

# THE TEADIT PRODUCT BOOK

# 2019

CATALOGUE COMPENDIUM V-22-10-2019



**TEADIT**®

Sealing for a safer and greener tomorrow



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## PRODUCT OVERVIEW



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## Joint-sealant tapes

### Multi-directional ePTFE

**TEADIT® 25 BI** FDA, TA Luft, WRAS, EU 1935/2004, EU 10/2011; 100 % pure PTFE, multidirectional expanded, from 10 to 65 mm wide, 2 to 9 mm thick, dimensional stability, only the thickness changes under compression, one material for many applications - less risk of using the wrong material

### Mono-directional ePTFE

**TEADIT® 24 B** BAM-Test, DVGW, FDA, TA Luft, WRAS, EU 1935/2004, EU 10/2011; 100 % pure ePTFE, width from 3 mm to 40 mm in 1.5 mm to 7.0 mm thickness, for all kinds of flanged joints  
**TEADIT® 24 BB** FDA, WRAS, EU 1935/2004, EU 10/2011; 100 % pure ePTFE, width from 25 mm to 200 mm in 0.5 mm up to 3.0 mm thickness, for all kinds of flanged joints  
**TEADIT® 24 HD** FDA, WRAS, EU 1935/2004, EU 10/2011; 100 % pure ePTFE, width from 3.2 mm to 15 mm wide in 0.3 mm up to 7.0 mm thickness, pre-densified gasket tape

**Sealing tape TEADIT® 3070 FDA** from filled ePTFE-fibres, braided into a tube and formed into a rectangular cross section, standard dimensions between 10 and 50 mm, soft and pliable, strong and durable

**Sealing tape TEADIT® 3110** expanded, flexible graphite yarns, braided into a tube, which is folded flat to form a tape, standard dimensions between 10 and 50 mm, excellent temperature and chemical stability, high pressure resistance

**Sealing tape TEADIT® 3110/I** expanded, flexible graphite yarns reinforced with fine metal wires, braided into a tube, which is folded flat to form a tape, standard dimensions between 10 and 50 mm, excellent temperature and chemical stability, outstanding pressure resistance



## Braided gland-packings

<b>Carbon/Graphite</b>	Filament: Graphite / Carbon / exp. Graphite
<b>PTFE</b>	Filament: PTFE / ePTFE / PTFE-Extrud. / ePTFE+Graphite
<b>Aramid</b>	Filament: Para Aramid (continuous and staple) / Meta-Aramid
<b>Synthetic</b>	Filament: Acryl / Polyimid / Novoloid
<b>Natural</b>	Filament: Ramie
<b>Glass</b>	Filament: Continuous filament / Staple fibre, texturized yarn

From the in-house production of yarns and filaments up to the end product, TEADIT is using its long experience and continuously developed know-how to provide highest quality braided packings for various industrial sectors.

## Packing rings and packing accessories

**Sets of pure graphite-rings** (98% or 99,85% purity)

### Packing cutter (45°)

Precise 45° angle cut for respective shaft diameter, no wrong cuts - no wastage

### Packing extractors



## Gasket sheets

### Multi-directional ePTFE gasket sheets

High quality ePTFE material, two of the best, most versatile and most reliable gasket materials on the market, sheet size: 1,500 x 1,500 mm in 0.5 up to 6.0 mm thickness, available also as ready cut gasket:

**TEADIT® 30 SH** (for extreme application conditions) FDA, TA Luft, BAM-Test, Blow-out test (VDI 2200), EU 1935/2004, EU 10/2011, USP VI, DVGW, WRAS;

**TEADIT® 24 SH** FDA, TA Luft, BAM-Test, Blow-out test (VDI 2200), EU 1935/2004, EU 10/2011, USP VI, ABS Product type approval, DVGW, WRAS;

### Structured PTFE-gasket sheets TF

Multidirectionally orientated fibre structure, made from pure PTFE with special filler substances, sheet sizes: TF 1570 1500 x 1500 mm, thickness 1,5 / 2,0 / 3,0 / 4,8 / 6,4 mm and 1200 x 1200 mm, 1,0 mm; TF 1580/TF 1590 1500 x 1500 mm, thickness 1,5 / 2,0 / 3,0 mm and 1200 x 1200 mm, 1,0 mm

**TEADIT® TF 1510** TA Luft, Blow-out test (VDI 2200); filled with hollow glass micro spheres, outstanding mechanical resistance and residual stress

**TEADIT® TEALON TF 1570** FDA, TA Luft, BAM-Test, Blow-out test (VDI 2200), ABS Product type approval, EU 1935/2004, EU 10/2011; filled with hollow glass micro spheres, excellent adaptability, suitable for pressure sensitive connections made of glass, ceramics, plastic etc.

**TEADIT® TEALON TF 1580** FDA, TA Luft, BAM-Test, DVGW, Blow-out test (VDI 2200), ABS Product type approval, EU 1935/2004, EU 10/2011; filled with Barium Sulfate, particularly suited for use with caustics

**TEADIT® TEALON TF 1590** FDA, TA Luft, BAM-Test, EU 1935/2004, EU 10/2011, DVGW, Blow-out test (VDI 2200), ABS Product type approval; filled with Silica, particularly suited for use with acids

### Compressed fibre sheets NA

Sheet sizes (mm): 1500 x 1600, 1500 x 3200, 3000 x 3200 thickness 0,5 / 0,8 / 1,0 / 1,5 / 2,0 / 3,0

**TEADIT® NA 1006** ABS Product type approval; a blend of fibers, bonded with Nitrile rubber (NBR), suitable for water, gases, oils and Acides in mild service

**TEADIT® NA 1005** ABS Product type approval; a blend of aramid and other synthetic fibers bonded with Nitrile rubber (NBR), for petroleum derivatives, water, chemical products in general, excellent cost-performance ratio

**TEADIT® NA 1002 EU** KTW, TA Luft, WRAS, BAM-Test, Blow-out test (VDI 2200), ABS Product type approval, Flame-resistance ISO 19921; Aramid fibres with Nitrile rubber (NBR), for petroleum derivatives, water, exceptional performance in gas applications

**TEADIT® NA 1122** Inorganic fibres & special fillers, bonded with nitrile rubber (NBR), developed to exhibit superior thermal stability during extreme thermal cycling applications, Specially recommended for saturated & superheated steam

**TEADIT® NA 1100** DVGW, TA Luft, Blow-out test (VDI 2200), ABS Product type approval; Graphite and carbon fibres, with Nitrile rubber (NBR), outstanding chemical and steam resistance

### Expanded graphite sheets

From pure, expanded flexible graphite and without any other fibers or filler materials. Particularly suited for applications with extremely high or low temperatures, with highly corrosive and aggressive media, extremely resistant to temperature cycles. Dimensions: 1000 x 1000 mm & 1500 x 1500 mm, thickness 1,0 / 1,5 / 2,0 / 3,0 mm

**TEADIT® GP 1520** Graphite sheet

**TEADIT® GR 1520** Graphite sheet with plain metal insert

**TEADIT® GE 1520** Graphite sheet with tanged metal insert



## Welded Gaskets made from TEADIT® TF sheets

Highly economical and without technical restrictions, welded gaskets can be used the same way as gaskets cut from one piece. The results of research and testing show welded gaskets made from TEADIT TF materials reach the same leakage class as gaskets cut from one piece.

## Flat gaskets (assembled & ready for use)

**Flat gaskets** (with and without metal eyelets)

Cut gaskets from all TEADIT® sheets available, manufactured according to all established engineering standards, custom-made products

