

DELIVERY PROGRAMME **STOCK SHAPES**





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» PLASTICS ENGINEERED BY GEHR

GEHR, the third and fourth-generation family-owned and operated company, has been ranking amongst the global leading producers of thermoplastic semi-finished products for over 80 years. At our Mannheim headquarters and our branches all over the world, more than 250 employees produce and sell a wide range of extruded rods, sheets, tubes and profiles. Our independence, good partnership with our customers and absolute reliability are the basic pillars of our success.

Our semi-finished products are used in a great variety of products in the processing industry – e.g. mechanical engineering and apparatus engineering, chemical industry and aerospace industry. It goes without saying that we ensure compliance with the most restrictive norms for our products. The constant expansion of our portfolio is also of great importance to us. The latest example of this are the filaments for professional 3D printing sold under the brand name FIL-A-GEHR®.

QUALITY AND INNOVATION

Decades of experience enable us to meet the highest quality standards and to keep offering new solutions to our customers. In our labs, our engineers continually bring existing process technologies to perfection. They develop new materials and dimensions, e.g. from renewable raw materials or with special properties made to suit the individual requirements. Often this is done in close cooperation with universities and other highly-esteemed scientific institutes such as the Fraunhofer Institute. We are certified according to DIN EN ISO 9001 (quality management), DIN EN ISO 14001 (environmental management), DIN EN ISO 50001 (energy management) and OHSAS 18001 (occupational health and safety management).





GLOBAL PRESENCE

In addition to our headquarters in Mannheim, we produce and sell a comprehensive product range of thermoplastic materials in our plants in Germany as well as in our branches in Italy, USA, India, China and Hong Kong. Our core competence lies in sheets, tubes, profiles and round rods up to 700 mm. Our warehouses are designed for large inventories. This guarantees a rapid commissioning and shipment to our customers. Anytime and anywhere.



TAILOR-MADE SERVICE

For us, service goes far beyond delivery reliability: our experts are available to find solutions for all kinds of complex application-related challenges. Quick and straightforward.

Also, we are offering Individual post-processing of sheets and rods to suit the corresponding application. Our services include:

- » Offcuts of sheets and rods
- » Planing (milling) of sheets
- » Centerless grinding of rods

We offer seminars on numerous topics for different target audiences in our training centre or if requested at the customer's facilities.



SUSTAINABILITY AND SOCIAL RESPONSIBILITY

Environmental protection and sustainability are of particular importance to us. Therefore, our product portfolio comprises ECO-GEHR® semi-finished products which are based on renewable raw materials and have a positive carbon footprint. By the way, we have changed over to a 100 % green electricity supply for the production in our main production plant.

We also take social responsibility very seriously. Our social responsibility activities include the support of institutions of higher education and of young academic talents. Sponsoring regional projects is of great importance to us. For us, global presence and local commitment are not mutually exclusive.

CRITICAL FOR SUCCESS – THE HUMAN FACTOR

Our success and our innovative capacity can only be ensured with highly-qualified employees. Therefore we continually invest in their training and competence. We lay the foundation for an excellent future by offering seminars, further training courses and symposia in our training centre. For us, an excellent future means continuing to meeting our customers' requirements with 100 % passion and top product quality.

OUR CERTIFICATIONS



Quality Management



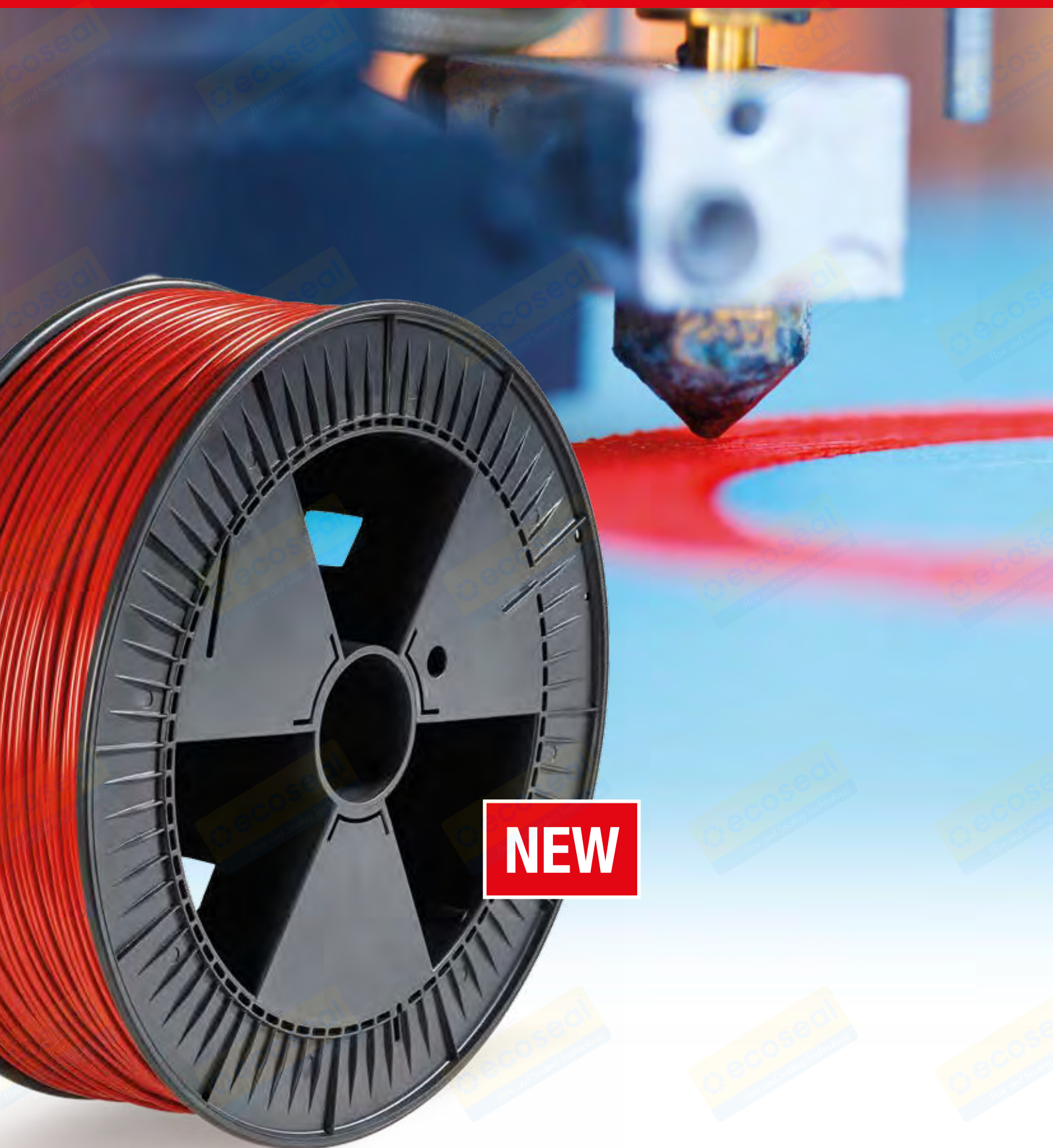
Environmental Management



Energy Management

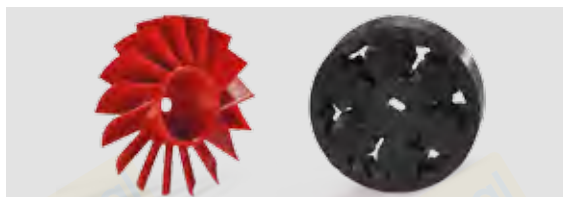


OHSAS Management



NEW

» FIL-A-GEHR®



FIL-A-GEHR® FILAMENTS

We have expanded our extruded plastic semi-finished products portfolio. As of now we offer plastic filaments for professional 3D printing under the brand name FIL-A-GEHR®. The low-emission and low-odour filaments are produced from high-quality raw materials with close tolerances ($\pm 0,05$ mm) and allow therefore a precise and failure-free 3D printing. FIL-A-GEHR® filaments are compatible with all standard 3D printers and are delivered carefully spooled and packed in easy to use resealable zip bags.

Properties FIL-A-GEHR®

- » Extremely close tolerances $\pm 0,05$ mm ($\pm 0,002$ ")
- » Filaments made of high-quality raw materials
- » Compatible with all standard 3D printers
- » Low-emission and odour free
- » Shrinkage-free
- » Good layer adhesion
- » Optimal flow behaviour while printing
- » Carefully spooled and packed in easy to use resealable zip bags

FIL-A-GEHR ABS®

FIL-A-GEHR ABS® is a high-quality thermoplastic polymer with excellent mechanical properties. After-treatment or surface treatment can easily be applied to components made of FIL-A-GEHR ABS®. The components are specifically suitable for the production of small or mid-sized objects, functional prototypes or parts and thermostable items.

Properties FIL-A-GEHR ABS®

- » Low-emission and low-odour
- » FIL-A-GEHR ABS® compliant to European Toy Safety Norm EN71-3
- » Raw material ABS has food contact and medical approval
- » High stability and impact strength
- » Heat resistant up to approx. 100°C (212°F)
- » Easy after-treatment or surface treatment

Applications FIL-A-GEHR ABS®

- » Small and medium-sized objects
- » Functional prototypes
- » Thermostable parts e.g. model making

FIL-A-GEHR PLA®

FIL-A-GEHR PLA® is made by NatureWorks and consists of high-quality Ingeo™ biopolymer. It stands out for its great dimensional stability, its high level of stiffness as well as its high elastic modulus. Long-term tests have shown that embrittlement on the coil does not occur. Reduced energy consumption and low nozzle temperatures while printing are other advantageous properties of this material. Furthermore, it can be printed without a heated bed.

Properties FIL-A-GEHR PLA®

- » High dimensional stability
- » Very good layer adhesion
- » No embrittlement on the spool (Long term flexural test)
- » Raw material PLA has food contact and toy safety approval
- » High stiffness/high modulus of elasticity (3.380 MPa)

Applications FIL-A-GEHR PLA®

- » Very large products
- » Dimensionally stable products e.g. molds for cast-bronze
- » High precision temporary parts

FIL-A-GEHR PPA®

FIL-A-GEHR PPA® is a particularly stiff and hard material. Thanks to its high levels of stability and hardness and its high continuous operating temperature, the material is mainly used as metal replacement, e.g. in the engine compartment. The stiff material is particularly suited for 3D printing; different from carbon fibre filled materials, the print nozzles do not wear. Material distortion is minimal in 3D printing.

Properties FIL-A-GEHR PPA®

- » High stiffness, modulus of elasticity (3000 MPa)
- » Very high stability (Tensile Stress at Yield 100 MPa)
- » Very good layer adhesion
- » High hardness level
- » Low warpage
- » Heat resistance up to approx. 105 °C

Applications FIL-A-GEHR PPA®

- » Replacement for metal and carbon fibre filled PLA
- » Components in the engine compartment
- » Fittings for water pipes/water meter housings

FIL-A-GEHR PA 12®

Compared to other polyamides, FIL-A-GEHR PA 12® has a low moisture absorption which is beneficial for failure-free 3D printing. The excellent chemical resistance, in particular against fuels and antifreeze agents, in combination with the high impact strength of the material, justifies the material's application e.g. in fuel or coolant pipes in the automotive industry. Its very low susceptibility to distortion combined with very good layer adhesion and low processing temperature makes FIL-A-GEHR PA 12® the ideal material for 3D printing.

Properties FIL-A-GEHR PA 12®

- » Excellent chemical resistance, in particular against fuels and antifreeze agents
- » Low moisture absorption/high degree of dimensional stability
- » High stability
- » Low wear/excellent sliding friction
- » High impact strength
- » High continuous operating temperature of 85 °C
- » Low susceptibility to distortion

Applications FIL-A-GEHR PA 12®

- » Cooling water systems
- » Fuel pipes

FIL-A-GEHR PEEK®

Polyetheretherketone ranks among the high performance thermoplastics thanks to its high melting point of 343 °C and its maximum continuous operating temperature of 260 °C. Its particular chemical structure makes PEEK largely stable against thermal and chemical damage and permits its usage inside the body. In case of fire, the smoke development of PEEK is the lowest of all thermoplastics; the material is therefore used in aviation. FIL-A-GEHR PEEK is an experimental filament with a processing temperature of 375 °C in the heated chamber (180 °C). The material is specifically apt for use on 3D printers.

Properties FIL-A-GEHR PEEK®

- » High stiffness, elastic modulus 3830 MPa
- » Resistance against many chemicals
- » Maximum continuous operating temperature 260 °C
- » Print temperature 375 °C
- » Chamber temperature 180 °C

Applications FIL-A-GEHR PEEK®

- » Inside the body
- » Aviation

FILAMENTS



FIL-A-GEHR ABS®

Ø mm	Tolerances mm		1-kg-Spool	2,3-kg-Spool
	min.	max.		
1,75	0,05	0,05	● ● ● ● ●	● ● ● ● ●
2,85	0,05	0,05	● ● ● ● ●	● ● ● ● ●

FIL-A-GEHR PLA®

Ø mm	Tolerances mm		1-kg-Spool	2,3-kg-Spool
	min.	max.		
1,75	0,05	0,05	● ● ● ● ●	● ● ● ● ●
2,85	0,05	0,05	● ● ● ● ●	● ● ● ● ●

FIL-A-GEHR PPA®

Ø mm	Tolerances mm		1-kg-Spool
	min.	max.	
1,75	0,05	0,05	○
2,85	0,05	0,05	○

FIL-A-GEHR PA 12®

Ø mm	Tolerances mm		1-kg-Spool
	min.	max.	
1,75	0,05	0,05	○
2,85	0,05	0,05	○

FIL-A-GEHR PEEK®

Ø mm	mm		1-kg-Spool
	min.	max.	
1,75	0,05	0,05	○
2,85	0,05	0,05	○

Stock Fil-A-GEHR®

Colours: ● black (~RAL 9005) ● blue (~RAL 5015) ● red (~RAL 3000) ○ white (~RAL 9010) ● yellow (~RAL 1037) ● green transparent ○ natural



» ECO-GEHR®



ECO-GEHR® PLASTICS

stand for semi-finished products based on renewable resources. These sustainable materials possess regenerative raw material contents between 60 % to 100 % and hence a positive CO₂ balance. In addition to that ECO-GEHR® offers an alternative to the non-renewable resource crude oil. As a basis we use all sorts of organic materials such as sugar/starch, lignin, cellulose, castor, oil wood fibres. After polymerization these raw materials are adjusted by compounding so that they are suitable for the extrusion process on the existing machines.

Applications ECO-GEHR® Plastics

- » Mechanical engineering
- » Display construction
- » Furniture industry
- » Toy industry
- » Playground equipment
- » Writing instruments
- » Instruments
- » Drumsticks
- » Billiard cues
- » Gear wheels
- » Slide rails

ECO-GEHR WPC-30PP®

Wood Plastic Composite belongs to wood fibre reinforced plastics. The fibre content is approx. 70 %.

Properties ECO-GEHR WPC-30PP®

- » Good mechanical strength
- » Weatherproof compared to wood
- » Antibacterial optional, UV-resistant

ECO-GEHR PA 6.10®

is obtained from the oil of the castor bean seed and is therefore based over more than 60 % on renewable resources.

Properties ECO-GEHR PA 6.10®

- » Low water absorption in comparison to PA 6
- » High dimensional stability
- » Good chemical resistance

ECO-GEHR PLA-LF®

is a blend of Polylactid acid, lignin, lingocellulosic, natural fatty acid, waxes and wood fibres. This material possesses good mechanical properties similar to ABS. This bioplastic has an operating range from -30 °C to max. +60 °C.

Properties ECO-GEHR PLA-LF®

- » Preparation from environmental friendly raw materials, thus physiologically harmless
- » PLA is biodegradable
- » Disposal by composting resp. incineration. Regional regulations need to be observed.
- » Good mechanical properties similar to ABS
- » High stiffness, modulus of elasticity up to 2800 MPa
- » Good resistance to polar media

ECO-GEHR CL®

consists of the wood components cellulose, natural fibres, lignin and fatty acids. It possesses a lot of interesting properties which, taken as a whole, remind very much of the natural material wood. Compared to naturally grown wood the advantages of ECO-GEHR® clearly lie in the homogeneity of the material.

Properties ECO-GEHR CL®

- » Bio-degradable material
- » Carbon footprint is largely neutral
- » Isotropic material structure
- » Disposal by composting resp. incineration (Regional regulations need to be observed)
- » Good mechanical properties
- » High stiffness/modulus of elasticity up to 4248 MPa

ROUND RODS



Length

ECO-GEHR PA 6.10®

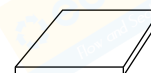
3 m

ECO-GEHR WPC-30PP®

2 m

Ø	ECO-GEHR PA 6.10® 1)	ECO-GEHR WPC-30PP® 1)
mm	kg/m	kg/m
10	0,085	
20	0,340	0,390
25	0,573 ⊙	0,610 ⊙
30	0,760	0,880 ⊙
40	1,360	1,560
50	2,266 ⊙	2,430 ⊙

SHEETS (CALENDERED)



Length

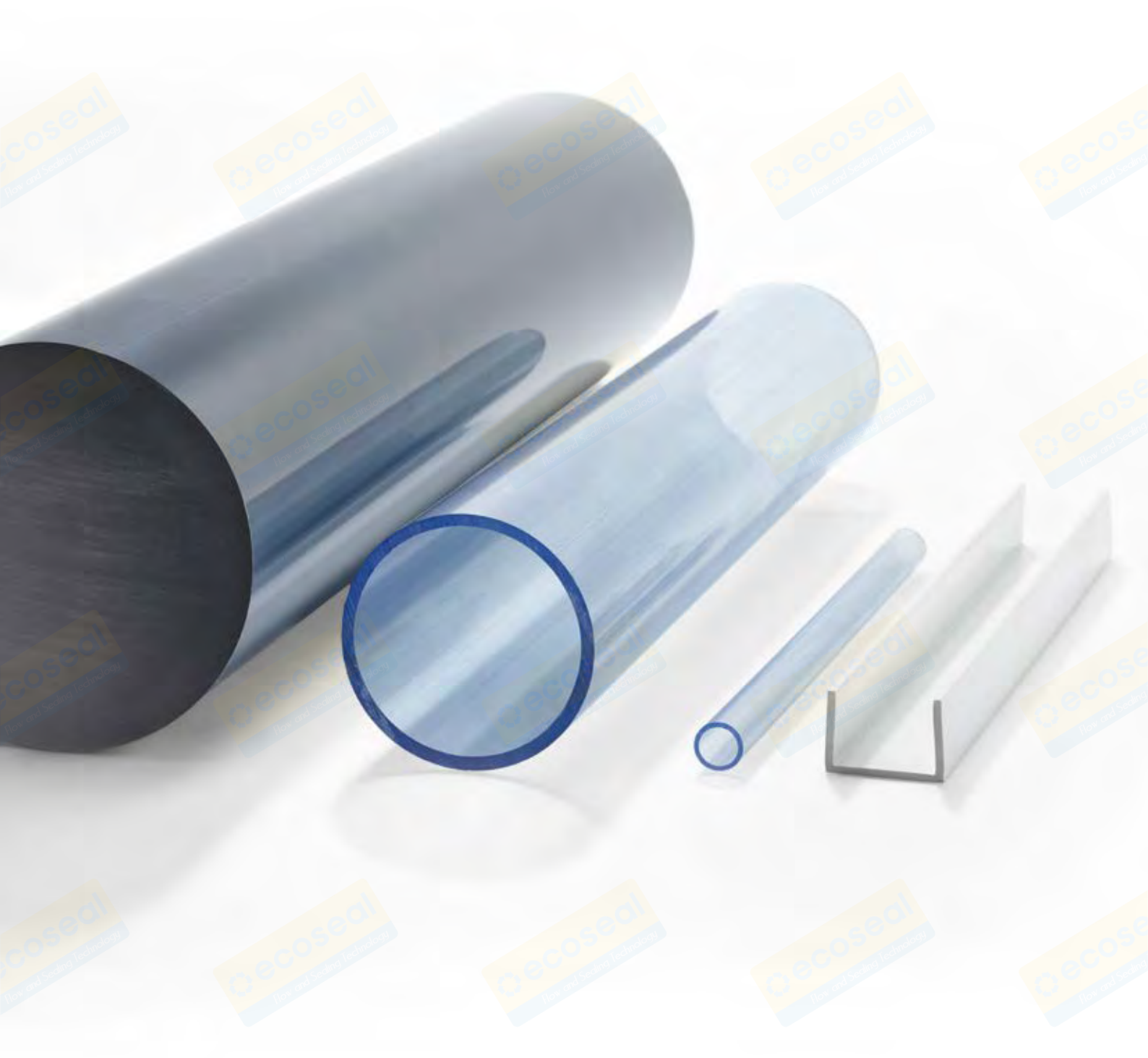
2 m

	ECO-GEHR PLA-LF® 1)	ECO-GEHR CL® 1)
	Width 1000 mm	Width 1000 mm
mm	kg/m	kg/m
1,5	2,016	2,016
2,0	2,688	2,688
2,5	3,360	3,360
3,0	4,032	4,032
5,0	6,720	6,720

Stock item Colours: ⊙ natural

¹⁾ Tolerances on request

PVC





GEHR PVC-U®

Polyvinyl chloride is a flame retardant material with an exceptional chemical resistance and also with lower stress cracking. PVC-U possesses high mechanical strength, tensile strength and a continuous operating temperature from -15 °C to +60 °C. It can also be easily glued and welded.

GEHR PVC-TR®

PVC-TR is a transparent PVC-U which possesses a slightly diminished strength but simultaneously an increased toughness. The upper continuous service temperature is +60 °C. PVC-TR can be glued and welded like PVC-U.

GEHR PVC-C®

High rigidity, strength and hardness at increased temperatures (+85 °C).

Properties GEHR PVC-U®

- » High mechanical strength, tensile strength and hardness
- » Good insulation properties for electronics
- » High chemical resistance
- » Self-extinguishing
- » Low water absorption
- » Good adhesiveness and paintability
- » Low impact strength
- » In white colour weatherproof

Applications GEHR PVC-U®

- » Pumps and valve body
- » Gaskets
- » Machine parts
- » Bearings cages
- » Hand lamp pipes
- » Brush basic body
- » Parts in the dental medicine
- » Seat strips
- » Profiles for cabin and fair construction
- » Lamp box

» APPROVALS GEHR PVC-U®

GEHR PVC-U® round rods in dark grey up to a diameter of 160 mm are physiologically harmless according to:



FOOD APPROVALS

GEHR PVC-U® round rods in dark grey meet the norms (EU) No. 1935/2004 and 10/2011. Further, in this formulation we only use raw materials which are classified food safe and have an FDA approval.



GEHR PVC-U® Rods manufactured by GEHR USA have various NSF Certifications. Please contact us for further information.



ROUND RODS



Length

PVC-U®

Ø 10–130 mm = 2 m

Ø 140–200 mm = 1 | 2 m

Ø 225–350 mm = 0,5 | 1 m

PVC-C®

Ø 15–150 mm = 2 m

Ø 180–200 mm = 1 m

Ø mm	Tolerances mm		GEHR PVC-U®	GEHR PVC-C®
	min.	max.	kg/m	kg/m
10	+ 0,1	+ 0,6	0,118 ¹⁾ ●	0,134
15	+ 0,2	+ 0,8	0,263 ¹⁾ ●	0,300 ○
20	+ 0,2	+ 1,2	0,468 ●	0,533 ○
25	+ 0,2	+ 1,2	0,723 ●	0,824 ○
28	+ 0,2	+ 1,2	0,890 ●	1,014
30	+ 0,2	+ 1,2	1,040 ● ○	1,185 ○
32	+ 0,2	+ 1,3	1,163 ●	1,325
35	+ 0,2	+ 1,3	1,350 ●	1,539
36	+ 0,2	+ 1,3	1,485	1,692
40	+ 0,2	+ 1,5	1,840 ●●○	2,097 ○
45	+ 0,3	+ 2,0	2,330 ●	2,656
50	+ 0,3	+ 2,0	2,880 ●●○	3,282 ○
55	+ 0,3	+ 2,0	3,438 ●	3,918
56	+ 0,3	+ 2,0	3,591	4,093
60	+ 0,3	+ 2,3	4,140 ●●	4,718 ○
65	+ 0,3	+ 2,5	4,713 ●	5,371
70	+ 0,3	+ 2,5	5,610 ●●○	6,394 ○
75	+ 0,4	+ 3,0	6,475 ●	7,380
80	+ 0,4	+ 3,0	7,300 ●●	8,320 ○
85	+ 0,5	+ 3,0	8,063	9,189
90	+ 0,5	+ 3,0	9,240 ●●	10,530 ○
100	+ 0,6	+ 3,5	11,390 ●●	12,980 ○
110	+ 0,7	+ 4,0	13,760 ●	15,682 ○
120	+ 0,8	+ 5,0	16,390 ●	18,680
125	+ 0,8	+ 5,0	17,790 ●	20,275 ○
130	+ 0,9	+ 6,0	19,260 ●	21,951
140	+ 0,9	+ 6,0	22,310 ●	25,427
150	+ 1,0	+ 7,0	25,630 ●	29,211 ○ ²⁾
160	+ 1,1	+ 8,0	28,300 ●	
180	+ 1,2	+ 9,0	38,000 ●	39,400 ○ ²⁾
200	+ 1,3	+ 10,0	47,300 ●	54,000 ○ ²⁾
225	+ 1,5	+ 11,0	59,900 ●	
250	+ 1,5	+ 11,0	71,300 ●	
280	+ 1,5	+ 12,0	92,000 ●	
300	+ 1,5	+ 12,0	106,000 ●	
350	+ 1,5	+ 15,0	142,000 ●	

Stock item Colours: ● grey (~RAL 7011) ● black ○ white (~RAL 9010) ○ light grey (~RAL 7040)

¹⁾ Packing Unit ~ 5 kg ²⁾ Tolerances on request

HOLLOW BARS



Length

2 m

D  d	Tolerances mm				GEHR PVC-U® kg/m
	D		d		
	min.	max.	min.	max.	
D x d mm					
15 x 5	+ 0,2	+ 0,8	- 0,2	- 0,8	0,246 ●
18 x 5	+ 0,2	+ 0,8	- 0,2	- 0,8	0,364
20 x 6	+ 0,4	+ 1,1	- 0,4	- 1,1	0,444 ●
22 x 6	+ 0,4	+ 1,1	- 0,4	- 1,1	0,574
25 x 8	+ 0,4	+ 1,1	- 0,4	- 1,1	0,680 ●
28 x 10	+ 0,4	+ 1,1	- 0,4	- 1,1	0,780
30 x 10	+ 0,4	+ 1,1	- 0,4	- 1,1	0,963 ●
32 x 12	+ 0,6	+ 2,0	- 0,6	- 2,0	0,980
35 x 12	+ 0,6	+ 2,0	- 0,6	- 2,0	1,310
40 x 15	+ 0,6	+ 2,0	- 0,6	- 2,0	1,660 ●
45 x 20	+ 0,6	+ 2,0	- 0,6	- 2,0	1,990 ●
50 x 20	+ 0,6	+ 2,0	- 0,6	- 2,0	2,470 ●
50 x 25	+ 0,6	+ 2,0	- 0,6	- 2,0	2,230
55 x 25	+ 0,8	+ 2,5	- 0,8	- 2,5	2,900
60 x 30	+ 0,8	+ 2,5	- 0,8	- 2,5	3,450 ●
70 x 30	+ 0,8	+ 3,0	- 0,8	- 3,0	4,510 ●
75 x 50	+ 0,8	+ 3,0	- 0,8	- 3,0	3,720
80 x 40	+ 0,8	+ 3,0	- 0,8	- 3,0	5,860 ●
90 x 60	+ 1,2	+ 3,6	- 1,6	- 5,0	5,350
100 x 50	+ 1,2	+ 3,6	- 1,6	- 5,0	8,838 ●
110 x 60	+ 1,2	+ 3,6	- 1,6	- 5,0	10,110
110 x 75	+ 1,2	+ 3,6	- 1,6	- 5,0	8,220
120 x 50	+ 1,5	+ 4,5	- 2,0	- 6,5	14,150
120 x 60	+ 1,5	+ 4,5	- 2,0	- 6,5	12,840
125 x 50	+ 1,5	+ 4,5	- 2,0	- 6,5	14,963 ●
130 x 50	+ 1,5	+ 4,5	- 2,0	- 6,5	17,120
150 x 50	+ 1,5	+ 4,5	- 2,0	- 6,5	23,800 ●
160 x 100	+ 1,8	+ 5,4	- 2,2	- 7,5	18,570 ●
200 x 100	+ 2,0	+ 6,0	- 2,5	- 8,5	35,700 ●
230 x 150	+ 3,0	+ 9,0	- 3,0	- 12,0	36,200 ●

HEXAGONAL RODS



A 

mm

GEHR PVC-U®

kg/m

Length

2 m

17	0,327 ●
19	0,422 ●
22	0,559 ●
24	0,721 ●
27	0,853 ●
30	1,051 ●
32	1,178 ●

GEHR PVC-U®

B
A = C


Angle Profiles
A x B x C
mm

B
A = C


U-channels
A x B x C
mm

B
A = C


Square Tubes
A x B x C
mm

B
A = C


Rectangular Tubes
A x B x C
mm

B
A


Square Bars
A x B
mm

STANDARD PROFILES

Length

3 m

15 x 15 x 2,0 ●○●	7 x 12 x 1,0 ○	10 x 10 x 2,0	16 x 13 x 1,5	10 x 10
20 x 20 x 2,0 ●○●	8,5 x 15 x 1,2 ○	12 x 12 x 1,0	19 x 16 x 1,5	15 x 15
25 x 25 x 2,0 ●	11 x 15 x 1,5 ○	15 x 15 x 2,0	40 x 30 x 2,0 ●	20 x 20
25 x 25 x 3,0 ●○●	13 x 15 x 1,5 ●○	16 x 16 x 1,5	60 x 34 x 2,5	25 x 25 ●○
25 x 25 x 8,0	24 x 20 x 1,7 ●○	18 x 18 x 1,5	50 x 25 x 2,0 ●○	26 x 26
30 x 15 x 3,0 ●		20 x 20 x 1,5 ●○	70 x 35 x 2,5 ●	30 x 30 ●○
30 x 30 x 2,0	29 x 20 x 2,0 ○	22 x 22 x 3,0 ●	85 x 35 x 2,5 ●	40 x 40 ●○
30 x 30 x 3,0 ●	29 x 42 x 2,0 ●	26 x 26 x 2,0 ●	86 x 58 x 2,5 ●	50 x 50 ●
30 x 30 x 4,0 ●○	35 x 35 x 4,0 ●	30 x 30 x 2,0 ●	105 x 35 x 2,5	60 x 60 ●○
40 x 20 x 2,0 ●○	46 x 66 x 3,0 ●	35 x 35 x 2,0 ●	110 x 55 x 2,5 ●	80 x 80 ●
40 x 20 x 4,0 ●○	47,5 x 20 x 3,5 ●	40 x 40 x 2,0 ●○	145 x 35 x 2,5	100 x 100 ¹⁾ ●
40 x 40 x 2,0	54,5 x 17 x 2,0	50 x 50 x 2,0 ●	150 x 25 x 2,5	
40 x 40 x 4,0 ●○●	64 x 37 x 2,0 ●	60 x 60 x 2,0 ●		
40 x 40 x 6,0 ●	70 x 35 x 5,0 ●	70 x 70 x 2,0		
45 x 45 x 10,0 ●	90 x 20 x 2,5 ●	80 x 80 x 2,0 ●		
50 x 30 x 4,0 ●	110 x 20 x 2,5	90 x 90 x 2,0 ●		
50 x 50 x 2,0 ●		100 x 100 x 2,5 ●		
50 x 50 x 5,0 ●		120 x 120 x 2,5 ●		
60 x 60 x 7,0 ●				
65 x 40 x 4,0				
70 x 40 x 5,0 ●				
75 x 22 x 3,0 ●○				
90 x 90 x 7,0 ●				
100 x 45 x 4,0				

Stock item

Colours: ● grey (~RAL 7011) ○ white (~RAL 9003) ● black

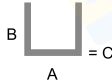
¹⁾Length 1 m

PROFILES FOR SHEETS

GEHR PVC-U®

Length

3 m

U-profiles	Sheet Thickness mm	Dimensions A x B x C mm
	4	7 x 12 x 1,0 ○
	6	8,5 x 15 x 1,2 ○
	8	11 x 15 x 1,5 ○
	10	13 x 15 x 1,5 ○
	19/20	24 x 20 x 1,7 ○
	24	29 x 20 x 2,0 ○

GEHR PVC-U®

H-profiles	Sheet Thickness mm	Dimensions A x B x C mm
	4	7,2 x 40 x 1,5 ○
	6	9 x 40 x 1,5 ○
	8	11 x 40 x 1,5 ○
	10	14 x 40 x 2,0 ○
	19	23,5 x 50 x 2,0 ○

GEHR PVC-U®

Corner Connection Profiles for Sheets	Sheet Thickness mm	Dimensions A x B x C mm
	10	32 x 32 x 2,0 ○

GEHR PVC-TR®

	PN 4 SDR 51		PN 6 SDR 34,3		PN 10 SDR 21		PN 16 SDR 13,5		PN 25 SDR 9		P.U. ¹⁾
D mm	s mm	kg/m	s mm	kg/m	s mm	kg/m	s mm	kg/m	s mm	kg/m	Pieces
8									1,0	0,035	10
10									1,2	0,053	10
12							1,0	0,055	1,4	0,073	10
16							1,2	0,090			10
20							1,5	0,137			5
25					1,5	0,174	1,9	0,212			5
32					1,8	0,264	2,4	0,342			4
40					2,0	0,366	3,0	0,525			4
50			1,8	0,422	2,4	0,552	3,7	0,809			4
63	1,8	0,532			3,0	0,854	4,7	1,290			3
75	1,8	0,642			3,6	1,220					3
90	1,8	0,774			4,3	1,750					2
110	2,2	1,160			5,3	2,610					1
125	2,5	1,480									1
140	2,8	1,840									1
160	3,2	2,410	4,7	3,440							1

TRANSPARENT
TUBES

Length

5 m

Dimensions according to
DIN 8062

GEHR PVC-U®

Scale 1:1	No.	Clear Width mm
	101	3 ○ ● ⊕
	176	4 ○ ● ⊕
	255	6 ○
	367	8
	321	1

CLAMPING
RAILS

Length

3 m

Stock item

Colours: ○ white (~RAL 9003) ● black ⊕ transparent

¹⁾ Packing Unit



» PE-HD



GEHR PE-HD®

Polyethylen has a good chemical resistance to almost all acids, lyes, many organic solvents and hot water. PE has good insulation properties and is easy to weld. The operating temperature is from -50 °C to +90 °C.

