

Addigy[®] P3001

Powder Bed Fusion

Additive manufacturing thermoplastic copolyester (TPC) for powder bed fusion such as Selective Laser Sintering (SLS) combining softness with a high energy return.

Key Benefits

- Soft elastomer material (Shore hardness 88A) with high elastic rebound (76%)
- Biocompatibility: ISO certified for cytotoxicity, skin irritation & sensitization
- Elastomeric material with broad usage range (-40 – 140 °C)

Applications

- Footwear (midsoles/insoles)
- Protective gear (sports guards)
- Parts requiring biocompatibility approval

Technical Data

Property	Specimen	Value	Unit	Test Method
Appearance		off-white	-	
Density	printed	approx. 1080	kg/m ³	internal method
Bulk density	powder	400 - 500	kg/m ³	ISO 60
Hausner ratio	powder	< 1.25	-	ISO 787-11

Thermal Properties	Specimen	Value	Unit	Test Method
Melting temperature (10 °C/min.)	powder	160	°C	ISO 11357-1/-3
Glass transition temperature (10 °C/min.)	powder	-65	°C	ISO 11357-1/-2

Mechanical Properties	Specimen	Value	Unit	Test Method
Shore hardness A	printed XY	88	-	ISO 868
Shore hardness A	printed Z	87	-	ISO 868
Shore hardness D	printed XY	37	-	ISO 868
Tensile modulus	printed XY	50	MPa	ISO 527-1/-2
Tensile modulus	printed Z	42	MPa	ISO 527-1/-2
Tensile strength at break	printed XY	10	MPa	ISO 527-1/-2
Tensile strength at break	printed Z	5.5	MPa	ISO 527-1/-2
Elongation at break	printed XY	> 250	%	ISO 527-1/-2
Elongation at break	printed Z	50	%	ISO 527-1/-2
Tear resistance	printed XY	84	N/mm	ASTM D624 (type T)
Tear resistance	printed Z	31	N/mm	ASTM D624 (type T)
Compression set (23 °C)	printed	24	%	ISO 815-1 (type B)
Rebound resilience	printed	76	%	ISO 4662



Biocompatibility

Property	Specimen	Value	Unit	Test Method
Cytotoxicity	-	Pass, non-cytotoxic	-	ISO 10993-5
In vitro skin irritation	-	Pass, non-irritant	-	OECD test No. 439
In vitro sensitization	-	Pass, non-sensitizer	-	ISO 10993-10

Disclaimer

The information presented are typical values intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes. Tested parts were built on a Prodways P2000.

Storage

The product should be stored in its original packaging at all times. If bags or containers have been opened, they must then be sealed again to ensure proper further storage. Prolonged exposure of bags or containers containing Addigy® powders to light or light sources containing UV rays should be avoided. UV radiation will lead to degradation especially, but not limited to color changes of the powders. Constant, normal room temperature with minimal fluctuations and low to normal humidity is essential.

Storage Time

Stratasys represents that, for a period of twenty-four months following the day of shipment as stated in the respective transport documents, the product will meet the specifications or values set forth in the Certificate of Analysis, provided that the product is stored in full compliance with the storage conditions set forth in and referenced under section "storage" above and is otherwise handled appropriately. The lapse of the twenty-four months period does not necessarily mean that the product no longer meets specifications or the set values. However, prior to using said product, Stratasys recommends to test such a product if it still meets the specifications or the set values.

Labeling and statutory requirements

This product data sheet is only valid in conjunction with the latest edition of the corresponding Safety Data Sheet. Any updating of safety-relevant information – in accordance with statutory requirements – will only be reflected in the Safety Data Sheet, copies of which will be revised and distributed. Information relating to the current classification and labeling, applications and processing methods and further data relevant to safety can be found in the currently valid Safety Data Sheet.



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MATERIAL DATA SHEET
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