**PTFE envelope-gaskets**

**Double-jacketed gaskets**

**Manhole gaskets and lid seals**

**Spiral-wound gaskets**

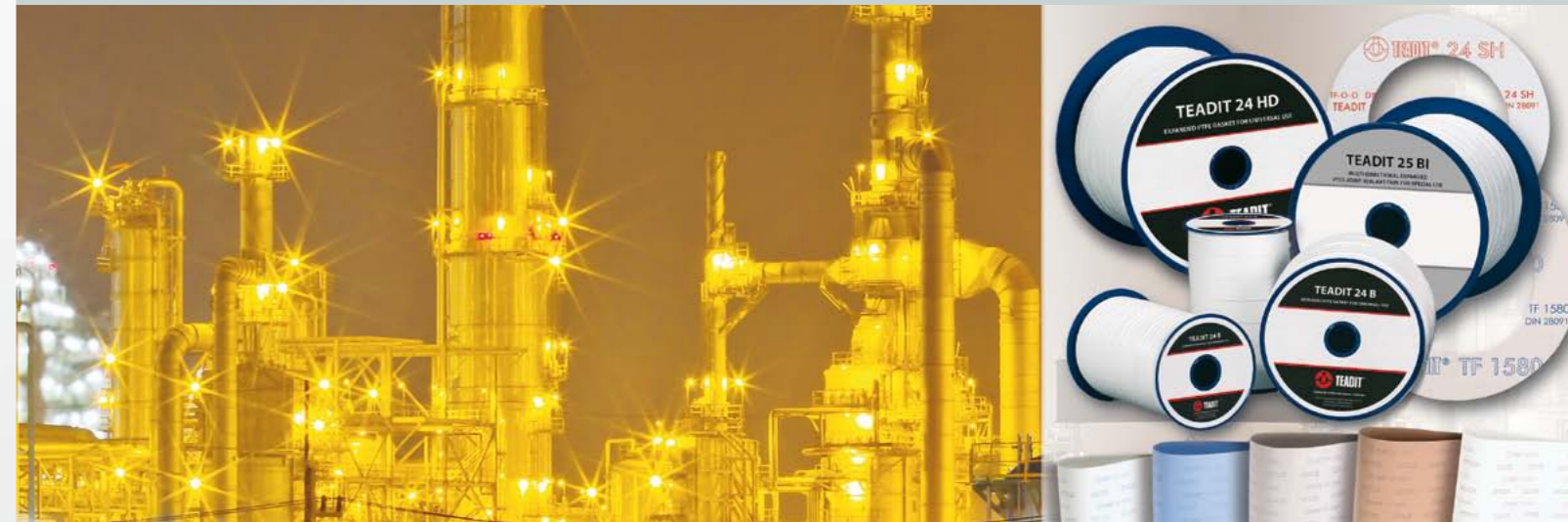
**Kammprofile gaskets**





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Mono-directional ePTFE: Joint-sealant tape TEADIT® 24 B, [Approvals: DVGW, WRC, BOC, FDA (incl. adhesive backing), EU 1935/2004, TA-Luft, Tests: BAM]



## 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



structured

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.

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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

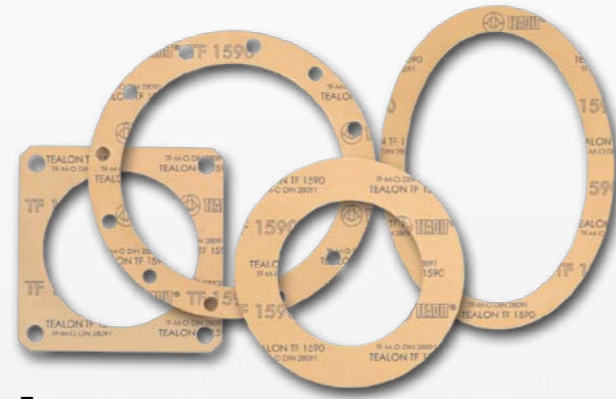
- outstanding resistance against most chemicals
- particularly suited for use with acids
- high resistance against blow-out
- excellent mechanical strength

#### 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, 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

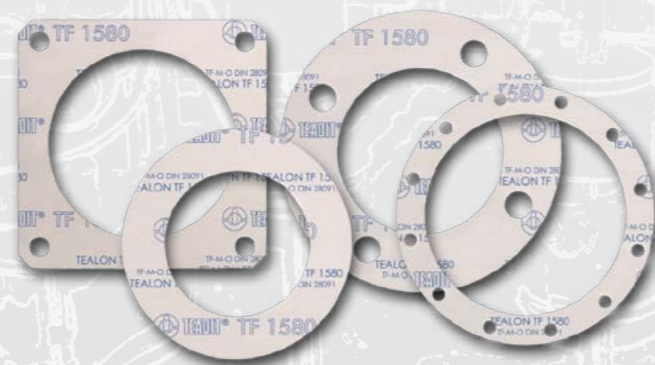
- excellent resistance against most chemicals
- particularly suited for use with caustics

#### 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, 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, Blow-out test (VDI 2200),  
EU 1935/2004, EU 10/2011, ABS

### TF 1510

filled with hollow glass micro spheres  
colour: white

#### Special advantages

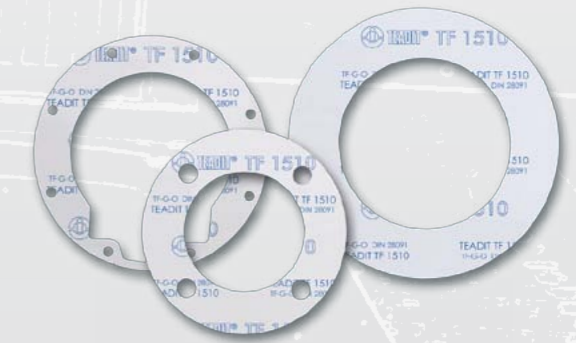
- Highly compressible and therefore adaptable to any sealing surface
- Outstanding mechanical resistance and residual stress

#### Application areas

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

#### Approvals:

TA Luft,  
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

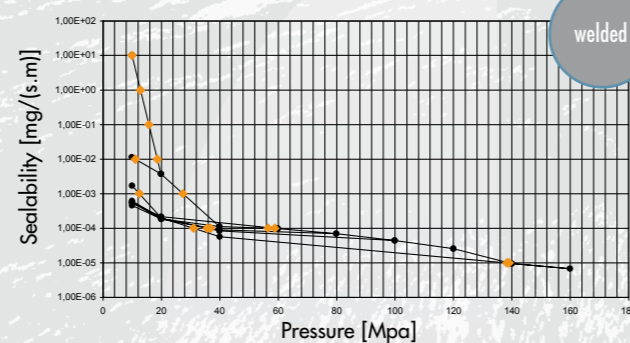
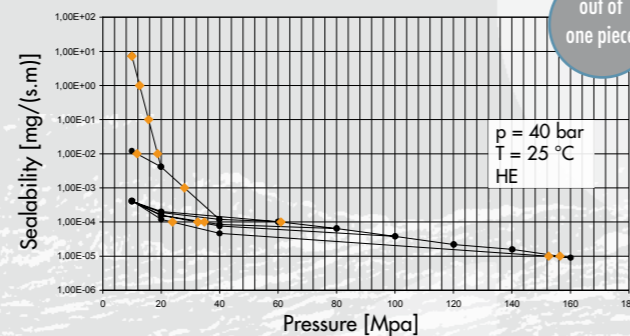
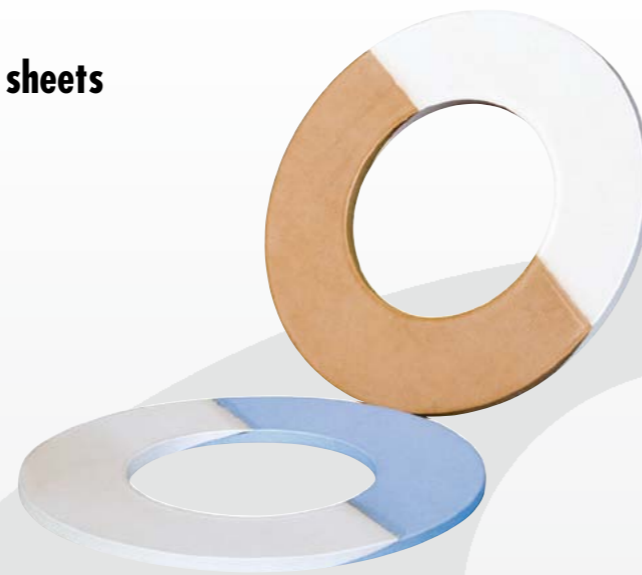
For over 20 years TEADIT has been welding large size PTFE-gaskets and PTFE envelope gaskets. We enhanced this practical knowledge, the technology and materials to provide customers with gaskets in big dimensions (larger than sheet size) made from our structured TF materials. Our precisely manufactured 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), 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, 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  $Q_{min,0,01} = 22 \text{ MPa}$  (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, USP VI

#### Standard Dimensions

Thickness: 1.5, 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





sealing for a safer and greener tomorrow

Multi-directional ePTFE gasket sheet: TEADIT® 24 SH  
 [Tests: BAM, Approvals: TA Luft, Blow-Out, FDA, EU 1935/2004, USP Plastic Class VI, DVGW, WRc, ABS]  
 Structured PTFE-gasket sheets TEALON TF: TEADIT® TF 1580 (Approvals: TA Luft, Blow-Out, DVGW, FDA, ABS, EU 1935/2004, Tests: BAM)  
 TEADIT® TF 1590 (Approvals: TA Luft, Blow-Out, FDA, EU 1935/2004, DVGW, Air Liquide, KTW, ABS, Tests: BAM)  
 TEADIT® TF 1570 (Approvals: TA Luft, Blow-Out, FDA, ABS, EU 1935/2004, Tests: BAM)  
 Braided gland-packings: TEADIT® 2005 FDA (FDA, EU Regulation 1935/2004), TEADIT® 2006 FDA (FDA)



## TEADIT® 30 SH

A **NEW** HIGH-TECH EXPANDED PTFE-SHEET WITH SIGNIFICANTLY IMPROVED CHARACTERISTICS

TEADIT SOLUTION TO EN1591-1 (2014) FOR PTFE GASKETS



Sealing for a safer and greener tomorrow

## TEADIT® 30 SH

### TEADIT solution to EN1591-1 (2014) for PTFE gaskets

Since the revision of the calculation standard EN1591 (2014 version), pressure has strongly increased to improve certain parameters by the manufacturers of PTFE sheets and gaskets.

