

BladeMate PLA^{pro}

TECHNICAL DATA SHEET

BladeMate PLA pro は、優れた機械的特性と印刷品質を備えています。印刷中に印刷領域を保温したり、プラットフォームを加熱したりする必要がないため、迅速な試作と簡単な印刷に貢献します。フィラメントには、刺激臭がほぼ無く、選択できる複数の色があります。また、加熱ゾーンに入るとすぐに溶けるので、ノズルの目詰まりを防ぎます。

Physical properties	Unit	Typical value	Test method
Density	g/cm ³	1.24	ASTM D792 (ISO 1183)
Heat distortion temperature	°C	50	ASTM D648 (ISO 75)0.45MPa
Melting temperature	°C	155	ISO 11357
Mechanical properties			
Tensile strength (X-Y)	MPa	53	ASTM D638(ISO 527)
Elongation at break (X-Y)	%	4.5	ASTM D638(ISO 527)
Bending strength (X-Y)	MPa	82	ASTM D790(ISO 178)
Bending modulus (X-Y)	MPa	3104	ASTM D790(ISO 178)
Charpy impact strength (X-Y)	kJ/m ²	14	ASTM D256(ISO 179)
Recommended FDM printing settings		Unit	Value
Printing temperature	°C	190 - 230	
Bed temperature	°C	50 - 60	
Layer thickness	mm	0.2	
Printing speed	mm/s	120 - 150	

Note:

★ 1. Due to the large variety of machines, geometries, and volumes of parts, etc., it may be necessary to employ different settings according to the specific application. Please contact us for further information.

Applications

Prototype	Jig&fixture	Cover&housing	Functional parts	Automotive&automation	Defense&others
✓					

BladeMate ABS

TECHNICAL DATA SHEET

BladeMate ABS は、ABS 樹脂を塊状重合させたマテリアルです。従来のABS樹脂に比べて揮発分が少なく、印刷品質に優れ、印刷時の臭気も少ないのが特徴です。機能プロトタイプングまたはエントリー レベルのエンジニアリング アプリケーションに適しています。

Physical properties	Unit	Typical value	Test method
Density	g/cm ³	1.0	ASTM D792 (ISO 1183)
Heat deflection temperature	°C	85	ASTM D648 (ISO 75)0.45MPa
Mechanical properties			
Tensile strength (X-Y)	MPa	40	ASTM D638(ISO 527)
Elongation at break (X-Y)	%	12	ASTM D638(ISO 527)
Bending strength (X-Y)	MPa	64	ASTM D790(ISO 178)
Bending modulus (X-Y)	MPa	2200	ASTM D790(ISO 178)
Izod impact strength (X-Y)	kJ/m ²	21	ASTM D256(ISO 180)
Recommended FDM printing settings	Unit	Value	
Printing temperature	°C	220 - 260	
Bed temperature	°C	80 - 110	
Layer thickness	mm	0.2	
Printing speed	mm/s	120 - 150	

Note:

★ 1. Due to the large variety of machines, geometries, and volumes of parts, etc., it may be necessary to employ different settings according to the specific application. Please contact us for further information.

Applications

Prototype	Jig&fixture	Cover&housing	Functional parts	Automotive&automation	Defense&others
✓	✓	✓			

BladeMate PETG ESD

TECHNICAL DATA SHEET

BladeMate PETG ESD は、静電気放電 (ESD) の安全性と優れた靱性を兼ね備えた高性能素材です。ESDの安全性と BladeMate PETG の完全な機能的利点を組み合わせて、印刷を容易にし、熱耐久性を高め、強度を高めます。これは、エレクトロニクス業界での固定具、機能プロトタイプ、および電気エンクロージャの製造に広く使用できます。

Physical properties	Unit	Typical value	Test method
Density	g/cm ³	1.25	ASTM D792 (ISO 1183)
Vicat softening temperature	°C	82	ISO 306
Surface resistance	Ω	10 ³ - 10 ⁴	ANSI ESD S11.11
Mechanical properties			
Tensile strength (X-Y)	MPa	30.5	ASTM D638(ISO 527)
Elongation at break (X-Y)	%	7	ASTM D638(ISO 527)
Bending strength (X-Y)	MPa	63.9	ASTM D790(ISO 178)
Bending modulus (X-Y)	MPa	2201	ASTM D790(ISO 178)
Charpy impact strength (X-Y)	kJ/m ²	5.9	ASTM D256(ISO 179)
Recommended FDM printing settings	Unit	Value	
Printing temperature	°C	250 - 290	
Bed temperature	°C	70 - 80	
Layer thickness	mm	0.2	
Printing speed	mm/s	120 - 150	

Note:

- ★ 1. The above physical properties are applicable to BladeMate PETG, except for the surface resistance.
- ★ 2. Due to the large variety of machines, geometries, and volumes of parts, etc., it may be necessary to employ different settings according to the specific application. Please contact us for further information.

