

# TECHNICAL DATA SHEET

## fluteck™ P EX 100

### Expanded PTFE

#### Product Description.

fluteck™ P EX 100 is Expanded PTFE. Gasket Sheets are made from 100% pure, multidirectional fluteck™ P EX 100 with higher density. It consists solely of highest grade PTFE resins that offer an almost unlimited chemical resistance. During installation, gaskets made from fluteck™ P EX 100 sheets, adapt perfectly to flange roughness, unevenness and usual irregularities of used flanges.

In service, stressed with temperature cycling and external forces, fluteck™ P EX 100 keeps high gasket stress and forms an optimum thin gasket with high blow-out safety. With fluteck™ P EX 100 sheet gasketing you can cover a wide range of metal flange shapes in demanding aggressive surroundings. For the use in high purity applications fluteck™ P EX 100 sheets with ink-free marking are available on request.

- High flexibility and compressibility
- Exceptional temperature resistance
- High limiting oxygen index
- UV resistance
- Extremely non-adhesive
- Excellent chemical resistance
- Excellent electrical insulating properties
- Suitable for food contact
- High degree of hydrophobicity
- Resistance to high Pressure

	Property	Method	Units	Specification
Physical	Color	-	-	White
	Specific gravity	ISO 536	g/cm <sup>3</sup>	0,65 – 0,85
	Water absorption	ASTM D570	%	0,01
	Flammability	UL 94		V-0
Mechanical	Creep Relaxation at 23°C	ASTM F38 B	%	15
	Compressibility (tested thickness 2mm)	ASTM F36	%	55 - 60
	Recovery (tested thickness 2mm)	ASTM F36	%	14
	G <sub>b</sub> ROTT 1,5 mm/ 3 mm	ASTM F2836-18	psi	725 - 800
	A ROTT	ASTM F2836-18	--	0,265 – 0,271
	G <sub>s</sub> ROTT	ASTM F2836-18	psi	6,2*10 <sup>-2</sup> - 8,4*10 <sup>-6</sup>

## fluorseals



Company Quality System  
Uni EN ISO 9001:2015  
cert. CISQ N° 061  
First issue 1994

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#### Typical properties.

fluteck™ P EX 100 offers an excellent combination of properties typical of the fluoropolymer resins:

- Service Temperature: fluteck™ P EX 100 offers excellent resistance to continuous service temperatures – working conditions from -100°C (-148°F) up to +250°C (482°F) and, for limited periods, even to higher temperatures; Product's low temperature resistance allows satisfactory performance down to -200°C (-328°F).
- Chemical resistance: fluteck™ P EX 100 offers high inertness towards nearly all known chemicals. Only attacked elemental alkali metals, chlorine trifluoride and elemental fluorine at high temperature and pressures might affect properties.
- Solvents resistance: fluteck™ P EX 100 offers insoluble properties in all solvents up to temperatures as high as 300°C (572°F). Certain highly fluorinated oils only swell and dissolve PTFE at temperatures close to the crystalline melting point.
- Easy manufacture into all gasket shapes; suitable for high temperatures; highly conformable to the sealing surface; reliably tight and blow-out safe; resistant to ageing reduces service and operating costs.

#### Typical Application.

fluteck™ P EX 100 offers useful properties in various applications such as chemical resistance, thermal stability, cryogenic properties, low coefficient of friction, low surface energy, low dielectric constant, high volume and surface resistivity, and flame resistance.

These properties allow the application of fluteck™ P EX 100 in several fields such as Chemical, Electrical and Electronic, Petrochemical, Automotive, Mechanical, Medical, Aeronautics, Semiconductor and Food industry.

In particular for large diameter standard flanges, piping systems, apparatus flanges, complex geometries, steel flanges and high grade FRP components. Highly aggressive chemicals, all media in food and pharma applications.

#### Tests and Certificates

- FDA approved (code of Federal regulation 21 CFR Ch.1; sections 177.1550 "Perfluorocarbon Resins" of the Food and Drug Administration/ USA .
- TA-luft (VDI 2440) up to 230°C and VDI 2290 @ 40bar He
- Blow-Out-Safety according VDI 2200
- BAM for gaseous and liquid Oxygen
- EC 1935 and relating regulations for extractions limits and GMP
- USP CI VI

#### Storage and Handling.

fluteck™ P EX 100 can be stored for a long period of life and is exceptionally resistant to aging and weather conditions up to 10 years. Specific aging tests carried out on sample exposed to aging and atmospheric conditions, showed no changes in weight and volume.

In case of semi-finished products, before processing or before the machining, it is advisable to store the material for 24 hours in the production area, preferable in a clean and dry place at a temperature of less than 25°C (77°F), preferably between 21-25°C (70-77°F). This is very important when room temperature is low; in such cases the material should be conditioned up to 72 hours in the production area in the recommended temperature range.

#### Safety instruction.

Follow the normal precautions observed with all fluoropolymer materials.

Please consult the Material Safety Data Sheet and Product Label for information regarding the safe handling of the material. By following all precautions and safety measures, processing, machining, and using these products poses no known health risks. General handling and processing precautions include: 1) Process only in well-ventilated areas. 2) Do not smoke in working areas. 3) Avoid eye contact. 4) Avoid mouth contact. 5) If skin comes into contact with these products during handling, wash with soap and water afterwards. 6) Avoid contact with hot fluoropolymers.

The user must verify that the finished parts, made out of the semi-finished product, are technically suitable for the requested application. The user must also verify that the finished item may not cause any modification to the organoleptic properties of the foodstuff and that the item's technological fitness it is assigned to may be guaranteed.

For each foreign country market, where the articles are introduced into, it is user's responsibility to verify whether both material than articles comply with the applicable laws and regulations.

**Note:** The information contained in this technical data sheet have been collected and ranked on technical data coming from reliable statistic series gathered in the field over the years. All information are intended only as general guidelines for use at user discretion. fluorseals do not guarantee any specific result and do not assume any liability in connection with the use of the products in the described application. None of the information included in this document is to be taken as a licence to operate under, or recommendations to infringe any existing patents. Before the use, the product has to be sampled and tested in the specific application and in the field of use at working condition in order to be approved by the user

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