

Addigy[®] PPU 83A X1

Powder Bed Fusion

Additive manufacturing ether-based thermoplastic polyurethane (TPU) for powder bed fusion such as Selective Laser Sintering (SLS) and High-Speed Sintering (HSS).

Key Benefits

- Softest SLS material on the market
- Soft-touch surface
- Formulated with TPU grade passing ISO cytotoxicity

Applications

- Footwear (insoles/outsoles)
- Orthotics & prosthetics
- Gasket & sealings

Technical Data

| Property | Specimen | Value | Unit | Test Method |
|---------------|----------|---------------|-------------------|-------------|
| Appearance | | natural color | - | |
| Density | printed | approx. 1060 | kg/m ³ | ISO 1183-1 |
| Bulk density | powder | approx. 400 | kg/m ³ | ISO 1183-1 |
| Hausner ratio | powder | < 1.25 | - | ISO 787-11 |

| Thermal Properties | Specimen | Value | Unit | Test Method |
|------------------------------|----------|----------|------|-------------|
| Glass transition temperature | powder | -46 | °C | ISO 6721-1 |
| Melting range | powder | 90 - 170 | °C | ISO 6721-1 |

| Mechanical Properties | Specimen | Value | Unit | Test Method |
|-----------------------|------------|------------|-----------------|----------------------------|
| Shore hardness A | printed | approx. 83 | - | ISO 48-4 |
| Tensile strength | printed XY | 13 | MPa | DIN 53504-S2 (200 mm/min.) |
| Tensile strength | printed Z | 5 | MPa | DIN 53504-S2 (200 mm/min.) |
| Elongation at break | printed XY | 500 | % | DIN 53504-S2 (200 mm/min.) |
| Elongation at break | printed Z | 350 | % | DIN 53504-S2 (200 mm/min.) |
| Tear resistance | printed XY | 68 | kN/m | ISO 34-1 |
| Tear resistance | printed Z | 42 | kN/m | ISO 34-1 |
| Abrasion resistance | printed XY | 38 | mm ³ | ISO 4649 |
| Rebound resilience | printed | 63 | % | DIN 53512 |

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 Farsoon FS251P.



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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ISO 9001:2015
Certified

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MATERIAL DATA SHEET
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