

UNIFLUOR®

Sheets & Gaskets | PTFE with fillers.

BIAXIAL-ORIENTED PTFE WS 7550 | WS 7551 | WS 7553

DESCRIPTION

UNIFLUOR® gasket sheets are manufactured in a special production process which causes a very strong, biaxial orientation of the PTFE molecules. This results in a significant reduction of the negative creep and setting behaviour which is typical for classic PTFE. The sheets are also homogeneously filled with specific substances in addition to the optimisation of sealing technological properties and depending on the application area. Primarily, three types of fillers are used in gasket sheets as standard. They can be distinguished from the outside by the different colouring.

Standard fillers are:

- Glass microspheres, sheet colour code: blue
Application: Glass lined pipelines, compressible
- Silicate/quartz, sheet colour code: brown
Application: Steel/stainless steel pipelines and containers, normal density
- Barium sulphate, sheet colour code: white
Application: Steel/stainless steel pipelines esp. pharmaceutical and food applications, high density

PROPERTIES

- Very good media resistance with the exception of liquid alkali metals and some fluorine compounds
- Fillers in compounds affect the chemical resistance
- Temperature resistant from -200 °C to 260 °C [depending on pressure and load]
- PTFE is physiologically harmless for continuous operation temperatures up to 260 °C as per BG no. 21
- FDA-conform and complies with regulations in Europe and Asia for food use
- Anti-adhesive surface
- Complies with TA Luft 2002 [VDI 2440/2200] leakage requirements
- UV- and ageing resistant, no embrittlement
- Very good non-stick characteristics
- Excellent [di]electric properties

APPLICATIONS

- Non-metallic gaskets for pipeline flanges, device and container flanges, pumps and valves
- Broad range of applications primarily in the chemical and petro-chemical sector
- Use in food sector and pharmaceutical production

- Suitable for the use in oxygen applications depending on filler
- Suitable for the use in EO-PO applications depending on filler
- Increased blow-out resistance for designs with inner eyelet

PRODUCT RANGE

Technical delivery conditions as per DIN 28091

- Sheets
 - Dimensions: 1500 x 1500 mm [standard format]
 - Available thicknesses: 0.75 ;1.0; 1.5; 2.0; 3.0 mm
- Non-metallic gaskets
 - Dimensions: as per DIN EN 1514-1 and DIN EN 12560-1 or ASME B 16.21 as well as non-standard sizes, made from:
 - UNIFLUOR® WS 7550 [blue]
 - UNIFLUOR® WS 7551 [brown]
 - UNIFLUOR® WS 7553 [white]

Additionally: IDT Profile Overview | FD Series







Seals made from above mentioned PTFE materials are also available with inner eyelets and/or outer eyelets.

ADDITIONAL DESIGNS

- TFM™-envelope gasket with non-metallic insert made from UNIFLUOR® WS 7550 and/or corrugated metal ring for food and pharmaceutical applications
- UNIFLUOR® ePTFE CellFlon® tape WS 7501 [blue] and WS 7534 [white]

UNIFLUOR®.

Non-metallic gaskets with fillers.

Product designation	Non-metallic gasket, UNIFLUOR® Colour code: blue Filler: Glass microspheres	Non-metallic gasket, UNIFLUOR® Colour code: brown Filler: Quartz	Non-metallic gasket, UNIFLUOR® Colour code: white Filler: Barium sulphate
Product name	WS 7550	WS 7551	WS 7553
Product image			
Profile No.	FD01 	FD01 	FD01 
Features	Sealing system made from a high quality, biaxial aligned gasket material on PTFE basis filled with glass microspheres. Excellent plasticity with high, chemical resistance.	Sealing system made from a high quality, biaxial aligned gasket material on PTFE basis filled with quartz. Excellent plasticity with high, chemical resistance.	Sealing system made from a high quality, biaxial aligned gasket material on PTFE basis filled with barium sulphate. Excellent plasticity with high, chemical resistance.

OPERATIONAL DATA

Pressure	Max. 60 bar ²	Max. 80 bar ²	Max. 80 bar ²
Temperature	-200 °C to 260 °C	-200 °C to 260 °C	-200 °C to 260 °C

APPROVALS

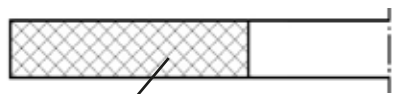
TA Luft 2002 [VDI 2440/2200]	X	X	X
BAM oxygen		X	X
BAM EO/PO [Ethylene-/Propylene oxide]		X	
DVGW [DIN 3535-6]			
KTW-guideline			
Fire Safe Test			
FDA	X	X	X
EG 1935/2004	X	X	X
Blow-out resistance			
Germanischer Lloyd	X	X	X
Features			

²Max. pressure and max. temperature should not occur at the same time

A high-grade bi-axially-oriented PTFE-based sealing material, filled with hollow micro-glass balls, featuring extremely good chemical resistance and excellent deformation properties.

