Technical datasheet

Vibers PLA

colorFabb

Date of issue: March 17, 2022
Version: v1.0

colorFabb Vibers PLA White creates the most stunning smooth and matte surface finish on 3D printed items and gives the user a chance to print more carbon neutral. The color reminds of marlstone, a tint of yellow but otherwise mostly white color.

This filament comes on a cardboard spool made from recycled cardboard to further minimize the use of single use plastic.

TYPICAL MATERIAL PROPERTIES – 3D Printed

Physical properties	Unit	Value	Method
Tensile modulus	MPa	3025	ISO 527
Yield strength	MPa	37	ISO 527
Yield strain	%	2	ISO 527
Tensile strength	MPa	37	ISO 527
Tensile strain at tensile strength	%	2	ISO 527
Tensile stress at break	MPa	34	ISO 527
Tensile strain at break	%	3,5	ISO 527
Flexural modulus	MPa	-	ISO 178
Flexural strain at standard deflection	MPa	-	ISO 178
Flexural strength	MPa	-	ISO 178
Flexural strain at flexural strength	%	-	ISO 178
Flexural stress at break	MPa	-	ISO 178
Flexural strain at break	%	-	ISO 178
Charpy unnotched impact strength	kJ/m2	1,29	ISO 179-1/1 eU
Charpy notched impact strength	kJ/m2	3,11	ISO 179-1/1 eU
Heat Deflection Temperature (HDT)	ºC	-	ISO 75

POLYAMIDE CARBON FIBER

TECHNICAL DATA SHEET VERSION 1.0

Innovatefil PA CF is a filament with a high mechanical strength and excellent performance at high temperatures. The combination of polyamide and carbon fiber allows large objects to be printed without deformation. This filament is especially indicated for a professional user who requires a plus of quality in the printing pieces and they are required to be fit for end use.

- Ability to work at temperatures of 150 °C.
- Great adhesion between layers (high resistance regardless of the printing position).
- The incorporation of carbon fiber increases the electrical conductivity, making it suitable for conductive and dissipative applications.

	TIPICAL VALUE	UNITS	TEST METHOD
PHYSICAL PROPERTIES			
Chemical name	Polyamide with Carbon Fiber		
Material density	1.25	g/cm³	ISO 1183
MECANICAL PROPERTIES			
Tensile Strength	170	MPa	ISO 527
Modulus of Elasticity	15	GPa	ISO 527
Elongation	2	%	ISO 527
Charpy Impact (notched at 23º)	47	KJ/m²	ISO 179 1eU
THERMAL PROPERTIES			
Continuous Service Temp	150	°C	UL 746B
Heat Distortion Temp. (HDT A)	240	°C	ISO 75
Maximum (short term) Use Temp	180	°C	
ELECTRICAL PROPERTIES			
Insulation Resistance	<=10²	Ω	DIN/IEC 60167
Surface Resistance	<10²	Ω	IEC 60093
PRINTING PROPERTIES			
Print temperature	255-275	°C	
Bed temperature	>60	°C	
Fan layer	0-50	%	
Print speed	30-50	mm/s	

* Values measured on molded test specimen

smart materials 3D | www.smartmaterials3d.com | info@smartmaterials3d.com | +34 953 041 993

ABS F.P.

SMARTFIL by smart materials 3D

TECHNICAL DATA SHEET VERSION 1.1

ABS F.P.

Fireproof ABS tested according to UL94 standard, choosing the V-1 for 1,5mm wall thickness and V-0 for thickness above 2.1mm, ideal for protecting systems with high risk of fire.

Reciclable

Ignifugo

	TIPICAL VALUE	UNITS	TEST METHOD
PHYSICAL PROPERTIES			
Chemical Name	Acrylonitrile Butadiene Styrene		
Material Density	1.17	g/cm³	ASTM D792
MECHANICAL PROPERTIES			
Tensile Yield Strength at 23°C	38	MPa	ISO 527
Flexural Strength	56	MPa	ISO 178
Flexural Modulus	180	MPa	ISO 178
Charpy Notched Impact Strength at 23°C	24	kJ/m²	ISO 179
Notched Izod Impact	23	kJ/m²	ISO 180
THERMAL PROPERTIES			
Heat Distortion Temperature	76	°C	ISO 75
Vicat Softening Temperature	93	°C	ISO 306
Flammability	1.5 mm 2.10 mm	V-1 V-0, 5VB	UL-94 IEC 60695-11-10, -20
PRINTING PROPERTIES			
Print Temperature	210-230	°C	
Hot Pad	80-100	°C	
Fan Layer	OFF	%	

SIZE	NET W.	GROSS W.	DIAMETERS	COLOR	PACKAGING

3Diakon™ PMMA

3Diakon™ PMMA or Poly(methyl methacrylate) is known as having excellent weathering and UV stability combined with excellent impact performance and stiffness. PMMA is characterized as a transparent polymer (more transparent after post processing) and it is reasonable easy to print.