The revised version of this standard demands substantially improved mechanical material properties for successful flange calculations. In particular, the flow behavior has a great influence on the calculations as well as on the maximum permissible surface pressure.

The significant improvement in the new Teadit 30 SH ePTFE

gasket sheet is credited to a much more homogeneous and considerably finer fibrillation. The VCI (German Chemical Industry Association) guideline for flange assemblies requires in "Appendix C" a minimum PQR value of 0,45 (under maximum operating temperature). On this basis, Teadit 30 SH meets the requirement with a maximum permissible operating temperature for PTFE i.e. 260°C. Filled restructured PTFE materials, as well as other expanded PTFE sheets simply cannot keep up with these requirements.

The strategic improvements of the new Teadit 30 SH material are also reflected in the maximum permissible gasket stress  $Q_{smax}$ . According to EN13555 the shrinking of the inner diameter must be considered for  $Q_{smax}$  determination. While the  $Q_{smax}$  value for most PTFE gaskets has to be significantly reduced, particularly at elevated temperatures, this is not the case with Teadit 30 SH gaskets!

The data-sheets according to EN13555 have already been uploaded at <http://www.gasketdata.org/> where you can see the outstanding mechanical properties of the product.

All relevant approvals for the new Teadit 30 SH - like TA-Luft, safety of blow-out, FDA and 1935/2004 - are already available. Teadit 30 SH sheets are available on short call, both in printed and/or embossed version.

This and more news available at our new website <http://www.teadit.eu>

## TEADIT® 30 SH

### A new high-tech expanded PTFE-sheet with significantly improved characteristics

#### Description:

TEADIT 30 SH is a highly advanced, large gasket-sheet, produced from 100% pure, multi-directionally expanded PTFE, for extreme application conditions.

#### Advantages:

- The newly developed TEADIT 30 SH expanded PTFE gasket sheet provides - due to its much more homogeneous and considerably finer fibrillation - a **drastically improved creep resistance** compared to other ePTFE sheet materials, especially at elevated temperatures.
- With TEADIT 30 SH it is possible to make flange **calculations according to EN 1591-1 (2014 version)** for all dimensions.
- TEADIT 30 SH is suitable for all types of flanges, nearly all media, a wide temperature range and particularly for applications with the toughest demands on purity.
- TEADIT 30 SH has exceptional mechanical strength which allows operation with **minimal creep at elevated temperatures**.
- The excellent malleability of TEADIT 30 SH makes repairing of small defects and/or irregularities of the sealing area (flange surface) unnecessary.

#### Tests: BAM

**Approvals:** TA-Luft, FDA, WRAS, USP Class VI, DVGW, Blow-out VDI 2200, EU 1935/2004, EU 10/2011

**TEADIT® Deutschland GmbH**  
Schanzenstraße 35  
51063 Köln/Deutschland  
Tel.: +49 (0)221/922 342-0  
Fax: +49 (0)221/922 342-22  
[germany@teadit.eu](mailto:germany@teadit.eu)

- TEADIT 30 SH is quick and easy to install. The used gasket can be removed effortlessly without residue.

#### Properties:

- Chemical resistance: chemically inert against all substances (pH 0-14), including the most aggressive acids and lyes. The only exceptions are molten alkali metals and elemental fluorine at high temperature and pressure.
- TEADIT 30 SH is not subject to aging or weathering. It can be stored indefinitely.
- TEADIT 30 SH complies with FDA regulations 21CFR § 177.1550, it is physiologically harmless.
- Typically TEADIT 30 SH sheets come printed in red color.
- For applications in the pharmaceutical or food industry, sheets can be delivered with embossed printing without any color.

TEADIT 30 SH		
Technical Parameters	Unit	TEADIT 30 SH
Thickness	[mm]	0,50 - 9,00
Sheet dimensions	[mm]	1500 x 1500
Purity ePTFE	[%]	100
Color material		plain white
Color printing		red (or embossed)
Operating Temperature Range	[°C]	- 268 to + 260
Operating pressure	[bar]	Vacuum to 200
<b>Gasket factors acc. DIN28090-2</b>		
Compression (room temperature) εKSW	[%]	35 - 40
Creep relaxation (room temperature) εKRW	[%]	>3
Compression (elevated temperature) εWSW	[%]	<15
<b>Gasket factors acc. ASTM</b>		
Compressibility ASTM F 36M (34,5 MPa)	[%]	>45
Recovery ASTM F 36M (34,5 MPa)	[%]	>10
Creep ASTM F 38 (100 °C)	[%]	≤22
<b>Other Properties</b>		
Residual stress DIN 52913	MPa	>18
Leakage rate TA Luft / VDI 2240	mbar·l/(s·m)	8,3·10 <sup>-7</sup>
Leakage rate DIN 3535-6 (40bar, N2)	ml/min	<0,01
Tensile strength ASTM F 152	MPa	>25
Gasket factor "m" ASTM		2
Minimum gasket stress "y Stress" ASTM	psi	2800



## 28LS-LE - HIGH PERFORMANCE FLAT GASKET MADE OF EXPANDED PTFE WITH DIFFUSION BARRIER

For all types of flanges in the  
Chemical Process and Food & Pharma Industry



Sealing for a safer and greener tomorrow

# TEADIT® 28LS-LE is a high performance flat gasket with maximum tightness at minimum gasket load!

TEADIT® 28LS-LE is a new generation of gaskets produced from 100% pure, multi-directionally expanded PTFE. The biocompatible gaskets are designed for use in the pharmaceutical, chemical and food industry. TEADIT® 28LS-LE is equipped with a diffusion barrier applied by a proprietary thermal and mechanical process. The inner bore of the TEADIT® 28 LS-LE gasket is enhanced with a diffusion barrier without any additional filler or other material, to avoid cross section leakage at low gasket stress. Therefore TEADIT® 28 LS-LE achieves high tightness with low bolt load.



## ADVANTAGES KEY FEATURES

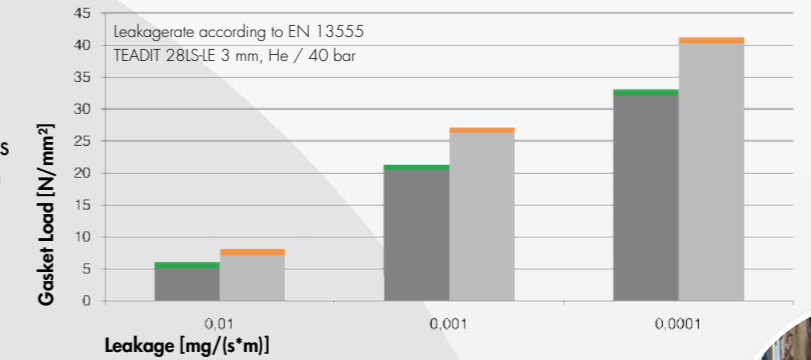
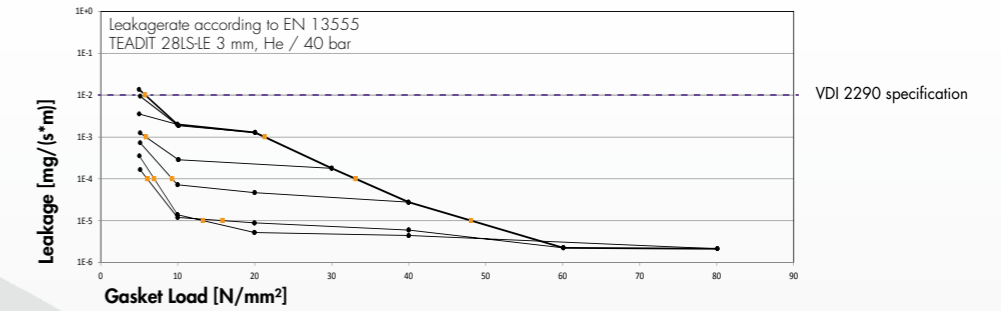
- Universally employable gaskets for all piping applications.
- Suitable for all types of flanges and nearly all media.
- Exceptional mechanical strength which allows operation with minimal creep at elevated temperatures.
- The diffusion barrier on the inner diameter significantly increases the sealability of the gaskets and reduces cross contamination and migration.
- 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.
- Inherently clean and suitable for CIP/SIP cycling.
- GMP compliant and protected by a plastic bag from environmental contamination. Packaging printed with a batch number for material tracking.
- Gaskets can be easily identified by the embossed labelling.

