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General information

Components

BASF thermoplastic polyurethane (TPU) based filament for Fused Filament Fabrication.

Product Description

Good flexibility at low temperature, good wear performance and good damping behavior are the key features of Ultrafuse TPU 85A.

Delivery form and warehousing

Ultrafuse TPU 85A filament should be stored at 15 - 25°C in its originally sealed package in a clean and dry environment. If the recommended storage conditions are observed the products will have a minimum shelf life of 12 months.

Product safety

Mandatory, recommended industrial hygiene procedures and the relevant industrial safety precautions must be followed whenever this product is being handled and processed. Product is sensitive to humid environment conditions. For additional information please consult the corresponding material safety data sheets.

For your information

Ultrafuse TPU 85A comes in its natural white color. Chemical properties (e.g. resistance against particular substances) and tolerance for solvents can be made available if these factors are relevant for a specific application. Generally, these properties correspond to publicly available data on polyether based TPUs.

This material is not FDA conform.

Notice

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that 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. The safety data given in this publication is for information purposes only and does not constitute a legally binding Material Safety Data Sheet (MSDS). The relevant MSDS can be obtained upon request from your supplier or you may contact Innofil3D directly at info@innofil3d.com.



Recommended 3D-Print processing parameters

| | |
|---------------------------|-----------------------------|
| Nozzle Temperature | 200 – 220 °C / 392 – 428 °F |
| Build Chamber Temperature | - |
| Bed Temperature | 40 °C / 104 °F |
| Bed material | Glass |
| Nozzle Diameter | ≥ 0.4 mm |
| Print Speed | 15 – 40 mm/s |

Drying Recommendations

| | |
|---|---|
| Drying recommendations to ensure printability | Ultrafuse TPU 85A can be printed without drying. In order to avoid stringing please dry the filament at 70 °C in a hot air dryer between 2 to 8 hours |
| Optimum drying recommendations for best mechanical part properties | 80 °C in a vacuum oven for at least 5 hours |
| Please note: To ensure constant material properties the material should always be kept dry. | |

General Properties

Standard

| | |
|----------------------|------------|
| Printed Part Density | ISO 1183-1 |
|----------------------|------------|

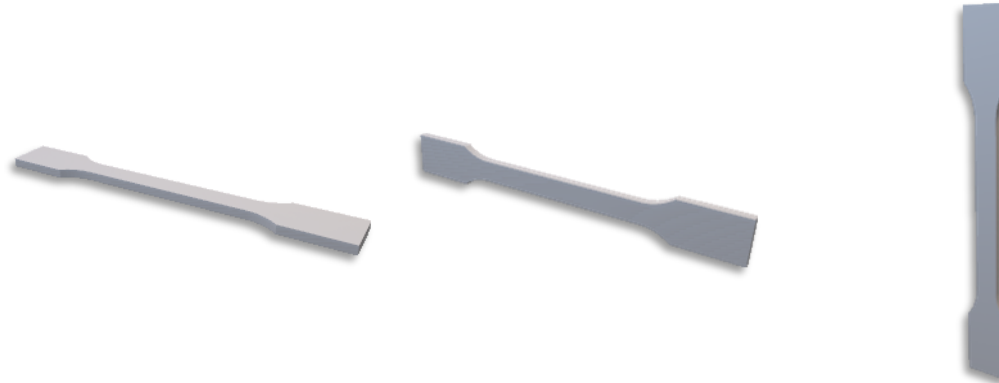
Thermal Properties

Standard

| | | |
|------------------------------|---|--------------|
| Glass transition Temperature | -42 °C / -44 °F | ISO 111357-2 |
| Melting Temperature | To be tested | ISO 11357-3 |
| Melt Volume Rate | 11 cm ³ /10 min / 0.66 in ³ /10 min (190 °C, 2.16 kg) | ISO 306 |



Mechanical Properties



| Print direction | Standard | XY Flat | XZ On its edge | ZX Upright |
|--|------------|--------------------|-------------------|---------------|
| Tensile Modulus | ISO 527-2 | 20.8 MPa / 3 ksi | - | To be tested |
| Stress at 50% strain | ISO 527-2 | 4.6 MPa / 0.67 ksi | - | To be tested |
| Stress at 100% elongation | ISO 527-2 | 5.8 MPa / 0.84 ksi | - | To be tested |
| Stress at 200% elongation | ISO 527-2 | 8.6 MPa / 1.25 ksi | - | To be tested |
| Stress at break TPE | ISO 527-2 | To be tested | - | To be tested |
| Strain at break TPE | ISO 527-2 | To be tested | - | To be tested |
| Impact Strength Charpy (notched) | ISO 179-2 | To be tested | To be tested | To be tested |
| Impact Strength Charpy (notched) @ -30 °C | ISO 179-2 | To be tested | To be tested | To be tested |
| Shore A hardness | ISO 7619-1 | 85 | | |

