PTFE NÜNCHRITZ
become flexible

PTFE semi-finished product range

SEMI-FINISHED PRODUCTS MADE OF PTFE PRECURSORS FOR INDUSTRY

We have a wide range of semi-finished products made of PTFE and PTFE compounds including solid and hollow rods, both moulded and extruded, slabs, plates, films and sheeting and hoses.

Compounding – material made to measure

Our own compounding facility is the starting point for optimum and, above all, diverse semi-finished product production in-house. This enables us to generate ideal filler combinations for special requirements. Even small quantities for testing and specimen productions can be easily produced. Working together with our customers, a large number of special PTFE compounds have already been developed and successfully used. Our in-house compounding facility combined with many years of plastics engineering experience therefore forms the basis for optimum problem solving together with our customers.

MANUFACTURING METHODS



PTFE processing is very different from processing the usual thermoplastics. Injection moulding cannot be used due to the material's high melting viscosity (at very high temperatures, PTFE is merely highly viscous). The semi-finished products can therefore only be produced using Press- & Sinter-technology and RAM extrusion.

MOULDING

Press- & Sinter-technology
(hydraulic moulding)

During the moulding process the PTFE powder at room temperature is compressed under high pressure to form geometrically simple mouldings.



These preforms are then sintered in special furnaces. The temperature is controlled by electronic programs, which ensures consistent quality of the semi-finished products. The moulding and sintering parameters are adjusted to the PTFE compounds to ensure optimum material properties.

Press- & Sinter-technology can be used to manufacture semi-finished products in the form of plates, slabs, rods and tubes (with limited lengths).

RAM EXTRUSION



RAM extrusion enables the production of endless rods and tubes, and simple profiles. This type of processing involves the continuous compression and sintering of the PTFE powder in special RAM extruders.
The standard length is 1 meter, but customer-related special lengths are possible.

PRODUCT RANGE

- Solid rods
- Hollow rods
- Sheets
- Tapes

MOULDED SOLID PTFE RODS

Diameter ranges D*)	Tolerances*)
> 20 – 40 mm	D+1 mm
> 40 – 60 mm	D+2 mm
> 60 – 80 mm	D+3 mm
> 80 – 100 mm	D+4 mm
> 100 – 200 mm	D+5 mm
> 200 – 400 mm	D+6 mm
from 400 mm	by arrangement

MOULDED HOLLOW PTFE RODS

Diameter ranges D*)	Tolerances*)	
> 20 – 40 mm	D+1 mm	d-1 mm
> 40 – 60 mm	D+2 mm	d-2 mm
> 60 – 80 mm	D+3 mm	d-3 mm
> 80 – 100 mm	D+4 mm	d-4 mm
> 100 – 200 mm	D+5 mm	d-5 mm
> 200 – 400 mm	D+6 mm	d-6 mm
from 400 mm	by arrangement	

*) D = outer diameter, d = Inner diameter



PTFE MOULDINGS

A large collection of moulds, including variably combinable moulds, enables us to manufacture semifinished products close to their finished size.

We can even produce semi-finished products made of special compounds or compounds especially developed for specific customers and with low demand:

- Solid rods
- Hollow rods
- Sheets
- Tapes

Moulded solid PTFE rods

- Standard lengths: 100 mm and 150 mm
- Length tolerance: Ø ≤ 100 mm + 5 mm
  Ø > 100 mm +10 mm
- Diverse diameters and lengths can be produced
- Different tolerances are possible
- Standard range up to Ø 750 mm

Moulded hollow PTFE rods

- Standard lengths: 100 mm and 150 mm
- Length tolerance: Ø ≤ 100 mm + 5 mm
  Ø > 100 mm +10 mm
- Diverse diameters and lengths can be produced
- Diverse inner diameters can be combined
  (minimum wall thickness 3 mm or in relation to diameter)
- Different tolerances are possible
- Standard range up to Ø 1000 mm

···PRODUCT RANGE

- Solid rods
- Hollow rods
- Sheets
- Tapes

PRESSED PTFE SHEETS

Dimensions	Thickness
100 x 100 m m	2 – 80 mm
200 x 200 m m	2 – 50 mm
300 x 300 m m	3 – 65 mm
500 x 500 mm	4 – 50 mm
600 x 600 m m	1 – 44 mm
1000 x 1000 m m	1 – 74 mm
1200 x 1200 mm	1 – 141 mm

