TECHNICAL DATA SHEET

Tarfuse® PLA LM

3D Filament

Version No.: 1.1
Date: 04. 2021

General Information

CHARACTERISTICS	**Tarfuse® PLA LM** are filaments made from high quality PLA, this is the basic material for 3D printing. It is characterised by good durability. Its properties allow for precise printing of complex parts. It can be used to create prototypes, gadgets, toys, decorations. Parts may be marked by laser Nd/YAG.
APPLICATIONS	**Tarfuse®** filament for Fused Filament Fabrication.
DELIVERY FORM	Tarfuse ®: diameter 1.75±0,05mm; 2.85±0,1mm
PACKAGING	Available packing : 1kg (+275 g spool), 2kg (+602 g spool)
COLOUR	Natural, basic colours on request.
STORAGE	Tarfuse® PLA LM 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: 210 - 240˚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	178-180	11357-1-3	10°C/min.
Glass transition temperature; DSC	°C	60-61	11357-1-3	10°C/min.
Crystalization temperature; DSC	°C	-	11357-1-3	10°C/min.
Density	g/cm^3	1.25	1183	-
Melt volume-flow rate MVR	cm^3/10min	6.5	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	54	57	52	527-1,-2	50mm/min
Elongation at break	%	3,1	3	2,2	527-1,-2	50mm/min
Tensile E-modulus	MPa	3000	3100	2900	527-1,-2	1mm/min
Flexural strength	MPa	76	97	60	178	2mm/min
Flexural modulus	MPa	2800	2980	2800	178	2mm/min
Charpy impact strength	kJ/m^2	16	15	-	179-1	1eU
Charpy notched impact strength	kJ/m^2	3	3	-	179-1	1eA
Vicat softening point	°C	60	60	-	306	50N
Heat deflection temperature	°C	65	65	-	75-1,-2	1.8 MPa

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

Print processing parameters:

Nozzle temperature	*240˚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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