



EXPANDED AND STRUCTURED PTFE SEALING MATERIALS



Sealing for a safer and greener tomorrow

PTFE as the basis for gaskets of the newest generation...

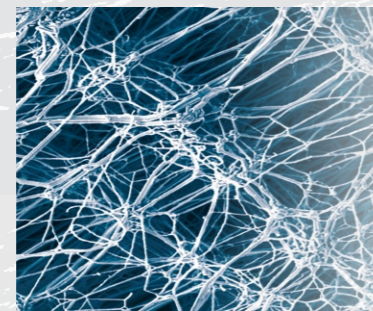
Numerous advantages make our PTFE-products an ideal and extremely versatile sealing material:

- chemical resistance from pH 0 – 14
- temperature range from -268°C up to + 260°C (+315°C for short periods)
- high residual stress
- physiologically harmless
- conforms to FDA regulations
- non-ageing, UV resistant
- non-inflammable
- vacuum resistant

...perfected by special TEADIT® manufacturing processes

Our all-purpose mono-directionally expanded PTFE joint sealant tapes are manufactured from 100% pure PTFE (Polytetrafluorethylen). A special, thermo-mechanical stretching process results in a micro-porous fibre structure which adds high tensile strength and malleability to the general advantages of PTFE, while the negative characteristics - like cold flow and creep - are almost totally eliminated. Because of the excellent malleability of expanded PTFE, TEADIT® joint sealant tapes adapt easily to irregularities or damages on the sealing areas (flange faces), sealing effectively at already low flange loads.

mono-directional



As a result of this, the new material has excellent dimensional stability and is subject to only very minimal cold flow. All this without losing any of the superb sealing properties of pure PTFE.

Based on the production process of our monoaxially expanded PTFE tapes, we have strived to further improve the cold flow properties and deformation characteristics of expanded PTFE-material. We have managed to develop the complex stretching process to a level which results in a multi-directional fibre structure which guarantees equal tensile strength in all directions. As

multi-directional



The latest addition to our family of ePTFE sealing products is our

range of TF sheets. A unique production process provides a highly fibrillated PTFE structure of the gasket sheets, which results - together with the carefully chosen filler materials - in very high mechanical strength of the sheets, which makes handling of big gaskets easier. The filler materials are chosen to suit the different applications occurring in all kinds of industry.

This makes TEADIT® the only manufacturer world-wide who produces a full range of expanded AND structured PTFE sealing products.

structured

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Structured PTFE gasket material TF

The TF range of PTFE gasket sheets are made from pure PTFE with special filler substances. Because of the multidirectionally orientated fibre structure of these PTFE-sheets, the problems usually associated with PTFE, like cold flow and creep, have been largely eliminated. Gaskets from those sheets can be used in considerably higher temperature/pressure combinations than conventional PTFE materials.

Advantages

- excellent compressibility
- outstanding recovery
- low hot creep during service
- excellent sealability
- drastically reduced cold flow and creep
- high mechanical strength
- excellent chemical resistance

Advantages at installation

- easy to handle
- low assembly pressure
- quick and easy installation

Product standard

Sheet size: 1,500 x 1,500 mm in 1.5, 2.0 and 3.0 mm thickness, and as ready cut gasket.
Other thicknesses on request: 0,5 up to 6,4 mm

Please note:

all our PTFE gasket sheets exceed the demanding TA Luft standard.

Structured PTFE gasket material TF

TEADIT® TEALON TF 1590

filled with Silica
colour: fawn

Special advantages

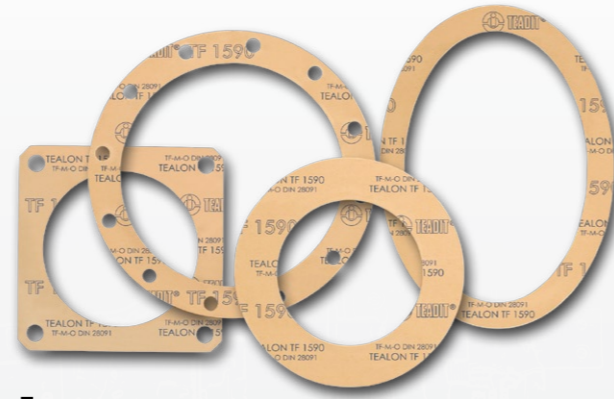
- outstanding resistance against most chemicals
- particularly suited for use with acids
- high resistance against blow-out
- excellent mechanical strength