Tolerances: Format +4%

Thickness	Tolerances
2,0 – 6,0 m m	+1,0 mm
6,5 – 9,5 m m	+1,2 mm
10,0 – 11,5 mm	+1,5 mm
≥ 12,0 mm	+15 %

Pressed PTFE sheets

- Diverse thicknesses can be produced
- Sawn cutting to size is possible (tolerance +)
- In virtually all compounds
- Further dimensions available on request

Skived PTFE tapes

- Diverse thicknesses can be produced
- Cutting to size is possible
- In virtually all compounds
  (Please ask about minimum quantities)
- Further dimensions available on request
- Tapes etched or self-adhesive on one side are possible
- Minimum quantity for tape PTFE pure, 0,05 mm thick: 50 m

SKIVED PTFE TAPES

Width	Thickness
600 m m	0,05 – 3,0 mm
1000 mm	0,1 – 3,0 mm
1200 m m	0,1 – 3,0 mm
1500 mm	0,5 – 3,0 mm

Tolerances: Format + 3 %

Thickness	Tolerances
0,05 – 0,1 m m	+0,01 mm
> 0,1 – 0,3 m m	+0,02 mm
> 0,3 – 0,5 m m	+0,03 mm
> 0,5 – 0,8 m m	+0,04 mm
> 0,8 – 1,0 m m	+0,05 mm
> 1,0 – 1,5 m m	+0,10 mm
> 1,5 – 2,0 m m	+0,20 mm
> 2,0 – 3,0 mm	+0,30 mm



PTFE EXTRUDATE

Our in-house compounding facility in conjunction with modern r a m extruders and many years of experience enable us to provide virtually all extrudates. The material and dimensions can be optimally adapted to the customer's application needs. Thanks to diverse combinable moulds, many intermediate sizes can be supplied.

EXTRUDED SOLID PTFE RODS

Diameter ranges D*)	Tolerances*)
> 5 – 10 mm	D+0,4 mm
> 10 – 20 mm	D+0,8 mm
> 20 – 30 mm	D+1,2 mm
> 30 – 40 mm	D+1,6 mm
> 40 – 50 mm	D+2,0 mm
> 50 – 60 mm	D+2,4 mm
> 60 – 70 mm	D+2,8 mm
> 70 – 80 mm	D+3,2 mm
> 80 – 90 mm	D+3,6 mm
> 90 – 100 mm	D+4,0 mm
> 100 – 150 mm	D+5,0 mm
> 150 – 200 mm	D+6,0 mm

Extruded solid PTFE rods

- Standard lengths: 1 m and 2 m
- Length tolerance: 4%
- Diverse diameters and lengths can be produced
- Different tolerances are possible
- Ground finish from Ø 4.0 to Ø 50 mm;
  max. 3-4 m length (depending on the diameter)

EXTRUDET HOLLOW PTFE RODS

Diameter ranges D*)	Tolerances*)
≥ 10 – 20 mm	D+0,5 mm d-0,5 mm
> 20 – 30 mm	D+1,0 mm d-1,0 mm
> 30 – 50 mm	D+1,5 mm d-1,5 mm
> 50 – 100 mm	D+2,0 mm d-2,0 mm
> 100 mm	by arrangement

DIAMETER TOLERANCES FOR GROUND RODS

Diameter ranges D*)	Tolerances*)
≥ 4 – 14,9 mm	D+0,04 mm
> 15 – 24,9 mm	D+0,06 mm
> 25 – 34,9 mm	D+0,10 mm
> 35 – 50 mm	by arrangement
Different tolerances available	on request

*) D = outer diameter, d = Inner diameter

Extruded hollow PTFE rods

- Standard lengths: 1m and 2 m
- Length tolerance: 4%
- Diverse inner diameters can be combined (minimum wall thickness 3 mm or in relation to diameter)
- Diverse diameters and lengths can be produced
- Different tolerances are possible
- Ground finish from Ø 4.0 to Ø 50 mm;
  max. 3 m length (depending on the diameter)