KEY FEATURES

- Strong, lightweight and rigid material
- High impact resistant
- Good abrasion resistance
- Transparent and glossy after post processing (sanding)
- UV resistance
- BPA free

MITSUBISHI CHEMICAL

3Diakon™

COLOURS

Clear

Filament Specs.

Size	Ø tolerance	Roundness
1.75mm	± 0,05mm	≥ 95%
2.85mm	± 0,10mm	≥ 95%

Material Properties

Description	Testmethod	Typical value
Specific gravity	ISO 1183	1,14 g/cm³
MFI 230°C/3,8kg	ISO 1133	1,7 g/10min
Tensile Strength at Yield	ISO 527	43 MPa
Impact Strength Charpy method 23°C (notched)	ISO 179	6,2 kJ/m²
Flexural Modulus	ISO 178	1900 MPa
Flexural Strength	ISO 178	62 MPa
Vicat softening temperature	ISO 306B	91°C
Heat deflection temperature HDT B	ISO 75A	93°C
Transmittance	ASTM D1003	91,5%

PC-PBT

Polymaker™ PC-PBT is a PC/PBT polymer blend which offers good heat resistance and toughness at low temperature (-20˚C/-30˚C). Polymaker™ PC-PBT also features good chemical resistance.

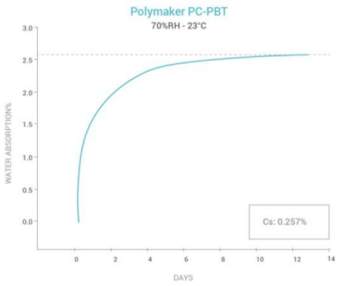
PHYSICAL PROPERTIES

Property	Testing Method	Typical Value
Density	ISO1183, GB/T1033	1.2 g/cm³ at 21°C
Melt Index	260°C, 5 kg	16-22 g/10min
Light Transmission	N/A	N/A
Flame retardancy V2	UL94	V2

CHEMICAL RESISTANT DATA

Property	Testing Method
Effect of weak acids	Resistance
Effect of strong acids	Resistance
Effect of weak alkalis	Slight Resistant
Effect of strong alkalis	Not Resistant
Effect of organic solvent	Not Resistant
Effect of oils and grease	No data available
Effect of Sunlight	No data available

MOISTURE ABSORPTION CURVE



Nanovia ABS AF :

Renforcé en fibres d'aramide

Réalisez des pièces en composite ABS fibres d'aramide plus résistantes, plus légères et avec une facilité d'impression supérieure à un ABS standard, grâce au filament Nanovia ABS AF.

Avantages:

Allégement des pièces • Résistance aux chocs et frottements• Contrôle dimensionnel

Impression 3D		Mécanique		Thermique	
T° Extrusion	250 - 270 °C	Densité	1,08 g/cm³	Tg	101 °C
T° Plateau	90 - 110 °C	Mod. traction	2400 Mpa (ISO 527)	DTUL	90 °C
Buse	> 0,4 mm	Mod. flexion	2300 Mpa (ISO 178)	inflammabilité	HB UL 94 à 1,6 mm
Masse linéique	2,5 g/m (1,75 mm) 6.5 g/m (2,85mm)	Elong. à la rupture	7,5% (ISO 527)		

Conseils d'utilisation

Stockage

- Il est conseillé de stocker vos bobines dans un endroit sec, si possible accompagnées de dessiccant.
- Pour assurer une parfaite impression il est conseillé d'étuver votre filament à 60°c pendant 4h ou plus, lorsque la bobine a été exposée à l'air libre pendant une longue période.

Post traitement

- Pour une utilisation en extérieur, il est conseillé de peindre vos pièces ou de les soumettre à un traitement anti UV, comme par exemple la Solution de lissage Nanovia, les fibres d'aramide et l'ABS étant sensibles aux UV.