Application areas

- very versatile gasket material, best suited for chemical and petrochemical processes

Technical data

temperature range: -268°C up to + 260°C
max. pressure: up to 83 bar
pH 0 – 14
minimum assembly pressure $Q_{min,0,01} = 17 \text{ MPa}$ (10 bar; 2 mm)
min. gasket pressure under operating conditions $Q_{Smin,0,01} < 10 \text{ MPa}$
maximum surface pressure $Q_{max} > 240 \text{ MPa}$
TA Luft / leakage according to VDI 2440 $L = 1.1 \cdot 10^{-6} \text{ mbar l/(sm)}$



Tests:

BAM

Approvals:

DVGW, Air Liquide (oxygen), FDA,
TA Luft, GL, W270, Blow-out test (VDI 2200),
EU 1935/2004, EU 10/2011, ABS,
Chlorine Institute (Pamphlet 95)

TEADIT® TEALON TF 1580

filled with Barium Sulfate
colour: off-white

Special advantages

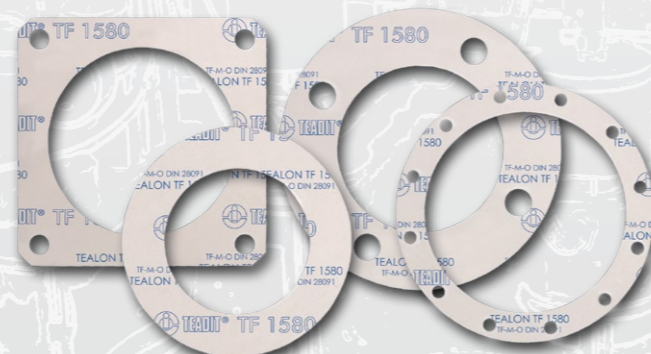
- excellent resistance against most chemicals
- particularly suited for use with caustics

Application areas

- suitable for „clean“ processes and products
- extremely versatile gasket material, best suited for pharmaceutical and food industry

Technical data

temperature range: -268°C up to + 260°C
max. pressure: up to 83 bar
pH 0 – 14
minimum assembly pressure $Q_{min,0,01} = 10 \text{ MPa}$ (10 bar; 2 mm)
min. gasket pressure under operating conditions $Q_{Smin,0,01} < 10 \text{ MPa}$
maximum surface pressure $Q_{max} > 240 \text{ MPa}$
TA Luft / leakage according to VDI 2440 $L = 5.9 \cdot 10^{-7} \text{ mbar l/(sm)}$



Tests:

BAM

Approvals:

DVGW, FDA, TA Luft, GL, Blow-out test (VDI 2200),
EU 1935/2004, EU 10/2011, ABS, Chlorine
Institute (Pamphlet 95)

Structured PTFE gasket material TF

TEADIT® TEALON TF 1570

filled with hollow glass micro spheres
colour: blue

Special advantages

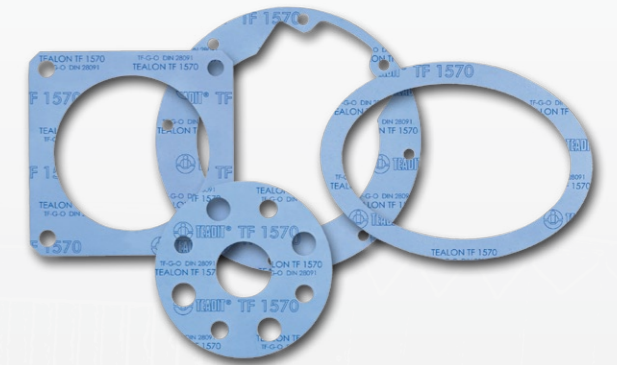
- excellent adaptability
- high compressibility
- very good chemical resistance

