TECHNICAL DATA SHEET

Tarfuse® envi 1

3D Filament

Version No.: 1.0
Date: 05. 2022

General Information

CHARACTERISTICS	Tarfuse ® envi 1 is manufacture from renewable resources, designeg as a product fully biodegradable, which means that it decomposes in the environment in the presence of microorganisms. After the biodegradation process is completed, only natural and harmless substances remain, such as water, CO2 and organic matter. It is characterized by great ease of printing and excellent appearance of details, thanks to a very good interlayer adhesion and low linear shrinkage. The Tarfuse envi 1 filament is dedicated to illustrative models and advertising details.
APPLICATIONS	**Tarfuse®** filament for Fused Filament Fabrication.
DELIVERY FORM	Tarfuse ®: diameter 1.75±0,05mm;
PACKAGING	Available packing : 0,5kg (+197 g spool), 1kg (+275 g spool), 2kg (+602 g spool)
COLOUR	Natural, basic colours on request.
STORAGE	Tarfuse® envi 1 filament must be stored in closed original packaging of the producer in dry rooms. Protect the packaging's against damage and against the influence of weather conditions.
NOTICE	The data contained in this publication are based on our current knowledge and experience. In view of the many factors with may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

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RECOMMENDED PRINT PROCESSING PARAMETERS

Nozzle temperature: 195 - 230˚C
Build chamber temperature: heating of the chamber is not required
Bed temperature: 50 - 70˚C
Bed material: glass, polycarbonate (PC) mat + PVA glue type
Nozzle diameter: ≥ 0.4 mm
Print speed: 30 - 60 mm/s

Physical Properties	Unit	Value	ISO standard	Test conditions
Melting temperature; DSC	°C	150-160	11357-1-3	10°C/min.
Glass transition temperature; DSC	°C	-	11357-1-3	10°C/min.
Crystalization temperature; DSC	°C	-	11357-1-3	10°C/min.
Density	g/cm^3	1,3	1183	-
Melt volume-flow rate MVR	cm^3/10min	12	1133	275˚C/5 kg

Mechanical Properties	Unit	XY	XZ	ZX	ISO standard	Test conditions
Print direction		Flat	On its edge	Upright		
Tensile strength	MPa	33	40	-	527-1,-2	50mm/min
Elongation at break	%	1,8	1,5	-	527-1,-2	50mm/min
Tensile E-modulus	MPa	2840	2900	-	527-1,-2	1mm/min
Flexural strength	MPa	28	32	-	178	2mm/min
Flexural modulus	MPa	-	-	-	178	2mm/min
Charpy impact strength	kJ/m^2	-	-	-	179-1	1eU
Charpy notched impact strength	kJ/m^2	-	-	-	179-1	1eA
Vicat softening point	°C	-	-	-	306	50N
Heat deflection temperature	°C	-	-	-	75-1,-2	1.8 MPa

Tests were performed at 23˚C, unless otherwise specified.

Print processing parameters:

Nozzle temperature	*225˚C*
Build chamber temperature	*-*
Bed temperature	*40˚C*
Bed material	*Glass+ PVA*
Nozzle diameter	*0.4 mm*
Layer	*0.2 mm*
Filling	*100%; 45°/45°*

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