Available as plate and die-cut gasket as per DIN EN 1514-1 and in other common dimensions as well as in special-purpose dimensions.

Construction



UNIFLUOR® 7550
Standard thicknesses (mm): 0.75; 1.0; 1.5; 2.0; 3.0
Other thicknesses available on request
Plate size: 1500 mm x 1500 mm
Colour: blue



Operating limits

■ Operating pressure :	max. 60 bar
■ Operating temperature :	-200 °C to 260 °C
■ Recommended continuous operating temperature :	max. 200 °C

Max. temperature and max. pressure must not be permitted to occur simultaneously. They depend on installation conditions (please consult with the manufacturer).

Gasket characteristics DIN 28090 (thickness = 2 mm)

$\sigma_{VU 0,1}$:	17 N/mm ²
σ_{VO} :	140 N/mm ²
$\sigma_{BO 200^\circ C}$:	70 N/mm ²
$m_{DIN 2505}$:	1.2

Approvals

■ FDA compliant (FDA 21 CFR 177.1550)
■ German Lloyd
■ TA-Luft 2002 (VDI 2440/2200) ¹⁾

¹⁾ TA-Luft: German Technical Instructions on Air Quality Control

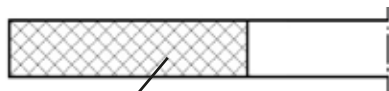
UNIFLUOR® 7551 flat gasket colour: fawn
(IDT identification: WS 7551, FD01)



A high-grade bi-axially-oriented PTFE-based sealing material, filled with silica and featuring extremely good chemical resistance.

Available as plate and die-cut gasket as per DIN EN 1514-1 and in other usual dimensions as well as in special-purpose dimensions.

Construction



UNIFLUOR® 7551
Standard thicknesses (mm): 1.0; 1.5; 2.0; 3.0
Other thicknesses available on request
Plate size: 1500 mm x 1500 mm
Colour: fawn



Operating limits

■ Operating pressure :	max. 80 bar
■ Operating temperature :	-200 °C to 260 °C
■ Recommended continuous operating temperature :	max. 200 °C

Max. temperature and max. pressure must not be permitted to occur simultaneously. They depend on installation conditions (please consult with the manufacturer).

Gasket characteristics DIN 28090 (thickness = 2 mm)

$\sigma_{VU 0,1}$:	24 N/mm ²
σ_{VO} :	160 N/mm ²
$\sigma_{BO 150^\circ C}$:	110 N/mm ²
$\sigma_{BO 200^\circ C}$:	90 N/mm ²
$m_{DIN 2505}$:	1.2

Approvals

- BAM approval for gaseous oxygen (150°C/60 bar) and liquid oxygen ¹⁾
- BAM approval for ethylene oxide / propylene oxide
- FDA compliant
- German Lloyd
- TA-Luft 2002 (VDI 2440/2200) ²⁾

¹⁾ BAM: Federal German Institute for Materials Research and Testing

²⁾ TA-Luft: German Technical Instructions on Air Quality Control

General information
 All information given in this Technical Information sheet represents our current level of knowledge and serves as information on our products and their respective scope. It is not meant to ensure any particular properties of any product or the suitability of any product for any specific application, neither does it create any liability on our part.
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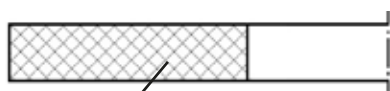
UNIFLUOR® 7553 flat gasket colour: white (IDT identification: WS 7553, FD01)



A high-grade bi-axially-oriented PTFE-based sealing material, filled with barium sulphate and featuring extremely high chemical resistance.

Available as plate and die-cut gasket as per DIN EN 1514-1 and in other common dimensions as well as in special-purpose dimensions.

Construction



UNIFLUOR® 7553
Standard thicknesses (mm): 1.0; 1.5; 2.0; 3.0
Other thicknesses available on request
Plate size: 1500 mm x 1500 mm
Colour: white



Operating limits

■ Operating pressure :	max. 80 bar
■ Operating temperature :	-200 °C to 260 °C
■ Recommended continuous operating temperature :	max. 200 °C

Max. temperature and max. pressure must not be permitted to occur simultaneously. They depend on installation conditions (please consult with the manufacturer).

Gasket characteristics DIN 28090 (thickness = 1,5 mm)

σ_{VU} :	25 N/mm ²
σ_{VO} :	160 N/mm ²
$\sigma_{BO 150^\circ C}$:	95 N/mm ²
$\sigma_{BO 200^\circ C}$:	85 N/mm ²
$m_{DIN 2505}$:	1.2

Approvals

- BAM approval for gaseous oxygen (200 °C/70 bar) and liquid oxygen ¹⁾
- FDA compliant
- German Lloyd
- TA-Luft 2002 (VDI 2440/2200) ²⁾

¹⁾ BAM: Federal German Institute for Materials Research and Testing

²⁾ TA-Luft: German Technical Instructions on Air Quality Control