Application areas

- suitable for pressure sensitive connections made of glass, ceramics, plastic etc.
- compensates for irregularities, roughness and/or damages on the sealing areas
- all-round gasket material, specially suited for the chemical and pharmaceutical industry

Technical data

temperature range: -268°C up to + 260°C
max. pressure: up to 55 bar
pH 0 – 14
minimum assembly pressure $Q_{min,0,01} = 7 \text{ MPa}$ (10 bar; 2 mm)
minimum gasket pressure under operating conditions $Q_{Smin,0,01} < 10 \text{ MPa}$
maximum surface pressure $Q_{max} > 240 \text{ MPa}$
TA Luft / leakage according to VDI 2440 $L = 3.7 \cdot 10^{-6} \text{ mbar l/(sm)}$



Tests:

BAM

Approvals:

TA Luft, FDA, GL, Blow-out test (VDI 2200),
EU 1935/2004, EU 10/2011, ABS

TF 1510

filled with hollow glass micro spheres
colour: white

Special advantages

- Highly compressible and therefore adaptable to any sealing surface
- Outstanding mechanical resistance and residual stress

Application areas

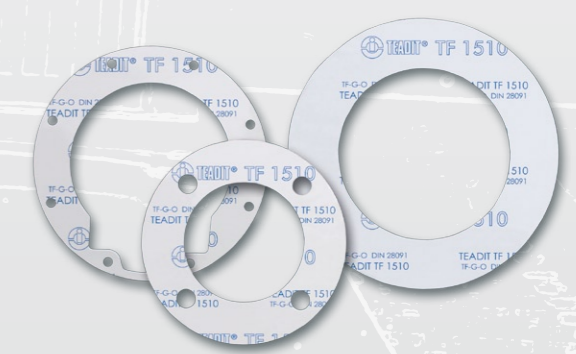
- Suitable for service with most aggressive fluids at a wide temperature range

Tests:

BAM

Approvals:

TA Luft, GL,
Blow-out test (VDI 2200)



Technical data

temperature range: -268°C up to + 260°C
max. pressure: up to 55 bar
pH 0 – 14
min. assembly pressure $Q_{min,0,01} = 20 \text{ MPa}$ (40 bar; 2 mm)
minimum gasket pressure under operating conditions $Q_{Smin,0,01} < 12 \text{ MPa}$
maximum surface pressure $Q_{max} > 240 \text{ MPa}$
TA Luft / leakage according to VDI 2440
 $L = 1.1 \cdot 10^{-5} \text{ mbar l/(sm)}$

