

Description:

Filament made of NonOilen® material developed for processing by 3D printing with engineering properties and good biodegradability.

One of the main advantages of this material is great temperature resistance after 3D printing, there is no need for annealing! Furthermore, it has high toughness, hardness, barrier properties, easy 3D printing. It is resistant for a long time and it may be used repeatedly. If the object is damaged, the material may be recycled several times with retention of features.

This material has improved biodegradability when compared with standard PLA. NonOilen® waste can be easily placed into the compost where it decomposes faster to biomass, water, and carbon dioxide which are useful for the nature.

The surface is very smooth with natural silk look, translucent in a thin layer. Low fumes are released while processing Fillamentum NonOilen® under recommended conditions.

It is recommended to try the chemical resistance against a specific substance on a small printed object.

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. During the production, the filament is produced with the best stability of the diameter, roundness, and colour.

Physical properties	Typical Value	Test Method	Test Condition
Material density	1.20 g/cm ³	ISO 1183	
	1.05 g/cm ³	ISO 1133	
Melt flow rate	5.8 g/10 min	ISO 1133	180 °C, 2.16 kg
	12.6 g/10 min	ISO 1133	190 °C, 2.16 kg
Diameter tolerance	± 0.05 mm		
Weight	750 g of filament (+ 210 g spool)		

Mechanical properties	Typical Value	Test Method	Test Condition
Tensile strength	38.6 MPa	ISO 527	at yield
	31.2 MPa	ISO 527	at break
Elongation at break	7.7 %	ISO 527	
Tensile modulus	1900 MPa	ISO 527	
Charpy impact strength	25.6 kJ/m ²	ISO 179	23 °C, unnotched
	2.4 kJ/m ²	ISO 179	23 °C, notched
Hardness	71 Shore D	ISO 868	

Thermal properties	Typical Value	Test Method	Test Condition
Heat distortion temperature	119 °C	ISO 75	0.45 MPa
Vicat softening temperature	150 °C	ISO 306	method A, 10 N, 50 °C/h

Chemical properties	Typical Value	Test Condition
Polymer base	polylactic acid and polyhydroxy butyrate compound	

Printing properties	Recommended	Notes
Print temperature	175-195 °C	Recommended settings!
Hot pad	0-50 °C	It may differ according to the printer and the object. Try your own settings before printing.
Bed adhesive	PVA glue, 3dlac	
Conditions to re-dry	65 °C, 2 hours	

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.