**IDEAL FOR MANY FLANGE TYPES**

- Glass lined
- FRP (fibre reinforced plastics)
- Glass
- Plastic
- Also suitable for metal flanges

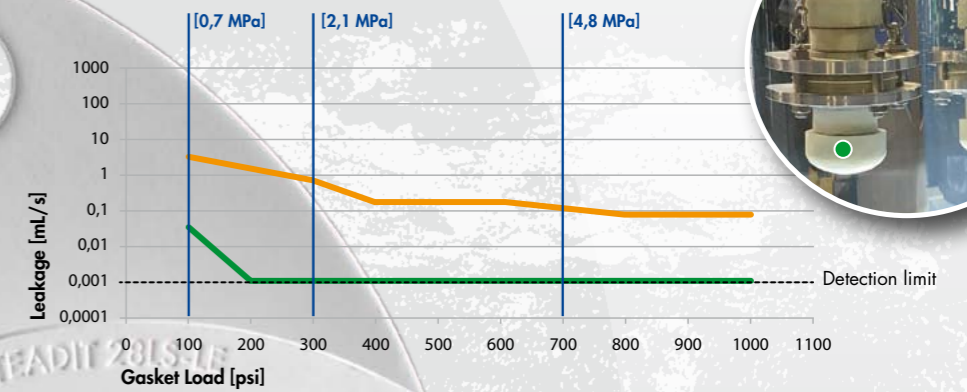
# TEADIT® 28LS-LE High-purity ePTFE gaskets with diffusion barrier

Leakagerate loading curve unloading curve  $Q_{min}/Q_{smin}$



Leakagerate TEADIT 28LS-LE (green) vs Low Load Gasket Competitor (orange)

Leakagerate TEADIT 28LS-LE (green) vs ePTFE Material without diffusion barrier (orange)



# Low Stress for Low Emission



**MAIN APPROVALS**

- FDA 21 CFR 177.1550, EU 1935/2004 and EU 10/2011
- USP Plastic Class VI
- TA Luft and Blow Out Test



**GMP COMPLIANT PACKAGING**

- Max 2 gaskets in one plastic bag
- Plastic bags packed in a cardboard

**APPLICATION CONDITIONS**

**Temp.** -268°C up to +260°C

**PH** 0-14 (exceptions are molten alkali metals and elemental fluorine)

**Press.** From Vacuum up to 200bar

**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

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www.teadit.eu

**TEADIT®**  
Sealing for a safer and greener tomorrow



It's time for a better gasket...

HIGH QUALITY CERTIFIED PTFE & EPTFE SEALING PRODUCTS FROM THE MANUFACTURER.



Sealing for a safer and greener tomorrow

PTFE as a base material in gasket constructions offers an easy and reliable way to obtain sealing solutions under an environment friendly aspect.

TEADIT® is manufacturing a wide range of PTFE and ePTFE based sealing materials in the form of sheets, tapes and packings for all kind of applications and industries. Many years of development, research and experience make TEADIT® one of the highest qualified partners for ePTFE sealing solutions.

## Joint-sealant tapes

### Mono-directional ePTFE

**TEADIT® 24 B** (TA-Luft, DVGW, FDA, EU 1935/2004, EU 10/2011, WRAS, BAM-Test)

**TEADIT® 24 BB** (FDA, EU 1935/2004, EU 10/2011, WRAS)

**TEADIT® 24 HD** (FDA, EU 1935/2004, EU 10/2011, WRAS)

### Multi-directional ePTFE

**TEADIT® 25 BI** (TA-Luft, FDA, EU 1935/2004, EU 10/2011, WRAS)



## Gasket sheets

### Multi-directional ePTFE gasket sheet

**TEADIT® 24 SH** (TA-Luft, Blow-out test (VDI 2200), DVGW, USP VI, FDA, BAM-Test, EU 1935/2004, EU 10/2011, WRAS, ABS Product Approval)

**TEADIT® 30 SH** (FDA, TA Luft, Blow-out test (VDI 2200), EU 1935/2004, EU 10/2011, USP VI, DVGW, WRAS, ABS Product Approval, BAM-Test)

### Structured PTFE-gasket sheets TF

**TEADIT® TF 1510** (TA-Luft, Blow-out test (VDI 2200))

**TEADIT® TEALON TF 1570** (TA-Luft, Blow-out test (VDI 2200), FDA, EU 1935/2004, EU 10/2011, BAM-Test, ABS Product Approval)

**TEADIT® TEALON TF 1580** (TA-Luft, Blow-out test (VDI 2200), FDA, EU 1935/2004, EU 10/2011, BAM-Test, ABS Product Approval)

**TEADIT® TEALON TF 1590** (TA-Luft, Blow-out test (VDI 2200), FDA, EU 1935/2004, EU 10/2011, BAM-Test, ABS Product Approval)



## Braided gland-packings

**TEADIT® 2005 FDA** (FDA, EC No 1935/2004, EU No 10/2011)

**TEADIT® 2006 FDA** (FDA)

**Dichtungsband TEADIT® 3070 FDA**



## ePTFE Flat-Gaskets

**TEADIT® 28 LS-LE** (TA-Luft, Blow-out test (VDI 2200), USP Class VI, FDA, EU 1935/2004, EU 10/2011)

**TEADIT® 24 SH-PRC** (TA-Luft, Blow-out test (VDI 2200), DVGW, USP Class VI, FDA, EU 1935/2004, EU 10/2011, BAM-Test, WRAS, ABS Product Approval)

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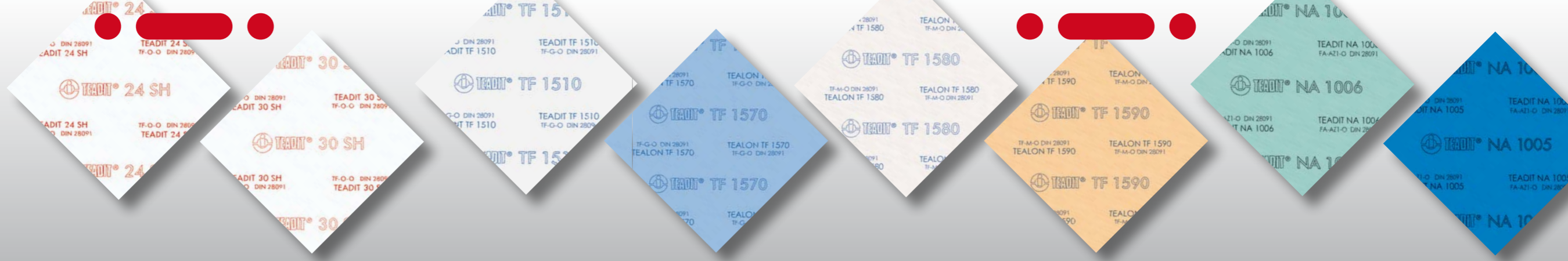
Multi-directional ePTFE gasket sheet: TEADIT® 24 SH  
 [Tests: BAM, Approvals: TA Luft, Blow-Out, FDA, EU 1935/2004, USP Plastic Class VI, DVGW, WRc, ABS]  
 Structured PTFE-gasket sheets TEALON TF: TEADIT® TF 1580 [Approvals: TA Luft, Blow-Out, DVGW, FDA, ABS, EU 1935/2004, Tests: BAM]  
 TEADIT® TF 1590 [Approvals: TA Luft, Blow-Out, FDA, EU 1935/2004, DVGW, Air Liquide, KTW, ABS, Tests: BAM]  
 TEADIT® TF 1570 [Approvals: TA Luft, Blow-Out, FDA, ABS, EU 1935/2004, Tests: BAM]  
 Braided gland-packings: TEADIT® 2005 FDA [FDA, EU Regulation 1935/2004], TEADIT® 2006 FDA [FDA]



