

## Nylon AF80 Aramid

### Description:

Fillamentum Nylon AF80 Aramid is a material filled with aramid fibres for the FDM 3D printing technology.

The reinforcement brings tribological properties and wear resistance to the material. It can withstand higher static pressure load than unfilled Nylon FX256. It has also higher hardness, heat distortion temperature and chemical resistance. These great properties are preserved even at low temperatures.

The material can be with the advantage used for printing parts that are under constant stress, for example, bearings, cogwheels, reinforcement parts etc.

The printing properties, processing stability and rheology are improved thanks to the content of aramid fibres.

This filament may be used for production of electrical and electronic equipment. It doesn't contain the restricted substances. The usage for food contact application is not recommended.

For filaments with fillers, Fillamentum guarantees high precision of dimensions within the tolerance of +/- 0,10 mm. During the production, filament is made with the best stability of diameter, roundness and colour.



Workability of 3D printing filament is at least 12 months from delivery.

The information was processed with the best knowledge of the manufacturer and it is for information only.

Physical properties	Typical Value	Test Method	Test Condition
Material density	0,99 g/cm <sup>3</sup>	ISO 1183	20 °C
	0,92 g/cm <sup>3</sup>	ISO 1183	235 °C
Melt flow index	9,9 g/10 min	ISO 1133	235 °C, 2,16 kg
Diameter tolerance	± 0,10 mm		
Weight	600 g of filament (+ 230 g spool)		
Mechanical properties	Typical Value	Test Method	Test Condition
Tensile strength	50,4 MPa	ISO 527	at break, 50 mm/min
Elongation	5,8 %	ISO 527	at break, 50 mm/min
Tensile modulus	510 MPa	ISO 527	50 mm/min
Charpy impact resistance	53,2 kJ/m <sup>2</sup>	ISO 179	20 °C, unnotched
	58,8 kJ/m <sup>2</sup>	ISO 179	-20 °C, unnotched
Chemical properties	Typical Value	Test Method	Test Condition
Polymer base	polyamide 12		
Resistance against water, alcohols, acetone, oils, greases, car fluids, ozone	very good		25 °C
Resistance against strong acids, strong bases	low		25 °C
Printing properties	Recommended	Notes	
Print temperature	235-255 °C	Recommended settings! It may differ according to the printer and the object.	
Hot pad	90-110 °C	Try your own optimization before printing.	
Bed adhesive	Magigoo PA, PVA glue		
Speed of printing	30-50 mm/s		
Part cooling fan	0 %		
Other recommendation	10mm brim / raft		