GEHR PE-ELS® (ELECTRICALLY CONDUCTIVE)

A variant of PE-HD with improved electrical conductivity.

Volume resistivity $\leq 10^4 \Omega \times \text{cm}$

Surface resistivity $\leq 10^5 \Omega$

Properties GEHR PE-HD®

- » Low density
- » High toughness (also at low temperature)
- » High elongation at break
- » Very good electrical and dielectric properties
- » Very low water absorption
- » Low steam permeability
- » High chemical resistance
- » Good protection against stress cracking
- » Food safe
- » Soft surface (low tensile strength)
- » HF welding not recommended
- » Natural color is not weather resistant

Applications GEHR PE-ELS®

- » Transport containers
- » Pumps and valve parts
- » Parts in the tank construction
- » Components with medical applications
- » Gaskets
- » Sliding profiles
- » Components for the food industry

ROUND RODS



Length

Ø 10–130 mm = 2 m

Ø 140–700 mm = 1 m

Ø mm	Tolerances mm		GEHR PE-HD®	GEHR PE-ELS®
	min.	max.	kg/m	kg/m
10	+ 0,1	+ 0,6	0,082 ¹⁾ ⊙●	0,086
12	+ 0,2	+ 0,7	0,119	0,129
16	+ 0,2	+ 0,8	0,203	0,213
20	+ 0,2	+ 1,2	0,327 ⊙●	0,343
25	+ 0,2	+ 1,2	0,506 ⊙●	0,531
30	+ 0,2	+ 1,2	0,720 ⊙●	0,758
32	+ 0,5	+ 1,1	0,800	0,842
35	+ 0,2	+ 1,3	0,988 ⊙●	1,040
40	+ 0,2	+ 1,5	1,280 ⊙●	1,347
50	+ 0,3	+ 2,0	2,010 ⊙●	2,116 ●
55	+ 0,3	+ 2,0	2,360 ●	2,484
60	+ 0,3	+ 2,3	2,880 ⊙●	3,032
65	+ 0,3	+ 2,5	3,370 ⊙	3,547
70	+ 0,3	+ 2,5	3,910 ⊙●	4,116
75	+ 0,4	+ 3,0	4,490 ●	4,726
80	+ 0,4	+ 3,0	5,100 ⊙●	5,368 ●
90	+ 0,5	+ 3,4	6,450 ⊙●	6,789
100	+ 0,6	+ 3,8	7,960 ⊙●	8,379 ●
110	+ 0,7	+ 4,2	9,610 ⊙●	
120	+ 0,8	+ 4,6	11,380 ⊙●	
125	+ 0,8	+ 4,6	12,410 ⊙	
130	+ 0,9	+ 5,4	13,320 ⊙●	
140	+ 0,9	+ 5,4	15,580 ⊙●	
150	+ 1,0	+ 5,8	17,900 ⊙●	
160	+ 1,1	+ 6,3	20,350 ⊙●	
165	+ 1,1	+ 6,3	21,220	
180	+ 1,2	+ 7,4	25,700 ⊙●	
200	+ 1,3	+ 8,5	32,200 ⊙●	
225	+ 1,5	+ 9,5	42,000	
250	+ 1,5	+ 9,5	50,000 ⊙●	
280	+ 1,5	+ 9,5	60,740	
300	+ 1,5	+ 10,0	71,800 ⊙●	
350	+ 1,5	+ 12,0	98,000 ⊙●	
400	+ 1,5	+ 12,0	127,000 ⊙●	
500	+ 1,5	+ 12,0	197,000 ⊙●	
600	+ 1,5	+ 12,0	290,000 ●	
700	+ 1,5	+ 12,0	395,000 ●	

HOLLOW BARS



Length

2 m

GEHR PE-HD®

D  d	Tolerances mm				GEHR PE-HD®
	D		d		
	min.	max.	min.	max.	
D x d mm					kg/m
20 x 10	+ 0,4	+ 1,1	- 0,4	- 1,1	0,260
25 x 15	+ 0,4	+ 1,1	- 0,4	- 1,1	0,350
30 x 15	+ 0,4	+ 1,1	- 0,4	- 1,1	0,535 ●
32 x 15	+ 0,6	+ 2,0	- 0,6	- 2,0	0,670
40 x 15	+ 0,6	+ 2,0	- 0,6	- 2,0	1,130
50 x 20	+ 0,6	+ 2,0	- 0,6	- 2,0	1,664
50 x 30	+ 0,6	+ 2,0	- 0,6	- 2,0	1,267
60 x 30	+ 0,8	+ 3,0	- 0,8	- 3,0	2,460
60 x 35	+ 0,8	+ 3,0	- 0,8	- 3,0	1,980
65 x 25	+ 0,8	+ 3,0	- 0,8	- 3,0	2,930
70 x 30	+ 0,8	+ 3,0	- 0,8	- 3,0	3,169 ●
75 x 20	+ 0,8	+ 3,0	- 0,8	- 3,0	4,216
75 x 40	+ 0,8	+ 3,0	- 0,8	- 3,0	3,189
80 x 40	+ 0,8	+ 3,0	- 0,8	- 3,0	3,803
90 x 50	+ 1,2	+ 3,6	- 1,6	- 5,0	4,437
100 x 50	+ 1,2	+ 3,6	- 1,6	- 5,0	6,052
100 x 70	+ 1,2	+ 3,6	- 1,6	- 5,0	4,850 ●
110 x 80	+ 1,5	+ 4,5	- 2,0	- 6,5	4,600
120 x 50	+ 1,5	+ 4,5	- 2,0	- 6,5	9,863
125 x 50	+ 1,5	+ 4,5	- 2,0	- 6,5	10,591
140 x 70	+ 1,5	+ 4,5	- 2,0	- 6,5	12,590 ●
170 x 120	+ 2,0	+ 6,0	- 2,5	- 8,5	13,250
180 x 80	+ 2,0	+ 6,0	- 2,5	- 8,5	20,980
200 x 120	+ 2,0	+ 6,0	- 2,5	- 8,5	21,527 ●

Stock item Colours: ○ natural ● black

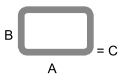
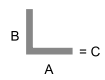
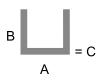
¹⁾ Packing Unit ~ 5 kg

STANDARD
PROFILES

GEHR PE-HD®

Length

5 m

 Square Tubes A x B x C mm	 Rectangular Tubes A x B x C mm	 Angle Profiles A x B x C mm	 U-channels A x B x C mm
50 x 50 x 4,0 ●	73 x 53 x 4,0 ●	20 x 20 x 3,0	16 x 66 x 4,0
90 x 90 x 3,5		30 x 30 x 2,0	18 x 86 x 4,0
		30 x 30 x 3,0 ●	27 x 46 x 3,0
		40 x 40 x 4,0	48 x 46 x 3,5 ●
		50 x 50 x 5,0 ●	49 x 69 x 4,0 ●
		51 x 51 x 6,0	49 x 86 x 4,0
		60 x 60 x 7,0	49 x 112 x 4,0 ●
			69 x 65 x 4,0 ●
			69 x 132 x 4,0 ●
			90 x 92 x 4,0 ●
			90 x 150 x 4,0

WELDING RODS



Coil

 Packing Unit
 ~ 3 kg

GEHR PE-HD®

 mm
2
3
4 ●
5

Small Spool

 Packing Unit
 ~ 2,5 kg

GEHR PE-HD®

 mm
2
3 ●
4 ●
5

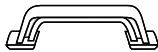
Large Spool

 Packing Unit
 ~ 10 kg

GEHR PE-HD®

 mm
2
3
4 ●
5

GEHR PE-HD®



Handles
mm



Hinges
mm

165 x 55 ●	160 x 60 ●
270 x 85 ●	

ACCESSORIES
FOR TANK
CONSTRUCTION



» PE-UHMW



GEHR PE-UHMW®

The ultra high molecular weight Polyethylen has a high abrasion resistance (very good glide characteristics) and a high toughness at the same time. The chemical and crack resistance are optimum in comparison to the standard PE-HD. The operating temperature of PE-UHMW ranges from -150 °C to +90 °C.

Properties GEHR PE-UHMW®

- » Low density
- » Very good wear resistance
- » Very high abrasion resistance
- » High toughness (also at low temperature)
- » High elongation at break
- » Very good electrical and dielectric properties
- » Very low water absorption
- » Low steam permeability
- » High chemical resistance
- » Good protection against stress cracking
- » Food safe

Applications GEHR PE-UHMW®

- » Pumping and valve parts
- » Gaskets
- » Slide profiles
- » Parts for the food industry

ROUND RODS

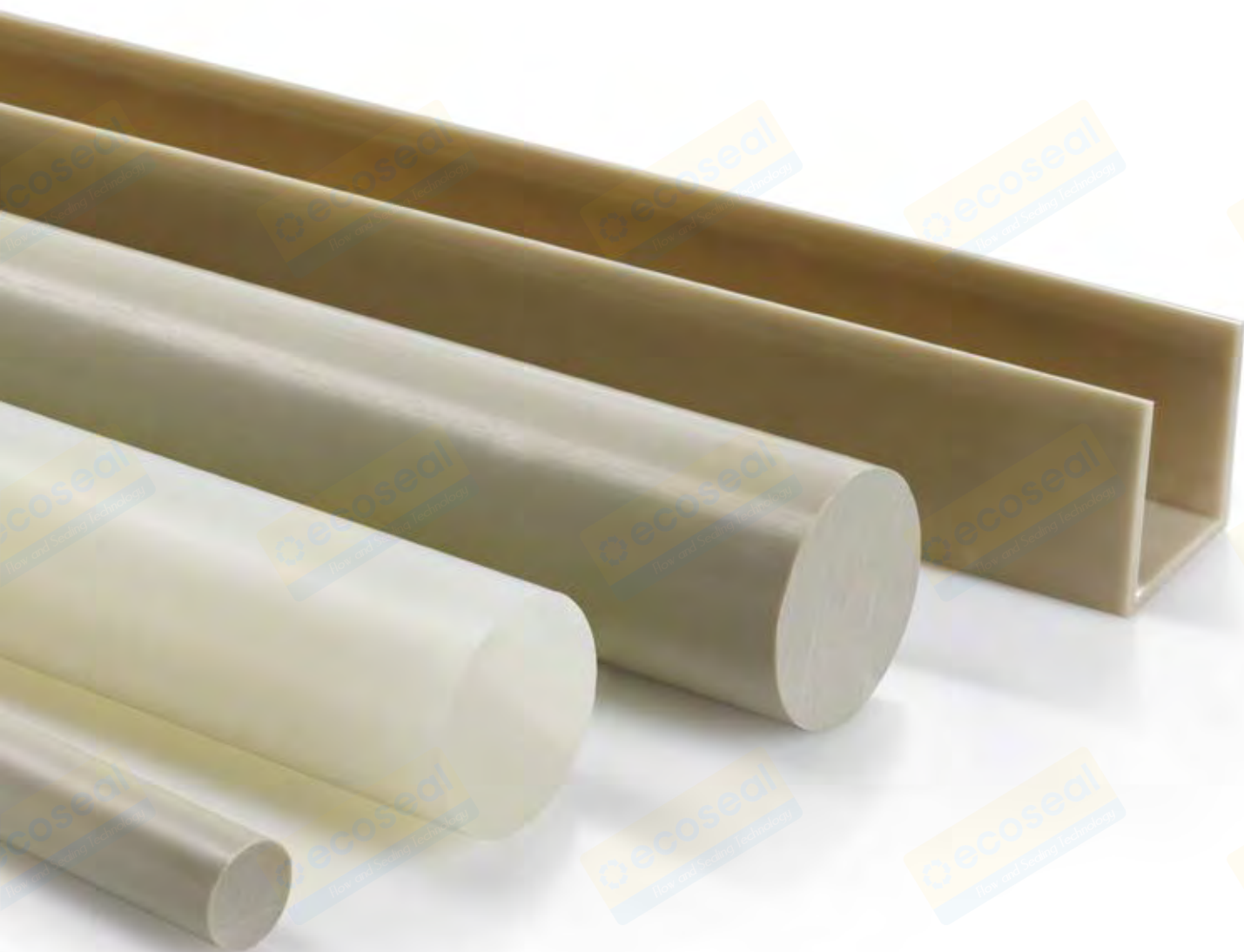


Length

1 | 2 m

Ø mm	Tolerances mm		GEHR PE-UHMW® kg/m
	min.	max.	
20	+ 0,2	+ 1,2	0,317 ○●●
25	+ 0,2	+ 1,2	0,491 ○
30	+ 0,2	+ 1,2	0,703 ○●●
35	+ 0,2	+ 1,3	0,970 ○
40	+ 0,2	+ 1,5	1,240 ○●●
45	+ 0,3	+ 2,0	1,570 ○
50	+ 0,3	+ 2,0	1,950 ○●●
55	+ 0,3	+ 2,0	2,289
60	+ 0,3	+ 2,3	2,800 ○●●
65	+ 0,3	+ 2,3	3,269 ○●
70	+ 0,3	+ 2,5	3,800 ○●●
75	+ 0,3	+ 2,5	4,355
80	+ 0,4	+ 3,0	4,947 ○●●
90	+ 0,5	+ 3,4	6,264 ○●●
100	+ 0,6	+ 3,8	7,728 ○●●
110	+ 0,7	+ 4,2	9,330 ○●●
120	+ 0,8	+ 4,6	11,230 ○●●
125	+ 0,8	+ 4,6	12,750 ○●●
130	+ 0,9	+ 5,4	13,130 ○●●
140	+ 0,9	+ 5,4	15,950 ○●●
150	+ 1,0	+ 5,8	17,380 ○●●
160	+ 1,1	+ 6,3	19,760 ○●●
165	+ 1,1	+ 6,3	20,589
180	+ 1,2	+ 7,4	24,990 ○●●
200	+ 1,3	+ 8,5	31,110 ○●●







GEHR PP®

Polypropylene shows a high mechanical and tensile strength, but a low notch impact strength. PP resists stress cracking and it is easy to weld. At minus temperatures it can become brittle. The chemical and electrical properties are very good. The continuous operating temperatures ranges between +5 °C and +100 °C.

GEHR PP-30GF®

The 30 % glass fibre reinforced PP has an improved dimensional stability, very high stiffness and high heat resistance that opens up additional applications.

Properties GEHR PP®

- » Low density
- » High heat resistance
- » High tensile strength
- » High surface strength
- » Very high chemical resistance
- » Low oxidation resistance
- » Low abrasion resistance
- » Brittle in the coldness
- » HF-welding not possible
- » Natural colour is not weather resistant

Applications GEHR PP®

- » Pumps
- » Valves
- » Gaskets
- » Supporting stands for the coating industry
- » Spacer for the electroplating
- » Parts for toys

Applications GEHR PP-30GF®

- » Brush and rollers manufacturing
- » Parts for pumps and valves
- » Housing for filtration
- » Parts for mechanical engineering

ROUND RODS



Length

Ø 10–130 mm = 2 m

Ø 140–700 mm = 1 m

Ø mm	Tolerances mm		GEHR PP®	GEHR PP-30GF® 2)
	min.	max.	kg/m	kg/m
10	+ 0,1	+ 0,6	0,078 ¹⁾ ○○○	0,098
12	+ 0,2	+ 0,7	0,114	0,143
16	+ 0,2	+ 1,2	0,195	0,244
20	+ 0,2	+ 1,2	0,312 ○○○	0,391 ●
25	+ 0,2	+ 1,2	0,484 ○	0,606 ●
30	+ 0,2	+ 1,2	0,694 ○○	0,869
32	+ 0,2	+ 1,3	0,767	0,961
35	+ 0,2	+ 1,3	0,947 ○○	1,186
40	+ 0,2	+ 1,5	1,230 ○○	1,541 ●
45	+ 0,3	+ 2,0	1,560 ○	1,954
50	+ 0,3	+ 2,0	1,930 ○○	2,418 ●
55	+ 0,3	+ 2,0	2,300 ○○	2,881
60	+ 0,3	+ 2,3	2,770 ○○	3,470 ●
65	+ 0,3	+ 2,5	3,170 ○○	3,971
70	+ 0,3	+ 2,5	3,750 ○○	4,698
75	+ 0,4	+ 3,0	4,230 ○	5,299
80	+ 0,4	+ 3,0	4,880 ○○	6,133 ●
90	+ 0,5	+ 3,4	6,180 ○○	7,742
100	+ 0,6	+ 3,8	7,620 ○○	9,546 ●
110	+ 0,7	+ 4,2	9,210 ○○	11,538
120	+ 0,8	+ 4,6	10,910 ○○	13,667 ●
125	+ 0,8	+ 4,6	11,900 ○	14,908
130	+ 0,9	+ 5,4	12,750 ○○	15,973
140	+ 0,9	+ 5,4	14,940 ○	18,716
150	+ 1,0	+ 5,8	17,140 ○○	21,472 ●
160	+ 1,1	+ 6,3	19,500 ○	
165	+ 1,2	+ 7,4	20,330 ○	
180	+ 1,2	+ 7,4	24,660 ○	
200	+ 1,3	+ 8,5	30,890 ○○	
225	+ 1,5	+ 9,5	38,400 ○	
250	+ 1,5	+ 9,5	47,900 ○○	
280	+ 1,5	+ 10,0	58,200 ○	
300	+ 1,5	+ 10,0	68,700 ○○	
350	+ 1,5	+ 12,0	93,000 ○	
400	+ 1,5	+ 12,0	122,700 ○	
500	+ 1,5	+ 12,0	189,000 ○○	
600	+ 1,5	+ 12,0	270,500 ○	
700	+ 1,5	+ 12,0	365,700 ○	

HOLLOW BARS



Length

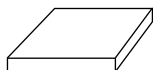
2 m

D  d	Tolerances mm				GEHR PP®
	D		d		
	min.	max.	min.	max.	kg/m
20 x 10	+ 0,4	+ 1,1	- 0,4	- 1,1	0,250
25 x 15	+ 0,4	+ 1,1	- 0,4	- 1,1	0,330
30 x 15	+ 0,4	+ 1,1	- 0,4	- 1,1	0,507 ○
32 x 15	+ 0,6	+ 2,0	- 0,6	- 2,0	0,640
40 x 15	+ 0,6	+ 2,0	- 0,6	- 2,0	1,070 ○
50 x 20	+ 0,6	+ 2,0	- 0,6	- 2,0	1,577 ○
50 x 30	+ 0,6	+ 2,0	- 0,6	- 2,0	1,201 ○
55 x 45	+ 0,8	+ 2,5	- 0,8	- 2,5	0,773
60 x 30	+ 0,8	+ 2,5	- 0,8	- 2,5	2,030 ○
60 x 35	+ 0,8	+ 2,5	- 0,8	- 3,0	1,900
65 x 25	+ 0,8	+ 2,5	- 0,8	- 3,0	2,800
70 x 30	+ 0,8	+ 3,0	- 0,8	- 3,0	3,004 ○
75 x 20	+ 0,8	+ 3,0	- 0,8	- 3,0	4,093
75 x 40	+ 0,8	+ 3,0	- 0,8	- 3,0	3,111
80 x 40	+ 0,8	+ 3,0	- 0,8	- 3,0	3,605 ○
90 x 50	+ 1,2	+ 3,6	- 1,6	- 5,0	4,206 ○
100 x 50	+ 1,6	+ 3,6	- 1,6	- 5,0	5,787
100 x 70	+ 1,2	+ 3,6	- 1,6	- 5,0	4,250 ○
110 x 80	+ 1,5	+ 4,5	- 2,0	- 6,5	4,406
120 x 50	+ 1,5	+ 3,6	- 1,6	- 5,0	10,310 ○
125 x 50	+ 1,5	+ 4,5	- 2,0	- 6,5	10,145
140 x 70	+ 1,5	+ 4,5	- 2,0	- 6,5	12,590 ○
170 x 120	+ 1,8	+ 5,4	- 2,2	- 7,5	13,250 ○
180 x 80	+ 2,0	+ 6,0	- 2,5	- 8,5	20,097

Stock item Colours: ○ natural ● black ○ light grey (~RAL 7032)

¹⁾ Packing Unit ~ 5 kg ²⁾ Tolerances on request

SHEETS



mm	Tolerances mm		Width 1000 mm kg/m
	min.	max.	
10	+ 0,2	+ 0,6	12,500
12	+ 0,2	+ 0,7	14,650
16	+ 0,2	+ 1,5	19,500
20	+ 0,2	+ 1,5	24,400
25	+ 0,3	+ 1,5	30,550
30	+ 0,4	+ 2,5	36,650
40	+ 0,4	+ 2,5	48,850
50	+ 0,4	+ 2,5	61,100

GEHR PP-30GF®

STANDARD
PROFILES

GEHR PP®

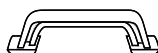
Length

5 m

 Square Tubes A x B x C mm	 Rectangular Tubes A x B x C mm	 Angle Profiles A x B x C mm	 U-channels A x B x C mm
35 x 35 x 3,0 ○	73 x 53 x 4,0 ○	20 x 20 x 3,0	18 x 86 x 4,0
50 x 50 x 4,0 ○		30 x 30 x 2,0	27 x 46 x 3,0 ○
90 x 90 x 3,5		30 x 30 x 3,0	48 x 46 x 3,5 ○
		40 x 40 x 4,0 ○	49 x 69 x 4,0 ○
		50 x 50 x 5,0 ○	49 x 86 x 4,0
		51 x 51 x 6,0	49 x 112 x 4,0 ○
		60 x 60 x 7,0 ○	69 x 65 x 4,0 ○
			69 x 132 x 4,0 ○
			90 x 92 x 4,0 ○
			90 x 150 x 4,0 ○

ACCESSORIES
FOR TANK
CONSTRUCTION

GEHR PP®



Handles
mm



Hinges
mm

165 x 55 ○	160 x 60 ○
270 x 85 ○	

GEHR PP®

Ø
mm
2
3
4
5

GEHR PP®

Ø
mm
2
3
4 ○
5

GEHR PP®

Ø
mm
2
3 ○
4 ○
5

GEHR PP®

Ø
mm
2
3
4 ○
5

WELDING
RODS



1m-Rods

Packing Unit
~ 3 kg

Coil

Packing Unit
~ 3 kg

Small Spool

Packing Unit
~ 2,5 kg

Large Spool

Packing Unit
~ 10 kg

FIL-A-GEHR®
FILAMENTS

ECO-GEHR®

PVC

PE-HD

PE-UHMW

PP

ABS

PMMA

PA

POM

PET

PBT

PC

PVDF

E-CTFE

PSU

PPSU

PEI

PPS

PEEK

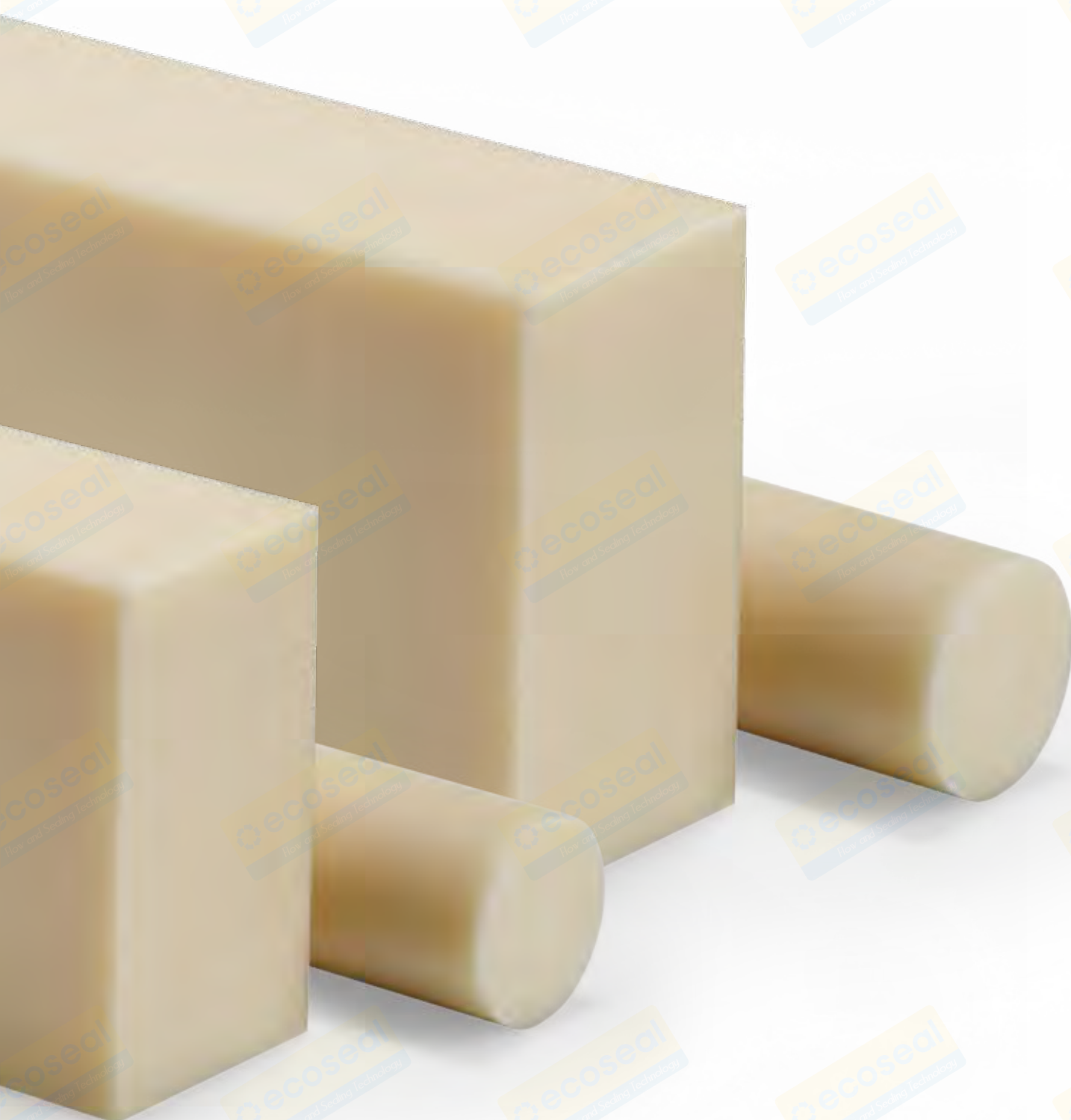
ELS

TECHNICAL

DATA

Stock item

Colours: ○ light grey (~RAL 7032)



» ABS



GEHR ABS®

Acrylnitrile Butadiene Styrene copolymer has a good thermal and dimensional stability and high impact strength (also at low temperature). It is hard, shows a good scratch resistance and has a good dimensional stability. ABS can be used in temperatures ranging from -50 °C to +70 °C.

Properties GEHR ABS®

- » Good mechanical strength and stiffness
- » Scratchresistant
- » High surface strength
- » High impact strength
- » High dimensional stability
- » Not weather resistant
- » Limited resistance to acid and lyes

Applications GEHR ABS®

- » Mostly applications where a high impact strength at low temperatures is requested
- » Model construction
- » Galvanized components

ROUND RODS



Length

1 m

Ø mm	Tolerances mm		GEHR ABS® kg/m
	min.	max.	
10	+ 0,1	+ 1,1	0,090 ⊙
12	+ 0,1	+ 1,5	0,140
15	+ 0,1	+ 1,5	0,200 ⊙
16	+ 0,1	+ 1,6	0,250
20	+ 0,1	+ 1,6	0,360 ⊙
25	+ 0,1	+ 1,7	0,570
30	+ 0,1	+ 1,7	0,820 ⊙
36	+ 0,1	+ 1,9	1,180
40	+ 0,1	+ 1,9	1,450 ⊙
50	+ 0,1	+ 2,5	2,270 ⊙
60	+ 0,1	+ 3,0	3,270 ⊙
70	+ 0,1	+ 4,2	4,450
80	+ 0,1	+ 4,2	5,810 ⊙
90	+ 0,2	+ 5,2	7,350
100	+ 0,3	+ 5,3	9,070 ⊙
120	+ 0,3	+ 5,3	12,650 ⊙
125	+ 0,3	+ 5,3	13,400
140	+ 0,3	+ 5,3	16,810
150	+ 0,3	+ 5,3	19,800 ⊙

SHEETS



Length

1,22 m

mm	Tolerances mm		GEHR ABS® Width 610 mm kg/m
	min.	max.	
10	+ 0,3	+ 2,6	7,060
15	+ 0,3	+ 2,6	10,600
20	+ 0,3	+ 2,6	14,100 ⊙
25	+ 0,3	+ 2,6	17,650 ⊙
30	+ 0,5	+ 3,0	21,150 ⊙
40	+ 0,5	+ 5,0	28,200 ⊙
50	+ 0,5	+ 5,0	35,250 ⊙
60	+ 0,5	+ 5,0	42,300
80	+ 0,5	+ 5,0	56,400
100	+ 0,5	+ 5,0	70,500





» PMMA



GEHR PMMA XT® (ACRYL)

Polymethylmethacrylate is brittle and shows a good mechanical strength, tensile strength and hardness. PMMA is also scratchresistant and easy to polish. It shows a good temperature resistance and UV-stability. The operating temperature of PMMA ranges from -40 °C to approx. +70 °C.