Welded gaskets

Welded gaskets made from our TEADIT® TF sheets

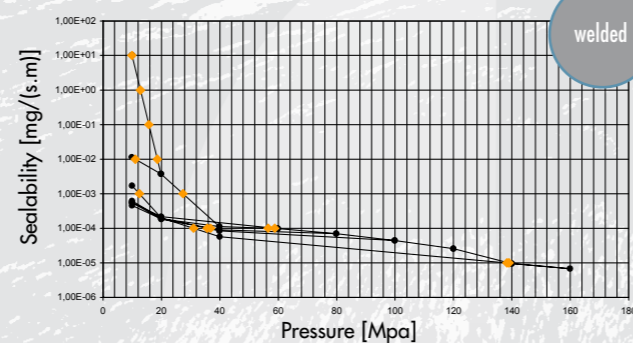
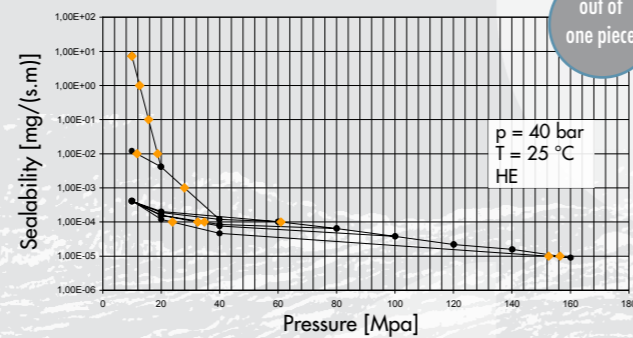
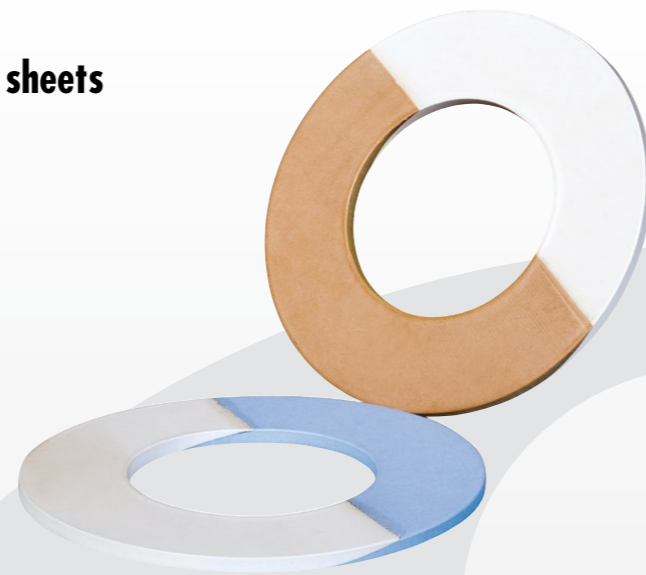
For over 20 years TEADIT has been welding large size PTFE-gaskets and PTFE envelope gaskets. We enhanced this practical knowledge, the technology and materials to provide customers with gaskets in big dimensions (larger than sheet size) made from our structured TF materials. Our precisely manufactured welded gaskets achieve the same tightness classes as gaskets made from one single piece.

Advantages:

- Same leakage classes as gaskets cut from one piece.
- Gaskets in diameters far beyond sheet size are possible.
- Maximum material yield by producing gaskets from welded segments – therefore lower cost.
- TEADIT welded gaskets are manufactured true to size. This results in fast and easy installation, as such close tolerances cannot be achieved by welding the gasket on site.

Application areas:

- Equipment which requires gaskets bigger than the available sheet(s).
- Bigger gaskets, where the focus is on material cost optimization.



By research and testing TEADIT provided evidence that welded gaskets made from TEADIT TF materials, in terms of leakage, show no difference to gaskets cut from one piece. The above tables are showing the test results of leakage tests of welded and single-piece TF 1590 gaskets. It can be seen that at an applied gasket pressure of 20MPa both the welded and the single-piece gasket reach a leakage class of 10^{-2} mg / (s.m).

At a gasket pressure of 40MPa both types of gaskets reach a leakage class of 10^{-4} mg / (s.m).

Tests have been carried out according to DIN EN 13555 at room temperature with Helium at internal pressure of 40bar.

Mono-directional ePTFE gasket material

TEADIT® 24 B

TEADIT® 24 B is a high-grade PTFE joint sealant tape, produced by a special monoaxial stretching process from 100% pure PTFE. An adhesive strip - approved for use with foodstuffs - makes installation quick and easy.

Advantages

Safety

- chemically inert against most substances
- covers a wide temperature range
- non ageing, UV resistant

Quick and easy installation

- adhesive strip aides installation
- excellent malleability compensates for irregularities
- used tape can be removed easily and without residue

Cost saving

- reduced down time because of quick installation
- minimal stock cost - a few dimensions cover most applications
- absolutely no waste

Technical data

temperature range: -268°C up to +260°C (short time +315°C)

pH 0 – 14

gasket parameter, assembly $Q_{min 0,01} = 1.7$ MPa (10 bar; 2 mm)

Typical application range

temperature range: -60°C up to +230°C

operating pressure: from vacuum to 40 bar

For details on applications with higher temperatures and / or pressure please contact TEADIT application engineering!

Tests:

BAM

Approvals:

DVGW, WRAS, TA Luft,

FDA & EU 1935/2004 & EU 10/2011 (all incl. adhesive)



Product standard

Width from 3 mm to 40 mm
in 1.5 mm to 7.0 mm thickness

Special dimensions and recommendations on request.

