Technical Data Sheet

Nylon FX256

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

The main advantage of this filament is that it is an incredibly strong, durable and versatile 3D printing material. Flexible when thin layer, but with very high inter-layer adhesion. Its low friction coefficient and high melting temperature makes it an excellent choice for printing functional and technical parts. Unlike ABS and PLA filaments is Nylon FX256 far less brittle and therefore stronger.

Physical properties

Properties	Typical Value	Test Method	Test Condition
Material density	1,01 g/cm^3	ISO 1183	
Melt volume index	94 cm^3/10 min		
Diameter tolerance	± 0,05 mm		
Weight	750 g of filament (+ 250 g spool)		

Mechanical properties

Properties	Typical Value	Test Method	Test Condition
Tensile strength	45 MPa	ISO 527	
Tensile modulus	1400 MPa	ISO 527	
Elongation at break	≥ 50 %	ISO 527	
Charpy impact strength	7 kJ/m^2	ISO 179	-30 °C, notched
Tensile creep modulus	1300 MPa		1 hour
	800 MPa		1000 hours

Thermal properties

Properties	Typical Value	Test Method	Test Condition
Melting temperature	approx. 178 °C		
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
Flammability	HB	IEC 60695	UL-94
Coefficient of linear thermal expansion	1,5 · 10^{-4}	ISO 11359	23–55 °C

Printing properties

Properties	Typical Value	Test Method	Test Condition
Print temperature	220–230 °C		
Hot pad	80 °C		
Speed of printing	30–40 mm/min		

Electrical properties

Properties	Typical Value	Test Method	Test Condition
Electrical resistivity	≥ 10^{15} Ω · cm		
Dielectric constant	2,0		Frequency 10^6 Hz
Relative permittivity	3,8		Frequency 100 Hz
	2,5		Frequency 1 MHz