## GASKET SHEETS



Sealing for a safer and greener tomorrow



**ePTFE**      **Structured PTFE**

TYPE	TEADIT 24 SH	TEADIT 30 SH	TEADIT TF 1510	TEADIT TF 1570	TEADIT TF 1580	TEADIT TF 1590
Composition	100 % PTFE	100 % PTFE	PTFE with hollow glass micro spheres	PTFE with hollow glass micro spheres	PTFE with Barium Sulfate	PTFE with Silica
Tests Approvals	BAM FDA, TA Luft, Blow-out test (VDI 2200), EU 1935/2004, EU 10/2011, USP VI, ABS Product Approval, DVGW, WRAS	BAM FDA, TA Luft, Blow-out test (VDI 2200), EU 1935/2004, EU 10/2011, USP VI, DVGW, WRAS, ABS Product Approval	— TA Luft, Blow-out test (VDI 2200)	BAM FDA, TA Luft, Blow-out test (VDI 2200), ABS Product Approval, EU 1935/2004, EU 10/2011	BAM FDA, TA Luft, DVGW, Blow-out test (VDI 2200), ABS Product Approval, EU 1935/2004, EU 10/2011	BAM FDA, TA Luft, EU 1935/2004, EU 10/2011, DVGW, W270, Blow-out test (VDI 2200), ABS Product Approval
Colour	white	white	white	blue	off - white	fawn
Tensile Strength	ASTM F 152 > 20 MPa	> 25 MPa	14 MPa	14 MPa	14 MPa	14 MPa
Compressibility	ASTM F 36 > 45 %	> 45 %	50 %	25 - 40 %	4 - 10 %	5 - 15 %
Recovery	ASTM F 36 > 10 %	> 10 %	> 16 %	> 30 %	> 40 %	> 40 %
Leakage (TA Luft)	VDI 2440 $2,6 \cdot 10^{-7}$ mbar l/sm	$8,3 \cdot 10^{-7}$ mbar l/sm	$1,1 \cdot 10^{-5}$ mbar l/sm	$3,7 \cdot 10^{-6}$ mbar l/sm	$5,9 \cdot 10^{-7}$ mbar l/sm	$1,1 \cdot 10^{-6}$ mbar l/sm
Operating Temp. Range (Peak)	-268 to 260 °C	-268 to 260 °C	-268 to 260 °C	-268 to 260 °C	-268 to 260 °C	-268 to 260 °C
Operating Pressure (Peak)	Vacuum to 200 bar	Vacuum to 200 bar	Vacuum to 55 bar	Vacuum to 55 bar	Vacuum to 83 bar	Vacuum to 83 bar

**Description:**

TEADIT 24 SH and 30 SH are gasket sheets produced from 100 % pure, multidirectionally expanded PTFE (Polytetrafluoroethylene).

**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.

**TEADIT 30 SH**

- 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.

**Description:**

TF 1510 has the highest compressibility of all TF-sheets, comparable to that of ePTFE material. It is produced from virgin PTFE resin filled with hollow glass micro-spheres.

**Advantages:**

- particularly well suited for use with uneven and / or older flanged joints.
- suitable for service with a wide variety of aggressive fluids.
- easy to cut.
- excellent malleability.

**Description:**

TF 1570 is a structured PTFE Gasket Sheet manufactured by a unique process which provides a high level of fibrillation to overcome the creep relaxation and cold flow problems associated with normal (skived or moulded) PTFE sheets. TF 1570 is produced from virgin PTFE resin filled with hollow glass micro spheres.

**Advantages:**

- Suitable for service with a wide variety of aggressive fluids.
- High compressibility.
- Excellent malleability.
- Quick and simple to install.

**Description:**

TF 1580 is a structured PTFE - Gasket - Sheet manufactured by a unique process which provides a high level of fibrillation to overcome the creep relaxation and cold flow problems associated with normal (skived or moulded) PTFE sheets. TF 1580 is produced from virgin PTFE resin filled with Barium Sulfate.

**Advantages:**

- Suitable for all types of flanges, nearly all media.
- Suitable for service with a wide variety of aggressive fluids, including hydrocarbons, moderate acids and strong caustics.
- The high purity of this gasket sheet makes it perfectly suitable for the food and pharmaceutical industry.
- Quick and simple to install.

**Description:**

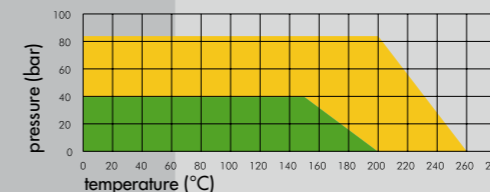
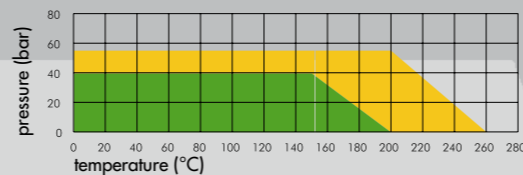
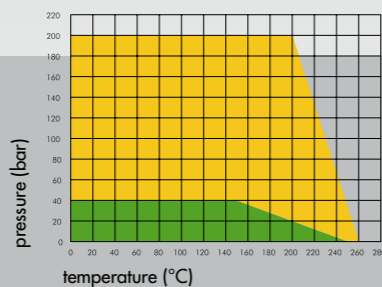
TF 1590 is a structured PTFE - Gasket - Sheet manufactured by a unique process which provides a high level of fibrillation to overcome the creep relaxation and cold flow problems associated with normal (skived or moulded) PTFE sheets. TF 1590 is produced from virgin PTFE resin filled with Silica.

**Advantages:**

- Suitable for services with high pressures and temperature.
- Suitable for service with a wide variety of aggressive fluids especially strong acids (except hydrofluoric).
- TF 1590 is quick and simple to install.

For applications in the pharmaceutical or food industry, TEADIT® 30 SH can be delivered with embossed printing without

any color.



■ Standard range of service limits  
■ Maximum application limits

All technical data and recommendations given are based on our experiences. However, we do not undertake any liability whatsoever. All data and values have to be checked by the user, since the effectiveness of a seal can only be judged correctly by evaluating all data and parameters directly on site. The stated parameters of all packing styles are approximate and may be mutually influenced if occurring together. We suggest you contact us in the case of special applications.





### Compressed fibre sheets

TEADIT NA 1006	TEADIT NA 1005	TEADIT NA 1002EU	TEADIT NA 1122	TEADIT NA 1100	TYPE
A blend of fibers bonded with Nitrile rubber (NBR)	A blend of aramid and other synthetic fibers bonded with Nitrile rubber (NBR)	Aramid fibres bonded with Nitrile rubber (NBR)	Inorganic fibres and special fillers, bonded with nitrile rubber (NBR)	Graphite and carbon fibres, bonded with Nitrile rubber (NBR)	Composition
—	—	BAM KTW, TA Luft, WRAS, Blow-out test (VDI 2200), ABS Product Approval, Flame-resistance ISO 19921	—	—	Tests Approvals
ABS Product Approval	ABS Product Approval	—	ABS Product Approval	DVGW, TA Luft, Blow-out test (VDI 2200), ABS Product Approval	Colour
light green	blue	green	black	black	Tensile Strength
4 MPa	11,5 MPa	12 MPa	9 MPa	15 MPa	ASTM F 152
15 - 25 %	7 - 17 %	5 - 15 %	7 - 17 %	5 - 15 %	ASTM F 36
> 35 %	> 45 %	> 50 %	> 40 %	> 50 %	ASTM F 36
—	—	5,5 · 10 <sup>-7</sup> mbar l/sm	—	1,87 · 10 <sup>-7</sup> mbar l/sm	VDI 2440
—	—	—	—	—	Leakage (TA Luft)
max. 200 °C (210 °C)	max. 240 °C (400 °C)	max. 260 °C (400 °C)	max. 430 °C (550 °C)	max. 270 °C (450 °C)	Operating Temp. Range (Peak)
max. 30 bar (50 bar)	max. 50 bar (110 bar)	max. 80 bar (110 bar)	max. 102 bar (150 bar)	max. 70 bar (130 bar)	Operating Pressure (Peak)

**Description:**  
TEADIT style NA-1006 is a non-asbestos jointing-sheet material produced from a blend of fibers bonded with Nitrile rubber (NBR).

**Advantages:**

- It is a commercial fibre sheet grade for low to medium pressures and temperatures.
- Suitable for water, gases, oils and acids in mild service.

**Description:**  
TEADIT style NA-1005 is a compressed non-asbestos jointing-sheet material produced from a blend of aramid and other synthetic fibers bonded with Nitrile Rubber (NBR).

**Advantages:**

- It is a general purpose material with very good mechanical, temperature and chemical properties.
- Suitable for sealing petroleum derivatives, water, chemical products in general.
- Excellent cost-performance ratio.
- Recommend as insert for PTFE envelope gaskets.

**Description:**  
TEADIT style NA-1002EU is a high-end compressed non-asbestos jointing-sheet material made of aramid fibers and bonded with Nitrile rubber (NBR).

**Advantages:**

- The material has excellent mechanical, temperature and chemical properties.
- Suitable for sealing petroleum derivatives, water, saturated steam, gases or chemical products in general. Exceptional performance in gas applications.

**Description:**  
TEADIT style NA-1122 is an inorganic fibres sheet with special fillers bonded with Nitrile rubber (NBR).