Hygiène & sécurité

Impression

Il est conseillé d'imprimer ce matériau dans une zone équipée d'une extraction d'air ou d'une protection adaptée. Lors de l'impression, l'ABS peut conduire à l'émanation de COV et de dérivés de styrène.

Post traitement

- Le port d'EPI standard (masque, gants) est conseillé lors du post traitement des pièces imprimées.

Conditionnement

Bobine	L1	L2	D1	D2	D3
500 g	55	45	200	105	52
2Kg	100	90	300	210	52

PRELIMINARY DATASHEET

LUVOCOM® 3F PAHT CF 9891 BK

LUVO
Additive manufact

High-temperature polyamide with carbon fibers, black

Physical properties		Test method	Specimen
Specific gravity		ISO 1183-3	
Water absorption	23°C / 24h	ISO 62	MPTS ISO 3167 A
Melt flow rates (MFR)	250°C / 2,16kg	ISO 1133	pellet
Melt volume rate (MVR)	250°C / 2,16kg	ISO 1133	pellet
Linear mould shrinkage		DIN 16742	MPTS ISO 3167 A
Mechanical properties at 23°C / 50% rh			
Tensile strength	dry, @50 mm/min	ISO 527	MPTS ISO 3167 A
Elongation at maximum force	dry, @50 mm/min	ISO 527	MPTS ISO 3167 A
Modulus of elasticity	dry, @1 mm/min	ISO 527	MPTS ISO 3167 A
Charpy impact strength	dry	ISO 179 1eU	80x10x4mm
Thermal properties			
Heat distortion temperature	HDT A	ISO 75	molded sample
Continuous service temperature	20.000 h	IEC 60216	MPTS ISO 3167 A
Service temperature	during lifetime max. 200h		MPTS ISO 3167 A
Electrical properties			
Insulation resistance strip electrode	R25	DIN IEC 60167	MPTS ISO 3167 A
Surface resistance	ROB	DIN IEC 60093	Ronde 60x4mm

Main features

Low influence from moisture and temperature to measures and electrical properties, compared with I

Technical Data Sheet (TDS)

Version: 2022.QS02

QuinLyte

SmartAgain® Ivory Matt PA/PO 3D Printer Filament

Introduction

SmartAgain® is a specially engineered Nylon (mainly PA6) and Polyolefin (mainly PP) alloy polymer. It develops very fine crystals during printing, which leads to great printability and unique soft-touch smooth surface.

It is printable at both entry level and industrial level printers. It delivers high quality prints even at 0.3mm layer height, which will save 30% up to 70% printing time.

The printed objects have tough (strong but not rigid) mechanical properties as well as excellent hydrolysis, electrical, thermal, and chemical resistance properties.

It is ideal for indoor technical applications such as general-purpose engineering parts and fixtures, electrical insulators, manufacturing rigs, jigs and pucks, and functional models. It is an excellent choice for orthopedic protective braces, and for accessories, bottles, and containers in medical, food and chemical sensitive applications. Aesthetically, it gives an elegant look-and-feel to printed models, statues, toys, and decorative elements.

1. Physical properties

General properties	Test Method	Condition	Typical Value
Density	ISO 1183	23°C, 50%RH	0.980 gr/cm³
Melt flow rate	ISO 1133	230°C / 2.16kg	2.0 gr/10 min
Moisture absorption	Internal method	23°C, 50%RH/24hr	0.1%
Water absorption	Internal method	Saturated	<1.5%

2. Mechanical properties of injection-molded and 3D printed samples [1)]

Build plate 105°C; 0.8mm Nozzle, 0.3mm layer height

	Test Method	Condition	Unit	Typical Value [2)] (Conditioned)			
Sample specimens (ISO 527 type 1A)				Injection Molded	3D Printed		
					Flat, ± 45°	Flat, 90°	Veritcal
Tensile modulus	ISO527-1-2	1mm/min	MPa	1450	1450	1800	1100
Yield (Break) stress	ISO527-1-2	50mm/min	MPa	34	32	34	21
Yield strain	ISO527-1-2	50mm/min	%	6.3	6.5	n.a.	n.a.
Strain at break	ISO527-1-2	50mm/min	%	>50	15.0	3.0	1.8
Charpy Impact Notched	ISO179-1	23°C 50%RH	kJ/m²	8	8	28	4
HDT B	ISO 75-1-2	0.46 Mpa	°C	102	105	100	100