Application areas

- for all kinds of flanged joints
- for housings of pumps, compressors, etc.
- as a lid seal for various containers and vessels
- gasket for inspection holes, man holes, venting systems, heat exchangers, etc.
- for pressure sensitive and stress sensitive joints where only a low flange load may be applied





Mono-directional ePTFE gasket material

TEADIT® 24 BB

TEADIT® 24 BB is the wider version of our universally applicable, 100% pure, expanded PTFE gasket tape. Although the fibres have a multi-directional orientation, tensile strength is considerably higher along the longitudinal axis. TEADIT® 24 BB is suitable to cut or punch gaskets from and has a full width adhesive tape on one side, approved for use with foodstuffs (also available without adhesive tape).

Technical data

temperature range: -268°C up to + 260°C (short time +315°C)
pH 0 – 14
gasket parameter, assembly $Q_{min 0,01} = 30 \text{ MPa}$

Typical application range

temperature range: -60°C up to +230°C
operating pressure: from vacuum to 40 bar
For details on applications with higher temperatures and / or pressure please contact TEADIT application engineering!

Advantages

- all physical properties of 100% pure PTFE
- gaskets can be economically cut from the tape
- intricate shapes can be cut or punched with simple tools
- cost savings because of low stock cost and reduced maintenance time



Product standard

Width from 25 to 200 mm in 0.5 up to 3.0 mm thickness

Approvals:

WRAS,
FDA & EU 1935/2004 & EU 10/2011 (all incl. adhesive)

TEADIT® 24 HD

TEADIT® 24 HD is a pre-densified 100% pure PTFE gasket tape. Because of its higher original density - compared to conventional PTFE joint sealant - TEADIT® 24 HD is particularly well suited to seal irregular - e.g. out-of-parallel - and/or damaged flange faces, and for applications where a certain remaining gasket thickness is required.

Technical data

temperature range: -268°C up to + 260°C (short time +315°C)
pH 0 – 14
gasket parameter, assembly $Q_{min 0,01} = 27 \text{ MPa}$

Typical application range

temperature range: -60°C up to +230°C
operating pressure: from vacuum to 40 bar
For details on applications with higher temperatures and / or pressure please contact TEADIT application engineering!

Product standard

Width from 3.2 to 15 mm in 0.3 up to 7.0 mm thickness

Advantages

- all physical properties of 100% pure PTFE
- the higher original density results in increased remaining gasket thickness

Typical applications

- sealing of tube heat-exchangers
- extra large flanges, containers, lids etc
- pump housings
- inspection holes, manholes, and many more



Approvals:

WRAS,
FDA & EU 1935/2004 & EU 10/2011 (all incl. adhesive)



Multi-directional ePTFE gasket material

TEADIT® 25 BI

This top of the range PTFE joint sealant tape belongs also to the group of multi-directionally expanded PTFE sealing materials. Again, a very complex production process ensures equal rigidity in longitudinal and cross direction, resulting in high dimensional stability and extremely low cold flow, combined with excellent malleability and very easy handling. This makes TEADIT® 25 BI particularly well suited for use with all pressure sensitive and stress sensitive connections, it also compensates for irregularities and/or damages on the sealing areas.

Advantages

Safety

- dimensional stability, only the thickness changes under compression
- chemically resistant against all substances (exceptions: molten alkali metals and elemental fluorine)
- excellent temperature resistance
- physiologically harmless - non contaminating
- conforms to FDA regulations

Cost saving

- reduced stock cost - a few different sizes cover most applications
- no waste - no off-cuts
- one material for many applications - less risk of using the wrong material
- less down time - no cutting or punching, quick and easy to install
- can be stored indefinitely (without adhesive backing)

Technical data

temperature range: -268°C up to + 260°C (short time +315°C)
pH 0 – 14
minimum assembly pressure $Q_{min 0,01} = 24 \text{ MPa}$ (10 bar; 3 mm)
minimum gasket pressure under operating conditions $Q_{Smin 0,01} < 10 \text{ MPa}$
maximum surface pressure $Q_{max} > 240 \text{ MPa}$
TA Luft / leakage according to VDI 2440 $L = 2.6 \cdot 10^{-7} \text{ mbar l/(sm)}$

Typical application range

temperature range: -60°C up to +230°C
operating pressure: from vacuum to 40 bar
For details on applications with higher temperatures and / or pressure please contact TEADIT application engineering!

