x 1500	1,5
multiFlon® PRO 20	1500 x 1500	2
multiFlon® PRO 30	1500 x 1500	3
multiFlon® PRO 60	1500 x 1500	6

Properties

EN 13555 (2 mm Thickness)

Q_{min} (40 bar He; 0,01 mg/(s*m)): 27 MPa
Q_{Smin} (Q_A=30 MPa; 40 bar He; L=0,01): < 10 Mpa
Q_{Smax} (23°C): 160 Mpa
Leakage Rate (Q_A=40 MPa; 40 bar He): $<10^{-4}$ mg/(s*m)
PQR @ 20 °C (Q_A=30 MPa): 0,94
all Design Constants according to EN13555 are available at:
www.gasketdata.org

ASTM F36

Compressibility: 50 - 55 %
compressed Thickness: 0,90 mm
Recovery: 13 %
recovered Thickness: 1,04 mm

Due to a series of practical tests it appeared that the minimum required gasket stress during operation is generallly lower than the minimal specified gasket stress according to EN 13555. Therefor in practice we calculate with Q_{Smin} = 5 Mpa at controlled assembly.

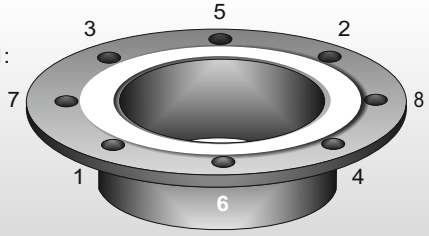
Choice Recommendation

1,5 mm thickness in new piping systems up to DN 300 / 12”

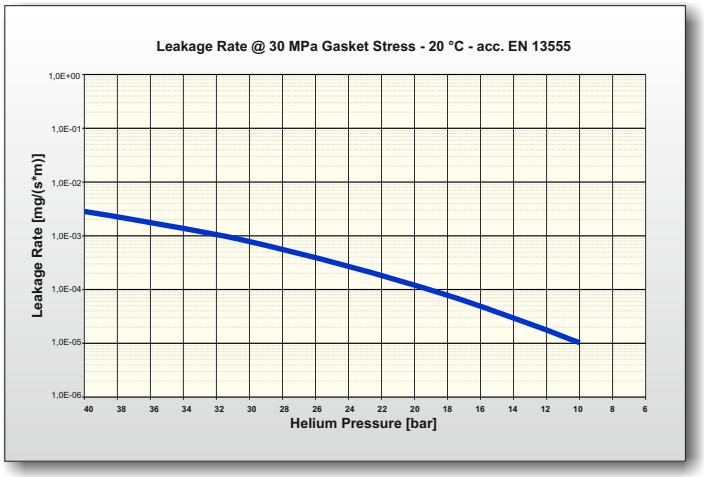
2 mm thickness in standard flanges with good sealing surface

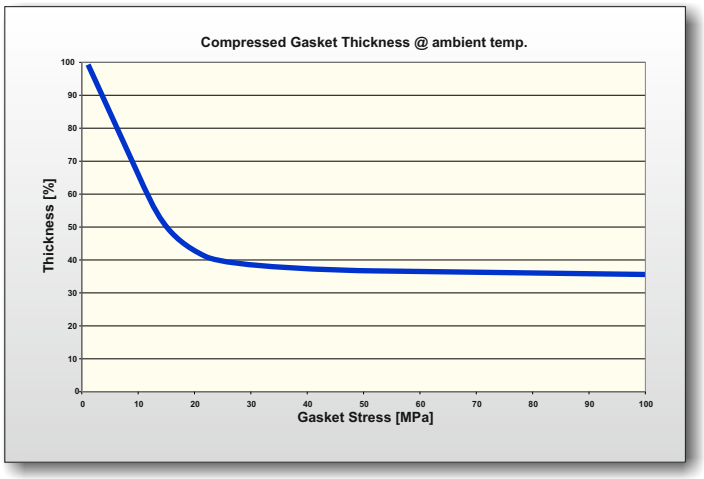
3 mm thickness in flanges and flange-like joints with tolerable unevenness and roughness

fig.01:



Characteristics





Assembly

Clean sealing surface completely. Remove any dirt, corrosion, grease or left-over from old sealing materials.

Position gasket to the middle of the sealing surface and torque bolts hand-tigh. At least 4 progressive torque sequences with a torque wrench should follow, until you reach the recommended gasket stress (follow sequence as shown in fig. 01).

Perform a circular torque check before start-up of the equipment.

Always follow the state-of-the-art guidelines for gasket assembly as well as the recommended torque for your sealing system.

If you need idividual calculations for special equipment or non-standard gasket sizes contact our Technical Support.

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