Properties GEHR PMMA XT®

- » Very high mechanical strength and hardness
- » High mechanical rigidity
- » Excellent transparency
- » Easy to polish
- » Good thermal stability
- » Good insulation properties
- » Low water absorption
- » Excellent weather resistance
- » Possible stress problems
- » Low chemical resistance
- » Brittle

Applications GEHR PMMA XT®

- » Display
- » Signage
- » Advertisement
- » Food industry
- » Tubes for lamps
- » Automotive
- » Milk pipes
- » Hand rails

ROUND RODS



Length

Ø 5–120 mm = 2 m

Ø 150–200 mm = 1 m

Ø mm	Tolerances mm		GEHR PMMA XT® kg/m	Packing Unit Pieces
	min.	max.		
5	- 0,2	+ 0,2	0,030 ⊕	20
6	- 0,2	+ 0,2	0,040 ⊕	20
7	- 0,2	+ 0,2	0,050	
8	- 0,2	+ 0,2	0,070 ⊕	10
10	- 0,4	+ 0,4	0,100 ⊕	10
12	- 0,4	+ 0,4	0,140 ⊕	1
15	- 0,4	+ 0,4	0,230 ⊕	1
18	0,0	+ 0,4	0,320 ⊕	1
20	0,0	+ 0,4	0,400 ⊕	1
22	0,0	+ 0,6	0,490	
25	0,0	+ 0,6	0,620 ⊕	1
28	0,0	+ 0,6	0,770	
30	0,0	+ 1,2	0,900 ⊕	1
35	0,0	+ 1,2	1,170 ⊕	1
40	0,0	+ 1,2	1,530 ⊕	1
50	0,0	+ 1,4	2,330 ⊕	1
60	0,0	+ 1,4	3,590 ⊕	1
65	0,0	+ 1,4	4,250	
70	0,0	+ 1,4	4,870 ⊕	1
75	0,0	+ 1,4	5,640 ⊕	1
80	0,0	+ 1,4	6,420 ⊕	1
90	0,0	+ 1,4	7,700 ⊕	1
100	0,0	+ 1,4	9,500 ⊕	1
120	0,0	+ 1,5	13,600 ⊕	1
150	0,0	+ 1,5	21,000 ⊕	1
180	0,0	+ 1,5	30,000	
200	0,0	+ 1,5	37,000 ⊕	1

SQUARE BARS



Length

2 m

B A	Tolerances	GEHR PMMA XT®	
		kg/m	Packing Unit Pieces
10 x 10	+ 0,75	0,120 ⊕	1
15 x 15	+ 0,75	0,270 ⊕	1
20 x 20	+ 1,00	0,480 ⊕	1
25 x 25	+ 1,00	0,750	
30 x 30	+ 1,30	1,150 ⊕	1
35 x 35	+ 1,50	1,560	
40 x 40	+ 1,80	2,040	

HINGE PROFILES



Length

1,5 m

Dimension	GEHR PMMA XT®	
	kg/m	Packing Unit Pieces
25 x 2,5	0,070 ⊕	20
50 x 2,5	0,140 ⊕	20

Stock item

Colours: ⊕ transparent

TUBES



Length

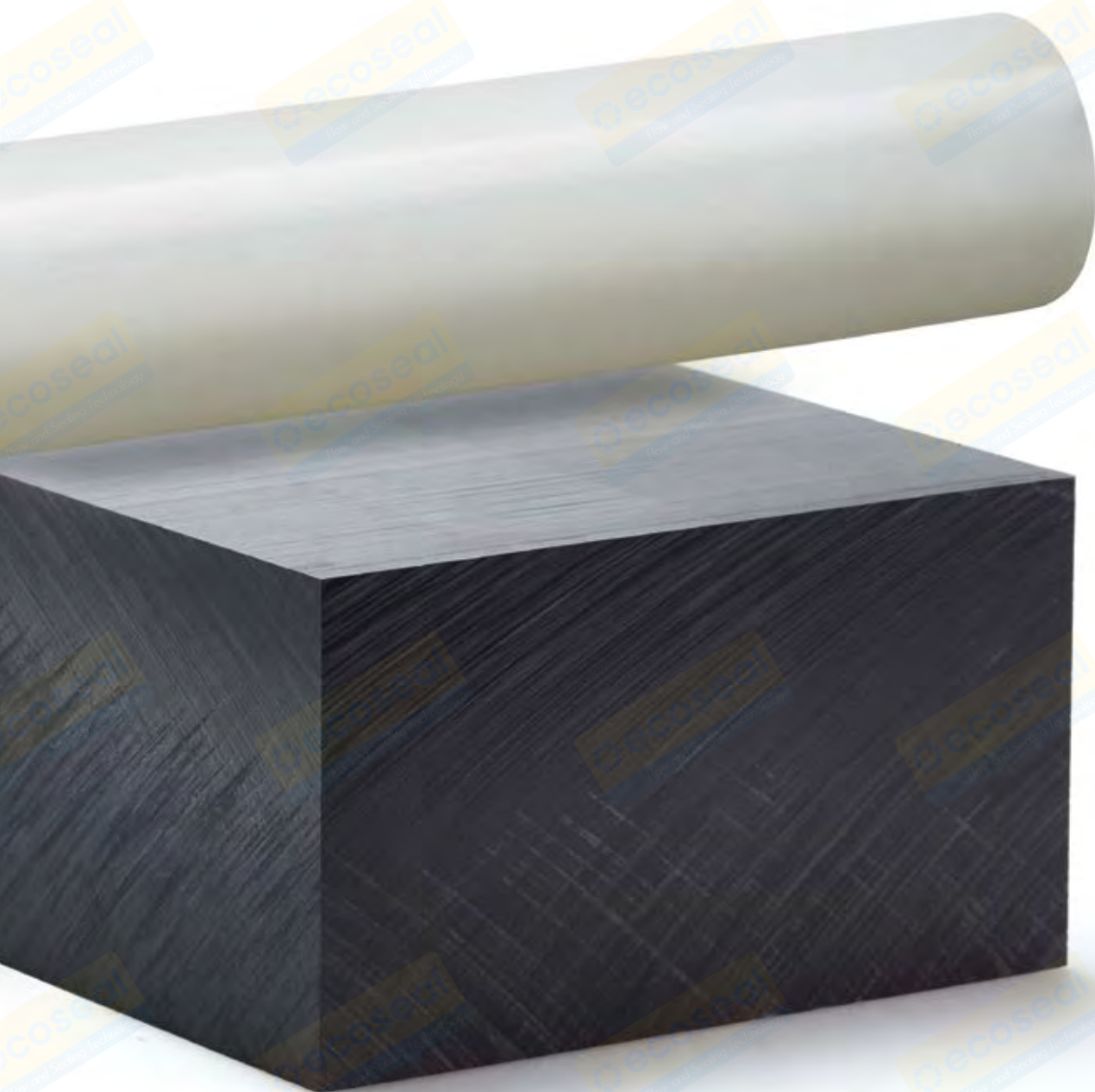
2 m

D  d	Tolerances mm				Wall Thickness	GEHR PMMA XT®	Packing Unit
D x d	D		d				
mm	min.	max.	min.	max.	mm	kg/m	Pieces
7 x 5	+ 0,3	- 0,3	+ 0,4	- 0,4	1	0,024	
8 x 4	+ 0,3	- 0,3	+ 0,4	- 0,4	2	0,048 ⊕	10
10 x 8	+ 0,3	- 0,3	+ 0,4	- 0,4	1	0,036 ⊕	10
10 x 7	+ 0,3	- 0,3	+ 0,4	- 0,4	1,5	0,051 ⊕	10
10 x 6	+ 0,3	- 0,3	+ 0,5	- 0,5	2	0,063 ⊕	10
12 x 8	+ 0,3	- 0,3	+ 0,5	- 0,5	2	0,079 ⊕	10
12 x 6	+ 0,3	- 0,3	+ 0,6	- 0,6	3	0,107	
13 x 10	+ 0,3	- 0,3	+ 0,5	- 0,5	1,5	0,069 ⊕	10
15 x 11	+ 0,3	- 0,3	+ 0,5	- 0,5	2	0,103 ⊕	10
15 x 10	+ 0,3	- 0,3	+ 0,6	- 0,6	2,5	0,123	
16 x 12	+ 0,3	- 0,3	+ 0,5	- 0,5	2	0,111 ⊕	10
20 x 16	+ 0,3	- 0,3	+ 0,5	- 0,5	2	0,142 ⊕	10
20 x 14	+ 0,3	- 0,3	+ 0,6	- 0,6	3	0,202 ⊕	10
25 x 21	+ 0,3	- 0,3	+ 0,5	- 0,5	2	0,183 ⊕	5
25 x 19	+ 0,3	- 0,3	+ 0,5	- 0,5	3	0,261 ⊕	5
30 x 26	+ 0,5	- 0,5	+ 0,5	- 0,5	2	0,222 ⊕	5
30 x 24	+ 0,5	- 0,5	+ 0,6	- 0,6	3	0,321 ⊕	5
30 x 22	+ 0,5	- 0,5	+ 0,7	- 0,7	4	0,412	
30 x 20	+ 0,5	- 0,5	+ 0,8	- 0,8	5	0,495 ⊕	5
38 x 32	+ 0,5	- 0,5	+ 0,6	- 0,6	3	0,416 ⊕	1
40 x 36	+ 0,5	- 0,5	+ 0,5	- 0,5	2	0,301 ⊕	1
40 x 34	+ 0,5	- 0,5	+ 0,6	- 0,6	3	0,440 ⊕	1
40 x 32	+ 0,5	- 0,5	+ 0,7	- 0,7	4	0,571 ⊕	1
40 x 30	+ 0,5	- 0,5	+ 0,8	- 0,8	5	0,693 ⊕	1
50 x 46	+ 0,8	- 0,8	+ 0,5	- 0,5	2	0,381 ⊕	1
50 x 44	+ 0,8	- 0,8	+ 0,6	- 0,6	3	0,559 ⊕	1
50 x 42	+ 0,8	- 0,8	+ 0,7	- 0,7	4	0,729 ⊕	1
50 x 40	+ 0,8	- 0,8	+ 0,8	- 0,8	5	0,891 ⊕	1
60 x 56	+ 0,8	- 0,8	+ 0,5	- 0,5	2	0,459 ⊕	1
60 x 54	+ 0,8	- 0,8	+ 0,7	- 0,7	3	0,677 ⊕	1
60 x 52	+ 0,8	- 0,8	+ 0,7	- 0,7	4	0,887 ⊕	1
60 x 50	+ 0,8	- 0,8	+ 0,8	- 0,8	5	1,090 ⊕	1

See next page »

D  d	Tolerances mm				Wall Thickness	GEHR PMMA XT®	Packing Unit
D x d mm	D		d		mm	kg/m	Pieces
	min.	max.	min.	max.			
70 x 64	+ 0,8	- 0,8	+ 0,7	- 0,7	3	0,796 ⊕	1
70 x 62	+ 0,8	- 0,8	+ 0,8	- 0,8	4	1,045	
70 x 60	+ 0,8	- 0,8	+ 0,8	- 0,8	5	1,287 ⊕	1
80 x 74	+ 0,9	- 0,9	+ 0,7	- 0,7	3	0,915 ⊕	1
80 x 72	+ 0,9	- 0,9	+ 0,8	- 0,8	4	1,205	
80 x 70	+ 0,9	- 0,9	+ 0,9	- 0,9	5	1,485 ⊕	1
90 x 84	+ 0,9	- 0,9	+ 0,7	- 0,7	3	1,035 ⊕	1
90 x 82	+ 0,9	- 0,9	+ 0,8	- 0,8	4	1,360	
90 x 80	+ 0,9	- 0,9	+ 0,9	- 0,9	5	1,680 ⊕	1
100 x 94	+ 1,2	- 1,2	+ 0,7	- 0,7	3	1,150 ⊕	1
100 x 92	+ 1,2	- 1,2	+ 0,8	- 0,8	4	1,520	
100 x 90	+ 1,2	- 1,2	+ 0,9	- 0,9	5	1,885 ⊕	1
110 x 104	+ 1,2	- 1,2	+ 0,7	- 0,7	3	1,270 ⊕	1
110 x 100	+ 1,2	- 1,2	+ 0,9	- 0,9	5	2,080 ⊕	1
120 x 114	+ 1,2	- 1,2	+ 0,7	- 0,7	3	1,390 ⊕	1
120 x 110	+ 1,2	- 1,2	+ 0,9	- 0,9	5	2,280 ⊕	1
134 x 128	+ 1,3	- 1,3	+ 0,7	- 0,7	3	1,556 ⊕	1
134 x 124	+ 1,3	- 1,3	+ 1,0	- 1,0	5	2,560 ⊕	1
150 x 144	+ 1,5	- 1,5	+ 0,8	- 0,8	3	1,672 ⊕	1
150 x 142	+ 1,5	- 1,5	+ 0,9	- 0,9	4	2,310	
150 x 140	+ 1,5	- 1,5	+ 1,0	- 1,0	5	2,870 ⊕	1
180 x 172	+ 1,5	- 1,5	+ 0,9	- 0,9	4	2,790 ⊕	1
200 x 194	+ 2,0	- 2,0	+ 0,8	- 0,8	3	2,342 ⊕	1
200 x 192	+ 2,0	- 2,0	+ 1,0	- 1,0	4	3,110 ⊕	1
200 x 190	+ 2,0	- 2,0	+ 1,1	- 1,1	5	3,810 ⊕	1
250 x 244	+ 2,0	- 2,0	+ 1,0	- 1,0	3	2,970	
250 x 240	+ 2,0	- 2,0	+ 1,1	- 1,1	5	4,860 ⊕	1
300 x 290	+ 5,0	- 5,0	+ 1,3	- 1,3	5	5,558	
400 x 390	+ 5,0	- 5,0	+ 1,3	- 1,3	5	7,442	

Stock item Colours: ⊕ transparent



» PA



GEHR PA®

Polyamide shows a high thermostability (temperature resistant from -40 °C to approx. +100 °C) and high stiffness, hardness and toughness. These are some of the main characteristics. Due to the fact, that the good mechanical characteristics will be achieved only after conditioning, this material must be conditioned again after annealing. In addition, this conditioning occurs with a longer storage in air automatically.

GEHR PA 6 C® (CAST)

Very stress-relieved and high-molecular PA 6. Properties similar to PA 6.

GEHR PA 6 XT® (EXTRUDED)

Very tough (also in cold condition), high hardness.

GEHR PA 6.6®

Polyamide with the highest hardness, rigidity, resistance to wear and heat deflection temperature.

GEHR PA 6.6-30GF®

The 30 % glass fibre reinforced PA 6.6 has an improved dimensional stability, a very high stiffness and heat resistance that opens up further applications.

ECO-GEHR PA 6.10®

This PA is obtained from the oil of the castor bean seed and is therefore based over more than 60 % on renewable resources.

GEHR PA 12-TR®

Many components in optical applications can be realized by the transparency and the dynamic strength.

Properties GEHR PA®

- » High strength and stiffness
- » High impact and notch impact strength
- » High heat deflection temperature
- » Shock-absorbing properties
- » Good sliding and dry running operating features
- » Good chemical stability against organic solvents and fuels
- » Size alteration by humidity absorption must be considered
- » Dimension stability, electrical and mechanical properties may become affected by water absorption

Applications GEHR PA®

- » Bearing parts (good sliding properties)
- » Gear wheels
- » Pump parts
- » Sliding rails
- » Rollers (reduction of the noise level)
- » Fittings

Properties GEHR PA 12-TR®

- » Transparency
- » Extremely dynamic strength
- » High chemical resistance
- » High stress-cracking resistance
- » Very high toughness
- » Good weather resistance

ROUND RODS



Length

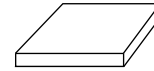
Ø 50–250 mm = 1 | 2 m

Ø 280–500 mm = 1 m

Ø mm	Tolerances mm		kg/m
	min.	max.	
50	+ 0,3	+ 1,9	2,390 ⊙●
60	+ 0,3	+ 2,5	3,440 ⊙●
70	+ 0,3	+ 2,5	4,800 ⊙●
80	+ 0,4	+ 2,8	6,200 ⊙●
85	+ 0,5	+ 3,2	6,900
90	+ 0,5	+ 3,2	7,800 ⊙●
95	+ 0,4	+ 3,0	8,700
100	+ 0,6	+ 3,5	9,800 ⊙●
110	+ 0,7	+ 3,9	11,700 ⊙●
115	+ 0,8	+ 4,3	12,900
120	+ 0,8	+ 4,3	14,200 ⊙●
125	+ 0,8	+ 4,3	15,400
130	+ 0,8	+ 5,0	16,900 ⊙●
140	+ 0,8	+ 5,0	20,000 ⊙
150	+ 0,8	+ 5,3	22,500 ⊙●
160	+ 0,8	+ 6,0	25,100 ⊙●
170	+ 1,0	+ 6,5	28,400 ⊙
180	+ 1,0	+ 6,5	31,500 ⊙●
190	+ 1,0	+ 7,5	35,100
200	+ 1,0	+ 7,5	39,200 ⊙●
220	+ 1,0	+ 8,5	48,000 ⊙
230	+ 1,0	+ 9,5	50,600 ⊙
250	+ 1,0	+ 9,5	59,800 ⊙●
280	+ 1,0	+ 11,0	75,800 ⊙
300	+ 1,5	+ 12,0	87,800 ⊙●
320	+ 1,5	+ 12,0	101,500 ⊙
350	+ 1,5	+ 12,0	117,500 ⊙
400	+ 1,5	+ 12,0	153,000 ⊙
450	+ 1,5	+ 12,0	195,000 ⊙
500	+ 1,5	+ 12,0	242,000 ⊙

GEHR PA 6 C® (CAST)

SHEETS



Length

1 | 2 m

mm	Tolerances mm		Width 1000 mm kg/m
	min.	max.	
10	+ 0,2	+ 1,5	13,500 ⊙●
12	+ 0,3	+ 2,5	16,000 ⊙●
16	+ 0,3	+ 2,5	21,500 ⊙●
20	+ 0,3	+ 2,5	26,000 ⊙●
25	+ 0,3	+ 2,5	32,000 ⊙●
30	+ 0,5	+ 3,5	38,500 ⊙●
35	+ 0,5	+ 3,5	45,300
40	+ 0,5	+ 3,5	51,000 ⊙●
50	+ 0,5	+ 3,5	63,500 ⊙●
55	+ 0,5	+ 5,0	70,000
60	+ 0,5	+ 5,0	76,000 ⊙●
70	+ 0,5	+ 5,0	88,500
75	+ 0,5	+ 7,0	94,500
80	+ 0,5	+ 7,0	101,000 ⊙●
90	+ 0,5	+ 7,0	113,000
100	+ 0,5	+ 7,0	126,000 ⊙●

Stock item

Colours: ⊙ natural ● black

ROUND RODS



Length

1 | 3 m

Ø mm	Tolerances mm		GEHR PA 6 XT®	GEHR PA 6.6®	GEHR PA 6.6-30GF® ²⁾	GEHR PA 12-TR®	ECO-GEHR PA 6.10®
	min.	max.	kg/m	kg/m	kg/m	kg/m	kg/m
6	+ 0,1	+ 0,6	0,035 ⊙	0,035 ⊙	0,041	0,032	0,035
8	+ 0,1	+ 0,7	0,063 ⊙	0,064 ⊙	0,074	0,057	0,062
10	+ 0,1	+ 0,7	0,096 ⊙●	0,097 ⊙	0,113	0,086	0,093
12	+ 0,2	+ 0,8	0,141 ⊙	0,142 ⊙	0,166	0,127	0,137
15	+ 0,2	+ 0,8	0,217 ⊙	0,219	0,258	0,195	0,210
16	+ 0,2	+ 0,8	0,246 ⊙●	0,248 ⊙	0,290	0,221	0,238
18	+ 0,2	+ 0,8	0,309 ⊙	0,312	0,365	0,278	0,300
20	+ 0,2	+ 0,8	0,380 ⊙●	0,384 ⊙●	0,450 ●	0,339	0,366
22	+ 0,2	+ 1,0	0,462 ⊙	0,467	0,547	0,413	0,446
25	+ 0,2	+ 1,0	0,595 ⊙●	0,601 ⊙	0,705 ●	0,531	0,573 ⊙
28	+ 0,2	+ 1,0	0,740 ⊙	0,747	0,877	0,661	0,713
30	+ 0,2	+ 1,0	0,850 ⊙●	0,859 ⊙●	1,007 ●	0,759	0,819
32	+ 0,2	+ 1,1	0,970	0,980	1,149	0,866	0,935
36	+ 0,2	+ 1,2	1,220 ⊙●	1,232	1,446	1,089	1,126
40	+ 0,2	+ 1,2	1,500 ⊙●	1,515 ⊙●	1,778 ●	1,339 ⊙	1,446
45	+ 0,3	+ 1,3	1,910 ⊙●	1,929 ⊙	2,263	1,705	1,841
50	+ 0,3	+ 1,3	2,350 ⊙●	2,374 ⊙●	2,785 ●	2,098	2,266 ⊙
56	+ 0,3	+ 1,3	2,930 ⊙●	2,959	3,472	2,616	2,825
60	+ 0,3	+ 1,6	3,380 ⊙●	3,414 ⊙	4,005 ●	3,018	3,259
65	+ 0,3	+ 1,6	3,950 ⊙	3,990	4,680	3,527	3,809
70	+ 0,3	+ 1,6	4,640 ⊙●	4,686 ⊙	5,498 ●	4,143	4,474
75	+ 0,4	+ 2,0	5,300 ⊙	5,353	6,281	4,732	5,110
80	+ 0,4	+ 2,0	6,050 ⊙●	6,111 ⊙	7,169 ●	5,402 ⊙	5,834
85	+ 0,5	+ 2,2	6,850 ⊙	6,919	8,117	6,116	6,605
90	+ 0,5	+ 2,2	7,670 ⊙●	7,747 ⊙	9,089	6,848	7,396
100	+ 0,6	+ 2,5	9,450 ⊙●	9,545 ⊙	11,198 ●	8,438 ⊙	9,113
110	+ 0,7	+ 3,0	11,500 ⊙	11,615	13,628		
120	+ 0,8	+ 3,5	13,700 ⊙	13,837	16,235 ●		
130	+ 0,9	+ 3,8	16,100 ⊙	16,261 ⊙	19,079		
135	+ 0,9	+ 3,8	17,300	17,473	20,501		
140	+ 0,9	+ 3,8	18,700 ⊙	18,887	22,160		
150	+ 1,0	+ 4,2	21,400 ⊙	21,614 ⊙	25,359 ● ¹⁾		
160	+ 1,1	+ 4,5	24,400	24,644			
165	+ 1,2	+ 5,0	25,300	25,553			
180	+ 1,2	+ 5,0	30,800 ⊙	31,108			
200	+ 1,3	+ 5,5	38,100 ⊙	38,481			
250	+ 1,5	+ 6,2	58,550	59,136			

HOLLOW BARS



Length

1 | 3 m

D		d	Tolerances mm				GEHR PA 6 XT®
D x d mm			D		d		kg/m
			min.	max.	min.	max.	
20 x 10			+ 0,4	+ 1,1	- 0,4	- 1,1	0,314
25 x 15			+ 0,4	+ 1,1	- 0,4	- 1,1	0,418
30 x 15			+ 0,6	+ 2,0	- 0,6	- 2,0	0,675
30 x 20			+ 0,6	+ 2,0	- 0,6	- 2,0	0,525
32 x 15			+ 0,6	+ 2,0	- 0,6	- 2,0	0,835
36 x 17			+ 0,6	+ 2,0	- 0,6	- 2,0	1,040
36 x 25			+ 0,6	+ 2,0	- 0,6	- 2,0	0,755
40 x 20			+ 0,6	+ 2,0	- 0,6	- 2,0	1,230 ◉
45 x 20			+ 0,6	+ 2,0	- 0,6	- 2,0	1,630
45 x 25			+ 0,6	+ 2,0	- 0,6	- 2,0	1,440
50 x 20			+ 0,6	+ 2,0	- 0,6	- 2,0	2,070 ◉
50 x 25			+ 0,8	+ 2,5	- 0,8	- 2,5	1,880
56 x 25			+ 0,8	+ 2,5	- 0,8	- 2,5	2,420
56 x 35			+ 0,8	+ 2,5	- 0,8	- 2,5	1,910
60 x 30			+ 0,8	+ 2,5	- 0,8	- 2,5	2,720 ◉
60 x 40			+ 0,8	+ 2,5	- 0,8	- 2,5	2,120 ◉
70 x 40			+ 0,8	+ 3,0	- 0,8	- 3,0	3,380
70 x 50			+ 0,8	+ 3,0	- 0,8	- 3,0	2,600
80 x 40			+ 0,8	+ 3,0	- 0,8	- 3,0	4,780 ◉
80 x 50			+ 1,2	+ 3,6	- 1,6	- 5,0	3,990
80 x 60			+ 1,2	+ 3,6	- 1,6	- 5,0	3,030
90 x 40			+ 1,2	+ 3,6	- 1,6	- 5,0	6,530
90 x 60			+ 1,2	+ 3,6	- 1,6	- 5,0	4,840 ◉
100 x 60			+ 1,2	+ 3,6	- 1,6	- 5,0	6,610
100 x 80			+ 1,2	+ 3,6	- 1,6	- 5,0	4,180
125 x 50			+ 1,5	+ 4,5	- 2,0	- 6,5	12,920
150 x 80			+ 1,5	+ 4,5	- 2,0	- 6,5	15,980
150 x 100			+ 1,5	+ 4,5	- 2,0	- 6,5	12,880
180 x 90			+ 1,8	+ 5,4	- 2,2	- 7,5	23,840
180 x 120			+ 1,8	+ 5,4	- 2,2	- 7,5	18,410
180 x 140			+ 1,8	+ 5,4	- 2,2	- 7,5	13,980
200 x 100			+ 2,0	+ 6,0	- 2,5	- 8,5	29,550
200 x 120			+ 2,0	+ 6,0	- 2,5	- 8,5	25,780
200 x 150			+ 2,0	+ 6,0	- 2,5	- 8,5	18,760

Stock item Colours: ☉ natural ● black ☉ transparent

¹⁾ Length 1m ²⁾ Tolerances on request

SHEETS (CALENDERED)



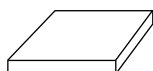
Length

2 m

mm	Tolerances mm		Width 1000 mm kg/m
	min.	max.	
2	- 0,15	+ 0,15	2,370 ◉
3	- 0,20	+ 0,20	3,560 ◉
4	- 0,20	+ 0,20	4,740 ◉
5	- 0,25	+ 0,25	5,930 ◉
6	- 0,25	+ 0,25	7,120 ◉
8	- 0,20	+ 0,25	10,320 ◉

GEHR PA 6 XT®

SHEETS



Length

1 | 2 | 3 m

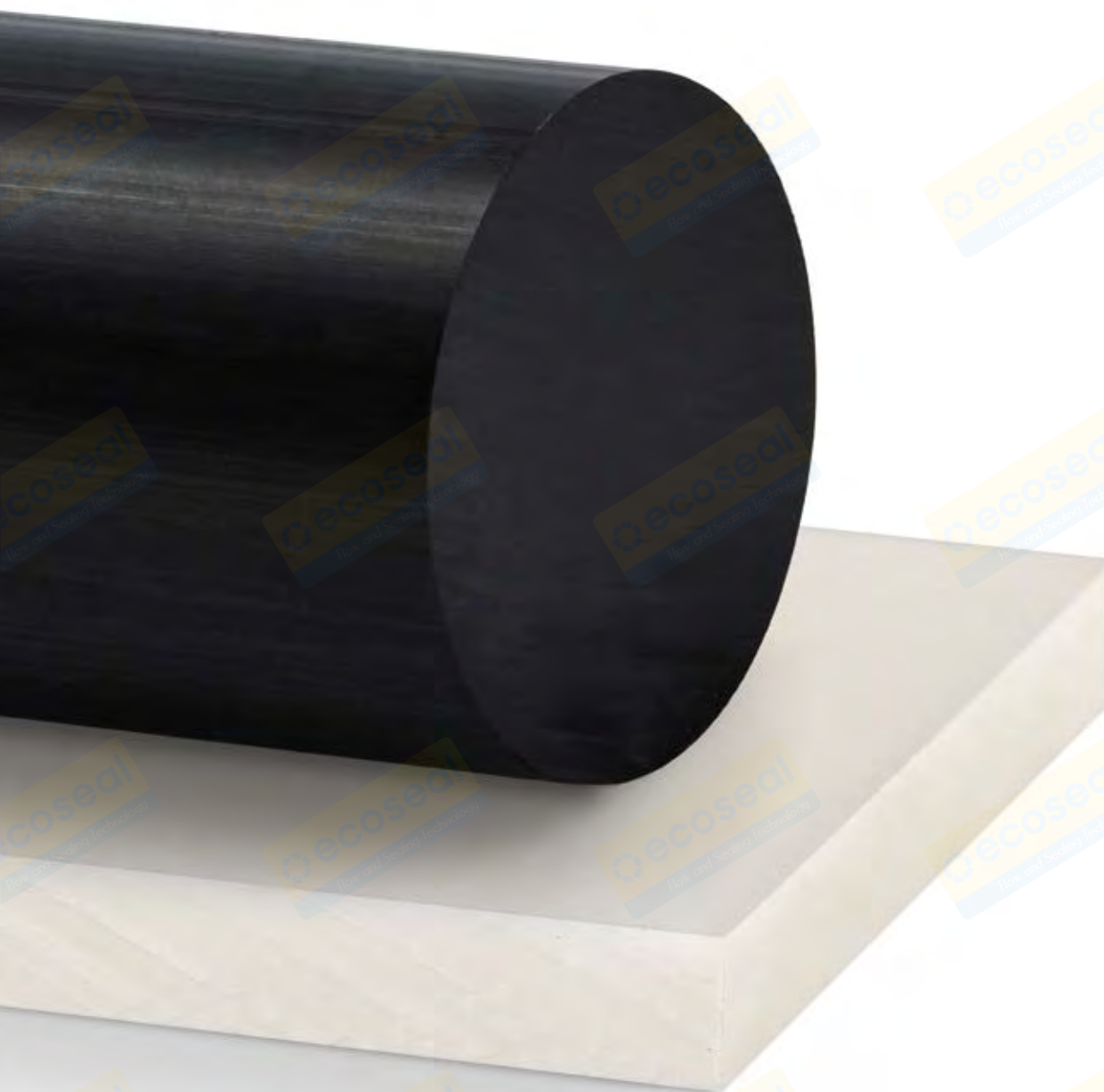
mm	Tolerances mm		GEHR PA 6 XT®	GEHR PA 6.6®	GEHR PA 6.6-30GF® ¹⁾
	min.	max.	Width 610 mm kg/m	Width 610 mm kg/m	Width 620 mm kg/m
8	+ 0,2	+ 0,9	7,750	7,828	
10	+ 0,2	+ 1,1	7,800 ◉	7,878 ◉	9,243 ●
12	+ 0,3	+ 1,5	9,700 ◉	9,797 ◉	11,495
15	+ 0,3	+ 1,5	11,500 ◉	11,615	13,628
16	+ 0,3	+ 1,5	12,100 ◉	12,221 ◉	
20	+ 0,3	+ 1,5	15,400 ◉	15,554 ◉	18,249 ●
25	+ 0,3	+ 1,5	18,900 ◉	19,089 ◉	22,397
30	+ 0,5	+ 2,5	22,750 ◉	22,978 ◉	26,959 ●
35	+ 0,5	+ 2,5	26,700 ◉	26,967	31,640
40	+ 0,5	+ 2,5	30,500 ◉	30,805 ◉	36,143 ●
50	+ 0,5	+ 2,5	37,800 ◉	38,178 ◉	44,793 ●
60	+ 0,5	+ 3,5	46,100 ◉	46,561	54,629 ●
70	+ 0,5	+ 3,5	52,150 ◉	52,672	61,798
80	+ 0,5	+ 5,0	60,000 ◉	60,600	71,100 ●
100	+ 0,5	+ 5,0	75,400 ◉	76,154	89,349

Stock item Colours: ◉ natural ● black

¹⁾ Tolerances on request



»POM





GEHR POM-C® (ACETAL)

The continuous operating temperature of polyoxymethylene ranges between -40 °C and +100 °C. The high surface strength is only surpassed by a few materials. POM shows good sliding properties and high resistance to wear and tear because of the high strength and smooth surface. There is a very low risk of stress cracks. POM-C (Copolymer) exhibits a high thermal stability and a high resistance to chemicals (high resistance to hydrolysis).

GEHR POM-ELS® (ELECTRICALLY CONDUCTIVE)

Variant of POM (Copolymer) with an improved electrical conductivity.

Volume resistivity $\leq 10^1 \Omega \times \text{cm}$,

Surface resistivity $\leq 10^4 \Omega$.

GEHR POM-10PE®

Variant of POM (Copolymer) with improved sliding properties for tribological applications with an increased abrasion. The modified POM-10PE offers in particular additionally a food approval.

Properties GEHR POM-C®

- » Pressure tested quality
- » High strength and stiffness
- » High rigidity (to -40 °C)
- » High thermal stability
- » Low water absorption
- » High dimension stability
- » Good electrical insulating properties
- » Very good sliding properties
- » High resistance to solvents
- » Very high resistance to stress cracks

Applications GEHR POM-C®

- » Bearings
- » Fittings
- » Gear wheels
- » Parts for pumps
- » Screws
- » Bobbins
- » Parts for the textile industry
- » Carrier for coating lines
- » Food industry

ROUND RODS



Length

Ø 5–400 mm = 1 | 2 | 3 m

Ø 500–600 mm = 1 m

Ø mm	Tolerances mm		GEHR POM-C®	GEHR POM-ELS®	GEHR POM-10PE®
	min.	max.	kg/m	kg/m	kg/m
5	+ 0,1	+ 0,6	0,032 ○●	0,032	
6	+ 0,1	+ 0,6	0,045 ○●	0,045	
8	+ 0,1	+ 0,7	0,079 ○●	0,078	
10	+ 0,1	+ 0,7	0,121 ○●	0,120	0,123
12	+ 0,2	+ 0,8	0,176 ○●	0,175	0,170
15	+ 0,2	+ 0,8	0,271 ○●	0,269	0,261
16	+ 0,2	+ 0,8	0,307 ○●	0,305	0,327
18	+ 0,2	+ 0,8	0,386 ○●	0,383	0,372
20	+ 0,2	+ 0,8	0,474 ○●	0,471	0,460 ●
22	+ 0,2	+ 1,0	0,575 ○●	0,571	0,554
25	+ 0,2	+ 1,0	0,740 ○●	0,735	0,726
28	+ 0,2	+ 1,0	0,930 ○●	0,923	0,896
30	+ 0,2	+ 1,0	1,060 ○●	1,053 ●	1,043 ●
32	+ 0,2	+ 1,2	1,210 ○●	1,202	1,166
35	+ 0,2	+ 1,2	1,440 ○		
36	+ 0,2	+ 1,2	1,520 ○●	1,509	1,463
40	+ 0,2	+ 1,2	1,870 ○●	1,857	1,831 ●
45	+ 0,3	+ 1,3	2,370 ○●	2,353	2,332
50	+ 0,3	+ 1,3	2,920 ○●●	2,900 ●	2,864 ●
56	+ 0,3	+ 1,3	3,650 ○●	3,624	3,518
60	+ 0,3	+ 1,6	4,200 ○●●	4,171	4,123 ●
65	+ 0,3	+ 1,6	4,920 ○●	4,886	4,829
70	+ 0,3	+ 1,6	5,690 ○●●	5,650	5,586
75	+ 0,4	+ 2,0	6,570 ○●	6,524	6,333

See next page »

	Ø mm	Tolerances mm		GEHR POM-C®	GEHR POM-ELS®	GEHR POM-10PE®
		min.	max.	kg/m	kg/m	kg/m
NEW	80	+ 0,4	+ 2,0	7,460 ○●●●	7,408 ●	7,314
	85	+ 0,5	+ 2,2	8,430 ○●	8,371	8,127
NEW	90	+ 0,5	+ 2,2	9,430 ○●●●	9,364	9,258
	100	+ 0,6	+ 2,5	11,650 ○●	11,568	11,458 ●
	110	+ 0,7	+ 3,0	14,150 ○●		13,640
	120	+ 0,8	+ 3,5	16,900 ○●		16,470
	125	+ 0,8	+ 3,5	18,300 ○●		17,641
	130	+ 0,9	+ 3,8	19,800 ○●		19,437
	135	+ 0,9	+ 3,8	21,350		
	140	+ 0,9	+ 3,8	22,900 ○●		
	150	+ 1,0	+ 4,2	26,350 ○●		
	160	+ 1,1	+ 4,5	30,000 ○●		
	165	+ 1,2	+ 5,0	31,200 ○●		
	180	+ 1,2	+ 5,0	37,900 ○●		
	200	+ 1,3	+ 5,5	46,800 ○●		
	210	+ 1,3	+ 5,5	51,970 ○●		
	230	+ 1,5	+ 6,2	61,900 ○●		
	250	+ 1,5	+ 6,2	72,900 ○●		
	300	+ 1,5	+ 7,5	108,700 ○●		
	350	+ 1,5	+ 8,5	145,600 ○●		
	400	+ 1,5	+ 9,5	189,700 ○●		
	500	+ 1,5	+ 11,5	287,400 ○●		
NEW	600 ¹⁾			429,400 ○		

FIL-A-GEHR®
FILAMENTS

ECO-GEHR®

PVC

PE-HD

PE-UHMW

PE-UHMM

PP

ABS

PMMA

PA

POM

PET

PBT

PC

PVDF

E-CTFE

PSU

PPSU

PEI

PPS

PEEK

ELS

TECHNICAL

DATA

Stock item Colours: ○ natural ● black ● blue (~RAL 5002) ● light blue ● yellow (~RAL 1018) ● orange (~RAL 2004)

