

3D Printer Filament TPU-FLEX

Made by Mitsubishi Chemicals Performance Polymers

RAW MATERIAL

TPU - Thermoplastic Polyurethane

TECHNICAL DATASHEET

APPLICATION

3D Printing

Material Specifications

SIZE	Ø TOLERANCE	ROUNDNESS
1,75mm	±0,05mm	≥ 95%

Material Properties

DESCRIPTION	TEST METHOD	TYPICAL VALUE
Specific gravity	ISO 1183	1,16 g/cc
Tensile Strength at Yield	ISO 527 1/2	50 Mpa
Elongation-Strain at Break	ISO 527 1/2	450%
Tensile (E) modulus	ISO 527	150 MPa
Impact strength - Charpy method 23°C	ISO 179	NB
Shore Hardness	ISO 7619-1	98A
Printing temperature	DF	235±10°C
Melting temperature	ISO 294	225°C
Glass transition (Tg)	DSC	-16°C
Vicat softening temperature	ASTM D 1525	138°C

STORAGE INSTRUCTIONS



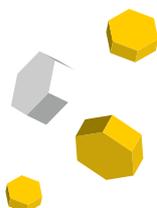
OPTIMAL STORAGE
 TEMPERATURE

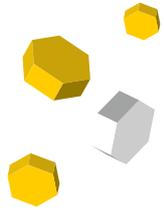


UNUSED
 EXPIRATION DATE



COOL, DRY PLACE
 AWAY FROM SUNLIGHT





3D Printer Filament

TPU-FLEX

TECHNICAL DATASHEET

RAW MATERIAL

TPU - Thermoplastic Polyurethane

APPLICATION

3D Printing

RECOMMENDATIONS

HOW DOES MOISTURE SENSITIVITY IMPACT TPU-FLEX?

TPU-FLEX is very hygroscopic material. This means that it attracts moisture from the air which can have a negative impact on the printing performance. After printing, it is strongly recommended to place the spool into a vacuum bag (without any silica*) for storage.

** More often than not silica gel sachets contain a higher ppm moisture content than the filament itself which would have a reversed effect.*

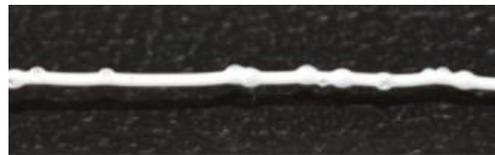
WHEN IS TPU-FLEX TOO WET TO PRINT?

If the TPU-FLEX is too wet, this can be evaluated visually:

- 1 - Heat the nozzle to the preferred temperature for your printer.
- 2 - Extrude or push the filament through the nozzle.

Tiny bubbles appearing when the filament is coming out of the nozzle indicates expanding moisture and can cause unwanted printing effects.

When a clear filament is not perfectly clear after extruding, and has milky white streaks through it, it is also too wet to print.



Example of a very wet filament with moisture bubbles after extrusion

WHAT TO DO WHEN TPU-FLEX IS TOO WET TO PRINT?

TPU-FLEX attracts moisture. After every print it is recommended to dry the filament before the next print.

The formula for drying TPU-FLEX is easy:

- After a 24 hour print put it into a standard heated air oven or filament dryer at 65°C for 24 hours.
- After a 8 hour print, put the filament into the oven for 8 hours.
- After a 2 hour print, put the filament into the oven for 2 hours.

This will be enough to dry the TPU-FLEX to moisture levels in order to have the best printing results.