**Advantages:**

- Developed to exhibit superior thermal stability during extreme thermal cycling applications.
- Specially recommended for saturated and superheated steam.
- Very effective in sealing liquids, Ethanol, Petroleum derivatives and other fluids.

**Description:**  
TEADIT style NA-1100 is a top-quality gasket sheet with high temperature and pressure resistance, manufactured from graphite and carbon fibres, bonded with Nitrile rubber (NBR).

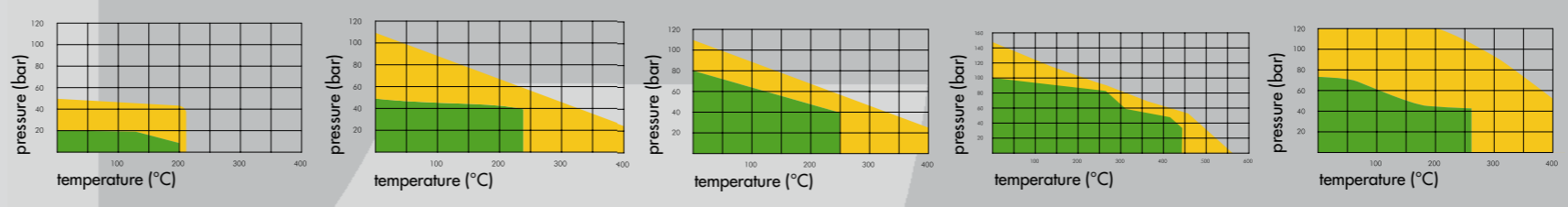
**Advantages:**

- Carbon fibres provide max. strength and stability.
- Up to 450 °C max. temperature.
- Outstanding chemical and steam resistance.

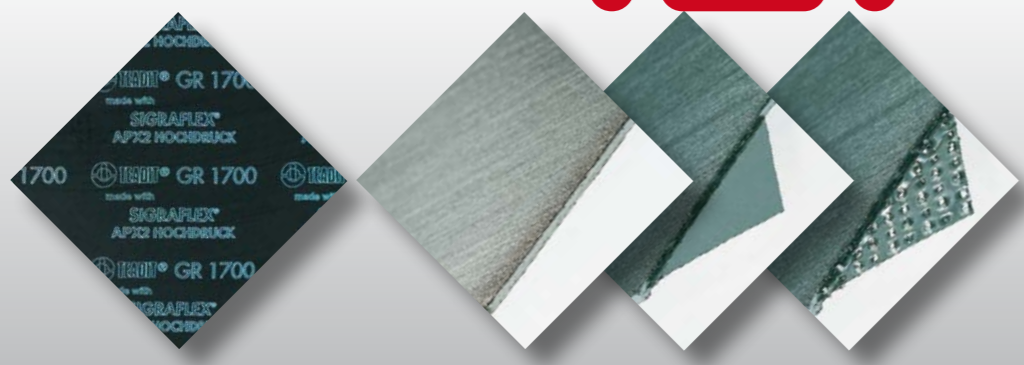
**Dimensions:**  
1500 x 1600 mm  
1500 x 3200 mm  
3000 x 3200 mm

**NA 1006**  
0,8 / 1,0 / 1,5 / 2,0 / 3,0 mm

**NA 1005**  
**NA 1002**  
**NA 1122**  
**NA 1100**  
0,5 / 1,0 / 1,5 / 2,0 / 3,0 mm



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### Expanded graphite

TEADIT GR 1700	TEADIT GP 1520	TEADIT GR 1520/GE 1520	TYPE
Graphite sheet	Graphite sheet	Graphite sheet with plain (GR) or tanged (GE) metal insert	Composition
BAM Fire Safe according API 607, Blow-Out resistance	—	—	Tests Approvals
black	black	black	Colour
1,1 g/cm <sup>3</sup>	1,0 g/cm <sup>3</sup>	—	DIN Density
35 %	40 - 50 %	40 - 50 % / 30 - 40 %	ASTM F 36 Compressibility
15 - 20 %	> 10 %	10 - 25 % / 15 - 30 %	ASTM F 36 Recovery
-250 to 480 °C (steam up to 650 °C) inert atmosphere to 800 °C	-240 to 450 °C (steam up to 650 °C) inert atmosphere to 1000 °C	-240 to 450 °C (steam up to 650 °C) inert atmosphere to 800 °C	Operating Temp. Range (Peak)
Vacuum to 250 bar	30 bar	70 bar / 140 bar	Operating Pressure
> 98 %	> 99 %	> 98 %	Carbon
< 25 ppm	< 30 ppm	< 30 ppm	Chloride
< 300 ppm	< 1000 ppm	< 1000 ppm	Sulphur

**Description:**  
TEADIT GR 1700 is a multilayer high strength graphite sealing sheet designed for high temperature applications. The sheet is comprised of 0.5 mm thick layers of highly oxidation resistant flexible graphite and 0.05 mm thick plain stainless steel foils.

- Advantages:**
- ideal for critical applications.
  - high mechanical strength and blowout resistance.
  - wide range of working pressure.
  - very low cold or hot relaxation.
  - extremely high maximum permissible gasket stress.
  - provides an excellent torque retention and high long term sealability.
  - superior thermal stability.

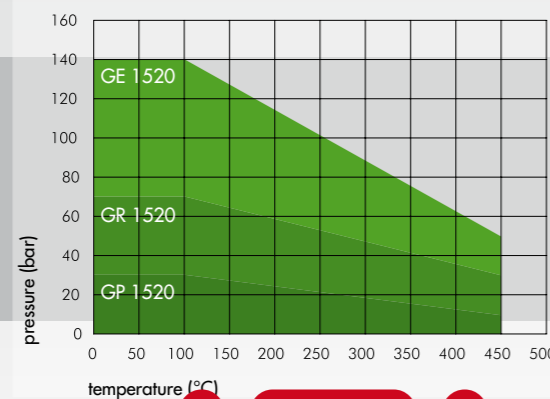
**Description:**  
TEADIT expanded graphite sheets are produced from pure, expanded flexible graphite and do not contain any other fibrous or filler materials. Because of their specific structure expanded graphite sheets are particularly suited for applications with extremely high or low temperatures, with highly corrosive and aggressive media, for sensitive flange materials (i.e. ceramic, glass, plastic) and for gas as well as steam applications.

- Advantages:**
- universally applicable for gases and fluids.
  - chemically resistant against most media.
  - excellent thermal conductivity.
  - can be stored indefinitely.
  - do not need anti-stick coating.
  - extremely resistant to temperature cycles.

**Dimensions:**

**GP 1520 / GR 1520 / GE 1520**  
1000 x 1000 mm  
1,0 / 1,5 / 2,0 / 3,0 mm

**GR 1700**  
1500 x 1500 mm  
1,0 / 1,5 / 2,0 / 3,0 mm



- 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...**

www.teadit.eu

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Fax: +49 (0)221/922 342-22  
germany@teadit.eu

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sealing for a safer and greener tomorrow

Multi-directional ePTFE gasket sheet: TEADIT® 24 SH  
[Tests: BAM, Approvals: TA-Luft, Blow-Out, FDA, EU 1935/2004, USP Plastic Class VI, DVGW, WRc, ABS]