¹⁾ Tolerances on request

HOLLOW BARS



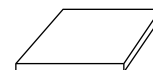
Length

1 | 3 m

D  d	Tolerances mm				GEHR POM-C®
	D		d		
	min.	max.	min.	max.	
D x d mm					kg/m
20 x 10	+ 0,4	+ 1,1	- 0,4	- 1,1	0,390 ◉
25 x 12	+ 0,4	+ 1,1	- 0,4	- 1,1	0,610
28 x 12	+ 0,4	+ 1,1	- 0,4	- 1,1	0,790
28 x 20	+ 0,4	+ 1,1	- 0,4	- 1,1	0,510
30 x 20	+ 0,4	+ 1,1	- 0,4	- 1,1	0,640 ◉
32 x 15	+ 0,6	+ 2,0	- 0,6	- 2,0	1,040
36 x 17	+ 0,6	+ 2,0	- 0,6	- 2,0	1,290
36 x 25	+ 0,6	+ 2,0	- 0,6	- 2,0	0,930
40 x 20	+ 0,6	+ 2,0	- 0,6	- 2,0	1,520 ◉
40 x 30	+ 0,6	+ 2,0	- 0,6	- 2,0	0,990 ◉
50 x 20	+ 0,6	+ 2,0	- 0,6	- 2,0	2,570
50 x 30	+ 0,6	+ 2,0	- 0,6	- 2,0	2,030 ◉
50 x 40	+ 0,6	+ 2,0	- 0,6	- 2,0	1,270
55 x 35	+ 0,8	+ 2,5	- 0,8	- 2,5	2,360
60 x 30	+ 0,8	+ 2,5	- 0,8	- 2,5	3,370 ◉
60 x 40	+ 0,8	+ 2,5	- 0,8	- 2,5	2,620 ◉●
70 x 30	+ 0,8	+ 3,0	- 0,8	- 3,0	4,970 ◉
70 x 50	+ 0,8	+ 3,0	- 0,8	- 3,0	3,210 ◉
80 x 40	+ 0,8	+ 3,0	- 0,8	- 3,0	5,910 ◉
80 x 50	+ 0,8	+ 3,0	- 0,8	- 3,0	4,940
80 x 60	+ 0,8	+ 3,0	- 0,8	- 3,0	3,750 ◉
90 x 40	+ 1,2	+ 3,6	- 1,6	- 5,0	8,080
90 x 50	+ 1,2	+ 3,6	- 1,6	- 5,0	7,150 ◉
100 x 40	+ 1,2	+ 3,6	- 1,6	- 5,0	10,350
100 x 50	+ 1,2	+ 3,6	- 1,6	- 5,0	9,330 ◉
100 x 60	+ 1,2	+ 3,6	- 1,6	- 5,0	8,170
100 x 80	+ 1,2	+ 3,6	- 1,6	- 5,0	5,170 ◉
150 x 80	+ 1,5	+ 4,5	- 2,0	- 6,5	19,850 ◉
150 x 100	+ 1,5	+ 4,5	- 2,0	- 6,5	16,000
150 x 120	+ 1,5	+ 4,5	- 2,0	- 6,5	11,250 ◉
160 x 100	+ 1,8	+ 5,4	- 2,2	- 7,5	19,900 ◉
180 x 90	+ 1,8	+ 5,4	- 2,2	- 7,5	29,750
180 x 120	+ 1,8	+ 5,4	- 2,2	- 7,5	23,000 ◉
200 x 100	+ 2,0	+ 6,0	- 2,5	- 8,5	36,750
200 x 150	+ 2,0	+ 6,0	- 2,5	- 8,5	23,300 ◉

GEHR POM-C®

SHEETS (CALENDERED)



Length

2 m

GEHR POM-C®

mm	Tolerances mm		Width 1000 mm kg/m
	min.	max.	
2	- 0,15	+ 0,15	2,990 ⊙●
3	- 0,20	+ 0,20	4,490 ⊙●
4	- 0,20	+ 0,20	5,980 ⊙●
5	- 0,25	+ 0,25	7,480 ⊙●
6	- 0,25	+ 0,25	8,970 ⊙●

SHEETS



Length

Width 610 mm

⊠ 8–100 mm = 1 | 2 | 3 m

⊠ 110–200 mm = 1 | 2 m

⊠ 250 mm = 1 m

Width 1000 mm

1 | 2 m

Width 1220 mm

1 | 3 m

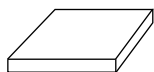
GEHR POM-C®

	Tolerances mm		GEHR POM-C®			
	mm	min.	max.	610 mm kg/m	Width 1000 mm kg/m	1220 mm kg/m
8	+ 0,2	+ 1,1	7,750 ⊙●			
10	+ 0,2	+ 1,1	9,560 ⊙●	15,350 ⊙●		18,727
12	+ 0,3	+ 1,5	11,650 ⊙●	18,750 ⊙●		22,875
15	+ 0,3	+ 1,5	14,030 ⊙●	23,010 ⊙●		29,040 ⊙
16	+ 0,3	+ 1,5	14,970 ⊙●	24,550 ⊙●		29,951 ⊙●
20	+ 0,3	+ 1,5	18,900 ⊙●	30,350 ⊙●		37,027 ⊙●
25	+ 0,3	+ 1,5	23,360 ⊙●	37,600 ⊙●		45,872 ⊙●
30	+ 0,5	+ 2,5	28,140 ⊙●	45,750 ⊙●		55,815 ⊙●
35	+ 0,5	+ 2,5	33,020 ⊙●	53,500 ⊙●		65,270
40	+ 0,5	+ 2,5	37,400 ⊙●	60,300 ⊙●		75,566
45	+ 0,5	+ 2,5	40,780 ⊙●	68,200 ⊙		83,204
50	+ 0,5	+ 2,5	46,500 ⊙●	74,800 ⊙●		91,256
60	+ 0,5	+ 3,5	55,900 ⊙●	90,900 ⊙●		
70	+ 0,5	+ 3,5	65,600 ⊙●	105,600 ⊙●		
80	+ 0,5	+ 5,0	74,350 ⊙●	121,300 ⊙●		
90	+ 0,5	+ 5,0	83,300 ⊙●	135,900 ⊙●		
100	+ 0,5	+ 5,0	91,100 ⊙●	150,700 ⊙●		
110	+ 0,5	+ 6,0	101,900 ⊙●			
120	+ 0,5	+ 6,0	109,800 ⊙●			
130	+ 0,5	+ 6,0	119,600 ⊙●			
150	+ 0,5	+ 7,0	136,200 ⊙●			
180	+ 0,5	+ 10,0	168,300 ⊙●			
200	+ 0,5	+ 10,0	187,500 ⊙●			
250 ¹⁾			230,000 ⊙●			

Stock item Colours: ⊙ natural ● black

¹⁾ Tolerances on request

SHEETS



Length

Width 610 mm = 1 | 2 | 3 m

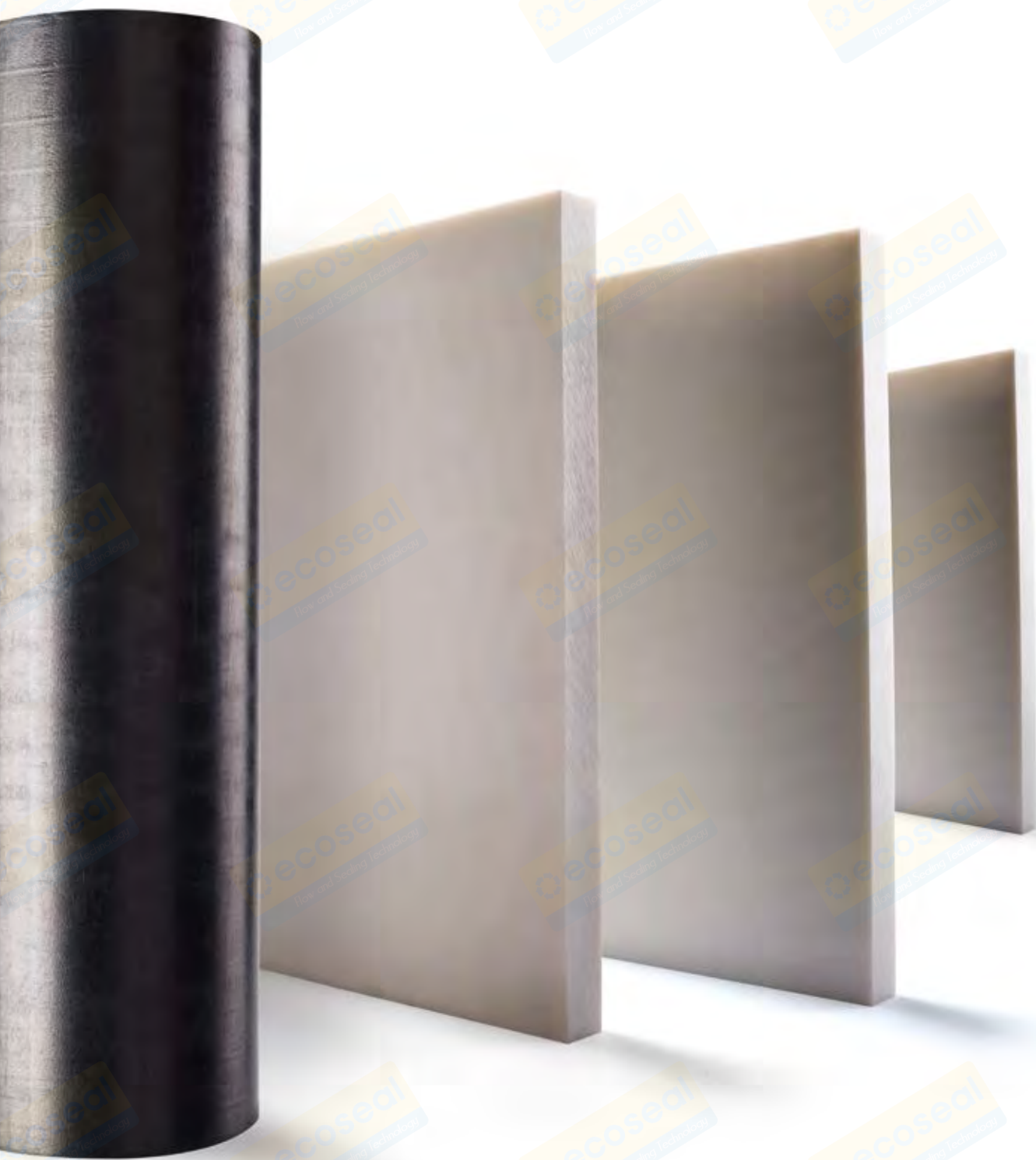
Width 1000 mm = 1 | 2 m

mm	Tolerances mm		GEHR POM-ELS®	GEHR POM-10PE®
	min.	max.	Width 610 mm kg/m	Width 1000 mm kg/m
8	+ 0,2	+ 0,9	7,750	12,378
10	+ 0,2	+ 1,1	9,560	15,345 ●
12	+ 0,3	+ 1,5	12,000 ●	18,721 NEW
15	+ 0,3	+ 1,5	14,140 ●	
16	+ 0,3	+ 1,5	14,970	23,666
20	+ 0,3	+ 1,5	19,030 ●	31,202
25	+ 0,3	+ 1,5	23,360 ●	37,953
30	+ 0,5	+ 2,5	28,140 ●	45,933 ●
35	+ 0,5	+ 2,5	33,020	53,401
40	+ 0,5	+ 2,5	37,750 ●	60,766 ●
45	+ 0,5	+ 2,5	40,780	68,234
50	+ 0,5	+ 2,5	46,750	75,600 ●
60	+ 0,5	+ 3,5	57,300 ●	91,149

Stock item

Colours: ● black ● light blue





» PET



GEHR PET®

Polyethylene terephthalate shows high tensile and mechanical strength, hardness and toughness, low friction and a high dimensional stability. Operating temperatures ranging from -20 °C to approx. +100 °C.

Properties GEHR PET®

- » High mechanical resistance and tensile strength
- » High creep resistance
- » High surface strength
- » Easy to varnish and polish
- » High dimensional stability
- » High toughness
- » Good insulations for electrical properties
- » High chemical resistance
- » Easy to lacquer
- » Limited dielectric properties
- » Sensitive to hydrolysis

Applications GEHR PET®

- » Bearings
- » Pumps and parts for housings
- » Frame components
- » Tank lids
- » Gear wheels
- » Insulators for the electrical engineering
- » Deflection rollers for the filament industry
- » Levers
- » Handles
- » Control discs

ROUND RODS

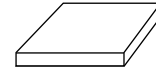


Length

1 | 2 | 3 m

Ø mm	Tolerances mm		GEHR PET® kg/m
	min.	max.	
10	+ 0,1	+ 0,5	0,118
12	+ 0,2	+ 0,8	0,179 ⊙
16	+ 0,2	+ 0,8	0,310 ⊙
18	+ 0,2	+ 0,8	0,400
20	+ 0,2	+ 0,8	0,480 ⊙●
22	+ 0,2	+ 1,0	0,590
25	+ 0,2	+ 1,0	0,750 ⊙●
28	+ 0,2	+ 1,0	0,930
30	+ 0,2	+ 1,0	1,060 ⊙●
32	+ 0,2	+ 1,2	1,200
36	+ 0,2	+ 1,2	1,500 ⊙●
40	+ 0,2	+ 1,2	1,880 ⊙●
45	+ 0,3	+ 1,3	2,380 ⊙●
50	+ 0,3	+ 1,3	2,920 ⊙●
56	+ 0,3	+ 1,3	3,510
60	+ 0,3	+ 1,6	4,210 ⊙●
65	+ 0,3	+ 1,6	4,920 ⊙
70	+ 0,3	+ 1,6	5,690 ⊙●
75	+ 0,3	+ 1,6	6,510
80	+ 0,4	+ 2,0	7,460 ⊙●
85	+ 0,4	+ 2,0	8,390
90	+ 0,5	+ 2,2	9,420 ⊙
100	+ 0,6	+ 2,5	11,650 ⊙●
110	+ 0,7	+ 3,0	14,150 ⊙
120	+ 0,8	+ 3,5	16,910 ⊙
125	+ 0,9	+ 3,8	18,310
130	+ 0,9	+ 3,8	19,760 ⊙
140	+ 1,0	+ 4,2	22,930
150	+ 1,0	+ 4,2	26,230 ⊙●
160	+ 1,2	+ 5,0	29,880
180	+ 1,2	+ 5,0	37,940 ⊙
200	+ 1,3	+ 5,5	46,810 ⊙

SHEETS



Length

1 | 3 m

mm	Tolerances mm		Width 610 mm kg/m
	min.	max.	
10	+ 0,2	+ 1,1	9,590 ⊙
12	+ 0,3	+ 1,5	11,880 ⊙●
16	+ 0,3	+ 1,5	15,000 ⊙●
20	+ 0,3	+ 1,5	18,920 ⊙
25	+ 0,3	+ 1,5	23,310 ⊙●
30	+ 0,5	+ 2,5	28,000 ⊙
35	+ 0,5	+ 2,5	33,000
40	+ 0,5	+ 2,5	37,390 ⊙●
45	+ 0,5	+ 2,5	41,300
50	+ 0,5	+ 2,5	46,190 ⊙
60	+ 0,5	+ 3,5	55,050 ⊙
80	+ 0,5	+ 5,0	73,500 ⊙
100	+ 0,5	+ 5,0	91,250

Stock item

Colours: ⊙ natural ● black

NEW

» PBT



GEHR PBT®

The mechanical properties of Polybutylene terephthalate comprise hardness, stiffness, stability and toughness. In particular the material's extremely high toughness allows the use of self-tapping screws or inserts. The good sliding properties and the high dimensional stability also open up a wide range of possible applications. Very good results can be achieved in joining processes with two-component adhesives on the basis of e.g. epoxy resins or cyanoacrylates as well as silicones. Painting of the part or high vacuum coating of the component surface is also possible. The continuous operating temperature ranges from approx. -60 °C to +100 °C.

Properties GEHR PBT®

- » High stability, stiffness and toughness, even at low temperatures
- » Good creep resistance
- » High surface hardness
- » Good polishability
- » High dimensional stability
- » Easy to metallize
- » Good sliding properties
- » Good electrical insulation characteristics
- » High resistance to chemicals
- » Easy to paint
- » Good UV and weather resistance
- » Sensitive to hydrolysis

Applications GEHR PBT®

- » Components with metal inserts
- » Pump components
- » Housing components
- » Tank caps
- » Gear wheels
- » Insulating parts in electrical engineering
- » Applications with UV exposure

ROUND RODS

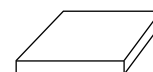


Length

1 | 2 | 3 m

Ø mm	Tolerances mm		GEHR PBT® kg/m
	min.	max.	
10	+ 0,1	+ 0,7	0,110
12	+ 0,2	+ 0,8	0,158
16	+ 0,2	+ 0,8	0,281
18	+ 0,2	+ 0,8	0,355
20	+ 0,2	+ 0,8	0,439
22	+ 0,2	+ 1,0	0,531
25	+ 0,2	+ 1,0	0,686
28	+ 0,2	+ 1,0	0,860
30	+ 0,2	+ 1,0	0,987
32	+ 0,2	+ 1,2	1,123
36	+ 0,2	+ 1,2	1,421
40	+ 0,2	+ 1,2	1,755 Ⓞ
45	+ 0,3	+ 1,3	2,221
50	+ 0,3	+ 1,3	2,742 Ⓞ
56	+ 0,3	+ 1,3	3,440
60	+ 0,3	+ 1,6	3,949
65	+ 0,3	+ 1,6	4,634
70	+ 0,3	+ 1,6	5,374
75	+ 0,4	+ 2,0	6,170
80	+ 0,4	+ 2,0	7,020
85	+ 0,5	+ 2,2	7,924
90	+ 0,5	+ 2,2	8,884 Ⓞ
100	+ 0,6	+ 2,5	10,968

SHEETS



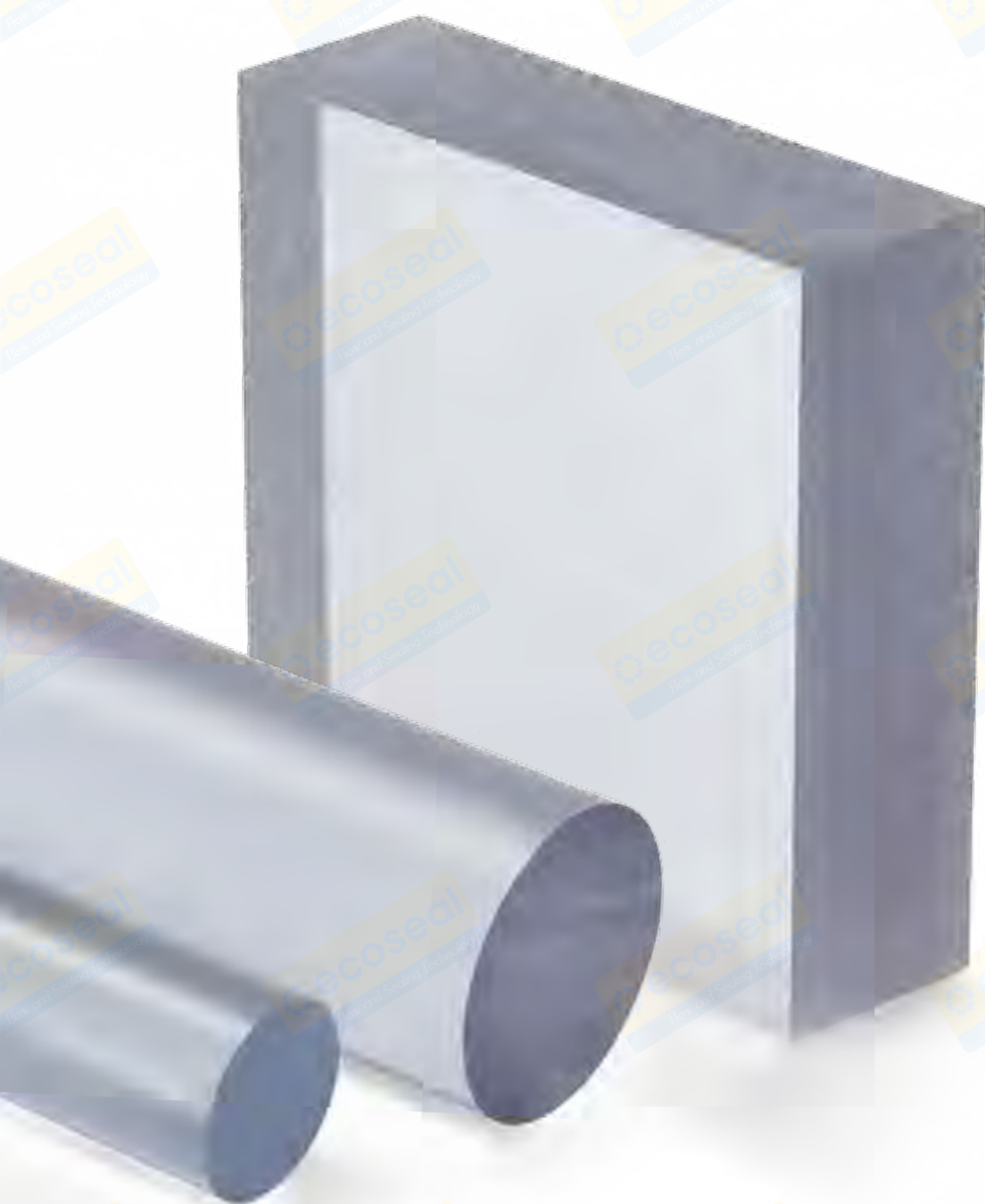
Length

1 | 2 | 3 m

mm	Tolerances mm		Width 1000 mm kg/m
	min.	max.	
10	+ 0,2	+ 1,1	9,726
12	+ 0,3	+ 1,5	11,829
16	+ 0,3	+ 1,5	15,334
20	+ 0,3	+ 1,5	18,838
25	+ 0,3	+ 1,5	23,219
30	+ 0,5	+ 2,5	28,477
35	+ 0,5	+ 2,5	32,858
40	+ 0,5	+ 2,5	37,239
45	+ 0,5	+ 2,5	41,620
50	+ 0,5	+ 2,5	46,001

Stock item

Colours: ☉ natural



» PC



GEHR PC®

Polycarbonate shows a high rigidity and an extreme impact strength. Also it has a high glass transition temperature and temperature resistance (approx. +130 °C). The operating temperature ranges from -60 °C to approx. +120 °C.

Properties GEHR PC®

- » Extremely high impact strength
- » High mechanical strength
- » High dimensional stability
- » High temperature resistance
- » Good insulating properties
- » High resistance to radiation
- » Medium chemical resistance
- » Notch-sensitive and susceptible to stress crack formation
- » Hydrolysis-sensitive

Applications GEHR PC®

- » Transparent parts where a high impact strength and simultaneously a high flexural strength is requested.

ROUND RODS



Length

1 | 3 m

Ø mm	Tolerances mm		GEHR PC® kg/m
	min.	max.	
10	+ 0,1	+ 0,8	0,100 ⊕
12	+ 0,2	+ 0,9	0,148 ⊕
15	+ 0,2	+ 0,9	0,224
16	+ 0,2	+ 0,9	0,258 ⊕
20	+ 0,2	+ 0,9	0,398 ⊕
25	+ 0,2	+ 1,2	0,622 ⊕
30	+ 0,2	+ 1,2	0,888 ⊕
36	+ 0,2	+ 1,6	1,283 ⊕
40	+ 0,2	+ 1,6	1,576 ⊕
50	+ 0,3	+ 2,0	2,466 ⊕
60	+ 0,3	+ 2,5	3,550 ⊕
70	+ 0,3	+ 2,5	4,850 ⊕
80	+ 0,4	+ 3,0	6,290 ⊕
90	+ 0,6	+ 3,8	7,970
100	+ 0,6	+ 3,8	9,840 ⊕
120	+ 1,2	+ 7,4	14,596
140	+ 1,2	+ 7,4	19,310
150	+ 1,2	+ 7,4	22,180
180	+ 1,2	+ 7,4	32,010 ⊕
200	+ 1,3	+ 8,5	39,570

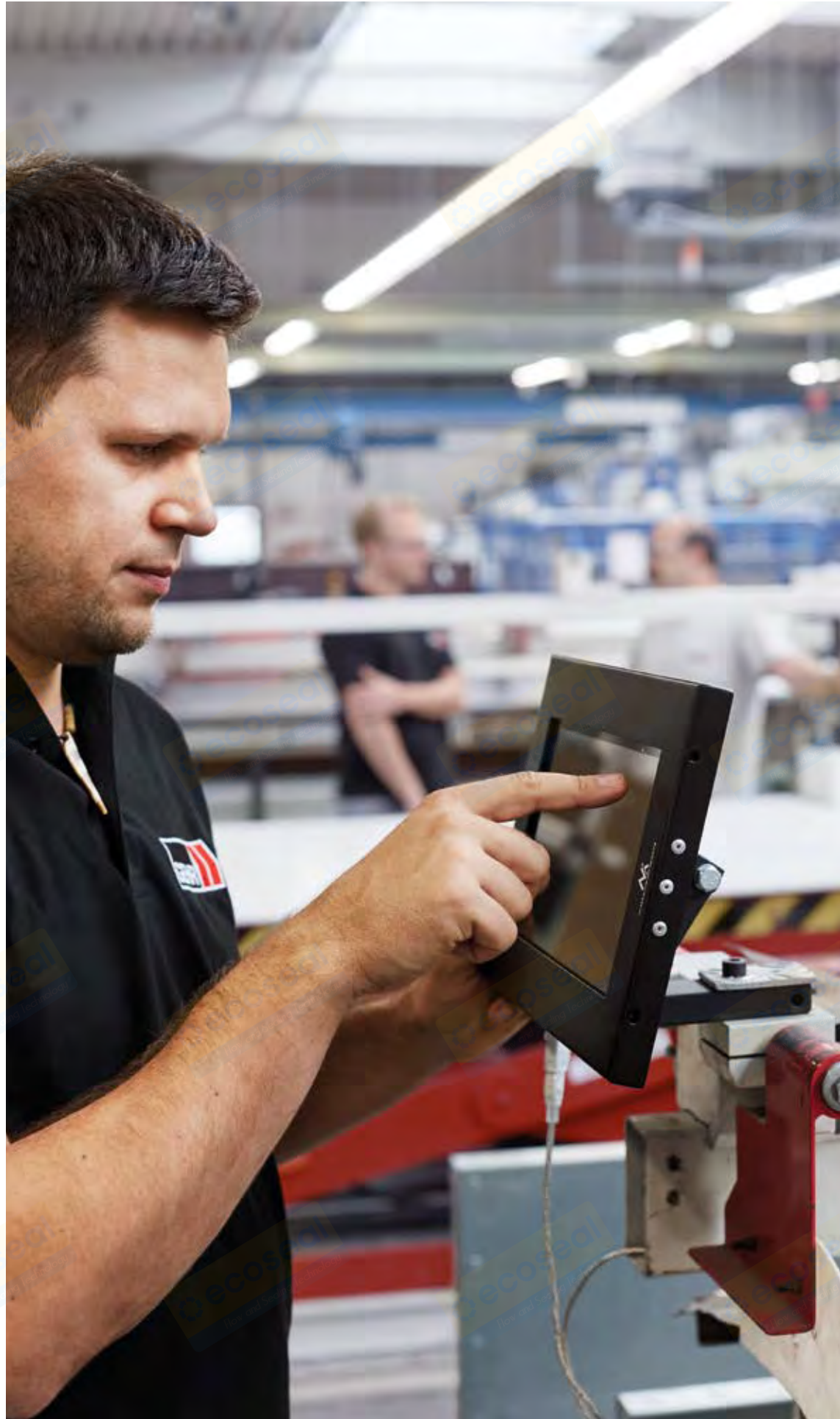
SHEETS



Length

1 m

mm	Tolerances mm		GEHR PC® Width 620 mm kg/m
	min.	max.	
10	+ 0,2	+ 1,1	8,200
15	+ 0,3	+ 1,5	12,550 ⊕
20	+ 0,3	+ 1,5	16,400 ⊕
25	+ 0,3	+ 1,5	20,250 ⊕
30	+ 0,5	+ 2,5	24,750 ⊕
40	+ 0,5	+ 2,5	32,500 ⊕
50	+ 0,5	+ 2,5	40,250





» PVDF



GEHR PVDF®

Polyvinylidene fluoride shows a higher tensile strength, pressure resistance and dimensional stability than the related PTFE, but friction and insulation properties are lower. PVDF has a high mechanical strength and toughness at lower temperature and it's self-extinguishing. The operating temperature ranges from -30 °C to +150 °C. PVDF shows a high resistance to chlorine, bromine and high-energy radiation.

GEHR PVDF-ELS® (ELECTRICALLY CONDUCTIVE)

PVDF with improved electrical conductivity.
Volume resistivity $\leq 10^4 \Omega \times \text{cm}$.
Surface resistivity $\leq 10^4 \Omega$.

Properties GEHR PVDF®

- » High tensile strength
- » High mechanical strength
- » High rigidity (also at low temperature)
- » High chemical resistance
- » Very low water absorption
- » Good friction and wear and tear values
- » Self-extinguishing
- » High UV-resistance
- » Toxic fumes when burned
- » Relatively high coefficient of thermal expansion

Applications GEHR PVDF®

- » Gaskets
- » Pumps
- » Rotation discs
- » Valves
- » Check valves
- » Extraction centrifuges
- » Fittings
- » Slide rails
- » Gear wheels

ROUND RODS



Length

GEHR PVDF®

Ø 10–125 mm = 1 | 2 | 3 m

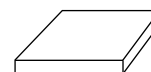
Ø 140–250 mm = 1 m

GEHR PVDF-ELS®

Ø 20–60 mm = 1 | 2 | 3 m

Ø mm	Tolerances mm		GEHR PVDF®	GEHR PVDF-ELS®
	min.	max.	kg/m	kg/m
10	+ 0,1	+ 0,7	0,152 ⊙	0,152
12	+ 0,2	+ 0,8	0,223 ⊙	0,223
15	+ 0,2	+ 0,8	0,338 ⊙	0,338
20	+ 0,2	+ 0,8	0,599 ⊙	0,599 ●
25	+ 0,2	+ 1,0	0,934 ⊙	0,934
30	+ 0,2	+ 1,0	1,340 ⊙	1,340
35	+ 0,2	+ 1,2	1,827 ⊙	1,827
40	+ 0,2	+ 1,2	2,375 ⊙	2,375 ●
45	+ 0,3	+ 1,3	2,994 ⊙	2,993
50	+ 0,3	+ 1,3	3,745 ⊙	3,745
56	+ 0,3	+ 1,6	4,578	4,578
60	+ 0,3	+ 1,6	5,349 ⊙	5,349 ●
70	+ 0,3	+ 1,6	7,257 ⊙	7,257
80	+ 0,4	+ 2,0	9,358 ⊙	9,358
90	+ 0,5	+ 2,2	11,896 ⊙	
95	+ 0,6	+ 2,5	13,774	
100	+ 0,6	+ 2,5	14,799 ⊙	
110	+ 0,7	+ 3,0	17,864 ⊙	
125	+ 0,8	+ 3,5	22,939 ⊙	
140	+ 0,9	+ 3,8	28,928 ⊙	
150	+ 1,0	+ 4,2	33,089 ⊙	
165	+ 1,2	+ 5,0	39,869	
180	+ 1,2	+ 5,0	47,573	
200	+ 1,3	+ 5,5	59,581	
225	+ 1,5	+ 6,2	77,252	
250	+ 1,5	+ 6,2	91,553	

SHEETS



Length

Width 610 mm = 1 m
Width 1000 mm = 1 | 2 m

mm	Tolerances mm		GEHR PVDF®		GEHR PVDF-ELS®
	min.	max.	Width 610 mm kg/m	Width 1000 mm kg/m	Width 1000 mm kg/m
10	+ 0,2	+ 1,1	13,073 ⊙	19,813 ⊙	19,813
12	+ 0,3	+ 1,5	15,134 ⊙	24,015 ⊙	24,015
20	+ 0,3	+ 1,5	24,512 ⊙	38,895 ⊙	38,895
22	+ 0,3	+ 1,5	26,969	42,782	42,782
25	+ 0,3	+ 1,5	30,389 ⊙	48,213 ⊙	48,213
30	+ 0,5	+ 2,5	36,946 ⊙	58,626 ⊙	58,626 ●
35	+ 0,5	+ 2,5	43,107	68,411	68,411
40	+ 0,5	+ 2,5	48,669 ⊙	78,460 ⊙	78,460
45	+ 0,5	+ 2,5	54,759	87,940	87,940
50	+ 0,5	+ 2,5	60,413 ⊙	98,090 ⊙	98,090
60	+ 0,5	+ 3,5	72,715 ⊙	117,710 ⊙	117,710
80	+ 0,5	+ 3,5	96,384	155,579	155,579

Stock item

Colours: ⊙ natural ● black

» E-CTFE





GEHR E-CTFE®

Ethylen-Chlortrifluorethylen exhibits an extraordinary impact strength at temperatures ranging from -76 °C to +150 °C. A great part of the product properties attributes to the very smooth surface and differentiates HALAR® from other fluoropolymers. Due to the fact that E-CTFE is very pure, this material is being used to process chemicals and ultrapure water for the semiconductor industry. Also the permeation resistance to oxygen, carbon dioxide, chlorine gas and hydrochlorid acid is 10 to 100 times better than PTFE.

Properties GEHR E-CTFE®

- » Extremely high impact strength (down to -76 °C)
- » Good insulation properties
- » Very good weather resistance
- » High resistance to radiation
- » Very high chemical resistance
- » Very good sliding properties
- » Physiologically harmless
- » High density
- » Limited protection against stress cracking at temperatures > 140 °C

Applications GEHR E-CTFE®

- » Parts which come in contact with aggressive media (e.g. plant construction industry)
- » Lining of tanks, pumps, flanges, fittings, parts in centrifuges
- » Parts for ultra pure applications

ROUND RODS



GEHR E-CTFE®

Ø		Tolerances		kg/m
mm	inch	inch		
25,400	1	1,000	+ 0,030	0,850 ⊙
31,750	1¼	1,250	+ 0,037	1,330 ⊙
38,100	1½	1,500	+ 0,045	1,920 ⊙
44,450	1¾	1,750	+ 0,052	2,610
50,800	2	2,000	+ 0,060	3,410 ⊙
57,150	2¼	2,250	+ 0,067	4,310 ⊙
63,500	2½	2,500	+ 0,080	5,320 ⊙
76,200	3	3,000	+ 0,090	7,660 ⊙
88,900	3½	3,500	+ 0,105	10,430
101,600	4	4,000	+ 0,120	13,620 ⊙
127,000	5	5,000	+ 0,135	21,280 ⊙

Length

Ø 25,4 mm = 2,44 m
Ø 31,75–127 mm = 1,22 m





GEHR PSU®

Polysulfone shows great thermal stability (from -100 °C to +160 °C). PSU possesses a high mechanical strength, very good dielectric properties, hydrolysis resistance and a high radiation resistance (permeable for microwaves). PSU has a low notch impact strength.

