multiFlon® Gasket Sheet ECO

Multidirectionally expanded PTFE

Multidirectional ePTFE Sheet Gasketing

multiFlon® ECO - Gasket Sheets are made from 100% pure multidirectionally expanded PTFE.

The high-quality PTFE resins, the gasket sheets consist of, provide an almost unlimited chemical resistance.

Typical for gaskets made from **multiFlon® ECO** sheets is the high level of compensating capability in terms of micro- and especially makro unevenness of the sealing surface. Leakage channels that may occur because of flange roughness or irregularities of used flanges can be sealed perfectly due to the high compressibility and adaptability of the gasket.

With **multiFlon® ECO** sheet gasketing you can cover a wide range of flange shapes and process equipment in demanding aggressive surroundings.

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

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
- resistant to ageing
- 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
FDA 21 CFR 177.1550 (PTFE)
EC 10/2011 (regulation for extraction limits)
EU 1907/2006 (REACH) with Annex XVII and it´s amendments

Gasket Sheet ECO multiFlon®

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Available Standard Sizes

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

other thickness on request

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 @ 120 °C (Q_A=30 MPa):	0,94

ASTM F36

Compressibility:	55 - 60 %
compressed Thickness:	0,80 mm
Recovery:	13 %
recovered Thickness:	0,90 mm

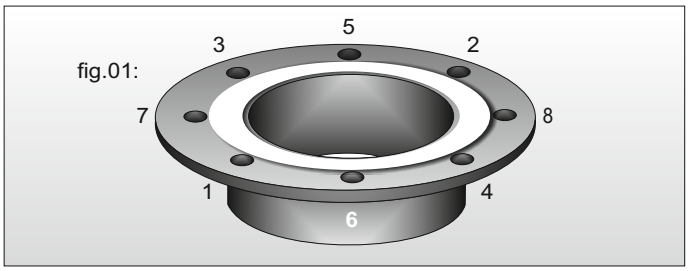
Due to a series of practical tests it appeared that the minimum required gasket stress during operation is generallly lower than the minimal specified gasket stress according to EN 13555. Therefor in practice we calculate with Q_{Smin} = 5 Mpa at controlled assembly.

Choice Recommendation

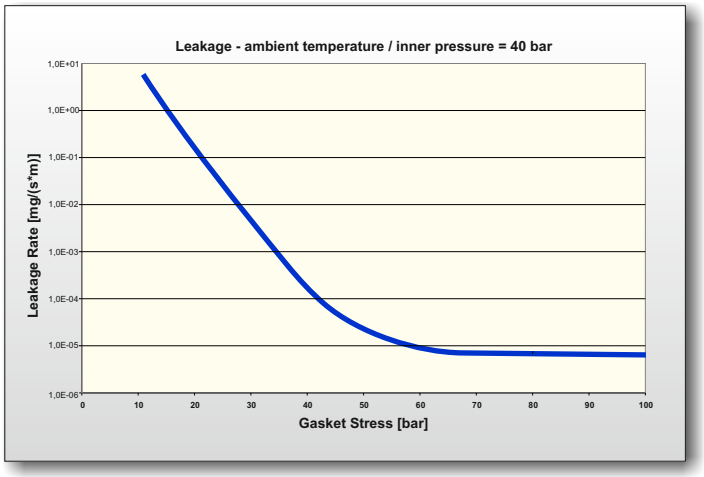
1,5 mm thickness in new piping systems up to DN 300 / 12”

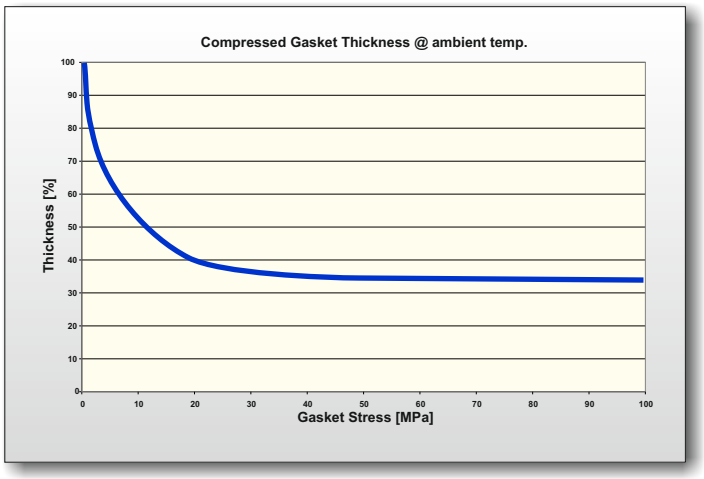
2 mm thickness in standard flanges with good sealing surface

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



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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