



**3D Industrie**  
Additive Manufacturing  
by Maria & Johannes Lutz



# PA12+GF FILSHAPER

The filament is made of durable nylon reinforced with a high percentage of glass fibers. It is ideal for precise and stable prints of objects that must withstand high temperatures and impacts. Filament needs temperatures from 250 ° C to 265 ° C.

## IDENTIFICATION OF THE SUBSTANCE/MIXTURE

Chemical name of the product	Nylon with glass fiber
Recommended use	Material for printing in FDM technology
Nominal diameter	1.75 mm

## PHYSICAL AND MECHANICAL ATTRIBUTES

Physical attributes		
Recommended use	Recommended use	Recommended use
Density	1,00 g/cm <sup>3</sup>	ISO 1183
Melting point	180°	ISO 11357

Mechanical attributes		
Description	Value	Test method
Tensile modulus	4000 MPa	ISO 527
Tensile strength	95 MPa	ISO 527
Impact strength	80 kJ/m <sup>2</sup>	ISO 179/1eU
Shore hardness	77 MPa	ISO 2039-1

Thermal attributes		
Description	Value	Test method
Heat deflection temp. HDT/A	160°C	ISO 75
Thermal expansion coefficient	0,1*10 <sup>-4</sup> K	ISO 11359
Max usage temp. long term	90-120°C	ISO 2578
Max usage temp. short term	150°C	ISO 2578D

Electrical attributes		
Description	Value	Test method
Dielectric strenght	-	IEC 60243
Specific volume resistivity	$10^{11} \Omega\text{m}$	IEC 60243

Description	Value	Test method
Flammability	HB	ISO 1210
Linear mould shrinkage	0,5	ISO 294

Printing specifications	
Property	Value and Tolerances
Suggested print temperature (guideline)	between 250°C and 265°C
Suggested print speed	40mm/s
Suggested bed temperature	60°C/70°C

Before printing, make sure your material is completely dry. If the moisture is present, put it to dry at 85–95 ° C for 6 to 8 hours. Store in a dry place, preferably in a small, closed container with a desiccant.

## OTHER INFORMATION

Product should be handled in accordance with good industrial hygiene, safety practice and all regulations. The information is being provided solely as a guideline for the safe handling, use, consumption, processing, storage, transportation, disposal and release of the Materials. The information may not be sufficient for such purposes, as it is based on producer's knowledge at the time of creating the document, the user should not place any reliance on the information provided.