MATERIAL DATA SHEET

Tarfuse® PA CF 10

3D Filament

Version No.: 1.1
Date: April 2021

General Information

CHARACTERISTICS	**Tarfuse® PA CF 10** is made of high quality polyamide 6 (PA6) filament filled with carbon fiber with good mechanical and anti-static properties. The details are characterized by low susceptibility low shrinkage.
APPLICATIONS	Tarfuse® filament for Fused Filament Fabrication. Dedicated for printing parts as production and inspection tools and parts for final use.
DELIVERY FORM	Tarfuse®: diameter 1.75±0.05mm; 2.85±0.1mm
PACKAGING	Available packing: 0,5kg (+197 g spool), 1kg (+297 g spool), 2kg (+602 g spool)
COLOUR	Natural (graphite) and black
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 - 280˚C
Build chamber temperature: 20 - 90˚C
Bed temperature: 30 - 110˚C
Bed material: 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
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	160-180	11357-1-3	10°C/min.
Density	g/cm3	1,18	1183	-
Moisture absorption	%	2	62	23°C/50%RH
Water absorption	%	9	62	23°C/sat.
Melt volume-flow rate MVR	cm3/10min	-	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	75	96	To be tested	527-1,-2	5mm/min
Elongation at break	%	2	2	-	527-1,-2	5mm/min
Tensile E-modulus	MPa	4900	7000	-	527-1,-2	1mm/min
Flexural strength	MPa	110			178	2mm/min
Flexural modulus	MPa	4900	-	-	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
Surface resistivity	Ω	10xE7	-	-	IEC 60093	-
Volume resistivity	Ωxcm	10xE7	-	-	IEC 60093	-

Dry condition - moisture content max. 0.2%
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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