Properties GEHR PSU®

- » High strength and rigidity
- » High impact strength (also at low temperatures)
- » Very good dimensional stability
- » High chemical resistance
- » High resistance to β -, γ -, x- and infrared radiation
- » High permeability of microwaves
- » Self-extinguishing
- » Good to sterilize
- » Mediocre resistance to stress crack
- » Not weather resistant

Applications GEHR PSU®

- » Parts of microwave ovens
- » Blow dryer
- » Humidifiers
- » Food industry
- » Pump wheels
- » Insulators
- » Medical industry

ROUND RODS



Length

1 | 3 m

Ø mm	Tolerances mm		GEHR PSU® kg/m
	min.	max.	
12	+ 0,2	+ 0,9	0,150 ⊙
20	+ 0,2	+ 0,9	0,420 ⊙
25	+ 0,2	+ 1,2	0,670
30	+ 0,2	+ 1,2	0,950 ⊙
40	+ 0,2	+ 1,6	1,670 ⊙
50	+ 0,3	+ 2,0	2,660 ⊙
60	+ 0,3	+ 2,5	3,770 ⊙
80	+ 0,4	+ 3,0	6,670 ⊙
100	+ 0,6	+ 3,8	10,450 ⊙

SHEETS



mm	Tolerances mm		GEHR PSU® Width 620mm kg/m
	min.	max.	
10	+ 0,2	+ 0,9	8,300
12	+ 0,3	+ 1,5	10,450
16	+ 0,3	+ 1,5	13,290
20	+ 0,3	+ 1,5	16,950
22	+ 0,3	+ 1,5	18,100
25	+ 0,3	+ 1,5	20,760
30	+ 0,5	+ 2,5	25,600
35	+ 0,5	+ 2,5	29,040
40	+ 0,5	+ 2,5	33,170
45	+ 0,5	+ 2,5	37,390
50	+ 0,5	+ 2,5	41,550





 **PPSU**



GEHR PPSU®

Polyphenylensulfone is an amorphous material, with improved impact and hydrolysis resistance compared to PSU. The usual operating temperature is approx. +170 °C. The extremely high notch impact strength remains also after a heat aging.

Properties GEHR PPSU®

- » High strength and rigidity
- » Very high impact strength (also at low temperatures)
- » Very good dimensional stability
- » Very high chemical resistance
- » High resistance to many kinds of radiation
- » Very good sterilising capability
- » Lower chemical resistance than comparable semicrystalline materials

Applications GEHR PPSU®

- » Parts of microwave ovens
- » Blow dryers
- » Humidifiers
- » Food industry
- » Pump wheels
- » Insulators
- » Medical industry

Ø mm	Tolerances mm		kg/m
	min.	max.	
20	+ 0,2	+ 0,9	0,443 ●
30	+ 0,2	+ 1,2	0,985 ●
40	+ 0,2	+ 1,6	1,750 ●
50	+ 0,3	+ 2,8	2,730
60	+ 0,3	+ 2,8	3,940
80	+ 0,4	+ 3,5	6,970
100	+ 0,5	+ 5,0	10,900

GEHR PPSU®

ROUND RODS



Length
1 | 3 m

Stock item Colours: ● black

FIL-A-GEHR®
FILAMENTS

ECO-GEHR®

PVC

PE-HD

PE-UHMW

PP

ABS

PMMA

PA

POM

PET

PBT

PC

PVDF

E-CTFE

PSU

PPSU

PEI

PPS

PEEK

ELS

TECHNICAL
DATA





GEHR PEI®

Polyetherimide has a high mechanical strength in connection with a good chemical and heat resistance (operating temperature up to +170 °C), good dimensional stability and creep resistance. Its unique torque strength permits the economical substitution of machined fabricated small parts from steel.

Properties GEHR PEI®

- » Very high strength and rigidity
- » High creep resistance
- » High torque strength and hardness
- » High thermostability
- » High weather resistance
- » High radiation resistance against γ-rays
- » Self-extinguishing
- » Limited resistance to stress cracks

Applications GEHR PEI®

- » Parts for electrical engineering
- » Parts for food industry
- » Parts for aircraft construction

ROUND RODS



Length

Ø 19,1–50,8 mm = 2,44 m

Ø 63,5–101,6 mm = 1,22 m

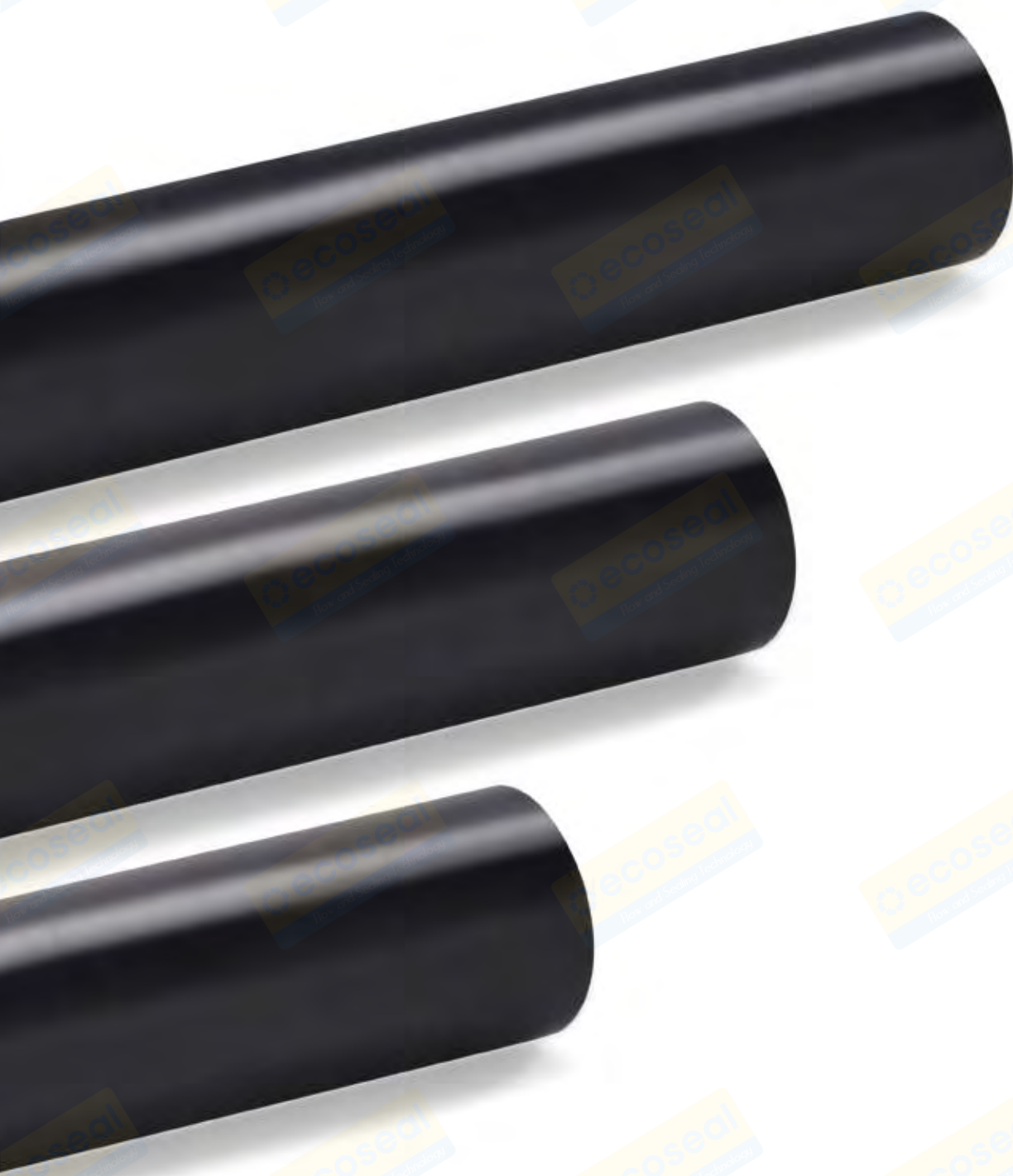
Ø mm	Ø inch	Tolerances mm		GEHR PEI® kg/m	
		min.	max.		
15,87	5/8	+ 0,23	+ 0,93	0,251 ○	NEW
19,05	3/4	+ 0,20	+ 1,20	0,362 ○	NEW
25,40	1	+ 0,20	+ 1,20	0,648 ○	
31,75	1 1/4	+ 0,30	+ 2,00	1,022 ○	NEW
38,10	1 1/2	+ 0,30	+ 2,00	1,485 ○	NEW
44,45	1 3/4	+ 0,30	+ 2,00	2,002 ○	NEW
50,80	2	+ 0,30	+ 2,00	2,594 ○	
63,50	2 1/2	+ 0,40	+ 3,00	4,053 ○	NEW
76,20	3	+ 0,70	+ 4,20	5,834 ○	
82,55	3 1/4	+ 0,30	+ 2,00	6,948	

SHEETS



mm	Tolerances mm		GEHR PEI® Width 620mm kg/m
	min.	max.	
10	+ 0,2	+ 0,9	8,540
12	+ 0,3	+ 1,5	10,850
16	+ 0,3	+ 1,5	14,200
20	+ 0,3	+ 1,5	17,500
22	+ 0,3	+ 1,5	18,790
25	+ 0,3	+ 1,5	21,600
30	+ 0,5	+ 2,5	25,610
35	+ 0,5	+ 2,5	29,900
40	+ 0,5	+ 2,5	34,140
45	+ 0,5	+ 2,5	38,580
50	+ 0,5	+ 2,5	42,900
60	+ 0,5	+ 2,5	49,610
70	+ 0,5	+ 2,5	57,870
80	+ 0,5	+ 3,0	66,150





 **PPS**



GEHR PPS®

The linear Polyphenylsulfide belongs to the semi-crystalline materials and offers a very high mechanical performance in conjunction with an excellent efficiency at the same time (usual operating temperature up to approx. +230 °C), high dimensional stability and creep strength. The LOI belongs to the highest of the Polymers. By the reinforcement with glass fibres strength is achieved, which is comparable with light metal. PPS closes the gap between the technical synthetics and PEEK with its strength and economy.

GEHR PPS-40GF®

Due to the reinforcement of 40 % glass fibre PPS can reach a strength compared with light metals.

Properties GEHR PPS®

- » Very high strength and rigidity
- » High hardness
- » High thermostability
- » High dimensional stability
- » Very high chemical resistance
- » Very good insulating properties
- » High weather resistance
- » High resistance to hydrolysis

Applications GEHR PPS®

- » Pump parts
- » Fan parts
- » Impellers
- » Wheels
- » Valve balls
- » Parts in the fuel and automotive sector

ROUND RODS



Length

1 | 3 m

Ø mm	Tolerances mm		GEHR PPS®	GEHR PPS-40GF® ¹⁾
	min.	max.	kg/m	kg/m
10	+ 0,2	+ 0,9	0,115	0,139
20	+ 0,2	+ 0,9	0,452	0,549
25	+ 0,2	+ 1,2	0,706	0,858
30	+ 0,2	+ 1,2	1,010	1,230
35	+ 0,2	+ 1,2	1,364	1,655
40	+ 0,2	+ 1,2	1,790	2,170
50	+ 0,3	+ 1,3	2,790 ⊙	3,390
60	+ 0,4	+ 4,0	4,020	4,880
70	+ 0,4	+ 4,0	5,440	6,800
80	+ 0,4	+ 4,0	7,125	

SHEETS



Length

1 m

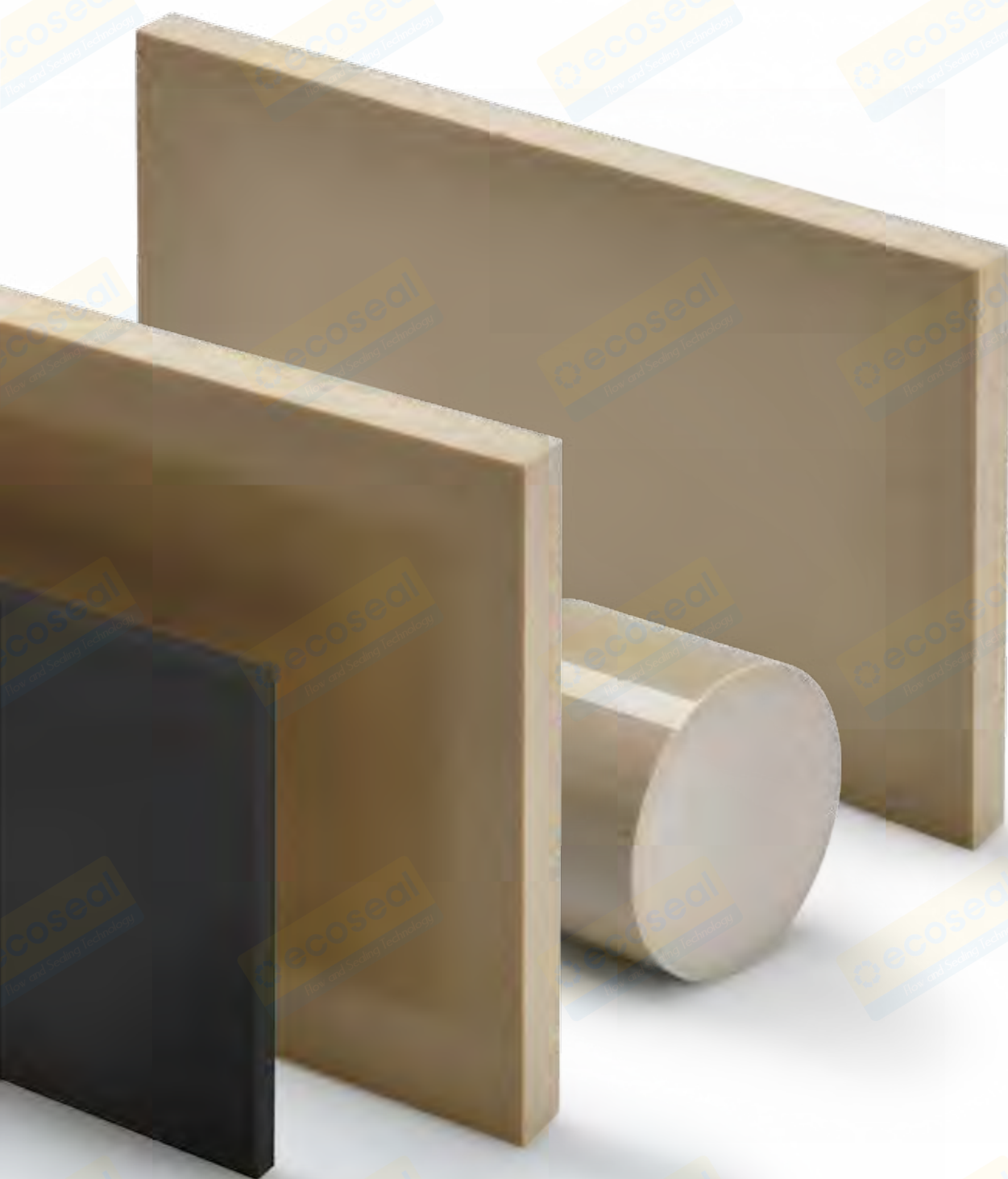
mm	Tolerances mm		GEHR PPS®	GEHR PPS-40GF® ¹⁾
	min.	max.	Width 610mm kg/m	Width 620mm kg/m
10	+ 0,2	+ 0,9	9,280	11,330
16	+ 0,3	+ 1,5	14,780	18,060
20	+ 0,3	+ 1,5	18,270	22,330
25	+ 0,3	+ 1,5	22,650	27,680
30	+ 0,5	+ 2,5	27,540	33,660
40	+ 0,5	+ 2,5	36,290	44,350
50	+ 0,5	+ 2,5	45,030	55,040

Stock item Colours: ⊙ natural

¹⁾ Tolerances on request



» PEEK





GEHR PEEK®

Polyetheretherketone can be used at very high temperatures (about +260 °C) and it shows an extraordinary mechanical strength, toughness, hardness, flexural strength, torsional strength. PEEK exhibits excellent chemical resistance, very good dielectric properties up to +260 °C and a very good resistance to all kinds of radiation (even ultraviolet rays only lead to a slight yellow discolouration). PEEK is self-extinguishing properties according to UL 94.

Properties GEHR PEEK®

- » Very high mechanical strength
- » Very high rigidity (also at low temperature)
- » Very high thermal stability
- » Very high creep resistance
- » Very high dimensional stability
- » Very high radiation resistance
- » Very high hydrolysis resistance
- » Relatively low notch impact strength
- » Low resistance to acetone

GEHR PEEK-MOD®

Reinforced with 10 % of each PTFE, graphite and carbonfibre. The very good friction, wear and tear properties makes this material the good choice for many applications with friction.

Applications GEHR PEEK®

- » Bearing shells
- » Piston rings
- » Valve seats
- » Gears
- » Seals
- » Aviation
- » Cog wheels
- » Pump vanes
- » Fittings
- » Plug connectors for the chromatography
- » Wafer carriers
- » Semiconductor industry

GEHR PEEK-30GF®

Reinforced with 30 % glass fibre.

GEHR PEEK-30CF®

Reinforced with 30 % carbon fibre.

ROUND RODS



Length

Ø 5–100 mm = 1 | 2 | 3 m

Ø 110–200 mm = 1 m

Ø mm	Tolerances mm		GEHR PEEK®	GEHR PEEK-mod®	GEHR ¹⁾ PEEK-30GF®	GEHR PEEK-30CF®
	min.	max.	kg/m	kg/m	kg/m	kg/m
5	+ 0,1	+ 0,6	0,032 ⊕	0,033	0,033	
6	+ 0,1	+ 0,6	0,040 ⊕			
8	+ 0,1	+ 0,7	0,072 ⊕	0,080	0,081	
10	+ 0,1	+ 0,7	0,110 ⊕	0,130 ●	0,131 ⊕	0,128
12	+ 0,2	+ 0,8	0,164 ⊕	0,180	0,182	0,175
15	+ 0,2	+ 0,8	0,252	0,277	0,279	0,268
16	+ 0,2	+ 0,8	0,285 ⊕	0,320	0,323	0,380
18	+ 0,2	+ 0,8	0,360 ⊕	0,400	0,400	0,400
20	+ 0,2	+ 0,8	0,439 ⊕	0,510 ●	0,512 ⊕	0,472 ●
22	+ 0,2	+ 1,0	0,535 ⊕	0,600	0,603	0,585
25	+ 0,2	+ 1,0	0,685 ⊕	0,760	0,763	0,731
28	+ 0,2	+ 1,0	0,850	0,950	0,954	0,919
30	+ 0,2	+ 1,0	1,000 ⊕	1,110 ●	1,115 ⊕	1,056 ●
32	+ 0,2	+ 1,2	1,110 ⊕	1,250	1,255	1,204
36	+ 0,2	+ 1,2	1,430 ⊕	1,490	1,495	1,525
40	+ 0,2	+ 1,2	1,740 ⊕	1,940 ●	2,010 ⊕	1,920 ●
45	+ 0,3	+ 1,3	2,220 ⊕	2,470	2,480	2,425
50	+ 0,3	+ 1,3	2,770 ⊕	3,130 ●	3,220 ⊕	2,950
56	+ 0,3	+ 1,3	3,400 ⊕	3,780	3,790	
60	+ 0,3	+ 1,6	3,920 ⊕	4,400 ●	4,650 ⊕	
65	+ 0,3	+ 1,6	4,550 ⊕	5,100	5,120	
70	+ 0,3	+ 1,6	5,400 ⊕	5,900	5,930	
75	+ 0,4	+ 2,0	6,100	6,810	6,830	
80	+ 0,4	+ 2,0	6,960 ⊕	8,100 ●	8,150 ⊕	
90	+ 0,5	+ 2,2	8,800 ⊕	9,790	9,800	
100	+ 0,6	+ 2,5	10,800 ⊕	12,100	12,900 ⊕	
110	+ 0,8	+ 3,5	13,000			
120	+ 0,8	+ 3,5	15,610			
125	+ 0,8	+ 3,5	16,930 ⊕			
140	+ 0,9	+ 3,8	21,300			
150	+ 1,0	+ 4,2	24,600 ⊕			
180	+ 1,2	+ 5,0	35,300 ⊕			
200	+ 1,3	+ 5,5	43,530 ⊕			

HOLLOW BARS



D x d mm	Tolerances mm				GEHR PEEK® kg/m
	D min.	D max.	d min.	d max.	
50 x 30	+ 0,5	+ 2,2	- 0,5	- 2,2	1,930 ⊙
60 x 40	+ 0,5	+ 2,3	- 0,5	- 2,3	2,450
70 x 50	+ 0,6	+ 2,8	- 0,6	- 2,8	3,092 ⊙
80 x 60	+ 0,6	+ 3,4	- 0,6	- 3,4	3,513 ⊙
90 x 70	+ 0,6	+ 3,4	- 0,6	- 3,4	4,310
100 x 80	+ 1,0	+ 4,0	- 1,0	- 4,0	4,815

Length
1 m

SHEETS



mm	Tolerances mm		GEHR PEEK® Width 620 mm kg/m		GEHR PEEK-mod® Width 620 mm kg/m	GEHR ¹⁾ PEEK-30GF® Width 620 mm kg/m
	min.	max.	620 mm kg/m	1000 mm kg/m	620 mm kg/m	620 mm kg/m
5	+ 0,2	+ 0,7	4,590 ⊙	7,541		
6	+ 0,2	+ 0,7	5,460 ⊙	8,912		
8	+ 0,2	+ 1,1	7,440 ⊙	11,692		
10	+ 0,2	+ 1,1	9,050 ⊙	14,454 ⊙	10,100 ●	
12	+ 0,3	+ 1,5	10,950 ⊙	17,780	12,030	12,487
16	+ 0,3	+ 1,5	14,340 ⊙	23,090 ⊙	15,760	16,359
20	+ 0,3	+ 1,5	17,730 ⊙	28,511 ⊙	19,900 ●	20,656
25	+ 0,3	+ 1,5	22,320 ⊙	35,204 ⊙	25,500	26,469
30	+ 0,5	+ 2,5	26,700 ⊙		30,000	30,517
35	+ 0,5	+ 2,5	30,800 ⊙		34,800	36,600
40	+ 0,5	+ 2,5	35,200 ⊙		39,200 ●	40,690
45	+ 0,5	+ 2,5	39,500 ⊙		44,400	48,049
50	+ 0,5	+ 2,5	43,700 ⊙		49,000	49,824
60	+ 0,5	+ 3,5	52,900 ⊙			
80	+ 0,5	+ 5,0	69,700 ⊙			
100	+ 0,5	+ 5,0	86,500 ⊙			
120	+ 0,5	+ 5,0	106,000 ⊙			

Length

Width 620 mm

□ 5 – 50 mm = 1 | 3 m

□ 60 – 120 mm = 1 m

Width 1000 mm

1 m

Stock item Colours: ⊙ natural ● black

¹⁾ Tolerances on request



» ELS



OUR ELECTRICALLY CONDUCTIVE MATERIALS

GEHR semi-finished products with the additional title ELS possess a reduced surface resistivity. This property will be applied wherever static charge of plastic components needs to be avoided.

In sensitive applications such as electronics voltages of over 100 volts are already sufficient to irreparably destroy circuits. In fire-hazardous facilities sparkovers may cause fires or even explosions.

» $ELS \leq 10^6 \Omega$

FIL-A-GEHR®
FILAMENTS

ECO-GEHR®

PVC

PE-HD

PE-UHMW

PP

ABS

PMMA

PA

POM

PET

PBT

PC

PVDF

E-CTFE

PSU

PPSU

PEI

PPS

PEEK

ELS

TECHNICAL
DATA

GEHR PE-ELS®Volume resistivity: $\leq 10^4 \Omega \times \text{cm}$ Surface resistivity: $\leq 10^5 \Omega$ **GEHR POM-ELS®**Volume resistivity: $\leq 10^1 \Omega \times \text{cm}$ Surface resistivity: $\leq 10^4 \Omega$ **GEHR PVDF-ELS®**Volume resistivity: $\leq 10^4 \Omega \times \text{cm}$ Surface resistivity: $\leq 10^4 \Omega$ **Properties GEHR PE-ELS®**

- » Low density
- » High toughness (also at low temperature)
- » Very low water absorption

Properties GEHR POM-ELS®

- » Variant with improved electrical conductivity
- » High toughness
- » Low water absorption
- » Easy to machine

Properties GEHR PVDF-ELS®

- » High tensile and mechanical strength
- » High chemical resistance
- » Self-extinguishing
- » UV resistance

ROUND RODS**Length**

1 | 3 m

GEHR PE-ELS®

2 m

Ø	GEHR PE-ELS®	GEHR POM-ELS®	GEHR PVDF-ELS®
mm	kg/m	kg/m	kg/m
20		0,471	0,599 ●
25		0,735	0,934
30	0,758	1,053 ●	1,340
40	1,347	1,857	2,375 ●
50	2,116 ●	2,900 ●	3,745
60	3,032	4,171	5,349 ●
70	4,116	5,650	7,257
80	5,368 ●	7,408 ●	9,358
90	6,789	9,364	
100	8,379 ●	11,568	

SHEETS**Length**

1 | 3 m

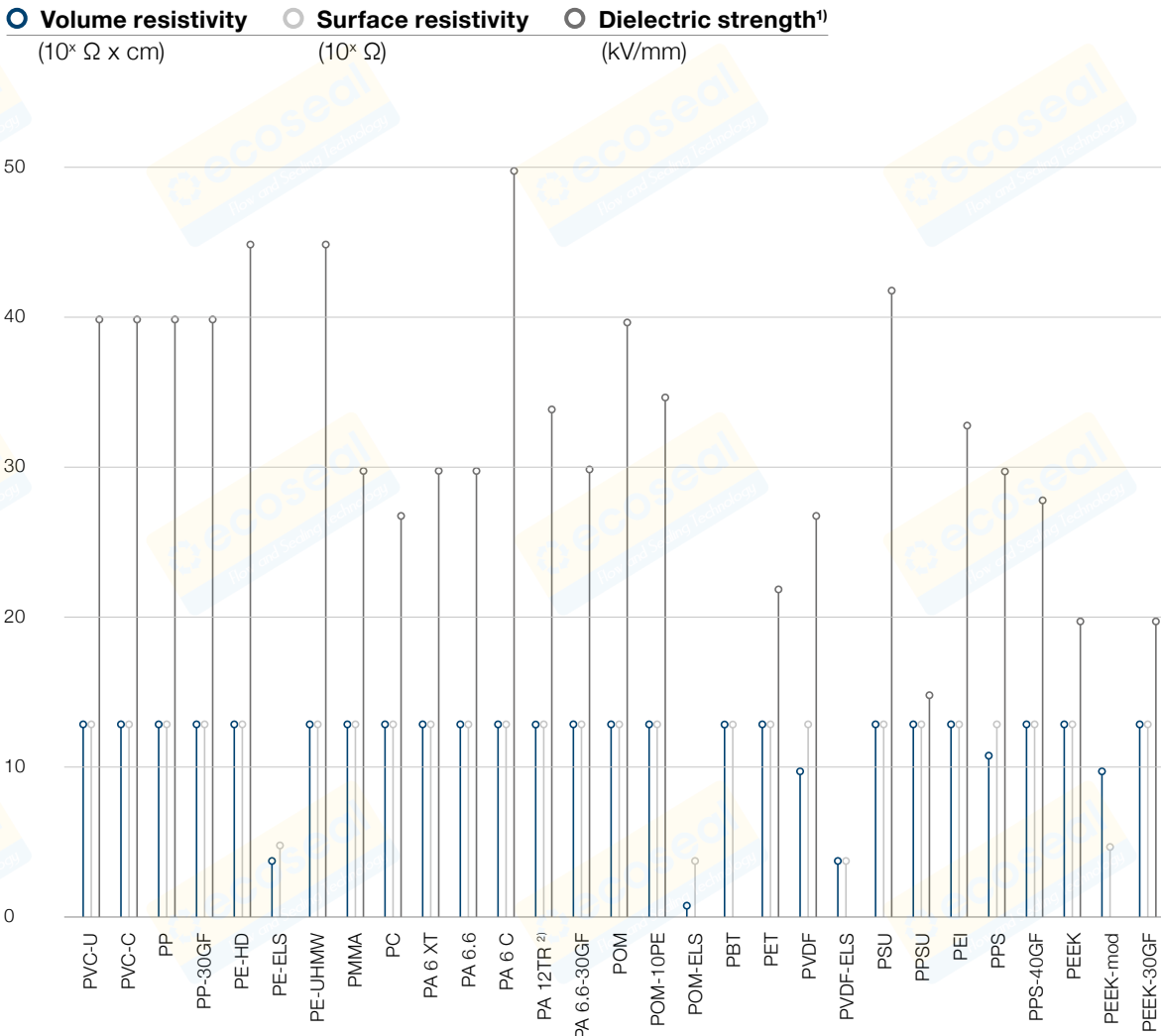
GEHR PVDF-ELS®

2 m

	GEHR POM-ELS®	GEHR PVDF-ELS®
mm	610 mm kg/m	1000 mm kg/m
12	12,000 ●	24,015 NEW
15	14,140 ●	
20	19,030 ●	38,895
25	23,360 ●	48,213
30	28,140 ●	58,626 ●
40	37,750 ●	78,460
60	57,300 ●	117,710

Stock item Colours: ● black

DATA COMPARISON OF ELECTRICAL PROPERTIES



¹⁾ Raw material measurement





» SEMINARS BY GEHR

We are well aware of how important solid expertise is for the success of a company. Therefore we offer seminars to our customers and their employees which cover everything from basic knowledge about plastic materials over approvals up to special technical questions. The contents of our seminars include:

- » Plastic materials and their properties
- » Application examples
- » Ultrasonic inspections
- » Technical data
- » Approvals
- » Impact on dimensional stabilities

In addition to introductory and standard seminars, we also provide training courses tailored to specific requirements – if requested at the customers' facilities. All seminars can be conducted in German or English.

FIL-A-GEHR®
FILAMENTS

ECO-GEHR®

PVC

PE-HD

PE-UHMMW

PP

ABS

PMMA

PA

POM

PET

PBT

PC

PVDF

E-CTFE

PSU

PPSU

PEI

PPS

PEEK

ELS

TECHNICAL
DATA

APPROVALS

	DE/EU	EU 10/2011/EC 1935/2004/EC	USA FDA	EU/USA ISO NORM/ USP NORM	USA NSF 51	USA NSF 61
GEHR raw material	Drinking water	Food approval	Food approval	Medical	Food approval	Drinking water
ECO-GEHR PLA-LF® ⊕	-	-	177.1616	-	-	-
GEHR PVC-U® ●	☑++	☑++	+	-	☑++	-
GEHR PVC-C® ⊖	-	-	-	-	-	-
GEHR PE-HD® ⊖	KTW	☑	177.1520	-	-	-
GEHR PE-HD® ●	-	☑	-	-	-	-
GEHR PE-ELS® ●	-	-	-	-	-	-
GEHR PE-UHMW® ⊖●	-	☑	177.1520	-	-	-
GEHR PP® ⊖	-	☑	177.1520	-	-	-
GEHR PP® ●	-	☑	177.1520	-	-	-
GEHR PP-30GF® ●	-	-	-	-	-	-
GEHR ABS® ⊖	-	-	181.32	-	-	-
GEHR PMMA® Tubes ⊕	-	☑	177.1010	-	-	-
GEHR PMMA® Round Rods ⊕	-	-	177.1010	-	-	-
GEHR PA 6 C® ⊖	-	☑	177.1500	-	-	-
GEHR PA 6 C® ●	-	-	-	-	-	-
GEHR PA 6 XT® ⊖	-	☑	177.1500	-	-	-
GEHR PA 6 XT® ●	-	-	-	-	-	-
GEHR PA 6.6® ⊖	-	☑	177.1500	-	-	-
GEHR PA 6.6® ●	-	-	-	-	-	-
GEHR PA 6.6-30GF® ●	-	-	-	-	-	-
GEHR PA 12 TR® ⊕	KTW*/WRAS*	☑	177.1500/176.170	-	-	☑*
GEHR PA 6.10® ⊖	-	-	-	-	-	-
GEHR POM-C® ⊖	KTW*/WRAS*	☑	177.2470	-	-	☑*
GEHR POM-C® ●	-	☑	177.2470	-	-	☑*
GEHR POM-C® ●	-	-	177.2480 178.3297	-	-	-
GEHR POM-10PE® ●	-	☑	177.2470/177.1520/ 178.2010	-	-	-
GEHR POM-ELS® ●	-	-	-	-	-	-
GEHR PET® ⊖	-	☑	177.1630	-	-	-
GEHR PET® ●	-	-	-	-	-	-
GEHR PBT® ⊖	-	-	-	-	-	-
GEHR PC® ⊕	-	☑	177.1580	-	-	-
GEHR PVDF® ⊖	-	☑++	177.2510	USP Class VI	-	☑*
GEHR PVDF-ELS® ●	-	-	+	-	-	-
GEHR E-CTFE® ⊖	-	-	-	-	-	-
GEHR PSU® ⊖	-	-	177.1655	-	-	-
GEHR PPSU® ●	-	-	177.1560 178.3297	-	-	-
GEHR PEI® ⊖	WRAS	-	177.1559	-	☑	-
GEHR PPS® ⊖	-	-	++	-	-	-
GEHR PPS-40GF® ●	-	-	++	-	-	-
GEHR PEEK® ⊖	BS 6920	☑	177.2415	ISO 10993-5* USP Class VI*	-	-
GEHR PEEK-mod® ●	-	-	-	-	-	-
GEHR PEEK-30GF® ⊖	-	-	-	-	-	-
GEHR PEEK-30CF® ●	-	-	-	-	-	-

This table shows a list of regulations that GEHR semi-finished products are complying with at present, evaluation of the composition of materials compared with the corresponding positive lists and migration regulations. The suitability of above-mentioned regulations (e.g. regarding global migration) has to be checked on the finished part by the convertor or the distributor. The convertor or distributor takes the full responsibility. For a detailed statement regarding the topic "Physiology" please ask our Application Engineering Division at GEHR GmbH.

Colours:

- grey
- light grey
- black
- blue
- light blue
- natural
- ⊕ transparent
- ivory

☒ **semi-finished products approval (red)**

☒ **raw material approval (black)**

+ does comply with the guidelines of the above-mentioned directives

++ Standard round rods in dark grey up to a diameter of 160 mm are physiologically harmless (see page 22).

- does not comply with the guidelines of the above-mentioned guidelines or has not been tested correspondingly

+* Plastics and additives comply with the guidelines of the above-mentioned directives. However the formulation at large has not been tested.