## STUFFING BOX PACKINGS



Sealing for a safer and greener tomorrow

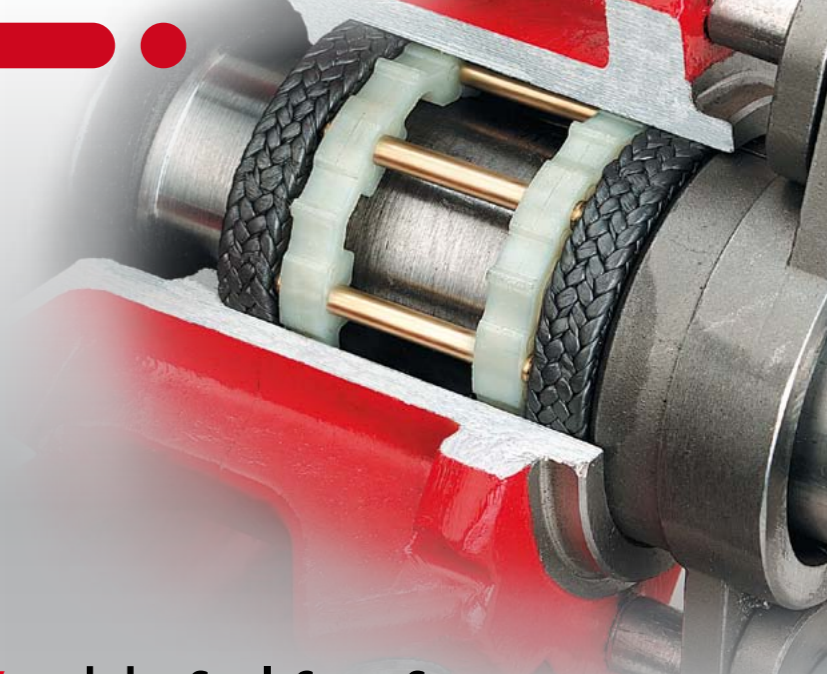




		Carbon / Graphite						PTFE				PTFE extrudiert		PTFE / Aramid		Aramid		
style		2000	2202	2001	2200	2235	2236	2005FDA	2006FDA	2124	2007	2024	2022	2017	2070/2070M	2004/2004M	2044	
filament		exp. Graphite	exp. Graphite/Carbon	Graphite	Carbon	exp. Graphite/Inconel®	exp. Graphite/Inconel®	PTFE	PTFE	PTFE	gPTFE	PTFE-extrud.	PTFE-extrud.	gPTFE-Aramid	gPTFE-Aramid	Aramid	spun Aramid	
impregnation				Graphite	Graphite	Graphite	Graphite	PTFE	PTFE				Graphite	PTFE		PTFE	PTFE	
lubricant									mineral		silicone		mineral	mineral	silicone	silicone/mineral	silicone/mineral	mineral
bar	rot.	30	30	30	25			20	20		35	10	25	30	35	35	20	
bar	osc.	100	200	100	100			150	30		100			200	250	200	80	
bar	stat.	300	300	300	300	450	450	250		100	200	20	100	200	250	250	150	
m/s	v	20	20	20	20			5	12		25	4	12	20	25	15	15	
°C	-	-240	-240	-240	-240	-240	-240	-200	-100	-100	-200	-100	-100	-100	-100	-100	-100	
°C	+	+450	+450	+450	+450	+450	+450	+280	+280	+280	+280	+250	+280	+280	+280	+280	+280	
°C	steam	+650 <sup>1)</sup>	+650	+650	+650	+650	+650											
pH value		0 - 14	0 - 14	0 - 14	0 - 14	0 - 14	0 - 14	0 - 14	0 - 14	0 - 14	0 - 14	0 - 14	0 - 14	2 - 12	0 - 14	2 - 12	2 - 12	
density: app. g/cm <sup>3</sup>		1,0	1,1	1,0	1,2	1,6	1,6	2,1	2,3	1,2	1,7	1,9	1,9	1,6	1,6	1,5	1,4	
water		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
steam		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
neutr. solutions		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
highly diluted acids		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
concentrated acids		●	●	●	●	●	●	●	●	●	●	●	●	○	●	○	○	
highly concentrated acids		○	○	○	○	○	○	●	●	●	●	●	●	●	●	●	●	
diluted alkalis		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
concentrated alkalis		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
inert gas		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
acidic gas		●	●	●	●	●	●	●	●	●	●	●	●	○	●	○	○	
hydrogen		○	○			○	○	●	○	●	●	●	●	○	●		○	
oxygen		○	○			○	○			●								
volatile hydrocarbon solvents		●	●	●	●	●	●	●	●	●	●	●	●	○	●		○	
amines, nitriles		●	○	○		●	●	●	●	●	●	●	●	●	●	○	○	
mineral oil, grease		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
synth. oils		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
abrasive media			○					○	○	○	○	●	●	●	●	●	●	
bitumen								○	○	○	○	●	●	●	●	●	●	
paints, varnishes		●	●	●	●	●	●	●	●	●	●	○	○		- / ●	- / ●	●	

Glossary: ● recommended ○ limited usability  
<sup>1)</sup> with inert gas up to 1000 °C

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Others			
2127	2422	2777	style
Synthetic	Ramie	Novoloid	filament
PTFE	PTFE	PTFE	impregnation
silicone	mineral	mineral	lubricant
20	20	25	bar
80	20	50	bar
100	30	100	bar
12	10	15	m/s
-100		-100	°C
+230	+130	+250	°C
			°C
2 - 12	5 - 11	1 - 13	pH value
1,4	1,3	1,3	density: app. g/cm <sup>3</sup>
●	●	●	water
●	●	●	steam
●	●	●	neutr. solutions
●	○	○	highly diluted acids
○			concentrated acids
			highly concentrated acids
○	○	●	diluted alkalis
			concentrated alkalis
●	○	●	inert gas
○			acidic gas
		○	hydrogen
			oxygen
		○	volatile hydrocarbon
●		●	solvents
			amines, nitriles
●	●	●	mineral oil, grease
●		●	synth. oils
○	○	●	abrasive media
○		●	bitumen
		●	paints, varnishes

## JAMPAK and the Seal-Cage-System

TEADIT® has – with the development of the Seal-Cage-Systems - made the concept of injectable packing compound work correctly and reliably. But not only this, TEADIT® has also

- modified and enhanced the injection gun and its connecting system, which makes injecting the packing compound easier
- developed new versions of packing compound for specific applications
- designed various accessories which make installing and working with the JAMPAK Seal-Cage-System quicker and easier

### Benefits of TEADIT® JAMPAK sealants:

- easy to install - easy to use (detailed installation CD-Rom available)
- repacking made easy with the TEADIT® JAMPAK injection gun and helpful accessories
- repacking while equipment is operating - no interruption of production, considerably less downtime, longer continuous working periods of equipment
- extremely low coefficient of friction saves on energy, reduces heat build-up and shaft wear
- saves on water and waste water because no flush (cooling water) is required
- operates virtually leakfree
- works well with slightly worn shafts or sleeves because of excellent malleability
- reduces operating costs and extends equipment life

### The TEADIT® Jampak Seal-Cage-System consists of the following parts:

- Jampak injection gun kit
- Jampak packing compounds
- Jampak Seal-Cage-System



### JAMPAK 27

A blend of high performance gPTFE fibers and chemically resistant lubricants.



### JAMPAK 26

A non-staining, non-toxic PTFE fiber blended with FDA-approved lubricants for clean or food grade applications.

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### Packing cutter (45° cut)

Facilitates cutting of braided packings.  
Available in two different lengths.

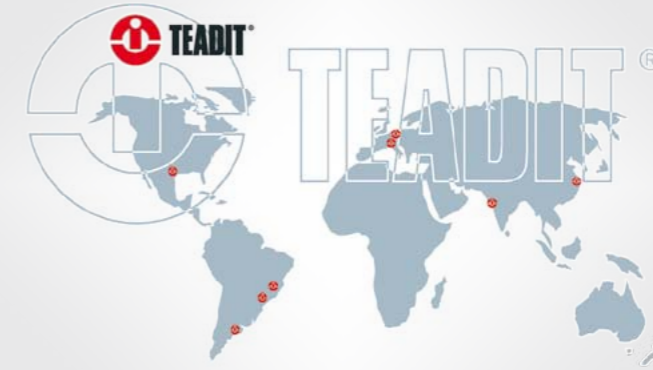
- no wrong cuts - no wastage
- precise 45° cut for respective shaft diameter
- very handy and easy to use



### Packing extractors

These special tools are recommended for removing used packing rings from the stuffing-box.

- easy to use
- reliable
- fast



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## PACKING STYLE 2236

ISO 15848-1 tightness class A

API 622 average leakage 2 PPMv

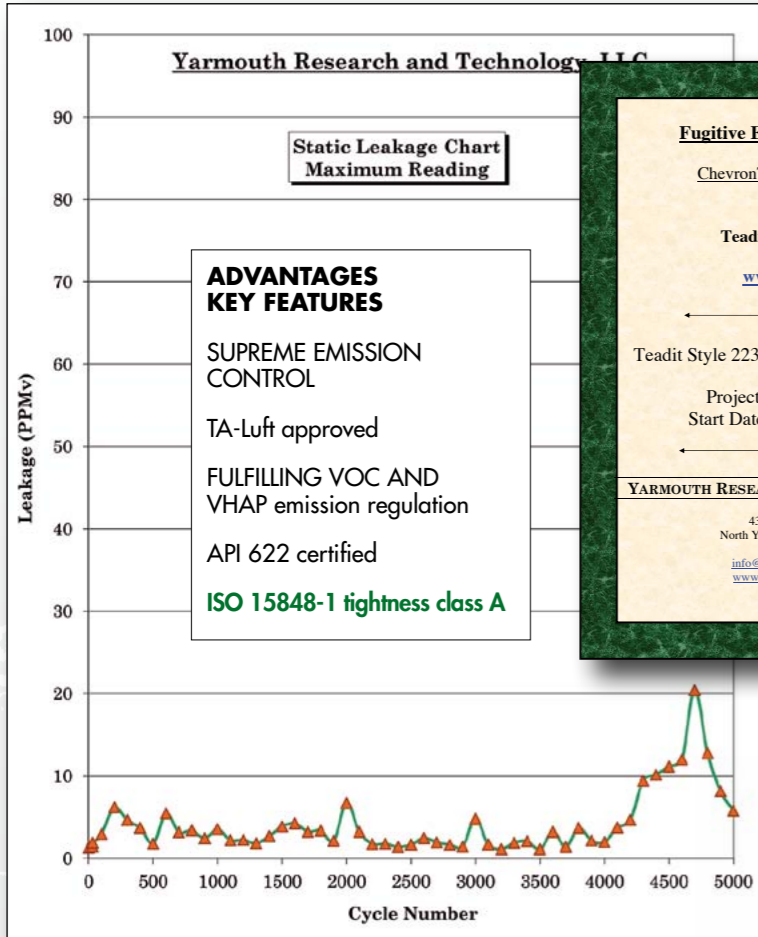
## Low Emission Valve Stem Packing

for Petroleum and Chemical Process Industry



Sealing for a safer and greener tomorrow

# Low Emission Valve Stem Packings for Petroleum and Chemical Process Industry



**API Standard 622 Test Report**  
 "Type Testing of Process Valve Packing for Fugitive Emissions"  
 Second Edition, 2011  
 Performed for  
 Teadit North America  
[www.teadit-na.com](http://www.teadit-na.com)

