

biofila® silk

Biodegradable Polymers

twoBEars GbR

Message:

bioFila® silk - Filament

biodegradable biopolymer for 3D printing

General Information			
Features	Biodegradable		
Agency Ratings	EC 1907/2006 (REACH)		
Processing Method	3D Printing, Fused Filament Fabrication (FFF)		
Physical	Nominal Value	Unit	Test Method
Density	1.25	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	3.00	cm ³ /10min	ISO 1133
Water Absorption (Equilibrium, 23°C, 50% RH)	0.50	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Shore Hardness (Shore D)	75		DIN 53505
Ball Indentation Hardness	105	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2700	MPa	ISO 527-2
Tensile Stress			ISO 527-2
Break	22.8	MPa	
--	51.0	MPa	
Tensile Strain			ISO 527-2
Yield	2.5	%	
Break	12	%	
Flexural Modulus	1810	MPa	ISO 178
Flexural Stress	70.0	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	6.8	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-15°C	37	kJ/m ²	
23°C	58	kJ/m ²	
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	50.4	°C	ISO 75-2/A
Vicat Softening Temperature	58.4	°C	ISO 306/A50
Melting Temperature (DSC)	153	°C	ISO 3146
Thermal Conductivity (10°C)	0.17	W/m/K	DIN 52612

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