

Factsheet | Ultrafuse TPU 85A

First BASF filament developed on Elastollan®

Ultrafuse TPU 85A specially developed for FFF printing. The filament is based on BASF's Elastollan® materials. Elastollan® is the brand name for thermoplastic polyurethane (TPU) from BASF. It stands for maximum reliability, consistent product quality, and cost efficiency.

Like in Elastollan®, Ultrafuse TPU 85A has excellent resistance to hydrolysis and good flexibility at low temperature, resistance to microbiological attack, good wear performance, high tensile strength, good damping behavior.

Excellent properties, such as mechanical strength, resistance to abrasion, and slip resistance, together with a broad range of possible degrees of hardness with different designs, make Ultrafuse TPU 85A an ideal material for applications in the fields of footwear, sports, and leisure, automotive, industrial manufacturing, agriculture and construction.



Shoe sole in Ultrafuse TPU 85A - for customization

Specially formulated filaments based on your requirements.

Advantages of Ultrafuse TPU 85A

- High wear and abrasion resistance
- High tensile strength and outstanding resistance to tear propagation
- Excellent damping characteristics
- Very good low-temperature flexibility
- High resistance to oils, greases, oxygen and ozone



Watch band in Ultrafuse TPU 85A

Guideline for Print Settings	
Nozzle temperature	200 – 220 °C
Bed temperature	40 °C
Nozzle diameter	≥ 0.4 mm
Bed modification	No, glass
Print speed	15 – 40 mm/sec

Properties	TPU 85A	Pro1 tough PLA	ABS Fusion+
Ease of printing	+/-	+	+
Damping behavior	++	-	-
Impact strength at low temperatures	++	+/-	-
Wear behavior	++	-	+/-
Layer adhesion	++	+	++

Factsheet | Ultrafuse PA

Ultrafuse PA is specially developed for FFF printing. It is based on BASF's polyamide portfolio known as Ultramid®. The filament has unique mechanical properties due to its chemical structure. This makes it suitable for a wide range of applications working within a larger temperature range.

First BASF filament developed on Ultramid®

BASF's Ultramid® grades are molding compounds on the basis of PA6, PA66 and various co-polyamides such as PA6/66. Ultramid® is noted for its high mechanical strength, stiffness and thermal stability. In addition, Ultramid® offers good toughness at low temperatures. Owing to its excellent properties, this material has become indispensable in almost all sectors of engineering. It can be used for a wide range of different components and machine elements, such as a high-grade electrical insulation material.

Ultrafuse PA is the translation of BASF's Ultramid® to 3D printing space. It is based on copolyamide 6/66 grade of intermediate viscosity. With Ultrafuse PA, it is possible to print semi-flexible thin parts, however, it is very stiff in higher thicknesses. It has a lower melting temperature than PA6 and PA66 hence it can be printed in a lower temperature as well as it has better impact strength against PA6 and PA66 which opens up a new application field to the end-users. Depending on specific requirements, the formulation can be optimized further, and special filaments can be created.

Guideline for Print Settings

Nozzle temperature	220 – 250 °C
Bed temperature	90 - 120 °C
Nozzle diameter	≥ 0.4 mm
Bed modification	Glass + PVA Glue Stick / Kapton tape
Print speed	30 - 60 mm/s

Advantages of Ultrafuse PA

- Good fatigue resistance
- Low melting point makes it printable for many FFF printers
- Good wear resistance/lubricity

Specially formulated filaments based on your requirements.

Properties	PA	ABS	PP
Ease of printing	+	+	--
Chemical resistance	+/-	-	++
Moisture uptake	-	++	++
Tensile strength	+	-	-
Wear behavior	+/-	-	-



Shark fin antennae in Ultrafuse® PA - for high strength



Visit Innofil3D.com to learn more.