+** The utilized type of plastic complies with the Food Compliance Norm (FCN) e.g. Number 40 "PPS" or 0083 for "PPSU" of the FDA acceptance approval for Food Contact Substances (FCS)

* available on request

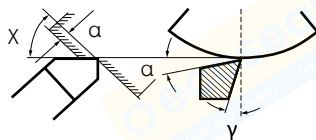
** currently being tested

Norm

BfR	German Institute for Risk Assessment
10/2011/EC	Guideline for materials and objects which get in contact with food (2011)
Leitlinie 2005	Drinking water approval of the Federal Environment Agency in Germany (former KTW)
KTW	Plastics and drinking water in Germany
DVGW-W270	Reproduction of micro-organisms on materials for the drinking water sector. Testing and evaluation.
NSF-14	National Sanitation Foundation. Guideline for Plastic pipeline systems.
NSF-51	National Sanitation Foundation. Guideline for materials and objects which get in contact with food.
NSF-61	National Sanitation Foundation. Guideline for materials and objects which get in contact with drinking water.
1935/2004/EC*	Our semi-finished materials also comply with this regulation.

MACHINING RECOMMENDATIONS

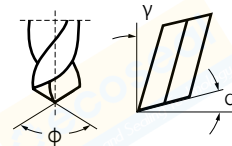
TURNING



α Setting Angle (°)
 γ Rake Angle (°)
 χ Recessing Angle (°)
 v Cutting Speed (U/mN)
 s Feed (mm/U)

Peak Radius r to be min. 0,5 mm

DRILLING



α Setting Angle (°)
 γ Rake Angle (°)
 ϕ Peak Angle (°)
 v Cutting Speed (m/mN)
 s Feed (mm/U)

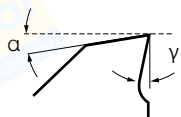
Twisting Angle β to be ca. 12° to 16°

	α	γ	χ	v	s		α	γ	ϕ	v	s
GEHR PVC-U®	8-10	0-5	50-60	200-750	0,3-0,5		5-10	3-5	60-100	30-120	0,1-0,5
GEHR PE-HD®	6-10	0-5	45-60	250-500	0,1-0,5		5-15	10-20	60-90	50-150	0,1-0,3
GEHR PP®	6-10	0-5	45-60	250-500	0,1-0,5		5-15	10-20	60-90	50-150	0,1-0,3
GEHR ABS®	5-15	25-30	15	200-500	0,2-0,5		8-12	10-30	60-90	50-200	0,2-0,3
GEHR PMMA®	5-10	0-4	15	200-300	0,1-0,2		3-8	0-4	60-90	20-60	0,1-0,5
GEHR PA®	6-10	0-5	45-60	200-500	0,1-0,4		5-15	10-25	90	50-150	0,1-0,3
GEHR POM®	6-8	0-5	45-60	300-600	0,1-0,4		5-10	5-30	90	50-200	0,1-0,3
GEHR PET®	5-15	0-15	45-60	200-500	0,1-0,5		5-16	10-30	90-110	50-100	0,1-0,3
GEHR PBT®	5-15	0-15	45-60	200-500	0,1-0,5		5-16	10-30	90-110	50-100	0,1-0,3
GEHR PC®	5-12	6-8	45-60	200-350	0,1-0,5		8-10	10-20	90	50-100	0,1-0,3
GEHR PVDF®	5-12	5-15	10	150-500	0,1-0,3		10-16	5-20	110-130	150-300	0,1-0,3
GEHR E-CTFE®	6-10	0-5	45-60	250-500	0,1-0,5		5-15	10-20	60-90	50-150	0,1-0,3
GEHR PSU®	5-10	0-5	45-60	250-400	0,2-0,3		5-15	10-20	60-90	30-90	0,1-0,3
GEHR PPSU®	5-10	0-5	45-60	250-400	0,2-0,3		5-15	10-20	60-90	30-90	0,1-0,3
GEHR PEI®	5-10	0-10	45-60	300-400	0,2-0,3		5-15	10-20	60-90	30-90	0,1-0,4
GEHR PPS®	5-10	0-5	45-60	200-500	0,1-0,5		5-10	10-30	90	50-200	0,1-0,3
GEHR PEEK®	5-10	3-8	45-60	200-500	0,1-0,4		5-15	10-25	90-120	70-200	0,1-0,3

It is recommended to use only sharpened HSS tools (High Speed Steel).

- Due to the danger of stress cracking we don't recommend the use of cooling agents which are based on oil (or to clean the parts well after machining). Amorphous materials should be annealed during machining.
- To avoid treatment problems we recommend a heating up of the materials on approx. 120 °C. Use only sharpened tools with small feed.
- With these materials, close attention should be paid to the proper exhaust in machining area.

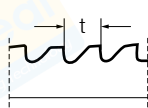
MILLING



α Setting Angle (°)
γ Rake Angle (°)
v Cutting Speed (m/mN)

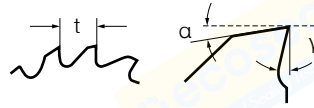
Allow feed up to 0,5 mm/tooth

BELT SAW



α Setting Angle (°)
γ Rake Angle (°)
v Cutting Speed (m/mN)
t Tooth Pitch (mm)
z Tooth per inch

CIRCULAR SAW



α Setting Angle (°)
γ Rake Angle (°)
v Cutting Speed (U/mN)
t Tooth Pitch (mm)
z Numbers of tooth (Ø 570 mm)

α	γ	v	α	γ	v	t	z	α	γ	v	t	z
5-10	0-15	300-1000	30-40	0-5	1200	3	2-3	5-10	0	3000	3-5	72
10-20	5-15	250-500	20-30	2-5	500	3-8	2-3	20-30	6-10	2000	3-8	36
10-20	5-15	250-500	20-30	2-5	500	3-8	2-3	20-30	6-10	2000	3-8	36
5-10	0-10	300-500	15-30	0-5	300	2-8	2-3	5-10	0-5	2400	2-5	36
2-10	2-10	2000	30-40	0-5	1200	3	2-3	5-10	0	3000	3-5	72
10-20	5-15	250-500	15-30	0-5	300-500	2-8	2-3	15-30	0-8	2200-2800	2-8	22
5-15	5-15	250-500	20-30	0-5	500-800	2-5	2-3	5-10	0-10	2800-3000	2-5	72
5-15	0-15	250-500	15-40	0-8	300	2-8	2-3	10-15	0-15	bis 3000	2-5	36
5-15	0-15	250-500	15-40	0-8	300	2-8	2-3	10-15	0-15	bis 3000	2-5	36
5-20	5-15	250-350	15-30	5-8	300-500	2-8	2-3	15-30	5-8	bis 3000	2-8	72
5-15	5-15	250-500	20-30	5-8	300-500	2-5	2-3	5-10	0-10	2500-2800	2-5	36
10-20	5-15	250-500	20-30	2-8	500	3-8	2-3	20-30	6-10	2000	3-8	36
5-15	0-10	250-500	15-30	0-4	500	2-5	2-3	15-30	0-15	2000	2-5	22
5-15	0-10	250-500	15-30	0-4	500	2-5	2-3	15-30	0-15	2000	2-5	22
5-15	0-10	200-400	15-30	0-4	500	2-5	2-3	15-25	0-15	2000	2-5	22
5-15	5-10	200-500	15-30	0-5	500-800	3-5	2-3	15-30	0-10	2800-3000	2-5	22
5-15	5-15	180-450	15-30	0-5	500-800	3-5	2-3	15-30	0-10	1800-2500	2-5	72

FIL-A-GEHR®
FILAMENTS

ECO-GEHR®

PVC

PE-HD

PE-UHMW

PE-UHMW

PP

ABS

PMMA

PA

POM

PET

PBT

PC

PVDF

E-CTFE

PSU

PPSU

PEI

PPS

PEEK

ELS

TECHNICAL

DATA

ANNEALING RECOMMENDATIONS OF THERMOPLASTICS

	Heating rate beginning from (10 °C/h)	Annealing guideline (°C)	Cooling rate up to (°C)
GEHR PVC-U®	-	60	-
GEHR PVC-C®	-	90	-
GEHR PE-HD®	-	90	-
GEHR PP-H®	-	100	-
GEHR PP-30GF®	90	150	90
GEHR ABS®	-	70	-
GEHR PMMA®	50	80	50
GEHR PA®	90	150	90
GEHR POM-C®	90	150	90
GEHR PET®	90	150	90
GEHR PBT®	90	150	90
GEHR PC®	90	140	90
GEHR PVDF®	90	150	90
GEHR E-CTFE®	80	105	80
GEHR PSU®	145	165	145
GEHR PPSU®	140	200	140
GEHR PEI®	140	200	140
GEHR PPS®	150	200	150
GEHR PEEK®	140	200	140

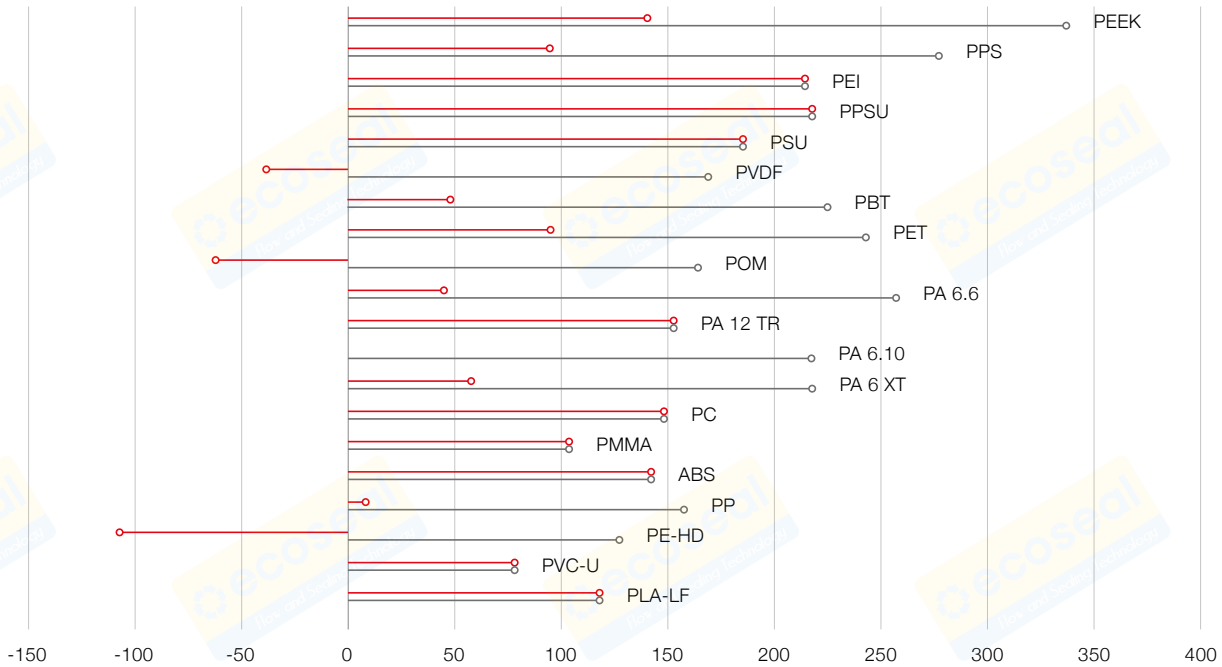
Calculation:

$$^{\circ}\text{F} = \left(\frac{9}{5} \times ^{\circ}\text{C}\right) + 32$$

$$^{\circ}\text{C} = \frac{5}{9} \times (^{\circ}\text{F} - 32)$$

Despite all precautionary measures an uneven cooling speed in the production process of the semi-finished material might be inevitable; in this case internal tensions might occur. Likewise tensions can be conferred into the part by the machining process. These tensions can lead to the distortion and in the worst case even to the breaking of the part. To reduce the danger of distortion or breaking an annealing e.g. in air or in nitrogen is recommended, with an annealing time of min. 2 hours (4 hours are better) for each 10 mm wall thickness. To avoid additional tensions while heating or/and cooling down the material, these processes should be carried out very slowly. We recommend to use 3-times as much time for the cooling down as for the heating. The time of these processes has to be added to the regular annealing time.

○ Melting temperature (°C) ● Glass transition temperature (°C)



Thermal guidelines

● Max. temp (°C) ○ HDT/A (°C) ○ HDT/B (°C)



FIL-A-GEHR®
FILAMENTS

ECO-GEHR®

PVC

PE-HD

PE-UHMW

PP

ABS

PMMA

PA

POM

PET

PBT

PC

PVDF

E-CTFE

PPSU

PEI

PPS

PEEK

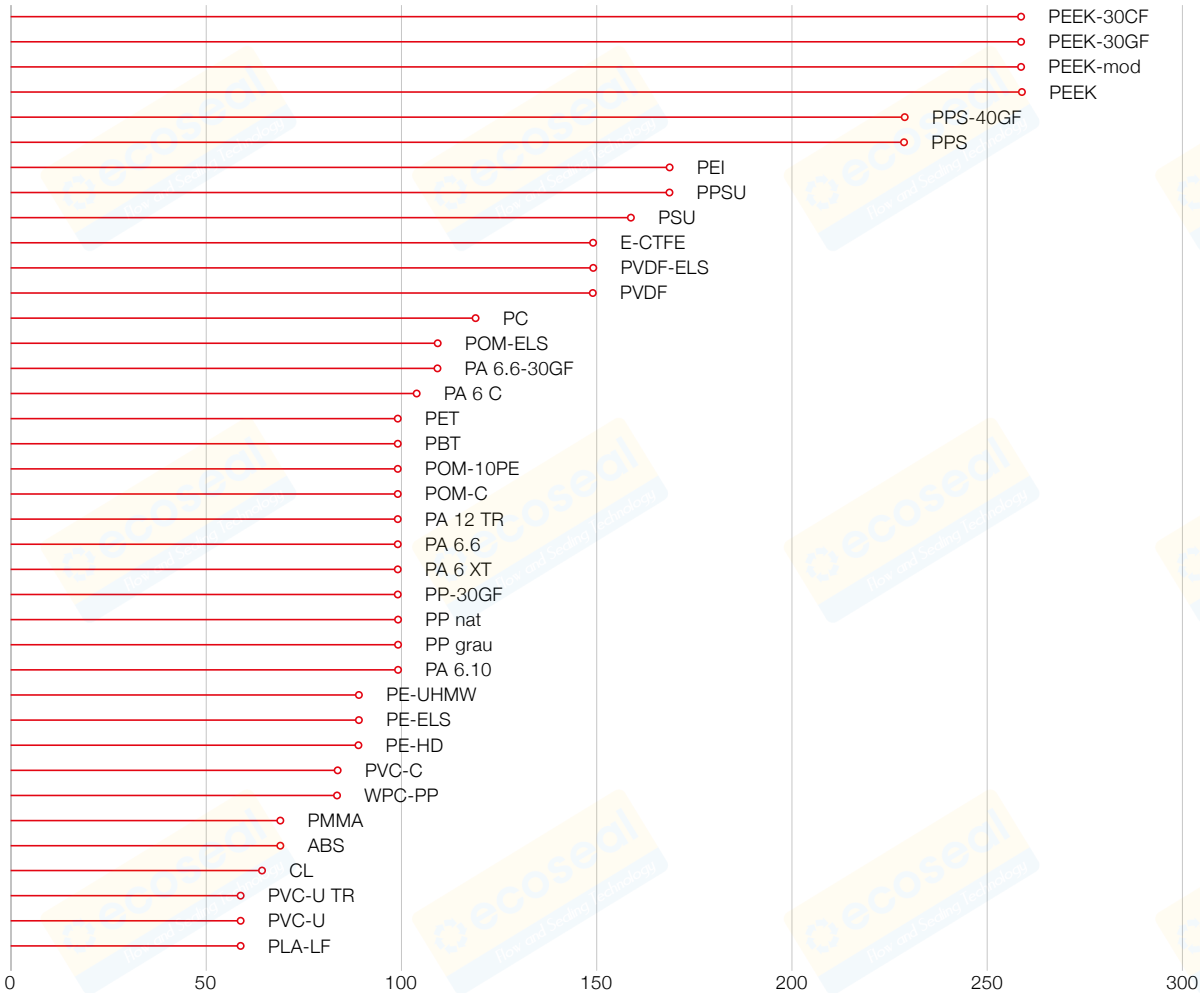
ELS

PTFE

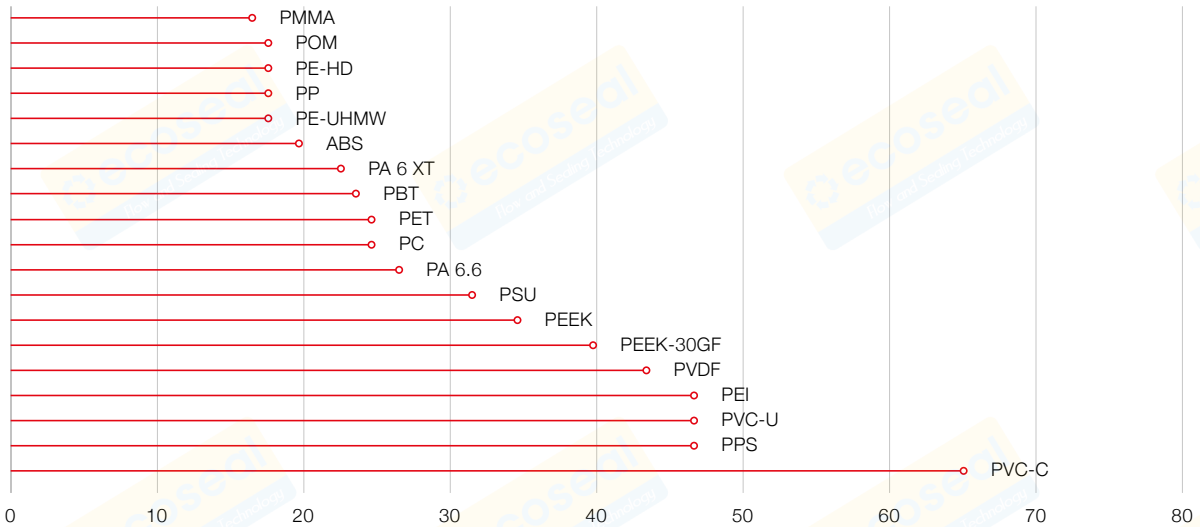
TECHNICAL
DATA

COMPARISON OF PLASTICS' TECHNICAL DATA

Max. permissible service temperature (°C)

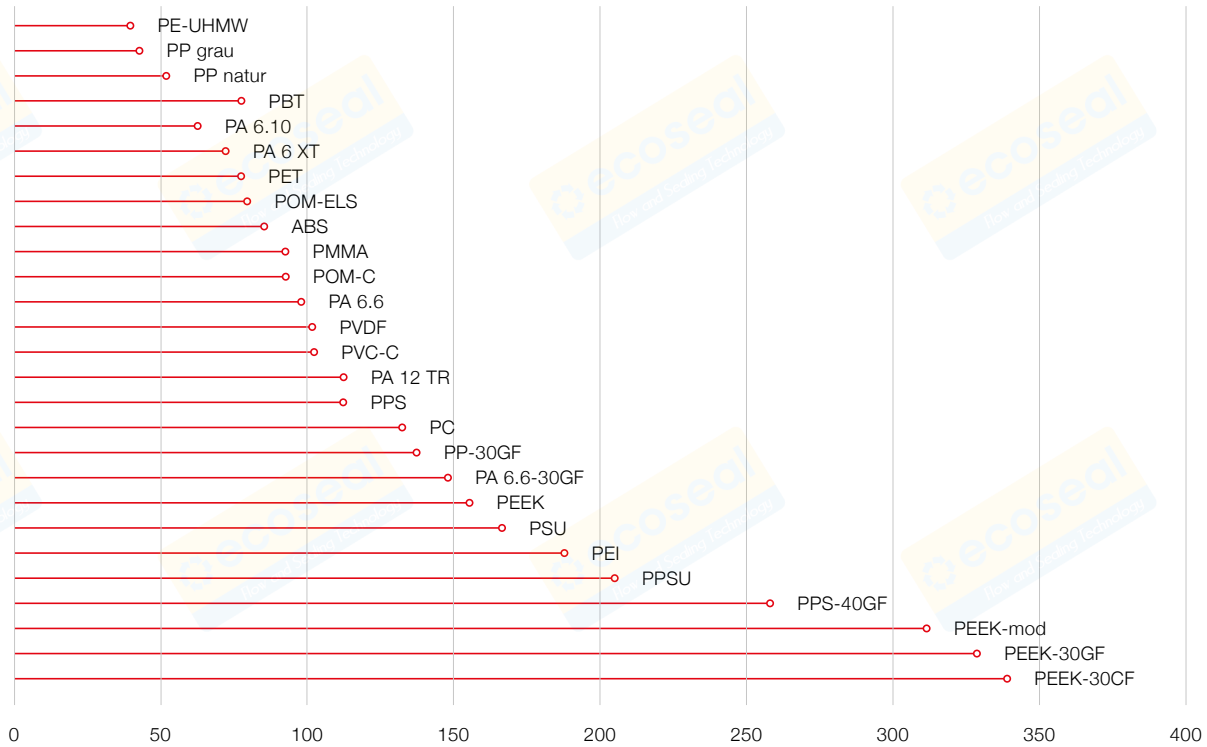


Flammability¹⁾ (Lol in % O₂)

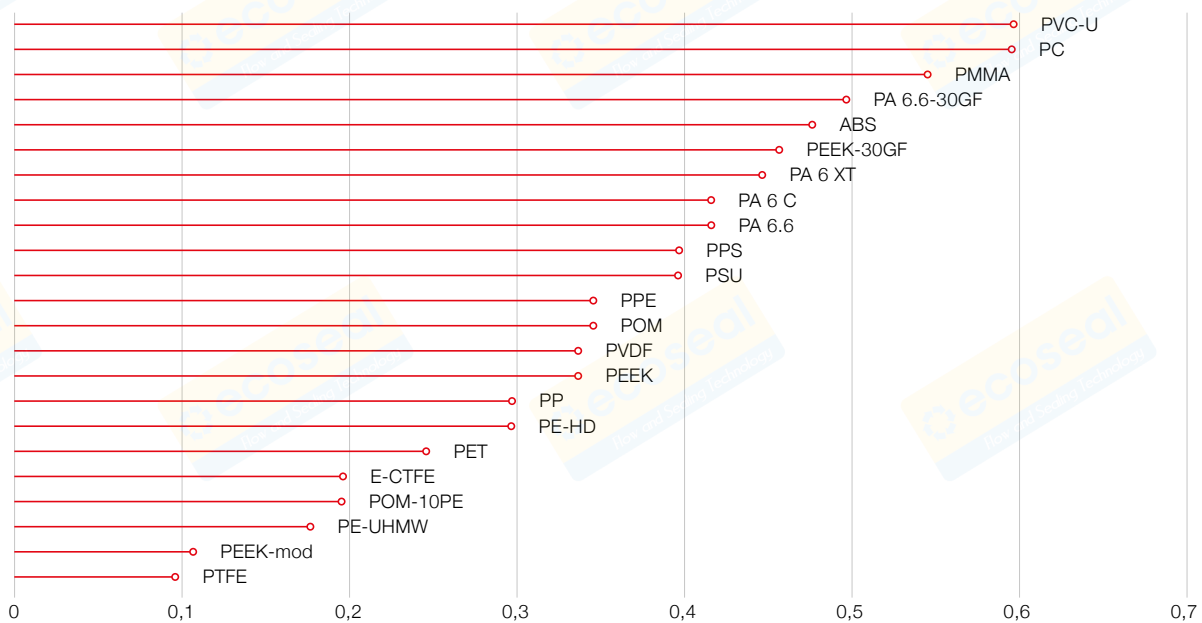


¹⁾ Raw material Measurement

Heat deflection temperature (HDT/A in °C) according ISO 75



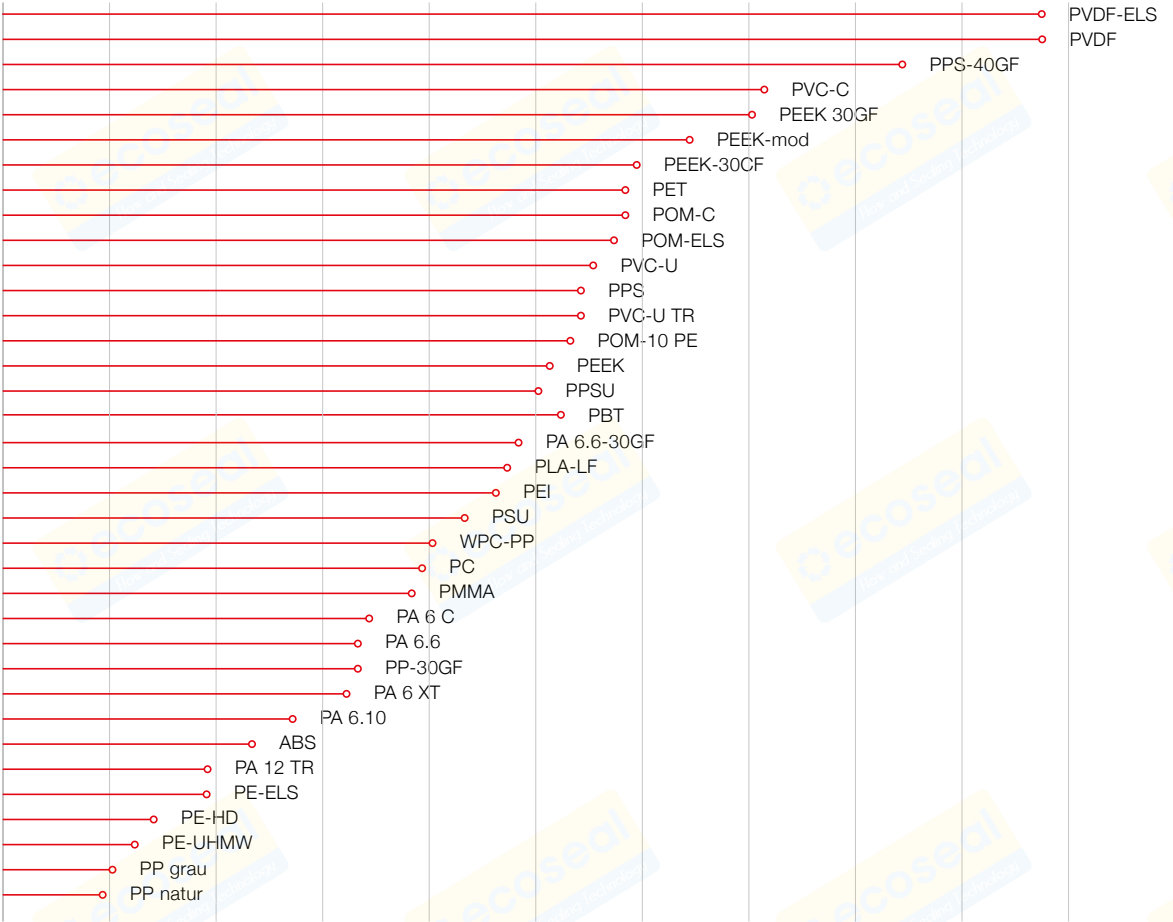
Coefficient of friction against steel



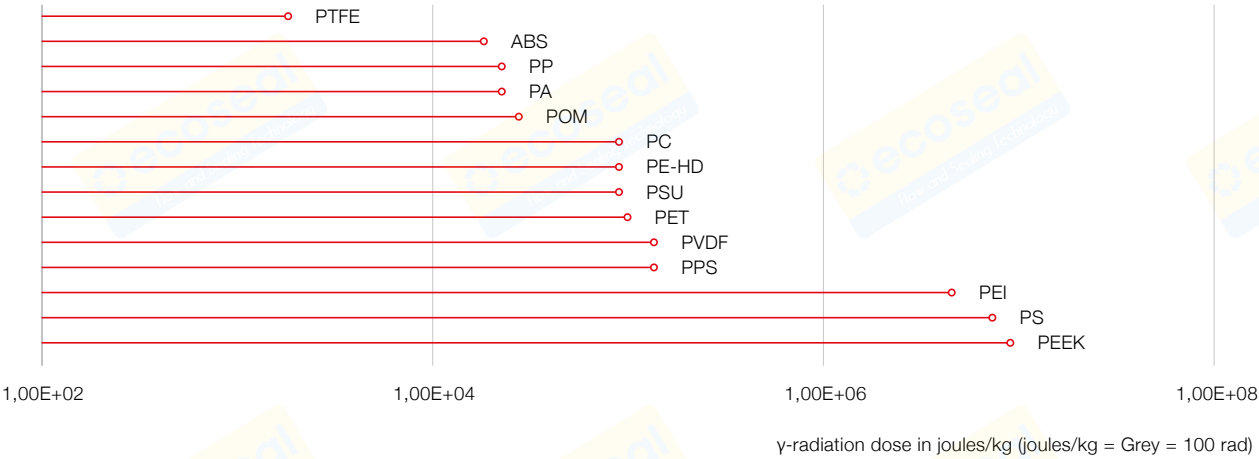
plastic/steel 16 MnCr 5; Rt = 2 µm, surface pressure = 0,05 MPa, sliding speed = 0,6 m/s, surface temperature = 60 °C

COMPARISON OF PLASTICS' TECHNICAL DATA

Density (g/cm³)

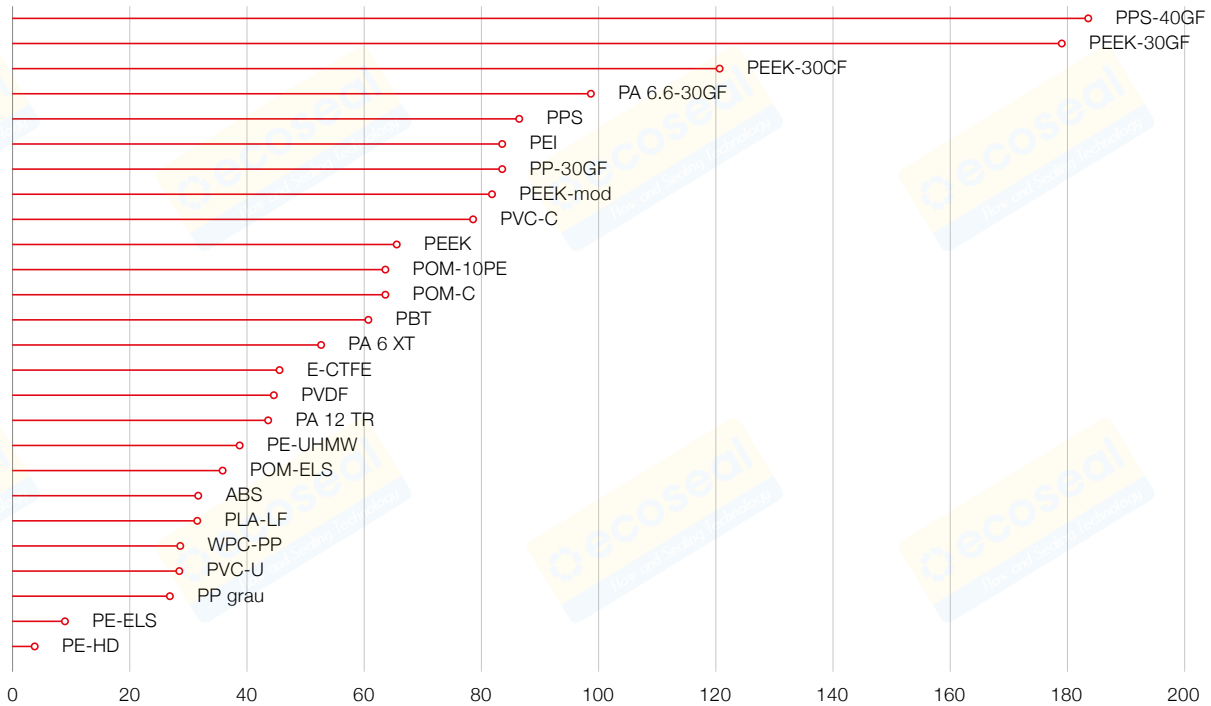


Resistance to γ-rays¹⁾



¹⁾Raw material Measurement

Tensile strength at break (MPa)



