Fluoroplastic technology / porous PTFE

Porous PTFE: Products and Applications

We utilise the outstanding characteristics of polytetrafluoroethylene, PTFE, to benefit from a number of options for technical applications in the porous materials sector. The exceptional material characteristics of PTFE play an important role here.

Besides, by developing special granulates and applying our own special production techniques, we have succeeded in establishing additional technical characteristics.

The outstanding material properties of PTFE combined with our product know-how and high degree of processing competence enable us to manufacture high-end technical products for many industries.

Furthermore, we have succeeded in manufacturing work pieces from a combination of materials consisting of porous PTFE and solid PTFE in a seamless pressing process. We are able to produce components with mechanically stable and resilient connection options such as threaded connections.

Material characteristics

- For use within a broad temperature range from minus 200°C to plus 260°C
- Universal resistance to chemicals
- Extremely non-adhesive
- Physiologically harmless
- Absorbs no water
- Marked hydrophobic behaviour

Processing competence

- Graded pore sizes
- Different pore volumes
- Classified conduction values
- Defined water retention capacity

High-end products for

- Chemicals, semiconductor and clean room technology
- Filter and safety technology
- Optical metrology
- Automotive engineering
- Sensor technology

Our range of supply includes many types and sizes of semi-finished goods made from porous PTFE:

- Foils and membranes in widths measuring up to 300 mm, thicknesses ranging from 0.2 to 5 mm and lengths from 0.5 to 150 m.
- Plates measuring up to 600 x 300 mm and 5 to 50 mm thick.
- Blocks with edge lengths up to 300 mm.
- Rods with diameters from 5 to 100 mm and lengths up to 500 mm.
- Pipes with internal diameters ranging from 5 to 400 mm, wall thicknesses from 1 to 100 mm and lengths up to 500 mm.
- Blanks in the form of blocks, sections, hemispheres and other hollow parts.
- Customised finished goods in many shapes, e. g. diaphragms, sheaths, discs, piping systems, rings, membranes and all kinds of punched parts.

Specific characteristics

The crucial issue in all cases is to establish the physical data and their reproducibility, which we control within strict, tolerated graduations.

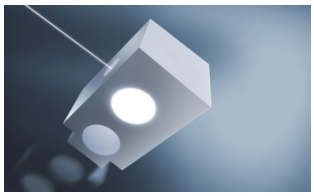
We arrive at the following specifications as the current limit values:

Air flow rates:	1 to 1,000 ml / s.cm² bars
Water retention capacity:	up to 1.2 bars
Average pore diameter:	1 to 100 µm
Pore volumes	5 to 60 %

Thanks to our many years of practical experience, we are in a position to cover even critical areas of application. The spectrum of our production and the variance of the technical characteristics facilitate applications ranging from laboratories to large-scale industry.

Please inform us about your application and your requirements. We would be delighted to offer you proposals for solutions and will provide you with free material samples for your suitability tests also at short notice.

Practical applications



Optical metrology

- Reflectors
- Spectrometers
- Ulbricht integrating spheres
- Photometers

Chemicals, semiconductor and clean room technology

- Filters for gases and liquids
- Catalyst supports / diaphragms
- Gas injection and/or gas distribution (perlators)
- Pressure compensation for chemicals tanks and batteries

Filter and safety technology

- Filter membranes
- Protective sheaths
- Dust filters
- Protective elements for sensors
- Silencers

Automotive engineering

Water-repellent pressure compensation elements for the protection of electronic regulation systems prior to pressure build-up and ingressing water.

- ABS
- Airbag
- ASR
- Automatic controls
- Batteries
- Injection control
- ESP
- Hooters
- Headlights