Teadit Style 2236 Graphite Packing  
 Project Number: 211142  
 Test Start Date: June 8, 2011

---

Performed by  
 YARMOUTH RESEARCH AND TECHNOLOGY, LLC  
 434 Walnut Hill Road  
 North Yarmouth, ME 04097 USA  
 (207) 829-5359  
[info@yarmouthresearch.com](mailto:info@yarmouthresearch.com)  
[www.yarmouthresearch.com](http://www.yarmouthresearch.com)

**Fugitive Emission Test Report**  
 ChevronTexaco Test Standard  
 Performed for  
 Teadit North America  
[www.teadit.com](http://www.teadit.com)

Teadit Style 2236 Braided Graphite Packing  
 Project Number: 210202  
 Start Date: November 1, 2010

---

Performed by  
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[www.yarmouthresearch.com](http://www.yarmouthresearch.com)

**Fire Test Report**  
 ANSI/API Standard 607, Sixth Edition, 2010  
 ISO 10497:2010  
 Performed for  
 TEADIT North America, Inc.  
[www.TEADIT.com](http://www.TEADIT.com)

Style 2236 Packing  
 Tested in a 6 inch Class 300 Gate Valve  
 Project Number: 210229  
 February 7, 2011

---

Performed by  
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 434 Walnut Hill Road  
 North Yarmouth, ME 04097 USA  
 (207) 829-5359  
[info@yarmouthresearch.com](mailto:info@yarmouthresearch.com)  
[www.yarmouthresearch.com](http://www.yarmouthresearch.com)

## TEADIT® Style 2236 Single Spool Stock Packing offers solutions to US EPA and EU VOC Fugitive Emissions Directives.

Product designed to meet EU's IPPC (Integrated Pollution Prevention and Control) directive and United States Enhanced LDAR requirements.

TEADIT® Style 2236 Single Spool Packing is self-lubricating, non-hardening, dimensionally stable and resistant to gases and fluids as well as heat, pressure and chemicals. It answers the industry's need of having extremely low emission packing from the single spool!

Due to its physical properties and ability to minimize friction, TEADIT Style 2236 is ideal for valves and can be used within a broad range of applications.

TEADIT® Style 2236, maintains low stem torque even with high installation stress applied.

### Sealing for a safer and greener tomorrow



**TEMP.** max. 455°C  
**pH** 0-14  
**PRESS.** up to 450 bar

AMTEC Messtechnischer Service GmbH  
 Hahnenberg 13  
 53346 Laufen  
 Telefon: 02122 9920-0  
 Telefax: 02122 9920-20  
 e-mail: info@amtec.de  
[www.amtec.de](http://www.amtec.de)

**CERTIFICATE**  
 No. 3020351/E/FH10.09.10

In accordance with the VDI Guideline 2440 (edition November 2000) the compliance with the tightness criteria of the type of packing set

**TEADIT 2236**  
 consisting of 5 packing rings  
 of the packing manufacturer  
**TEADIT**  
 Rosenheimer Str. 10, A-6336 Kufstein/Tirol

was verified in a first-time test under the following test conditions:

predeformation:	1x 75 MPa
prestress:	60 MPa
geometry:	56x40x40 mm
temperature of packing:	300 °C
number of stem cycles:	5000
stroke:	40 mm
test pressure (absolute):	40 bar
test medium:	Helium
period of leakage measurement:	24 h

The leak rate measured with the Helium leak detector at the end of the period of the leakage measurement was  
 1.5 · 10<sup>-9</sup> mbar · l/(m · s)

therefore the packing set is in compliance with the tightness criteria of VDI 2440 of 1.0 · 10<sup>-7</sup> mbar · l/(m · s) for tests at a temperature higher than 250 °C and can be regarded as a high-grade sealing system for the purposes of TA-Luft.

This certificate is only valid in combination with the test report 3020351/-  
 Laufen, September 10, 2010  
 amtec Messtechnischer Service GmbH  
 Dipl. Ing. F. Herkert

STANDARD DIMENSIONS			
cross section (mm; inch)	average number of valves packed	standard spool (kg)	
3	1/8	500	1
4		125	1
5	3/16	80	1
6		40	1
6,5	1/4	40	1
8	5/16	16	1
9		16	2
9,5	3/8	16	2
10		15	2
11	7/16	10	2
12		7	2
12,7	1/2	7	2
14	9/16	4	2
16	5/8	3	2
18	11/16	5	5
19	3/4	4	5
20	13/16	4	5
22	7/8	3	5
25	1	2	5



iPhone app for installation torque

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[www.teadit.eu](http://www.teadit.eu)





CERTIFIED SEALING MATERIALS  
FOR FOOD, BEVERAGE & PHARMACEUTICAL INDUSTRIES



Sealing for a safer and greener tomorrow

# CERTIFIED SEALING MATERIALS FOR FOOD, BEVERAGE & PHARMACEUTICAL INDUSTRY



## Declaration of Compliance - Food and pharmaceutical physiologically harmless

The below mentioned TEADIT products are suitable for use as a material or article for direct contact with food and API and thus in the application in the pharmaceutical plant. They are corresponding with the following regulations and only consist of materials which are listed in the above-mentioned EU positive list and FDA whitelist.

When used under the intended conditions all migration values are below the indicated limits. Corresponding certificates and test reports of external testing institutes are present. All the TEADIT products do not contain animal derived ingredients.

product group	TEADIT® style	FDA		EU		US	color	description	
GASKET SHEET	30 SH	21 CFR 177.1550	21 CFR 170.3 (i)	1935/2004	10/2011	EG 2023/2006 (GMP)	USP Class VI	white	100% PTFE
	24 SH	21 CFR 177.1550	21 CFR 170.3 (i)	1935/2004	10/2011	EG 2023/2006 (GMP)	USP Class VI	white	100% PTFE
	TEALON TF 1570	21 CFR 177.1550	21 CFR 170.39	1935/2004	10/2011	EG 2023/2006 (GMP)	---	blue	PTFE + glass filler
	TEALON TF 1580	21 CFR 177.1550	21 CFR 170.39	1935/2004	10/2011	EG 2023/2006 (GMP)	---	white	PTFE + barium sulfate
	TEALON TF 1590	21 CFR 177.1550	21 CFR 170.39	1935/2004	10/2011	EG 2023/2006 (GMP)	---	pink/brown	PTFE + silica
GASKET	28LS-LE	21 CFR 177.1550	21 CFR 170.3 (i)	1935/2004	10/2011	EG 2023/2006 (GMP)	USP Class VI	white	100% PTFE
GASKET TAPE	25 BI	21 CFR 177.1550	21 CFR 170.3 (i)	1935/2004	10/2011	EG 2023/2006 (GMP)	---	white	100% PTFE
	24 B	21 CFR 177.1550	21 CFR 170.3 (i)	1935/2004	10/2011	EG 2023/2006 (GMP)	---	white	100% PTFE
	24 BB	21 CFR 177.1550	21 CFR 170.3 (i)	1935/2004	10/2011	EG 2023/2006 (GMP)	---	white	100% PTFE
	24 HD	21 CFR 177.1550	21 CFR 170.3 (i)	1935/2004	10/2011	EG 2023/2006 (GMP)	---	white	100% PTFE
BRAIDED PACKING	2005 FDA	21 CFR 177.1550	21 CFR 170.3 (i)	1935/2004	10/2011	EG 2023/2006 (GMP)	---	white	dry PTFE yarn
	2006 FDA	---	21 CFR 170.3 (i)	---	---	EG 2023/2006 (GMP)	---	white	PTFE yarn + mineral oil





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