FIL-A-GEHR®
FILAMENTS

ECO-GEHR®

PVC

PVC

PE-HD

PE-UHMW

PE

PP

ABS

PMMA

PA

POM

PET

PBT

PC

PVDF

E-CTFE

PSU

PPSU

PEI

PPS

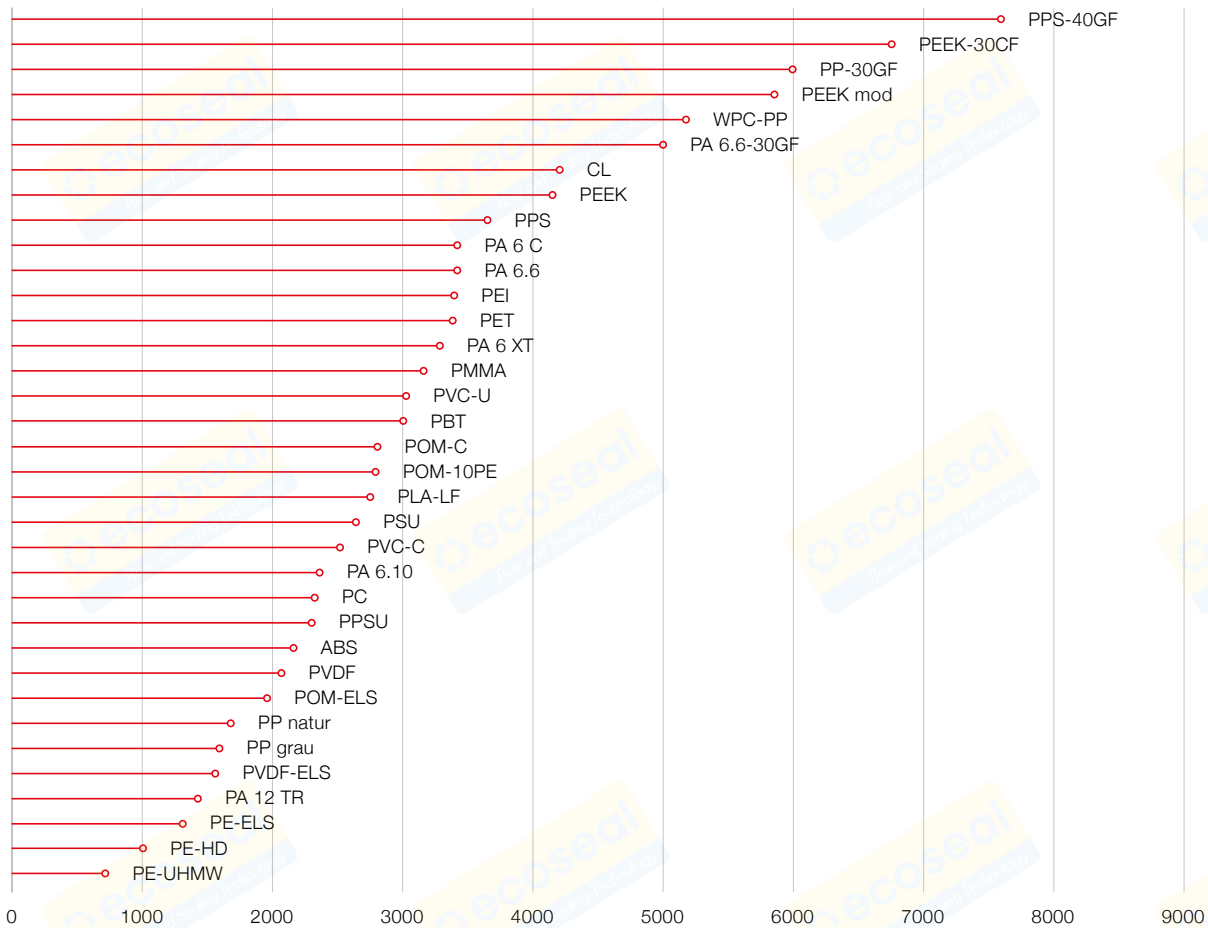
PEEK

ELS

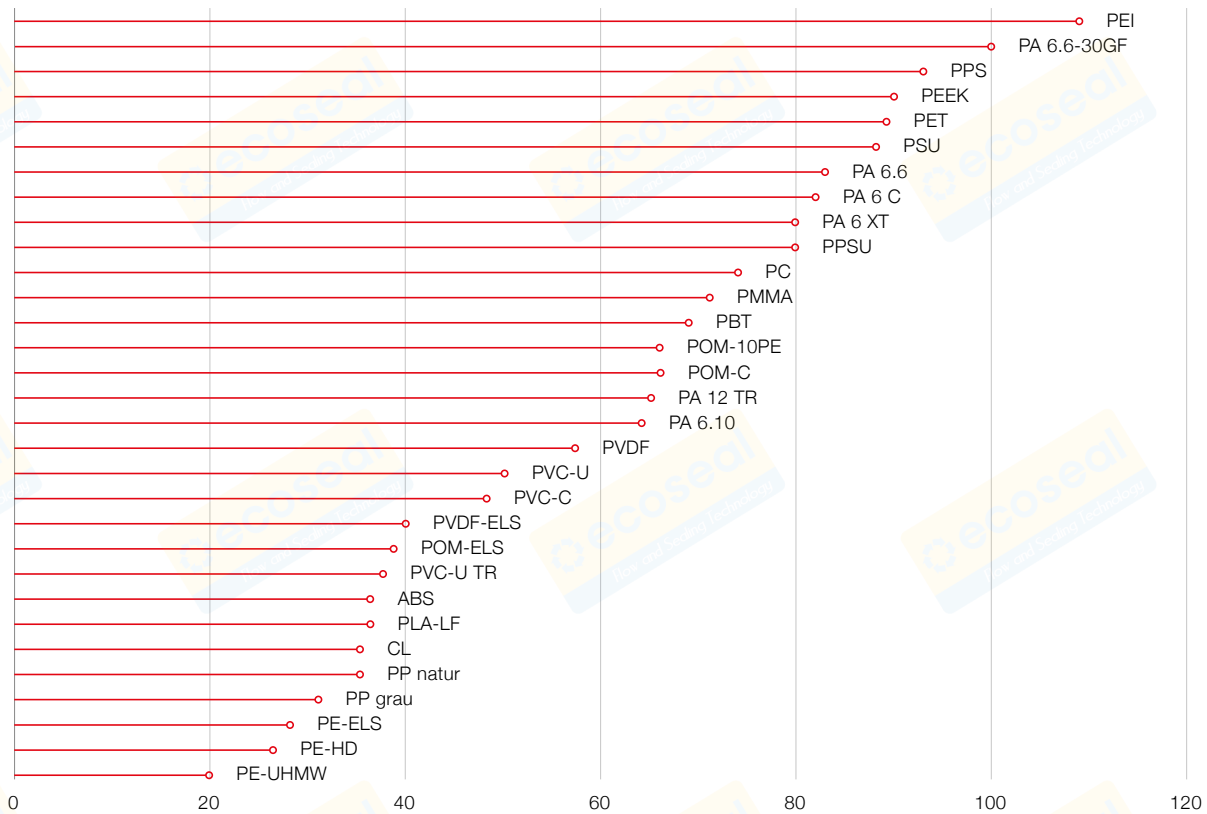
TECHNICAL
DATA

COMPARISON OF PLASTICS' TECHNICAL DATA

Modulus of elasticity (MPa 23 °C)

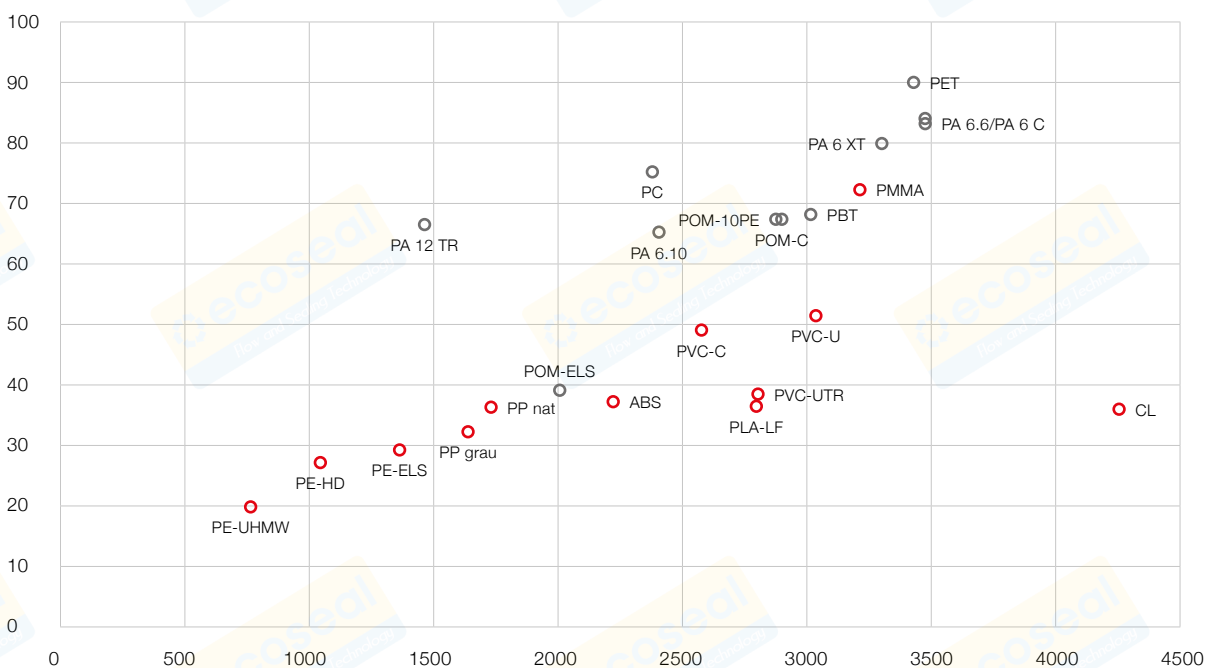


Tensile strength at yield (MPa)

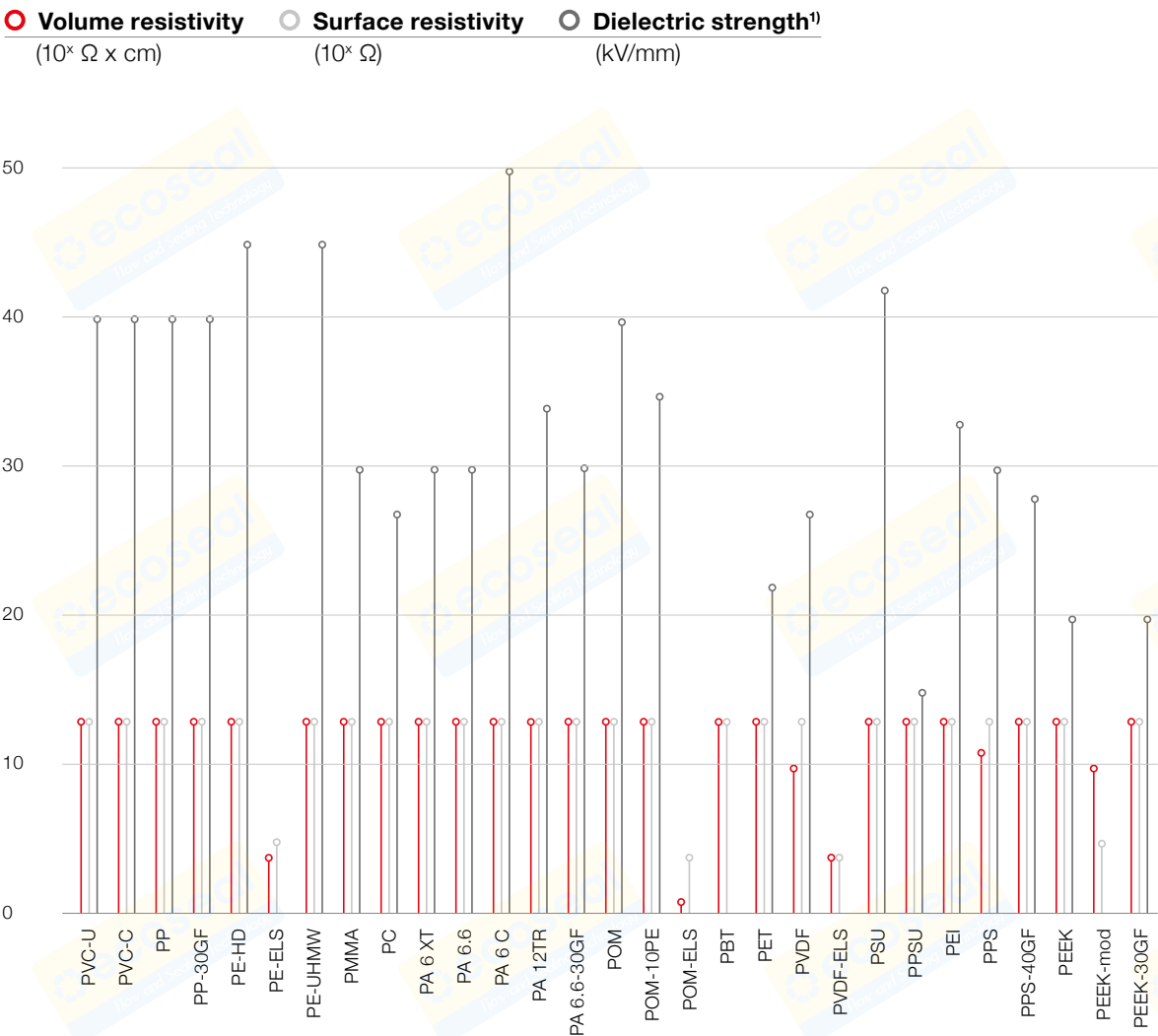


Modulus of elasticity versus tensile strength at yield (MPa)

○ Commodities ○ Engineering plastics



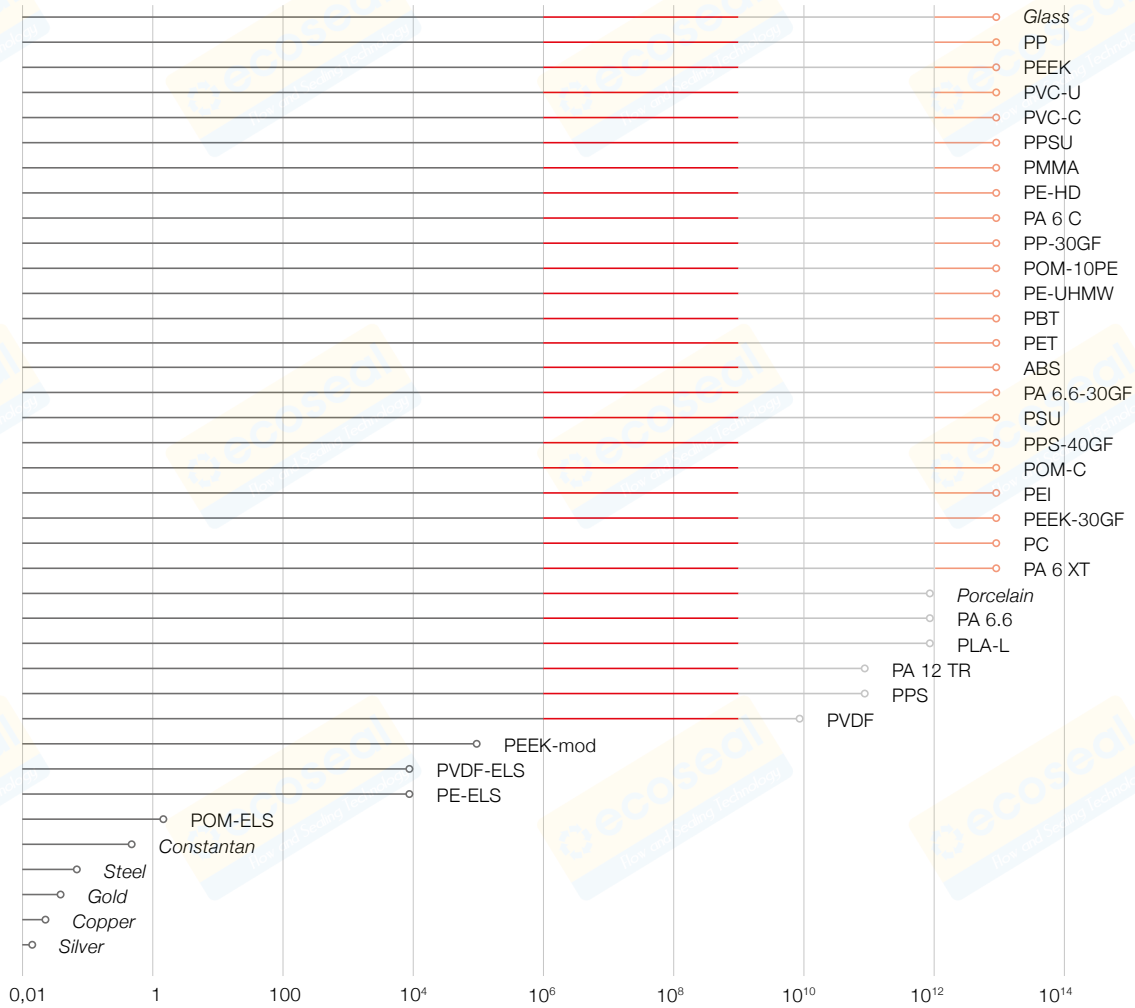
DATA COMPARISON OF ELECTRICAL PROPERTIES



¹⁾ Raw material measurement

Volume resistivity ($\Omega \times \text{cm}$)

○ conductive ● statically conductive ○ antistatically ○ isolating



FIL-A-GEHR®
FILAMENTS

ECO-GEHR®

PVC

PE-HD

PE-UHMW

PP

ABS

PMMA

PA

POM

PET

PBT

PC

PVDF

E-CTFE

PSU

PPSU

PEI

PPS

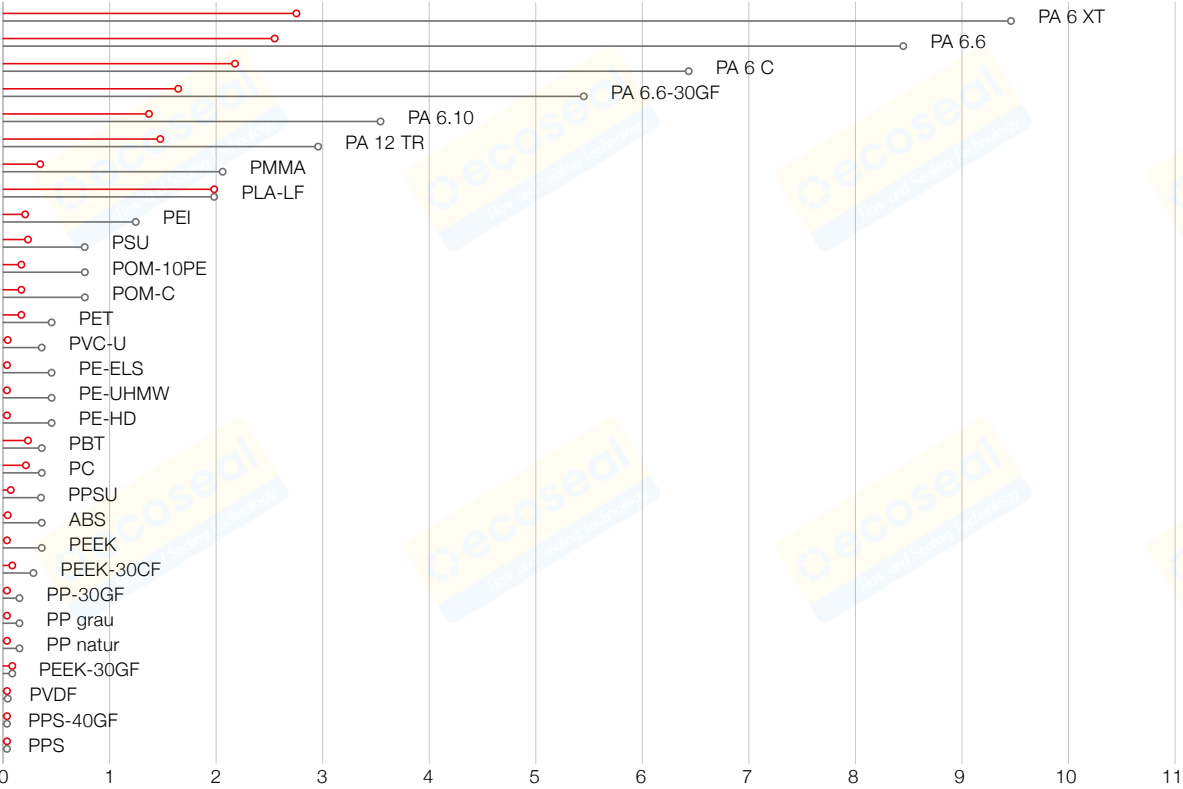
PEEK

ELS

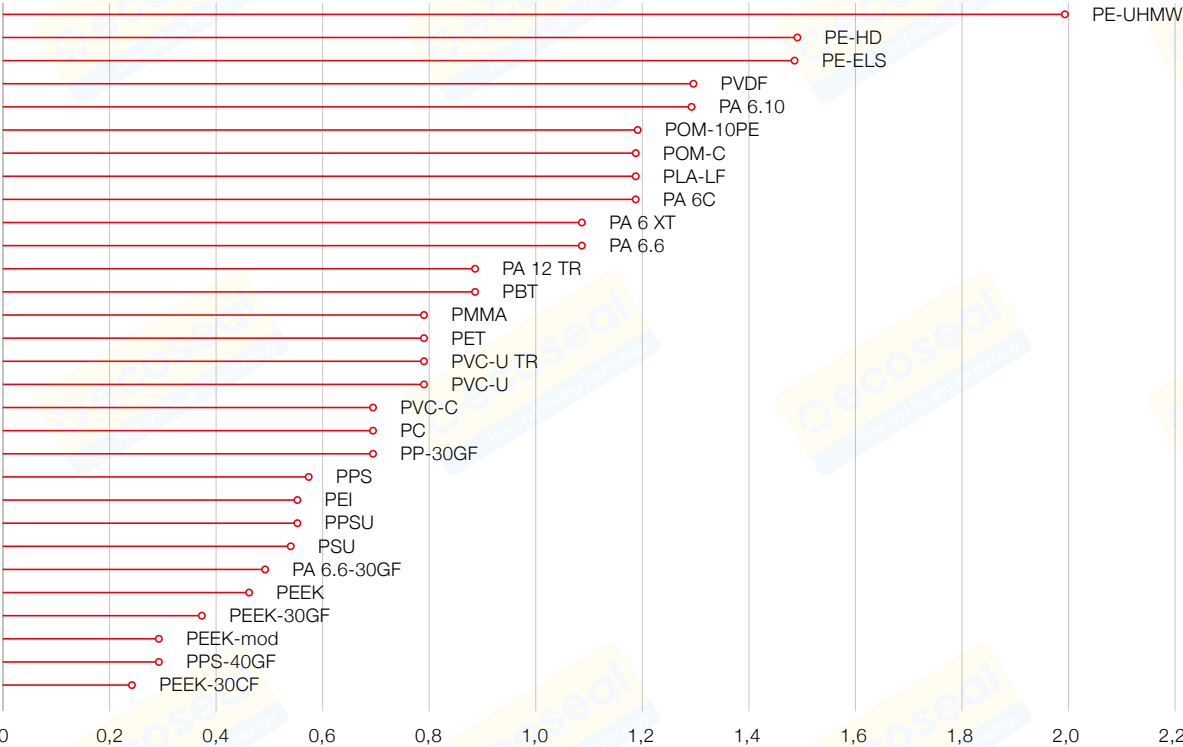
TECHNICAL
DATA

INFLUENCE PARAMETER AT PRODUCTION OF PRECISION PARTS

○ Humidity absorption (%) ○ Water absorption (%)

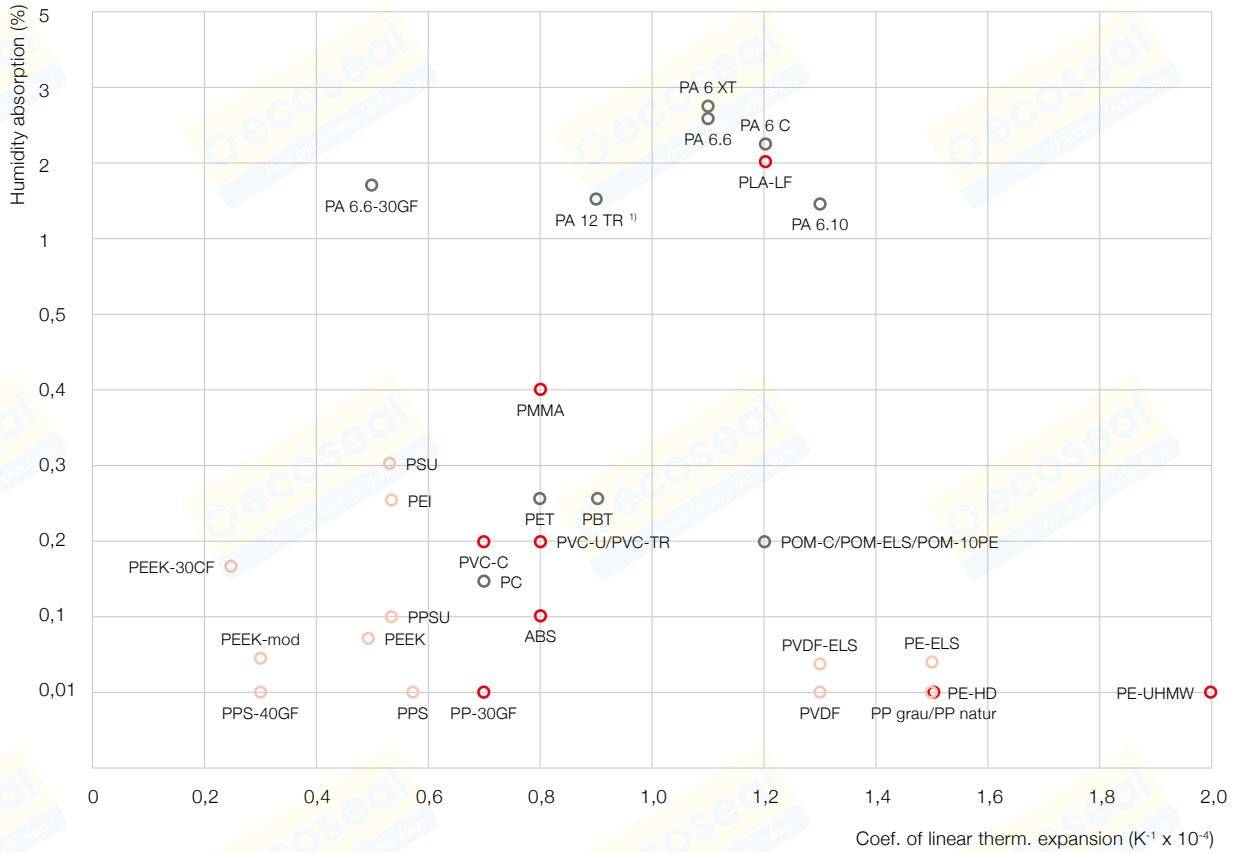


Coefficient of linear expansion ($10^{-4} \times K^{-1}$)



Linear expansion of the different materials in relation to the absorption of humidity

○ Standard Plastics ○ Engineering plastics ○ High Performance Materials



FIL-A-GEHR®
FILAMENTS

ECO-GEHR®

PVC

PE-HD

PE-UHMW

PP

ABS

PMMA

PA

POM

PET

PBT

PC

PVDF

E-CTFE

PSU

PPSU

PEI

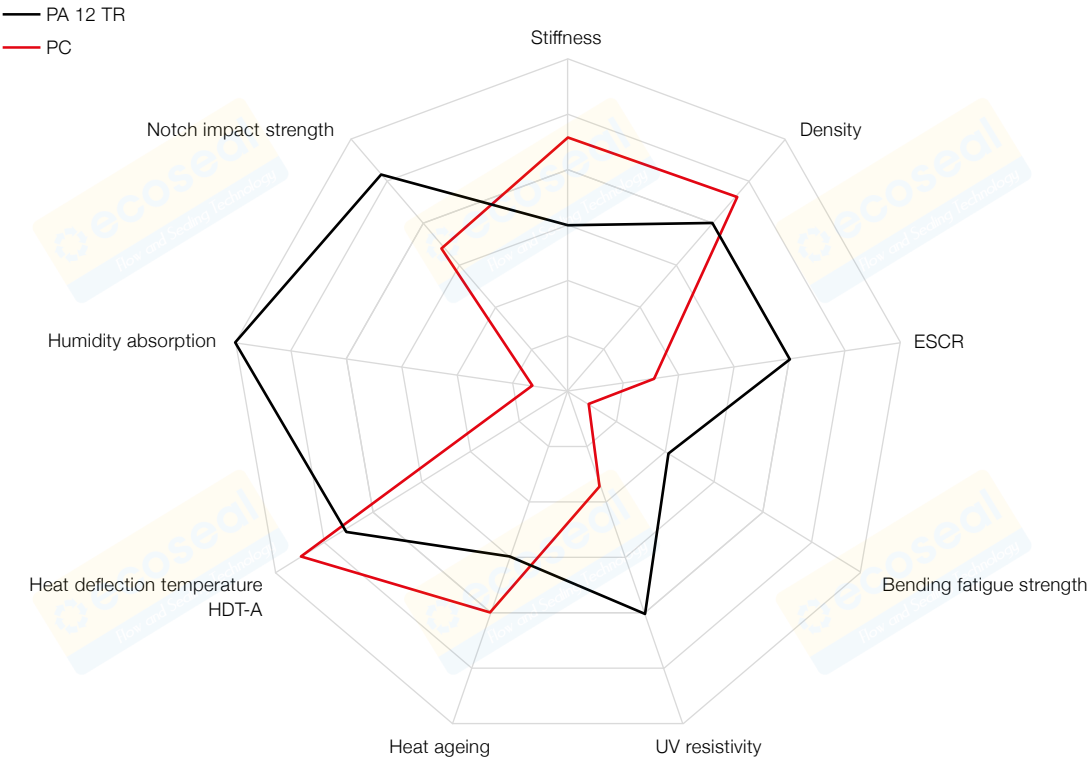
PPS

PEEK

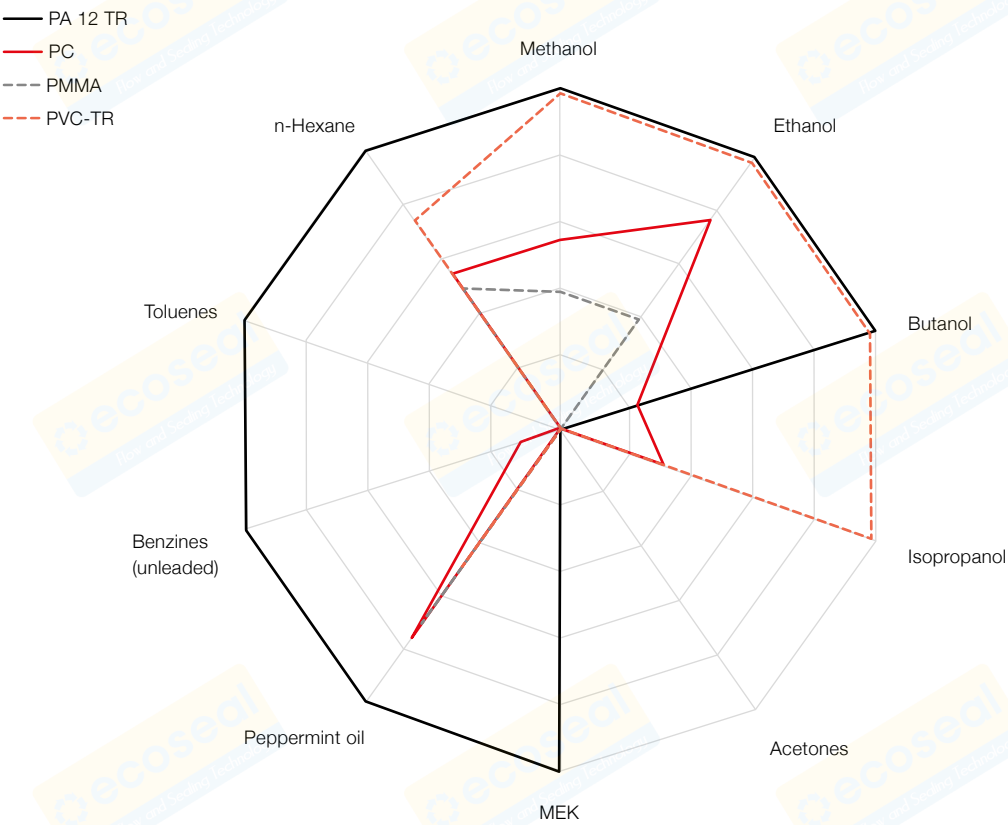
ELS

TECHNICAL
DATA

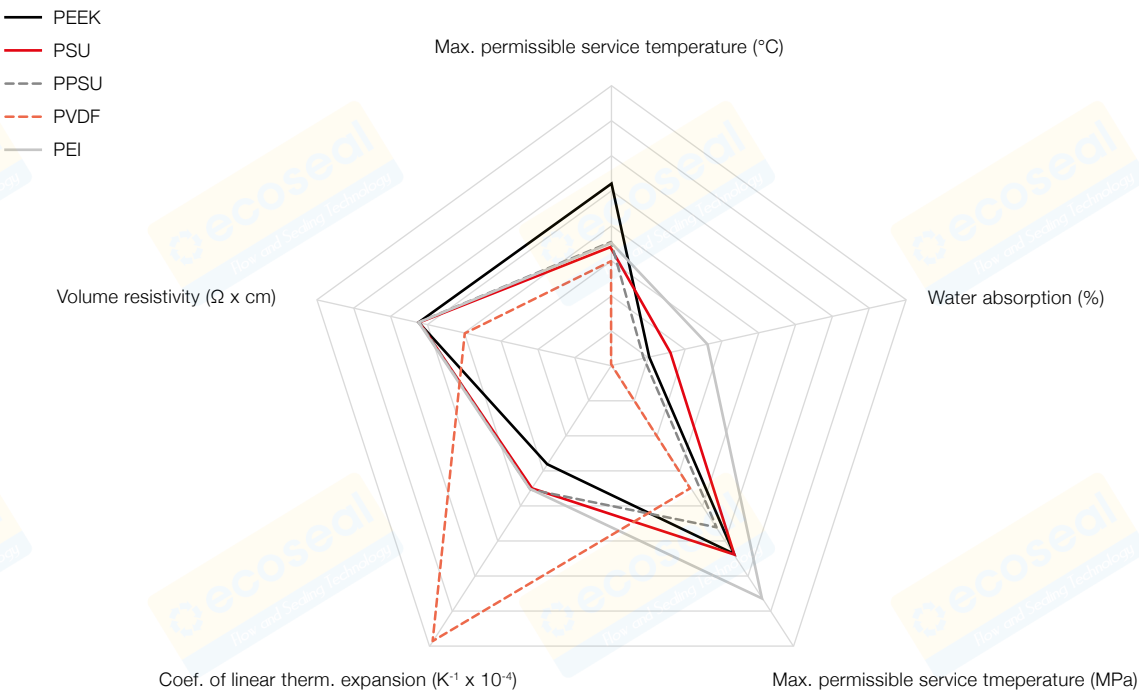
DATA COMPARISON OF TRANSPARENT MATERIAL



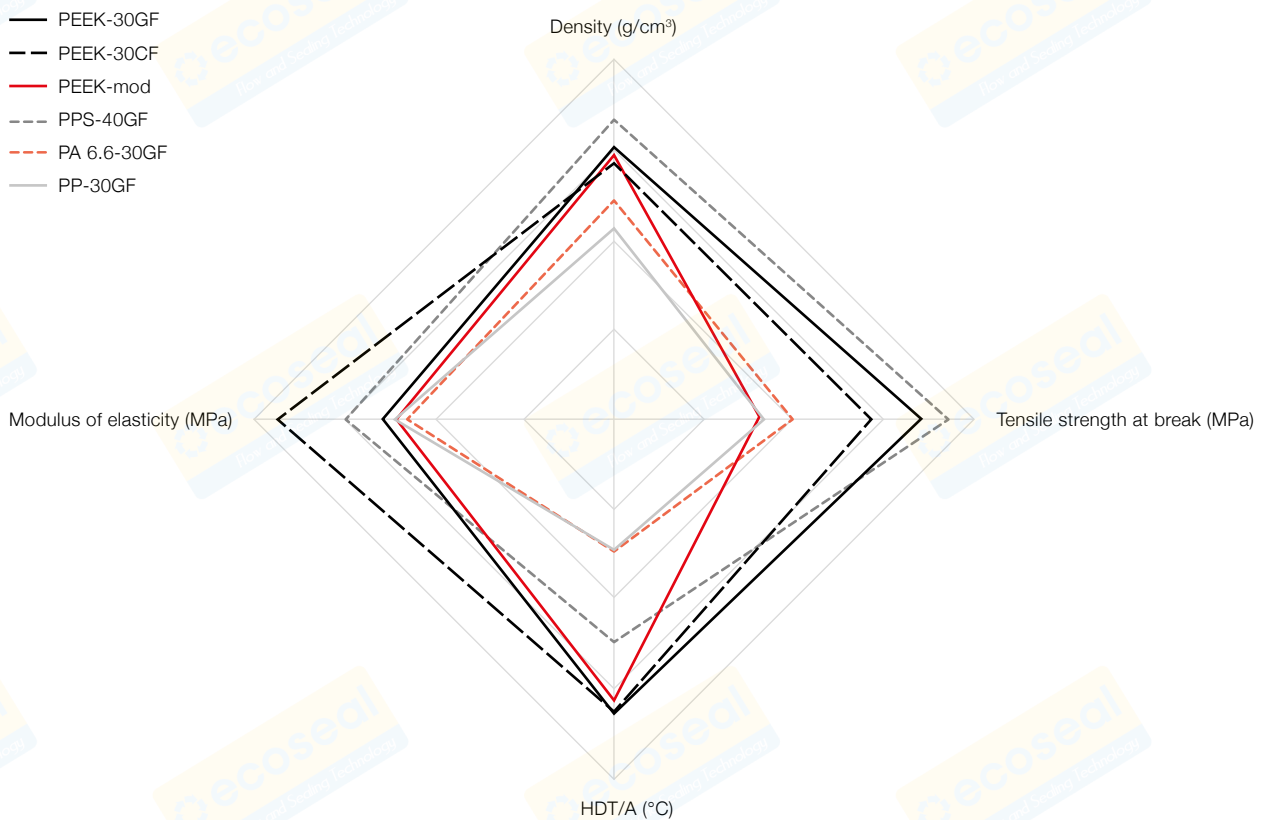
CHEMICAL RESISTANCE OF TRANSPARENT MATERIAL