Standard dimensions of extruded solid and hollow PTFE rods

| Diameter in mm | | Weight*) (g/1000 mm) | | |

···PRODUCT RANGE

- Solid rods
- Hollow rods
- Sheets
- Tapes

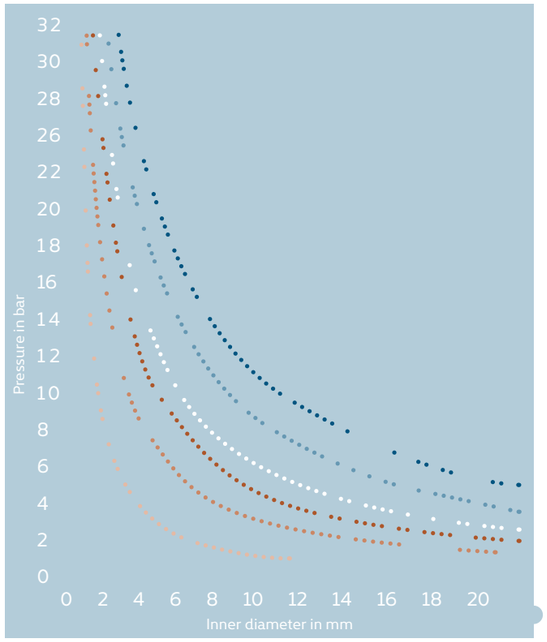
PTFE HOSES

- Further dimensions available on request
- Lengths can be cut to size
- Can be produced in various compounds
- Tolerances available on request
- „Spaghetti" hoses availalbe on request

PTFE HOSES

Diameter ranges d*)	Wall thickness
2,00 mm	1,00 mm
4,00 mm	1,00 mm
6,00 mm	1,00 mm
8,00 mm	1,00 mm
10,00 mm	1,00 mm
12,00 mm	1,00 mm
14,00 mm	1,00 mm
16,00 mm	1,00 mm

d = Inner diameter



GLASS FABRIC

PTFE glass fabric combines the extraordinary properties of PTFE with those of glass fabric:

- Temperature resistant from -200 °C to + 260 °C
- Very good chemical resistance
- Anti-adhesive surface
- Low friction coefficient
- High compressive strength and dimensional stability
- Physiologically safe
- Very good dielectric properties
- No water absorption
- Cuts in length and width are possible

GLASS FABRIC

Typ (Standard width 1000 mm)	Thickness
Standard smooth	0,08 mm
	0,13 mm
	0,15 mm
	0,25 mm
Extra smooth	0,08 mm
	0,13 mm
	0,15 mm
	0,25 mm
One sided self-adhesive	0,08 mm
	0,13 mm
	0,15 mm
	0,25 mm
Antistatic	0,15 mm
	0,25 mm

t=0,2 t=0,5 t=0,75 t=1,0 t=1,5 t=2,0

Allowable working pressures for the respective hose diameters and wall thicknesses (t) at 20°C

···THE COMPANY

Over 60 years experience in PTFE processing – ours is a record few can even approach! Our enormous production depth that starts with the compounding of the raw material through semi-finished products (hydraulic pressing and RAM extrusion) through to cutting on state-of-the-art CNC controlled turning and milling centres guarantees that you get totally reliable products from a single source. Series production or single items – we put our enormous capabilities to the test every single day. Own research and development in cooperation with raw materials producers and customers, leading universities and research institutes, plus the unrivalled experience our staff provide you with a base for getting optimum solutions to all your problems and toughest tasks that is unequalled anywhere. w hether you provide us with drawings, samples or application requirements – we will develop and manufacture it for you. Our materials testing laboratory and the regular stringent manufacturing tests we carry out in all production areas are your guarantee of an even and continuous high standard of quality. w e have got what it takes for products of the highest standard, whether in our team of highly experienced and qualified staff on the one hand or our cutting edge machinery and the clear designer logic of our production processes on the other.

We are certified to the current versions of ISO 9001, ISO 14001, ISO 45001 and ISO 50001.
You profit from our total flexibility and delivery reliability.



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