Approvals:

TA Luft, WRAS
FDA & EU 1935/2004 & EU 10/2011 (all incl. adhesive)

Application areas

- suitable for narrow sealing faces
- where a pre-defined gasket width is required
- enamelled components and glass flanges
- heat exchangers, large flanges and pressure vessels
- suction filters and strainers, etc.



Product standard

From 10 to 65 mm wide, 2 to 9 mm thick

Special dimensions as well as recommendations are available on request

Important!

Installation instructions:

To ensure an effective seal it is necessary to join the ends of the gasket tape by means of a scarfed joint!
Please direct your attention to the detailed installation instructions!

Multi-directional ePTFE gasket material

TEADIT® SH ePTFE Sheets

TEADIT® SH products are gasket sheets produced from 100 % pure, multidirectionally expanded PTFE. A special production process ensures equal tensile strength in all directions. This makes gaskets cut from TEADIT® SH sheets one of the best, most versatile and most reliable gasket materials on the market. Cold flow and creep have been eliminated, gasket parameters have been drastically improved, while all the excellent physical properties of PTFE have been fully retained.

Advantages

- Universally employable gasket sheet for all applications. It is suitable for all types of flanges, nearly all media, a wide Temperature range and even for applications with the toughest demands on purity. It is inherently clean and nontoxic.
- Better creep resistance at higher temp. than other types of PTFE sheets.
- Excellent malleability.
- Gaskets cut from TEADIT SH sheets are dimensionally stable.
- TEADIT SH sheets are quick & simple to install.
- Can be stored indefinitely.

Application areas

- material does not get wider under compression
- easy to cut or punch
- suitable also for enamel flanges and/or vessels
- compensates for irregularities and/or damages on the flange faces
- has all inherent advantages of pure PTFE

Product standard

Sheet size: 1,500 x 1,500 mm in 0.5 up to 9.0 mm thickness and as ready cut gasket, up from 1,5mm **embossed** available.

TEADIT® 24 SH

Tests: BAM

Approvals: FDA, TA Luft, USP VI, Air Liquide (oxygen), GL, Blow-off test (VDI 2200), DVGW, WRAS, EU 1935/2004, EU 10/2011, ABS



Technical data:

temperature range: -268°C up to + 260°C (short time +315°C)
 operating pressure: from vacuum up to 200 bar
 pH 0 – 14
 minimum assembly pressure $Q_{min,0,01} = 20 \text{ MPa}$ (10 bar; 2 mm)
 minimum gasket pressure under operating conditions $Q_{Smin,0,01} < 10 \text{ MPa}$
 maximum surface pressure $Q_{max} > 240 \text{ MPa}$
 TA Luft / leakage according to VDI 2440 $L = 2.6 \cdot 10^{-7} \text{ mbar l/(sm)}$
 TEADIT 24 SH is also available in a more rigid version as **TEADIT 24 SH-R**, in 1.5mm, 2.0mm and 3.0mm thickness. Please ask for the corresponding data-sheet.

Multi-directional ePTFE gasket material

TEADIT® 30 SH

Advantages

- The newly developed TEADIT® 30 SH gasket sheet provides, due to its much more homogeneous and considerably finer fibrillation, a drastically improved creep resistance, especially at elevated temperatures.
- With TEADIT® 30 SH it is possible to make **flange calculations according to EN 1591-1:2014** for all dimensions.

