

# FIL-A-GEHR®

Filaments for professional 3D printing



 **PA6 MWR**

**ECO FIL-A-GEHR® PA6 MWR** is made from marine waste recyclates (MWR). This is mainly obtained from fishing nets.

### 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

### DISTINCTIVE FEATURES **ECO FIL-A-GEHR® PA6 MWR**

- » Filaments made of high-quality and renewable raw materials
- » Good mechanical properties
- » Shrinkage values of approx. 0.3%
- » Very good tribological properties
- » High resistance to impacts, scratches and cracks
- » Resistance to many chemicals
- » Pressure nozzle temperature 260-280°C, printing plate temperature 80°C
- » Dry box highly recommended

### TYPICAL APPLICATIONS

- » Automotive industry
- » Gear wheels
- » Sliding rails

### RECYCLING

Box and spools are made of pure materials (PAP20 and PC) and are therefore recyclable through correct disposal.



### 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.

**TECHNICAL DATA ECO FIL-A-GEHR® PA6 MWR**

Properties	Parameters	Units	Values
<b>General Properties</b>			
Specific gravity ( $\rho$ )	ISO 1183	g/cm <sup>3</sup>	1.26
Water absorption	ISO 62	%	0.65
Moisture	ISO 62	%	0.20

<b>Mechanical Properties</b>			
Tensile strength at yield ( $\sigma_S$ )	ISO 527	MPa	73
Elongation at yield ( $\varepsilon_S$ )	ISO 527	%	3.9
Tensile strength at break ( $\sigma_R$ )	ISO 527	MPa	27
Elongation at break ( $\varepsilon_R$ )	ISO 527	%	12
Impact strength ( $a_n$ )	ISO 179	kJ/m <sup>2</sup>	no break
Notch impact strength ( $a_k$ )	ISO 179	kJ/m <sup>2</sup>	5,4
Ball indentation ( $H_k$ ) / Rockwell hardness	ISO 2039-1	N/mm <sup>2</sup>	-
Shore-D	ISO 868		84
Flexural strength ( $\sigma_{B, 3,5\%}$ )	ISO 178	MPa	95
Modulus of elasticity ( $E_t$ )	ISO 527	MPa	2750

<b>Thermal Properties</b>			
Vicat-softening point (VST/B/50)	ISO 306	°C	190
Heat deflection temperature (HDT/B)	ISO 75	°C	170
Glass transition temperature ( $T_G$ )	ISO 3146	°C	45
Melting temperature ( $T_m$ )	ISO 3146	°C	217

<b>Printing Properties</b>			
Pressure nozzle temperature	Dry box highly recommended	°C	260-280
Printing plate temperature		°C	80
Build chamber temperature		°C	-
Nozzle diameter		mm	0.4
Print speed		mm/s	max. 50
Fan speed		%	0
Predrying temperature		°C	67
Predrying time		h	6

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.