Datasheet

Nylon FX256

Description:

Fillamentum Nylon FX256 is a material for the FFF (also known as FDM) 3D printing technology.

The main advantages of this filament are a very high strength, toughness and impact resistance. The material is flexible in thin layer, but with very high inter-layer adhesion.

Its low friction coefficient and high temperature resistance make it an excellent choice for printing functional and technical parts.

The material has great chemical resistance even at higher temperatures. It is resistant to hydrolysis, it means to hot water up to 80 °C. It keeps its properties after ionizing and UV radiation.

This material can be used for production of electrical and electronic equipment. It doesn't contain the restricted substances. The filament complies with the requirements for food contact applications.

Fillamentum guarantees high precision of filament dimensions within the tolerance +/- 0,05 mm, which is strictly controlled throughout production.

Physical Properties	Typical Value	Test Method	Test Condition
Material density	1,01 g/cm^3	ISO 1183	20 °C
Melt flow index	95 g/10 min		
Moisture adsorption	≤ 0,5 %		
Diameter tolerance	± 0,05 mm		
Weight	750 g of filament (+ 250 g spool)		

Mechanical properties	Typical Value	Test Method	Test Condition
Tensile strength	45,0 MPa	ISO 527	at yield
Elongation at break	> 50 %	ISO 527	
Tensile modulus	1400 MPa	ISO 527	
Charpy impact strength	no break	ISO 179-1eU	23 °C
	no break	ISO 179-1eU	-40 °C
	7 kJ/m^2	ISO 179-1eA	23 °C, notched
	7 kJ/m^2	ISO 179-1eA	-40 °C, notched

Thermal properties	Typical Value	Test Method	Test Condition
Heat distortion temperature	50 °C	ISO 75	1,8 MPa
	110 °C	ISO 75	0,45 MPa
Vicat softening temperature	140 °C	ISO 306	50 °C/h, 5 kg
Coefficient of linear thermal expansion	1,5 × 10^{-4}	ISO 11359	23–55 °C

Electrical properties	Typical Value	Test Method	Test Condition
Electrical resistivity	≥ 10^{15} Ω cm		
Surface resistivity	≥ 1 × 10^{15} Ω		
Dielectric constant	2,0		frequency 10^6 Hz
	3,0		frequency 100 Hz
Dielectric strength	27,0 kV/mm		

Printing properties	Recommended	Notes
Print temperature	235–260 °C	Recommended settings! It may differ according to the printer and the object. Try your own settings before printing.
Hot pad	80–105 °C	
Bed adhesive	glue stick + 3Dlac	Always use brim for better adhesion.
Speed of printing	20–30 mm/s	
Other recommendations	cover around printer	Protection against ambient change of temperature.

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.

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