DATA COMPARISON OF HIGH PERFORMANCE MATERIALS



DATA COMPARISON OF FIBRE REINFORCED THERMOPLASTICS



GEHR TECHNICAL PROPERTIES FOR STOCK SHAPES

Attribute of the used raw materials ¹⁾	Norm	Unit	PLA-LF	CL	WPC-PP	PVC-U	PVC-TR	PVC-C	PE-HD
			natural ⁹⁾	natural ⁹⁾	natural ⁹⁾	grey	trans-parent	light grey	natural
I. Physical Properties									
1. Specific gravity (ρ)	ISO 1183	g/cm ³	1,28	1,28	1,21	1,36	1,35	1,52	0,95
2a. Water absorption (saturation)	ISO 62	%	2	2,5		0,5	0,5	0,5	0,5
2b. Humidity absorption (saturation)	ISO 62	%	2	-		0,2	0,2	0,2	0,01
3a. Max. permissible service temperature	UL 746B	°C	60	65	85	60	60	85	90
3b. Lower permissible service temperature		°C	-	-	-	-15	-	-15	-50
II. Mechanical Properties									
1. Tensile strength at yield (σ _y)	ISO 527	MPa	37	36	-	51	38	49	27
2. Elongation at yield (ε _y)	ISO 527	%	2	1,1	-	3	-	5	18
3. Tensile strength at break (σ _R)	ISO 527	MPa	33	36	30	30	-	80	5
4. Elongation at break (ε _R)	ISO 527	%	3	1,2	1,6	≥ 10	110	15	≥ 70
5. Impact strength (α _n)	ISO 179	kJ/m ²	15	13	7,7	o.B.	-	o.B.	o.B
6. Notch impact strength (α _k)	ISO 179	kJ/m ²	3	3	-	3	-	27	20
7. Ball indentation hardn. (H _k)/Rockwell	ISO 2039	MPa	105 / -	-	-	120	-	150	-
8. Shore-D	ISO 868	-	77	-	75	82	79	90	69
9. Flexural strength (σ _{B 3,5 %})	ISO 178	MPa	-	-	-	90	-	76	22
10. Modulus of elasticity (E)	ISO 527	MPa	2800	4250	5180	3040	2800	2570	1040
III. Thermal Properties ⁹⁾									
1. Vicat softening temp. VST/B/50	ISO 306	°C	57	-	-	75	76	114	80
VST/A/50		°C	-	-	-	-	-	-	125
2. Heat deflection temperature HDT/B	ISO 75	°C	56	53	-	72	-	-	69
HDT/A		°C	-	-	-	-	-	105	-
3. Coef. of linear therm. expansion (α)	ISO 11359	K ⁻¹ •10 ⁻⁴	1,2	-	0,25	0,8	0,8	0,7	1,5
4. Thermal conductivity at 20 °C (λ)	ISO 22007-4	W/(m•K)	-	-	-	0,14	-	0,14	0,42
5. Glass transition temperature (T _g)	DIN EN ISO 3146	°C	120	-	-	80	-	110	-110
6. Melting temperature (T _m)	DIN EN ISO 3146	°C	120	-	150	80	-	110	130
IV. Electrical Properties									
1. Volume resistivity (ρ _p) ⁸⁾	IEC 60093	Ω•cm	-	-	-	≥ 10 ¹³	-	≥ 10 ¹³	≥ 10 ¹³
2. Surface resistivity (R _o) ⁸⁾	IEC 60093	Ω	-	-	-	≥ 10 ¹³	-	≥ 10 ¹³	> 10 ¹³
3. Dielectric constant at 1 MHz (ε _r)	IEC 60250		-	-	-	3	-	3	2,35
4. Diel. loss factor at 1 MHz (tanδ)	IEC 60250		-	-	-	0,01	-	0,01	0,0003
5. Dielectric strength	IEC 60243-1	kV/mm	-	-	-	40	-	40	45
6. Tracking resistance	IEC 60112	V	-	-	-	KB 600	-	KB 600	-
V. Additional Data									
1. Bondability			+	+	-	+	+	+	+
2. Physiological indifference according ⁵⁾	EEC		+	-	-	+	+	-	+
	FDA		+	-	-	+	-	NSF 61	+
3a. Flammability	UL 94	-	-	-	-	V-0 ⁷⁾	V-0 ⁷⁾	V-0	HB
3b. Limiting Oxygen Index (LOI)	ASTM D2863	%	-	-	-	47	-	65	18
4. UV stabilisation ⁶⁾			-	-	-	o	-	-	o



PE-ELS	PE-UHMW	PP	PP	PP-30GF	ABS	PMMA	PA 6 XT	PA 6 C	PA 6.6	PA 6.6-30GF	PA 6.10	PA 12 TR	POM-C	POM-10PE
black	natural	grey	natural	black	natural	trans-parent	natural	natural	natural	black	natural ⁹⁾	trans-parent	natural	light blue
1,00	0,93	0,91	0,9	1,14	1,04	1,19	1,13	1,15	1,14	1,29	1,08	1,00	1,39	1,34
0,5	0,5	0,2	0,2	0,2	0,4	2,1	9,5	6,5	8,5	5,5	3,6	3	0,8	0,8
0,04	0,01	0,01	0,01	0,01	0,1	0,4	2,8	2,2	2,6	1,7	1,4	1,5	0,2	0,2
90	90	100	100	100	70	70	100	105	100	110	100	100	100	100
-	-150	5	5	5	-50	-	-40	-40	-30	-20	-	-	-40	-40
29	20	32	36	-	37	72	80	83	84	100	65	66	67	44
13	20	16	9	-	7	-	10	-	7	-	4,5	6	22	9
10	40	28	-	85	33	-	54	-	-	100	-	45	65	-
55	≥ 50	≥ 30	≥ 70	3	8	8	> 50	≥ 50	≥ 70	5	-	≥ 50	28	10
o.B.	o.B.	o.B.	o.B.	40	333	20	o.B.	o.B.	o.B.	≥ 50	o.B.	o.B.	o.B.	30
> 5	≥ 140	50	9	9	37	-	7	4	-	6	5	13	6	4
55	38	-	67	110	73/R 105	-	155	165	165	170	-	90	165	-
66	≥ 63	77	76	85	70	90	80	83	83	85	80	83	83	79
24	27	-	-	120	67	-	100	≥ 100	110	-	85	-	-	-
1360	760	1635	1725	6000	2210	3215	3330	3470	3470	5000	2400	1470	2855	2160
83	80	91	90	130	103	103	-	-	-	-	-	-	150	-
-	-	-	150	160	-	-	204	-	-	-	-	-	-	-
-	65	96	90	155	100	100	190	-	200	250	140	135	155	-
-	42	45	54	140	88	95	75	-	100	150	65	115	95	120
1,5	2	1,5	1,5	0,7	0,8	0,8	1,1	1,2	1,1	0,5	1,3	0,9	1,2	1,2
-	0,41	-	-	0,27	-	0,19	0,32	0,23	0,35	0,32	-	-	-	0,3
-	-	10	10	-	145	106	60	40	47	50	-	155	-65	-60
190	133	160	165	-	145	106	220	220	260	260	220	155	166	164
≤ 10 ⁴	≥ 10 ¹³	≥ 10 ¹³	-	≥ 10 ¹³	-	≥ 10 ¹³	≥ 10 ¹³	≥ 10 ¹³	≥ 10 ¹³	≥ 10 ¹³	-	≥ 10 ¹¹	≥ 10 ¹³	≥ 10 ¹³
≤ 10 ⁵	≥ 10 ¹³	≥ 10 ¹³	≥ 10 ¹³	≥ 10 ¹³	≥ 10 ¹³	≥ 10 ¹³	≥ 10 ¹³	≥ 10 ¹³	≥ 10 ¹³	≥ 10 ¹³	≥ 10 ¹³	≥ 10 ¹³	≥ 10 ¹³	≥ 10 ¹³
-	3	2,3	-	2,6	-	2,8	3,7	3,7	3,6	3,6	-	-	3,8	3,8
-	0,001	0,0002	-	-	-	0,03	0,03	0,03	0,026/0,2	0,014	-	-	0,005	0,003
-	45	40	40	40	-	30	30	-	30 / 28	30	44	34	40	35
-	CTI 600	-	-	KB 600	-	CTI 600	CTI 600	-	CTI 600	CTI 475	CTI 600	CTI 600	CTI 600	CTI 600
+	-	+	+	+	+	+	+	+	+	+	+	+	-	-
-	+	+	+	-	-	+	+	+	+	-	-	+	+	+
-	+	+	+	-	+	+	+	+	+	-	-	NSF 61 ⁹⁾	+	+
HB	HB ⁷⁾	HB	HB	HB	HB	HB	HB ⁷⁾	HB ⁷⁾	HB ⁷⁾	HB ⁷⁾	-	HB	HB	HB
-	18	18	18	-	20	17	23	-	27	-	-	-	18	-
o	-	o	o	o	-	+	-	-	-	+	-	+	-	-

o.B. no break
+ yes
o limited
- no

1) The figures stated here are approximate values based on experience currently gathered by experts. They are determined on the basis of raw materials, so that a divergence of values on the ultimate product cannot be precluded. Any legally binding guarantee of certain properties, or any suitability for a specific application cannot be inferred from the present data.

2) Pretreatment necessary

3) 65 (round rods 160 – 200 mm Ø) 57 (round rods 220 – 300 mm Ø)

4) 59 (round rods 160 – 200 mm Ø) 51 (round rods 220 – 300 mm Ø)

POM-ELS	PET	PBT	PC	PVDF	PVDF-ELS	E-CTFE	PSU	PPSU	PEI	PPS	PPS-40GF	PEEK	PEEK-mod
black	natural	natural	trans-parent	natural	black	natural	natural	black	natural	natural	black	natural	black
1,38	1,39	1,33	1,2	1,78	1,78	1,71	1,24	1,31	1,27	1,35	1,65	1,32	1,45
0,8	0,5	0,4	0,4	0,04	0,1	0,7	0,8	0,4	1,3	0,02	0,02	0,4	0,3
0,2	0,25	0,25	0,15	0,01	0,04		0,3	0,1	0,25	0,01	0,01	0,07	0,04
110	100	100	120	150	150	150	160	170	170	230	230	260	260
-50	-20	-60	-60	-30	-30	-76	-100	-50	-	-	-	-40	-
39	90	68	75	58	40	30	89	80	110	94	83	91	85
11	4	8	3	17	9	5	5	7	6	-	-	7	7
37	-	61	-	46	-	47	-	-	85	88	185	67	83
11	15	15	75	29	≥ 20	250	≥ 10	≥ 50	≥ 30	8	4	11	7
-	³50	231	o.B.	o.B.	-	o.B.	170	o.B.	115	28	26	o.B.	30
7,5	2	3	9	12	8	o.B.	-	13	-	-	-	4	5
-	170/M 96	156	128	120	-	R 90	167	141	220/M 109	246/M 90	343/M 100	250/M 99	215
84	84	-	85	80	76	69	84	86	87	88	90	90	85
-	-	82	-	80	-	54	-	105	165	143	145	170	140
2005	3445	3005	2370	2125	1600	1845	2680	2350	3450	3700	7630	4210	5920
-	-	219	-	138	-	-	-	-	211	-	-	250	-
-	-	200	-	160	-	-	-	-	215	-	-	-	-
-	-	170	140	145	-	82	181	214	200	-	-	240	-
82	80	58	135	104	-	78	169	207	190	115	260	158	315
1,2	0,8	0,9	0,7	1,3	1,3	0,9	0,55	0,56	0,56	0,58	0,3	0,47	0,3
-	0,29		0,21	0,13	-	0,15	0,25	0,35	0,24	0,25	0,25	0,25	0,82
-60	98	50	150	-40	-	85	188	220	217	97	90	143	146
166	245	223	150	171	-	230	188	220	217	280	280	340	341
≤ 10¹	³10¹³	³10¹³	³10¹³	³10¹⁰	≤ 10⁴	³10¹³	³10¹³	³10¹³	³10¹³	³10¹¹	³10¹³	³10¹³	≤ 10¹⁰
≤ 10⁴	≥ 10¹³	≥ 10¹³	≥ 10¹³	≥ 10¹³	≤ 10⁴	≥ 10¹²	≥ 10¹³	≥ 10¹³	≥ 10¹³	≥ 10¹³	≥ 10¹³	≥ 10¹³	≤ 10⁵
-	3,2	-	3	7	-	2,6	3,1	3,4	2,9	3,2	4	3,2	-
-	0,014	-	0,006	0,24	-	-	0,0055	-	0,0013	-	0,004	0,003	-
-	22	-	27	27	-	15	42	15	33	30	28	16	-
-	CTI 600	-	-	CTI 600	-	CTI 600	CTI 125	CTI 125	CTI 125	CTI 125	CTI 125	CTI 125	-
-	+	+	+	o ²)	o	o ²)	+	+	+	+	+	+	o
-	+		+	-	-	-	+	+	+	+	+	+	-
-	+		+	+	-	-	+	-	-	+	+	+	-
-	HB	HB ⁷)	HB	V-0	-	V-0	V-0 ⁷)	V-0 ⁷)	V-0 ⁷)	V-0	V-0	V-0	V-0
-	25	24	25	44	-	52	32	38	47	47	-	35	-
-	o/-	+	-	+	+	+	-	+	+	o	o	o	+

5) Conformance to the requirements regarding physiological harmlessness generally applies to natural colour material and has in some cases been determined for the raw materials. Certifications for our semi-finished products are also available or in preparation. Please contact us for clarification.
6) Valid for nature coloured materials. An additional UV protection can be taken over by special pigments e.g. carbon black.
7) Test results without UL registration

8) Data are only valid for natural colours
9) Data taken from raw material
10) Self-assessment without test certificate



IN COMPARISON ¹⁰⁾

PEEK-30GF	PEEK-30CF
natural	black
1,51	1,4
0,3	0,35
0,04	0,16
260	260
-	-20
105	122
3	7
180	122
2,7	7
32	50
8	5
315	312/M 102
90	92
164	193
6380	6800
-	-
-	-
-	-
328	336
0,38	0,25
0,35	0,9
147	143
341	343
³ 10 ¹³	≤10 ⁵
≥ 10 ¹³	≤10 ⁵
3,2	-
0,005	-
20	-
-	-
+	+
-	-
-	-
V-0	V-0
43	40
o	o

PTFE	PAI	PI	Steel	Alu	Attribute of the used raw materials ¹⁾
natural	natural	natural	natural	natural	
2,18	1,41	1,43	7,85	2,7	I. Physical Properties
≤ 0,05	2,5	≤ 3,0	0	0	1. Specific gravity (ρ)
≤ 0,01		≤ 0,32			2a. Water absorption (saturation)
260	250	300	600	100	2b. Humidity absorption (saturation)
-	-50	-	-	-	3a. Max. permissible service temperature
					3b. Lower permissible service temperature
25	150	-	185	85	II. Mechanical Properties
-	-	-	-	35	1. Tensile strength at yield (σ _y)
-	-	86	310	-	2. Elongation at yield (ε _y)
> 50	20	7,5	18	14	3. Tensile strength at break (σ _R)
o.B.	o.B.	-	-	-	4. Elongation at break (ε _R)
-	15	-	-	-	5. Impact strength (α _I)
30 / -	200/M 120	-	-	-	6. Notch impact strength (α _K)
-	-	-	-	-	7. Ball indentation hardn. (H _K)/Rockwell
-	-	-	110	-	8. Shore-D
700	4200	3275	210000	70000	9. Flexural strength (σ _{B 3,5 %})
					10. Modulus of elasticity (E)
-	-	-	-	-	III. Thermal Properties ⁹⁾
-	-	-	-	-	1. Vicat softening temp. VST/B/50
-	-	-	-	-	VST/A/50
121	-	-	-	-	2. Heat deflection temperature HDT/B
55	280	360	-	-	HDT/A
1,2-2	0,3	0,54	0,12	0,24	3. Coef. of linear therm. expansion (α)
0,25	0,26	0,35	40-60	140-160	4. Thermal conductivity at 20 °C (λ)
-	-	-	-	-	5. Glass transition temperature (T _g)
-	-	-	-	-	6. Melting temperature (T _m)
³ 10 ¹³	³ 10 ¹³	³ 10 ¹³	-	-	IV. Electrical Properties
≥ 10 ¹³	≥ 10 ¹³	≥ 10 ¹³	-	-	1. Volume resistivity (ρ _p) ⁸⁾
2,1	3,9	3,55	-	-	2. Surface resistivity (R _s) ⁸⁾
0,0002	0,031	0,0034	-	-	3. Dielectric constant at 1 MHz (ε _r)
48	24	22	-	-	4. Diel. loss factor at 1 MHz (tanδ)
KB 600	-	-	-	-	5. Dielectric strength
					6. Tracking resistance
-	+	+	-	-	V. Additional Data
-			-	-	1. Bondability
-			-	-	2. Physiological indifference according ⁵⁾
V-0	V-0	V-0	-	-	3a. Flammability
-	-	-	-	-	3b. Limiting Oxygen Index (LOI)
+	+	+			4. UV stabilisation ⁶⁾



GEHR CHEMICAL RESISTANCE*

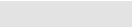
		PVC-U		PE-HD		PE-UHMW		PP		ABS		PMMA		PA 6 XT	
Konz. (%)		RT	60	RT	60	RT	60	RT	60	RT	60	RT	60	RT	60
Acetic acid	100	+	-	+	o	+		+	o	-	-	-	-	-	-
Acetone	100	-	-	+	+/o	+	+/o	+	+/o	-	-	-	-	o	o
Ammonium chloride		+	o	+	+	+	+	+	+	+				+	o
Amyl alcohol		+	o	+	+	+	+	+	+	+	-	-	-	+	
Apple juice		+	+	+	+	+	+	+	+	+	+	+		+	
Benzene		-	-	+/o	o/-	+	+/o	o	-	-	-	-	-	+	+
Bleaching solution	12,5 cl	+	-	o	-			o	o					-	-
Boric acid	100	+	o	+	+	+	+	+	+					o/-	o/-
Brake fluid		+	+	+	+	+	+	+	+	-	-			+	+
Butyl acetate		-	-	+	o	+		o	-	-	-	-	-	+	
Calcium chloride		+	+	+	+	+	+	+	+	+	+	+	+	+	+
Carbon disulphide	100	-	-	o	-			o	-	-	-	-	-	+	-
Carbon tetrachloride		-	-	o/-	-			-	-	-	-	-	-	+	
Chlorine, gas	100	o	-	o	-	-	-	-	-	-	-	o	o/-	-	-
Chlorobenzene	100	-	-	o	-			+	o/-	-	-			+	
Chloroform		-	-	o/-	-			o	-	-	-	-	-	-	-
Citric acid	10	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Cresol		-	-	+	+	+	+	+	+	-	-	-	-	-	-
Cyclohexanone	100	-	-	+	+/o	+		+	o/-	-	-	-	-	+	
Cyclohexene	100	+	o	+	+	+	+	+	+	+		-	-	+	
Diesel fuel		+		+	+	+	+	+	+	+		+		+	+
Diethylene oxide, THF		-	-	+	o			o	o/-			-	-	+	
1,4 Dioxane	100	-	-	+		+		o/-	o/-	-	-			+	+
Ethyl acetate	100	-	-	+	+/o	+		+	+/o	-	-	-	-	+	
Ethyl alcohol	96	+	o	+	+	+	+	+	+	+	+	+/o	-	+	+
Ethylene chloride	100	-	-	+/o	o/-			+/o	o/-	-	-	-	-	+	+
Food oil		+	+	+	+	+	+	+	+	+				+	
Formaldehyde, agu	40	+	+	+	+	+	+	+	+	+	o	+		+/o	o/-
Formic acid	10	+	o	+	+	+	+	+	+	+	+	-	-	-	-
Frost protection agent		+	+/o	+	+	+	+	+	+	+				+	+
Fuel, aromatic free		+	+/o	+/o	+/o	+/o	+/o	+/o	+/o	+/o	o/-	+		+	+
Fuel, premium		-	-	+	+	+	+	+	+	+	-	-	-	+	+
Glycerin	100	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Glycol	100	+	+	+	+	+	+	+	+	+		+		+	o
Heating oil		+	+	+	+	+	+	+	+/o	+	+	+	+	+	+
Heptane	100	+	+	+	+/o	+	+/o	o	o	+		+		+	
Hydroaen sulphide		+	+	+	+/o	+		+	+	+		+		+	
Hydrochloric acid	10	+	+	+	+	+	+	+	+	+	o/-	+		-	-
Hydrochloric acid	konz.	+	+	+	+	+	+	+	+/o	+/o	-	+		-	-
Hydrofluoric acid	40	+	o	+	o	+		+	+	o	o/-	-	-	-	-
Hydrogen peroxide	10	+	+	+	+	+	+	+	+	+	+	+	+	+/o	-
2-Hydroxypropionic acid	90	+	+	+	+	+	+	+	+	+/o	o/-			-	-
Isopropyl alcohol	100	+		+	+	+	+	+	+	o	-	+/o	o/-	+	+
Linseed oil		+	+	+	+	+	+	+	+	+	+	+	+	+	+
Mercurochrome		o	-	+	+/o	+		+	o	o	o/-	-	-	-	-
Methyl alcohol	100	+	+/o	+	+	+	+	+	+	+	o	-	-	+	
Methylene chloride	100	-	-	o/-	-	o/-	-	o/-	-	-	-	-	-	o	o
Methyl ethyl ketone	100	-	-	+	-	+		+	o	-	-	-	-	+	
Milk		+	+	+	+	+	+	+	+	+	+	+		+	+
Mineral oils (aromatic free)		+	+	+	+/o	+	+	+	+/o			+		+	+
Nitric acid	10	+	+	+	+	+	+	+	+	+		+	+	-	-
Nitric acid	50	+	+	o	o/-	o	o/-	-	-	+/o	-	-	-	-	-
Nitrobenzene		-	-	+	+/o	+		+	+/o	-	-	-	-	o	o/-
Oxalic acid		+	+	+	+	+	+	+	+	+	+	+		o	o/-
Ozone, gas	kl. 0,5 ppm	+	+	+/o	-	+/o	-	-	-	+	+	+		-	-
Paraffine oil	100	+	o	+	+	+	+	+	+	+	+	+		+	+
Perchloroethylene		-	-	o	-	o	-	o	-	-	-	o	o/-	o	-
Petroleum ether (surgical spirit)	100	+	+	+	o	+	o	+	o	-	-	+		+	
Petroleum	100	+	+							o	o/-	o	o/-	+	
Phenol, agu	ca. 9	o	-	+	+	+	+	+	+	o	o/-	-	-	-	-
Phosphoric acid	50	+	+	+	+	+	+	+	+	+	+	-	-	-	-
Potassium hydroxide liquor	50	+	+	+	+	+	+	+	+	+	+/o	+		o	o/-
Propyl alcohol		+	o	+	+	+	+	+	+	+	-				
Pyridine		-	-	+	+/o	+		+	+	-	-			+	o
Silicone oil		+	+	+	+	+	+	+	+	+		+		+	+
Sodium carbonate, agu		+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sodium chloride, agu		+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sodium hydrodgen sulphite		+	+	+	+	+	+	+	+	+		+		+	
Sodium hydroxide liquor	15	+	+	+	+	+	+	+	+	+	+	+			
Sodium hydroxide liquor	60	+	+	+	+	+	+	+	+	+		-	-	o	o/-
Sodium nitrate, agu		+	+	+	+	+	+	+	+	+	+			+	
Sodium thiosulfate		+	+	+	+	+	+	+	+	+	+	+		+	
Sulphuric acid	96	+	+/o	o	-	o	-	o/-	-	-	-	-	-	-	-
Tetrahydrofurane	100	-	-	o/-	-			o/-	o/-	-	-	-	-	+	
Toluene	100	-	-	o/-	-			+	-	-	-	-	-	+	+
Transformer oil		+		+	+/o	+	+	+	+/o	+	o/-	+		+	+
Trichloroethylene	100	-	-	+/o	-			o	-	-	-	-	-	+	-
Vinegar standard	5-10	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Water		+	+	+	+	+	+	+	+	+	+	+	+	+	+
Xylene		-	-	-	-	-	-	-	-	-	-	-	-	+	+

* The figures indicated here are approximate values. They may be affected by the temperature, operating time, concentration and stress level of the component involved, by mechanical loads, etc., and the user is not released therefore from the obligation of performing checks and trials of his own. The values indicated here have been compiled on the basis of current experiences and findings. Any legally binding guarantee of certain properties, or any suitability for a specific application cannot be inferred from the present data.

+ resistant o partly resistant - non-resistant

PA 6.6		PA 12 TR		POM		PET		PBT		PC		PVDF		E-CTFE		PSU		PPSU		PEI		PPS		PEEK	
RT	60	RT	60	RT	60	RT	60	RT	60	RT	60	RT	60	RT	60	RT	60	RT	60	RT	60	RT	60	RT	60
-	-			0	-	-	-	-	-	-	-	+	0	+	+	+	+			-	-	+	+	+	+
0	0	o/-	-	+	0	0	-			-	-	+ / o	-	+	+	-	-	-	-	-	-	+	+	+	+
+	+	+	+	+	0	+	+	+		+	+	+	+	+	+	+				+	+	+	+	+	+
+		o/-	-	+		+				+		+	+	+	+	0								+	+
+	+	+	+	0		+	+	+		0	0	+	+	+	+					+				+	+
+	+	+	+	+	+	+	-	+	-	-	-	+	0	+	0	-	-	0	0	-	-	+	+	+	+
o/-	o/-	o/-	-	o/-	-		0		0	-	-	+	o/-	+	+									+	+
+	+	+	o/-	o/-	+	+	+	+		+	-	+	+	+	+	0				+	-	+	+	+	+
+		+		+	0	+	+	0		-	-	+	-	+	+	+	+	+	+ / o			+	+	+	+
+	+	+		+	+	+	+	+		+	+	+	+	+	+	+	+			+	+	+	+	+	+
+	-	+		+	+	+	0			-	-	+		+	+	+	+			+	+	+	+	+	+
+	+	+		+	0	+	0	+		-	-	+	+	+		0	-					+	0	+	+
-	-	-	-					-	-	0	o/-	+	+	+	+									+	+
+		0	o/-	0	0	-	-	+	-	-	-	+	+	+	+	-	-			+		+ / o	0	+	+
0	o/-	-	-	-	-	-	-	-		-	-	+	+	+	+	-	-			+		+ / o	0	+	+
0	+	+		0	-	+	0	+	0	+	+	+	+	+	+	+	+	+		+	+			+	+
-	-	-		+				-	-	-	-	+	+		0										o/-
+	+	+	+	+	+	+	+	+	+	0	o/-	+	+	+	+	+	+			+	+	+	+	+	+
+	+	+	+	+	+	+	+	+	+		-	+	+		+		+					+	+	+	+
+	+	0	o/-	0	0	0	o/-	+	-	+ / o	-	0	-	+	+					+		+	+	+	+
+	+	+		0	0	+ / o	-			-	-	+	0			-	-			+		+	+	+	+
+	+	-	-	+	0	+	+	+		+ / o	0	+	+		+	+	+	+	+	+		+	+	+	+
+		-	-			o/-					-	+	+	+	+					+		+	+	+	+
+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+				+	+			+	+
+ / o	o/-	0	o/-	+	+		+	+		+	+	+	+	+	+			+		+				+	+
-	-	0	o/-	0	-	+	0	+	0	+		+	+	+	+	-	-			+		+	+	+	+
+	+			+		+	0	-	-	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+
+	+	+	+	+	+	+	+	+	+	0	o/-	+	+	+	+	+	+	+	+	+	+	+	+	+	+
+	+	+	+	+	+	+	+	+	+		-	+	+	+	+	+	+	+	+	+	+	+	+	+	+
+	+	+		+	0	+	+	+		+ / o	0	+	+	+	+	+			+		+	+	+	+	+
+	0	+	+	+	+	+	0			+	+	+	+	+	+	+			+		+		+	+	+
+	+		+	+	+	+	+	+		0	o/-	+	+	+	+	+	+	+	+	+	+	+	+	+	+
+	+	+		+	+	+	+	+		+	+	+	+	+	+	+			+		+		+	+	+
-	-	0	o/-	-	-	+	o/-	+		+	+	+	+	+	+	+	+	+	+	+		+	o/-	+	+
-	-	-	-	-	-	-	-	o/-		o/-	-	+	+	+	+	o/-	o/-			+	-	-	+	+ / o	+
-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	0	o/-					-	-	+	+
+ / o	-	-	-	+	-	+	0	+		+	+	+	+	+	+	+	0	o/-					-	-	+
-	-	-	-	+	-			+		+		+ / o	0											+	+
+	+	-	-	+	+	+	0	+	0	0	o/-	+	+			+ / o	o/-	+				+		+	+
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			0	0	+	+	+	+	+	+
+	+	+	+	+	+	+	+	+	+		-	+	+	+	+	+	+	+	+	+	+	+	+	+	+
+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
-	-	-	-	-	-	+	o/-	+	+ / o	0		+	+	+	+	+	+	+	+	+	+	+	o/-	+	+
-	-	-	-	-	-	-	-	0		-	-	+	+	+	+					-	-	-	-	+	0
0	o/-	0	o/-	0	o/-			+		-	-	+	0			+								+	+
0	o/-	+		-				+		+	-	+	0	+	+	+								+	+
-	-	-	-	-	-			+		0	o/-	+	+	+	+									+	0
+	+	+	+	+	+	+	+	+		+	+	+	+	+	+			+		+				+	+
0	-	+		+	0	+ / o	-	0	-	0	-	+	+			-	-					+	0	+	+
+	+	+		+	+	+	+	+		0	o/-		+											+	+
+	+	+		+	+	+	+	+		0	-	+	+											+	+
-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+							+	0	+	+
-	-	-	-	-	-	+	0	-	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+
0		+		0		-	-	-	-	-	-	+	+							-				+	+
+	0	0	o/-							+	-	+	+	-						-	-			+	+
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			+	+			+	+
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+	+	+		+	0	-	-	-	-	-	-	+	+			+	+					+	+	+	+
0	o/-			0	o/-	-	-	-	-	-	-	+	0			+						o/-	o/-	+	+
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+	+	+		+	+	+				+	+	+	+	+	+									+	+
-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	-	-			o/-	-	+ / o	+ / o	-	-
+		0	o/-	0	0	-	-	+		-	-	0	-	-	-					+		+	0	+	+
+	+	+		+	+	+ / o	-	+	-	-	-	+	+ / o	+	+	-	-	0	o/-	+ / o	o/-	+ / o	0	+	+
+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
+	-	0	o/-	0	o/-	0	-	-	-	-	-	+	+	+	+	-	-			+	+	+	-	+	+
+	+	+	+ / o	+	+	+	0	+		+	+	+	+	+	+	+	+	+	+	+	+ / o			+	+
+	+	+	+	+	+	+	+	+	o/-	+	+ / o	+	+	+	+	+	0	+	0	+	+ / o	+	+ / o	+	+
+	+	+		+	+	0	-	0	-	-	-	+	+ / o	+	+	-	-	+			+	+ / o	+	+	+

NOTES ON GEHR-DELIVERY PROGRAMME



Stock item

(Product available from stock shipped from Germany)



Custom extrusion on request

(Product can be produced on customer's request and based on minimum order quantity)



Stock FIL-A-GEHR®



Stock item USA

(Product available from stock shipped from USA)

All weights specified are based on average production weights. As a rule these are the invoiced weights, only High Performance Materials and welding rods will partially be invoiced by actual weight.

Following DIN norms are being used for semi-finished materials:

- » Round Rods, Sheets, Hollow Bars: DIN EN 15860
- » Welding Rods: according to DVS 2211

Tolerances which are not mentioned can be offered on request.

The current version of our General Terms and Conditions can be found on our website www.gehr.de.

We reserve the rights to make modifications and errors. Values are dependent on the diameters and can deviate.

GEHR makes no representations or warranties regarding the technical statements in this brochure. Desired capability characteristics are only binding if there is an explicit agreement when the contract is concluded.