PLASTICS ENGINEERED BY GEHR

FIL-A-GEHR®

Filaments for professional 3D printing

PC

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FIL-A-GEHR PC® is a polycarbonate filament with high heat resistance and high impact strength. The polycarbonate has been optimized for the 3D printing process.

FEATURES OF FILAMENTS MADE BY GEHR

» Highest precision in diameter and roundness
» Filaments made of high-quality raw materials
» Compatible with all open-system 3D printers
» Low-emission and odour free
» Void-free
» Good layer adhesion
» Ideal flow behaviour while printing
» Carefully spooled and packed in easy to use aluminium-laminated resealable zip bags

PRODUCT RANGE

diameter	1 kg spool (~2,2 lbs)
1.75 mm 0.07''	⊕
2.85 mm 0.11''	⊕

Colours: ⊕ natural

DISTINCTIVE FEATURES FIL-A-GEHR PC®

» Heat deflection temperature approx. 135°C
» High mechanical strength
» High dimensional stability
» Low water absorption
» High notch impact strength values
» Post-processing possible (e.g. drilling, sawing, …)
» Pressure nozzle temperature 260-280°C
» Printing plate temperature 110°C

TYPICAL APPLICATIONS

» Protective covers
» Tool handles
» Lamps housing

GEHR, Specialist In Plastics – Premium Quality Since 1932

We extrude thermoplastic semi-finished materials and rank amongst the global leading producers of technical semi-finished products. FIL-A-GEHR® expands our product range with plastic filaments for 3D printers. GEHR produces the filaments in Mannheim and has been representing innovation and premium quality since 1932.

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TECHNICAL DATA FIL-A-GEHR PC®

Properties	Parameters	Units	Values
General Properties			
Specific gravity (ρ)	ISO 1183	g/cm³	1.20
Water absorption	ISO 62	%	0.3
Moisture	ISO 62	%	0.15
Maximum permissible service temperature	UL746B	°C	130
Lower permissible service temperature	UL746B	°C	-100
Mechanical Properties			
Tensile strength at yield (σ_S)	ISO 527	MPa	66
Elongation at yield (ε_S)	ISO 527	%	6.3
Tensile strength at break (σ_R)	ISO 527	MPa	70
Elongation at break (ε_R)	ISO 527	%	125
Impact strength (a_n)	ISO 179	kJ/m²	no break
Notch impact strength (a_k)	ISO 179	kJ/m²	-
Ball indentation (H_k) / Rockwell hardness	ISO 2039-1	N/mm²	115
Shore-D	ISO 868		-
Flexural strength ($\sigma_{B\ 3,5\ \%}$)	ISO 178	MPa	2400
Modulus of elasticity (E_t)	ISO 527	MPa	2400
Thermal Properties			
Vicat-softening point (VST/B/50)	ISO 306	°C	135
Heat deflection temperature (HDT/B)	ISO 75	°C	138
Coef. of linear thermal expansion (α)	ISO 11359	$°C^{-1}*10^{-4}$	0.65
Thermal conductivity at 20 °C (λ)	ISO 22007-4	W/(m*K)	-
Glass transition temperature (T_G)	ISO 3146	°C	146
Melting temperature (T_m)	ISO 3146	°C	300
Printing Properties			
Pressure nozzle temperature	>8 mm brim	°C	260-280
Printing plate temperature	Magigoo Pro HT	°C	110
Build chamber temperature		°C	35 (optional)
Nozzle diameter	(hardend steel)	mm	0.4
Print speed		mm/s	25
Fan speed		%	max. 35
Predrying temperature		°C	-
Predrying time		h	-

All properties are measured under laboratory conditions using the analytical method shown. The limits in these specifications apply only to data obtained using the specified test methods. Different analysis methods or analysis conditions can lead to different values.