

# FIL-A-GEHR®

Filaments for professional 3D printing



 **PLA**

**FIL-A-GEHR PLA®** is made from NatureWorks Ingeo™ biopolymer for precise, failure-free and extreme robust / stable 3D printing.

**FEATURES FIL-A-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: ● black ● blue ● red ○ white ● yellow  
● green transparent



**DISTINCTIVE FEATURES FIL-A-GEHR PLA®**

- » Filaments made of high-quality and renewable raw materials
- » Shrinkage-free
- » No heated printbed required
- » High dimensional stability
- » High stiffness / high modulus of elasticity
- » Pressure nozzle temperature 223°C, printing plate temperature 65°C

**TYPICAL APPLICATIONS**

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



**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.

**TECHNISCHE DATEN FIL-A-GEHR PLA®**

Properties	Parameters	Units	Values
<b>General Properties</b>			
Specific gravity ( $\rho$ )	ISO 1183	g/cm <sup>3</sup>	1.24
Water absorption	ISO 62	%	-
Moisture	ISO 62	%	0.2

<b>Mechanical Properties</b>			
Tensile strength at yield ( $\sigma_S$ )	ISO 527	MPa	50
Elongation at yield ( $\varepsilon_S$ )	ISO 527	%	5
Tensile strength at break ( $\sigma_R$ )	ISO 527	MPa	56
Elongation at break ( $\varepsilon_R$ )	ISO 527	%	8
Impact strength ( $a_n$ )	ISO 179	kJ/m <sup>2</sup>	-
Notch impact strength ( $a_k$ )	ISO 179	kJ/m <sup>2</sup>	3.4
Ball indentation ( $H_k$ ) / Rockwell hardness	ISO 2039-1	N/mm <sup>2</sup>	-
Shore-D	ISO 868		-
Flexural strength ( $\sigma_{B, 3,5\%}$ )	ISO 178	MPa	55
Modulus of elasticity ( $E_t$ )	ISO 527	MPa	3380

<b>Thermal Properties</b>			
Vicat-softening point (VST/B/50)	ISO 306	°C	-
Heat deflection temperature (HDT/B)	ISO 75	°C	80
Glass transition temperature ( $T_G$ )	ISO 3146	°C	55
Melting temperature ( $T_m$ )	ISO 3146	°C	210

<b>Printing Properties</b>			
Pressure nozzle temperature		°C	210-225
Printing plate temperature		°C	50
Build chamber temperature		°C	-
Nozzle diameter		mm	0.4
Print speed		mm/s	55
Fan speed		%	100
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.