TECHNICAL DATA SHEET

Tarfuse® PA LM

3D Filament

Version No.: 1.1
Date: 11. 2021

General Information

CHARACTERISTICS	**Tarfuse® PA LM** are filaments made from high quality PA6, characterized by high mechanical strength, flexibility due to excellent layer-to-layer adhesion. Dedicated to printing functional and technical parts. Parts may be marked by laser Nd/YAG.
APPLICATIONS	Tarfuse® filament for Fused Filament Fabrication. Tarfuse® PA is designed especially for 3D printing excellent mechanical properties and smooth appearance printing details make it ideal for demanding applications.
DELIVERY FORM	Tarfuse ®: diameter 1.75±0.05mm; 2.85±0.1mm
PACKAGING	Available packing : 1kg (+297 g spool), 2kg (+602 g spool)
COLOUR	Natural, black, other colours at the request
STORAGE	Tarfuse® PA 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.
DRYING RECOMMENDATIONS	To ensure good print quality, it is recommended to dry in a hot air dryer for 4 to 16 hours in 80°C
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: 270 - 300˚C
Build chamber temperature: 20 - 70˚C
Bed temperature: 40 - 110˚C
Bed material: glass, polycarbonate (PC) mat, polyamide (PA) mat + PVA glue type
Nozzle diameter: ≥ 0,4 mm
Print speed: 30 - 60 mm/s

Physical Properties	Unit	Value	ISO standard	Test conditions
			EN ISO	
Melting temperature; DSC	°C	220	11357-1-3	10°C/min.
Glass transition temperature; DSC	°C	55-57	11357-1-3	10°C/min.
Crystalization temperature; DSC	°C	160-170	11357-1-3	10°C/min.
Density	g/cm3	1,13	1183	-
Moisture absorption	%	2,5	62	23°C/50%RH
Water absorption	%	9,5	62	23°C/sat.
Melt volume-flow rate MVR	cm3/10min	25	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	72	70	24	527-1,-2	50mm/min
Elongation at break	%	4,1	4	3	527-1,-2	50mm/min
Tensile E-modulus	MPa	2400	2500	2400	527-1,-2	1mm/min
Flexural strength	MPa	73	72	38	178	2mm/min
Flexural modulus	MPa	1800	1900	2200	178	2mm/min
Charpy impact strength	kJ/m^2	75	100	5.4	179-1	1eU
Charpy notched impact strength	kJ/m^2	4,5	-	-	179-1	1eA
Vicat softening point	°C	-			306	50N
Heat deflection temperature	°C	-			75-1,-2	1,8 MPa

Dry condition - moisture content max. 0.05%
Tests were performed at 23˚C, unless otherwise specified.

Print processing parameters:

Nozzle temperature	*280˚C*
Build chamber temperature	*70˚C*
Bed temperature	*80 ˚C*
Bed material	*glass + PVA glue type*
Nozzle diameter	*0.4 mm*
Layer	*0.2 mm*
Filling	*100%; 45°/45°*

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