Applications

Prototype	Jig&fixture	Cover&housing	Functional parts	Automotive&automation	Defense&others
✓	✓	✓	✓		✓

BladeMate PET-CF

TECHNICAL DATA SHEET

BladeMate PET-CF は、炭素繊維強化 PET フィラメントです。高剛性、高硬度、高強度耐摩耗性に優れています。PA-CFに比較して、印刷が容易で、吸水率が低く、プリントヘッドの目詰まりのリスクが低いという特徴があります。高性能構造部品、MRO、スペアパーツ、大量注文生産に適しています。

Physical properties	Unit	Typical value	Test method
Density	g/cm ³	1.3	ASTM D792 (ISO 1183)
Vicat softening temperature	°C	83	ISO 306
Heat distortion temperature	°C	112	ASTM D648 (ISO 75)1.8MPa
	°C	148.8	ASTM D648 (ISO 75)0.45MPa
Mechanical properties			
Tensile strength (X-Y)	MPa	92	ASTM D638(ISO 527)
Elongation at break (X-Y)	%	2	ASTM D638(ISO 527)
Bending strength (X-Y)	MPa	127	ASTM D790(ISO 178)
Bending modulus (X-Y)	MPa	5400	ASTM D790(ISO 178)
Charpy impact strength (X-Y)	kJ/m ²	6	ASTM D256(ISO 179)
Recommended FDM printing settings	Unit	Value	
Printing temperature	°C	280 - 320	
Nozzle material	-	Hardened steel	
Bed temperature	°C	80 - 90	
Layer thickness	mm	0.2	
Printing speed	mm/s	120 - 150	

Note:

★ 1. Due to the large variety of machines, geometries, and volumes of parts, etc., it may be necessary to employ different settings according to the specific application. Please contact us for further information.

Applications

Prototype	Jig&fixture	Cover&housing	Functional parts	Automotive&automation	Defense&others
✓	✓	✓	✓		

BladeMate PA12-CF

TECHNICAL DATA SHEET

BladeMate PA12-CF は、PA12 をベースとした炭素繊維強化ナイロンフィラメントです。強度が高く、耐熱性が高いため、用途によっては金属部品の代替として軽量化を実現できます。PA12はナイロン素材の中で最も吸湿率が低く、プリント部分の寸法安定性が向上します。機能部品、構造部品、MRO、大量注文品の生産に適しています。

Physical properties	Unit	Typical value	Test method
Density	g/cm ³	1.0	ASTM D792 (ISO 1183)
Water absorption RH 100% , 23°C	%	1.0	ISO 3167 (ASTM D570)
Heat deflection temperature	°C	105	ASTM D648 (ISO 75)1.8MPa
	°C	131	ASTM D648 (ISO 75)0.45MPa
Melting temperature	°C	165	ISO 11357
Mechanical properties			
Tensile strength (X-Y)	MPa	72	ASTM D638(ISO 527)
Elongation at break (X-Y)	%	3.5	ASTM D638(ISO 527)
Bending strength (X-Y)	MPa	110	ASTM D790(ISO 178)
Bending modulus (X-Y)	MPa	3535	ASTM D790(ISO 178)
Charpy impact strength (X-Y)	kJ/m ²	12.5	ASTM D256(ISO 179)
Recommended FDM printing settings	Unit	Value	
Printing temperature	°C	260 - 310	
Nozzle material	-	Hardened steel	
Bed temperature	°C	50 - 70	
Layer thickness	mm	0.2	
Printing speed	mm/s	120 - 150	

Note:

★ 2. Due to the large variety of machines, geometries, and volumes of parts, etc., it may be necessary to employ different settings according to the specific application. Please contact us for further information.

Applications

Prototype	Jig&fixture	Cover&housing	Functional parts	Automotive&automation	Defense&others
✓	✓	✓	✓	✓	✓

BladeMate PA^{HT}-CF

TECHNICAL DATA SHEET

BladeMate PA HT -CF は、耐熱ナイロン基板と 15% の高剛性炭素繊維を組み合わせで作られており、より高い弾性率、機械的強度、および剛性を備えています。連続使用温度は最高150℃まで可能です。また炭素繊維強化により、寸法安定性がさらに向上し、印刷の反りのリスクが大幅に減少します。反りのない大型製品の印刷に適しています。

Physical properties	Unit	Typical value	Test method
Density	g/cm ³	1.15	ASTM D792 (ISO 1183)
Heat distortion temperature	°C	121	ASTM D648 (ISO 75)1.8MPa
	°C	193	ASTM D648 (ISO 75)0.45MPa
Melt temperature	°C	231	ISO 11357
Mechanical properties			
Tensile strength (X-Y)	MPa	105	ASTM D638(ISO 527)
Elongation at break (X-Y)	%	1.6	ASTM D638(ISO 527)
Bending strength (X-Y)	MPa	151	ASTM D790(ISO 178)
Bending modulus (X-Y)	MPa	6140	ASTM D790(ISO 178)
Charpy impact strength (X-Y)	kJ/m ²	6.3	ASTM D256(ISO 179)
Recommended FDM printing settings		Unit	Value
Printing temperature	°C	300 - 320	
Nozzle material	-	Hardened steel	
Bed temperature	°C	70 - 80	
Layer thickness	mm	0.2	
Printing speed	mm/s	120 - 150	

Note:

★ 1. Due to the large variety of machines, geometries, and volumes of parts, etc., it may be necessary to employ different settings according to the specific application. Please contact us for further information.

★ 2. Hardened 0.6mm nozzle recommended.

Applications

Prototype	Jig&fixture	Cover&housing	Functional parts	Automotive&automation	Defense&others
✓	✓	✓	✓	✓	✓