



Preliminary Product Data Sheet

IROPRINT F 53117

POLYESTER-BASED THERMOPLASTIC POLYURETHANE FILAMENT (TPU)

PRODUCT DESCRIPTION

IROPRINT F 53117 is a polyester-based Thermoplastic Polyurethane (TPU) for Fused Filament Fabrication (FFF). Key features are high elasticity, abrasion resistance, cut and scratch resistance and good low temperature performance. IROPRINT F53117 is the all-round performer in our range, easy to print and with high mechanical properties.

MAIN APPLICATIONS

Footwear, hoses and gaskets, robotic grippers, seals and other applications that need to be soft and elastic, yet strong and tough.

TYPICAL PROPERTIES

| Properties | NORM | Value XY | Value Z | Unit |
|-------------------------------|------------|----------|---------|-------------------|
| Hardness (after 3 sec.) | ISO 7619 | 96 | | Shore A |
| Hardness (after 3 sec.) | ISO 7619 | 51 | | Shore D |
| Tensile strength | DIN 53504 | 43 | 24 | MPa |
| Elongation @ break | DIN 53504 | 480 | 270 | % |
| Abrasion | ISO 4649 | 35 | | mm ³ |
| Density | ISO 1183-1 | 1.221 | | g/cm ³ |
| Tear strength | ISO 34-1 | 175 | 80 | N/mm |
| Compression set at 70h @ 23°C | ASTM D 395 | 30 | | % |

| Print parameters | NORM | Value | Unit |
|-----------------------------|------|--------|------|
| Nozzle temperature | | 250 | °C |
| Bed temperature | | 20-80 | °C |
| Print speed | | 10-100 | mm/s |
| Extrusion multiplier (Flow) | | 1.8 | |
| Fan speed | | 100 | % |
| Nozzle diameter | | 0.4 | mm |



HEALTH & SAFETY ADVICE

Before undertaking any trials with this product, it is essential that all personnel are aware of the necessary precautions that must be taken. These are detailed in the relevant Safety Data Sheet, which will be provided by HUNTSMAN.

SUPPLY & STORAGE

Diameters: 1.75 mm ± 0.1 mm
2.85 mm ± 0.1 mm
Spool Size: 16 Spools per box, approximately kg per spool. Other packaging types might be available on request.
Each spool is boxed individually, and vacuum packed with desiccant.

IROPRINT F 53117 has an expected shelf life of minimum 12 months after shipment date. The product should be stored in a dry and cool place in the manufacturer's original packaging.

MATERIAL PREPARATION

3 hours at 70–80 °C in dehumidified air.
Dew point: –30 °C

PHYSICAL FORM

Type: TPU Filament

Release date: October 3, 2019

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