3DFila

Filamento PLA Antiviral Protect

Nome químico	Poliácido láctico
Descrição	PAA01 é um filamento PLA Antiviral altamente versátil, seguro e fácil de imprimir semelhante à impressão do PLA Basic. Ele imprime de forma confiável com alta precisão dimensional e acabamento de superfície de qualidade. Nosso PLA é fabricado a partir de fontes orgânicas e renováveis.
Características Principais	Boa resistência à tração e alta qualidade da superfície, trabalha com elevadas velocidades de impressão, de fácil utilização em ambiente tanto doméstico, como de escritório; o PLA permite criar peças de elevada resolução e volume. Possui baixo odor.
Aplicações	**Desenvolvido especialmente para aplicações de peças de uso de contato coletivo como maçanetas, puxadores, botoeiras e botões, entre outros.** Utensílios domésticos, brinquedos, projetos educativos, objetos de exposição, protótipos, modelos arquitetônicos, assim como métodos de moldagem por envolvimento para criar peças de metal.
Não adequado para	Aplicações em contato com alimentos e aplicações in vivo. Uso ou aplicações de longa duração em espaços exteriores onde a peça impressa está exposta a temperaturas superiores a 50 °C.
Ação Antiviral	Reduz 99% de vírus, portanto tem eficácia antiviral e confere proteção antiviral. Produto certificado de acordo com a ISO 21702-2019. Utiliza a nano-tecnologia da prata (Ag-NPs) que esgota a membrana

3DFila

Configurações recomendadas de impressão

Parâmetro	Unidades	Faixa
Temperatura de Extrusão	°C	180 – 220
Temperatura de mesa recomendada / Substrato	°C/Tipo	45 – 60
Velocidade de impressão (Primeira Camada)	mm/s	35 – 180
Resfriamento (após primeira camada) / cooler	%	100
Multiplicador de Extrusão	-	100
Percentual de Overlap	%	5

Propriedade de peças impressas

Parâmetro	Método	Unidades	Valores
Densidade	D1505	g/cc	1,24
Resistência à tração na ruptura	D882	kpsi	21
Alongamento na ruptura	D882	%	160
Módulo elástico por tração	D882	kpsi	560
Resistência ao Impacto IZOD	D256	J/m	0,3
Temperatura de Amolecimento Vicat (10N)	-	°C	55

Observação: Propriedades obtidas usando amostras de teste impressas em direção X-Y nas seguintes condições: temperatura de impressão 200°C, temperatura de mesa 60°C, velocidade 45 mm/s, 15% de preenchimento em grade (±45°), 2 camadas de perímetro, nozzle de 0,40 mm e altura da camada de 0,15 mm.

Observações finais

1. Os valores constantes neste documento poderão sofrer alterações sem comunicação prévia da 3D Fila.
2. Esta resina não contém a substância Bisfenol A (BPA, CAS: 80-05-7) em sua composição
3. Em caso de dúvidas na utilização ou para informações regulatórias do produto, entre em contato com a Área de Serviços Técnicos (suporte@3dfila.com.br).

A 3D Fila não garante as condições de impressão. Estas representam valores estimados com base em métodos de testes internos. As propriedades de peças impressas podem variar de acordo com as condições de impressão e equipamento utilizados.

Технический паспорт CPE+

Ultimaker

Химическое наименование	Сополиэфир
Описание	Сополиэфир CPE+ является химически стойким и термостойким, ударопрочным и обладает хорошей стабильностью размеров. CPE+ обладает более высокой термостойкостью и повышенной ударной прочностью, чем обычный CPE.
Основные особенности	Отличная химическая стойкость, термостойкость, ударопрочность и неизменность размеров, хорошая межслойная адгезия (особенно в случае использования дополнительной фронтальной дверцы), хорошая адгезия к подложке (особенно при использовании адгезионных листов) и низкие уровни ультрамелких частиц (УМЧ) и летучих органических соединений (ЛОС). Позволяет печатать прозрачные детали при выборе прозрачной нити.
Приложения	Изготовление визуальных и функциональных прототипов и мелкосерийное производство.
Непригоден для	Приложения, связанные с физиологией человека и соприкосновением с пищевыми продуктами. Долговременное использование на открытом воздухе или в системах, в которых напечатанная деталь подвергается воздействию температуры выше 100°C.

Технические характеристики нити	Значение	Метод
Диаметр	2,85±0,10 мм	-
Макс. отклонение от окружности	0,10 мм	-
Масса нетто нити	700 г	-
Длина нити	~93 м	-