PLASTICS ENGINEERED BY GEHR

FIL-A-GEHR®

Filaments for professional 3D printing

PPS-10CF

GEHR GmbH Casterfeldstraße 172 / D - 68219 Mannheim / T: +49 - 621/87 89 – 164 / 3D@gehr.de / www.filagehr.de

FIL-A-GEHR® PPS-CF is a poly(p-phenylene sulfide) material and complies with EN45545 (railway approval). In addition to its inherent flame retardancy, the material offers outstanding chemical resistance combined with excellent thermal and dimensional stability.

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''	●

Colours: ● black

DISTINCTIVE FEATURES FIL-A-GEHR® PPS-CF

» Very high mechanical strength
» Very high thermal and dimensional stability
» Inherent flame retardancy
» Very high chemical resistance
» High operating temperature (approx. +220 °C)
» Raw material: Complies with EN45545 (railway approval)
» Pressure nozzle temperature 330°C,
» Printing plate temperature 110°C
» Printing room temperatur 60°C

TYPICAL APPLICATIONS

» Train interior
» Handles
» Highly stable connections

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® PPS-CF

Properties	Parameters	Units	Values
General Properties			
Specific gravity (ρ)	ISO 1183	g/cm³	1.51
Water absorption	ISO 62	%	<0.05
Maximum permissible service temperature	UL746B	°C	220
Mechanical Properties (XY Flat)			
Tensile strength at yield (σ_S)	ISO 527	MPa	70
Elongation at yield (ε_S)	ISO 527	%	3.1
Tensile strength at break (σ_R)	ISO 527	MPa	70
Elongation at break (ε_R)	ISO 527	%	3.1
Impact strength (a_n)	ISO 179	kJ/m²	12.9
Notch impact strength (a_k)	ISO 179	kJ/m²	-
Ball indentation (H_k) / Rockwell hardness	ISO 2039-1	N/mm²	-
Shore-D	ISO 868		85
Flexural strength ($\sigma_{B\ 3,5\ \%}$)	ISO 178	MPa	170
Modulus of elasticity (E_t)	ISO 527	MPa	5757
Thermal Properties			
Vicat-softening point (VST/B/50)	ISO 306	°C	255
Heat deflection temperature (HDT/B)	ISO 75	°C	233
Coef. of linear thermal expansion (α)	ISO 11359	$K^{-1}*10^{-4}$	-
Thermal conductivity at 20 °C (λ)	ISO 22007-4	W/(m*K)	-
Glass transition temperature (T_G)	ISO 3146	°C	107
Melting temperature (T_m)	ISO 3146	°C	181
Printing Properties			
Pressure nozzle temperature		°C	320
Printing plate temperature		°C	110
Build chamber temperature		°C	60
Nozzle diameter	(hardend steel)	mm	0.4
Print speed		mm/s	60
Fan speed		%	30
Predrying temperature		°C	80
Predrying time		h	12

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.