Tests: BAM

Approvals: FDA, TA Luft, USP VI, Blow-off test (VDI 2200), DVGW, WRAS, EU 1935/2004, EU 10/2011



Technical data:

temperature range: -268°C up to + 260°C (short time +315°C)
 operating pressure: from vacuum up to 200 bar
 pH 0 – 14
 minimum assembly pressure $Q_{min,0,01} = 22 \text{ MPa}$ (10 bar; 2 mm)
 minimum gasket pressure under operating conditions $Q_{Smin,0,01} < 10 \text{ MPa}$
 maximum surface pressure $Q_{max} > 240 \text{ MPa}$
 TA Luft / leakage according to VDI 2440 $L = 8.3 \cdot 10^{-7} \text{ mbar l/(sm)}$

TEADIT® 28 LS-LE High-purity ePTFE gaskets with diffusion barrier

TEADIT® 28LS-LE biocompatible gaskets are designed for use in the pharmaceutical, chemical and food industry. **A diffusion barrier ensures extraordinarily high sealability at very low gasket stress.** TEADIT® 28LS-LE gaskets are therefore ideal for - but not limited to - sealing connections where only very low surface pressure can be applied, i.e. on plastic or glass flanges.

Advantages

- For toughest demands on purity. They are inherently clean and suitable for CIP/SIP cycling.
- Manufactured according to GMP requirements, with full supply chain integrity and traceability. FDA and EU 1935/2004 certificates, issued by the Fraunhofer Institute, confirm its usability in the food and pharmaceutical Industry.
- Ideal for many flange types: Glass lined, FRP (fibre reinforced plastics), Glass, Plastic, also suitable for metal flanges

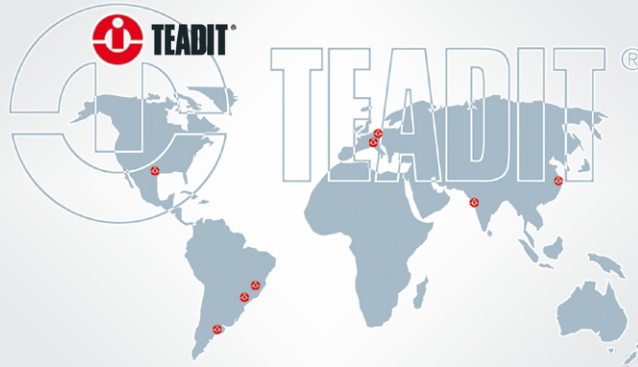
Approvals:

FDA, TA Luft, Blow-off test (VDI 2200), EU 1935/2004, EU 10/2011

Standard Dimensions

Thickness: 3.0 and 6.0 mm
 DIN EN 1514 DN10 - DN800
 and PN 2,5 - PN 40 in IBC
 ASME B 16.21 #150 in 1/2" – 24" for FR & FF





PTFE gasket material ■ structured PTFE sheets ■ multidirectionally exp. PTFE sheets ■
 multidirectionally exp. PTFE tapes ■ monodirectionally exp. PTFE tapes ■ **Braided gland packings**
 ■ Carbon / Graphite packings ■ PTFE packings ■ PTFE / Aramid packings ■ Aramid packings ■
 Glass packings ■ Acrylic packings ■ Ramie packings ■ Polyimid packings ■ Novoloid packings ■
 Nomex packings ■ Preformed packing rings ■ **Compressed fibre sheets** ■ Carbon / Graphite
 / NBR ■ Aramid /NBR ■ Cellulose / NBR ■ **Graphite sheets** ■ Graphite sheets with plain
 metal insert ■ Graphite sheets with tanged metal insert ■ Pure graphite sheets ■ **Gaskets** ■ PTFE
 envelope gaskets ■ Cut gaskets ■ Gaskets with metal eyelets ■ Double jacketed gaskets ■ Spiral-
 wound gaskets ■ Kammprofile gaskets ■ Hand- and manhole gaskets ■ Tank lid gaskets ■ Braided
 gasket tapes ■ **Jampak** ■ Injection gun ■ Jampak injectable compounds ■ Seal-Cage-System ■
Expansion Joints ■ Metallic and Non-Metallic Expansion Joints ■ **Accessories** ■ Various packing
 cutters ■ Packing extractors ■ Circular gasket cutter ■ **and many more...**

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