Datasheet
Fluorodur

fillamentum INDUSTRIAL

Description:

Fluorodur is made of a very durable polymer, polyvinylidene fluoride (PVDF) **made using Kynar® PVDF by Arkema**. Its chemical structure, fluor atoms in the polymer chain, and high crystallinity make it extremely mechanically resistant, exceptionally chemically resistant, weather-resistant, and much more.

The material is very rigid and tough, it has a high impact strength. Fluorodur exhibits long-term stability and works without obvious damage for many years.

Thanks to a strong H–F bond, the polymer chains can't be easily attacked and influenced even by harsh chemicals, or moisture. It also holds the structure in case of stress by the load (creep resistance), by wear (abrasion resistance), by higher temperature (thermal resistance), or in case of fire (self-extinguishing).

Certain chemical substances have no influence on Fluorodur up to temperatures about 100–140 °C. But it always depends on different parameters. Always print a small object and test it under given conditions (substance, temperature, time).

This material can be used for production of electrical and electronic equipment. It does not contain the restricted substances. The usage for food contact application is not recommended. The material should not be used for medical applications.

Fillamentum can guarantee maximum deviation of diameter +/- 0.10 mm. During the production, filament is made with the best stability of diameter, roundness, and color.

Physical properties	Typical Value	Test Method	Test Condition
Material density	1.79 g/cm^3	ISO 1183	
Diameter tolerance	± 0.10 mm		
Weight	500 g of filament (+ 230 g spool)		

Mechanical properties	Typical Value	Test Method	Test Condition
Tensile strength	34 MPa	ASTM D638	at yield
Elongation at break	8 %	ASTM D638	
Tensile modulus	2000 MPa	ASTM D638	
Flexural strength	50 MPa	ASTM D790	
Flexural modulus	1700 MPa	ASTM D790	1.27 mm/min
Izod impact strength	5 kJ/m^2	ASTM D256	23 °C, notched

Chemical properties	Typical Value	Test Condition
Polymer base	polyvinylidene fluoride	
Resistance against car fluids, acids, bases, chlorinated hydrocarbons, alcohols, toluene, benzene, water, oils, ozone	good	25 °C
Resistance against acetone, ethyl acetate, methyl ethyl ketone,	low	25 °C

Printing properties	Recommended	Notes
Print temperature	250–270 °C	Recommended settings! It may differ according to the printer and the object. Try your own settings before printing.
Hot pad	100+ °C	
Bed adhesive	Dimafix Pen, PVA glue	
Speed of printing	20–40 mm/s	
Fan speed	0–15 %	
Other recommendations	cover around printer	Protection against change of temperature in environment.
	air filters	Follow the safety recommendations.

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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