

## ICE FILAMENTS TPU PRODUCT CARD

ICE TPU is a specifically formulated flexible filament for easy and high-speed printing on both direct and bowden style 3D printers. TPU features an exceptionally high heat resistance (138°C) and can be stretched as far as 450% before reaching its breaking point. TPU does not require the use of a heated bed and can even be printed straight onto (clean) glass. TPU is the flexible filament for (semi)professional users who do not want to compromise and require a high mechanical flexible filament that prints easily. TPU is an extremely usable flex-filament with a wide variety of different applications, such as orthopedic insoles, prosthetics, vibration dampers and much more.

### FEATURES:

- ∞ Strong & Flexible
- ∞ Works on direct and bowden style 3D printers
- ∞ Printable at speeds of > 75mm/s
- ∞ Exceptionally high softening point of 138°C
- ∞ 450% elongation at break
- ∞ Resistance to oils, greases & microorganisms
- ∞ Easily print watertight objects



### COLOURS:

ICE Filaments ICE-Flexiglass is available in 6 colors



FILAMENT SPECS		
Size	Ø tolerance	Roundness
1.75mm	± 0,05mm	≥ 95%
2.85mm	± 0,10mm	≥ 95%

MATERIAL PROPERTIES		
Description	Testmethod	Typical value
Specific Gravity	ISO 1183	1,16 g/cc
Tensile strength at yield	ISO 527 ½	50 Mpa
Elongation at break	ISO 527 ½	450%
Tensile Modulus	ISO 527	150 Mpa
Impact strength – Charpy notched 23°C	ISO 179	NB
Shore A Hardness	ISO 7619-1	98A
Printing temperature	ICE FILAMENTS	225 – 250°C
Melting temperature		220°C ± 10°C
Glass transition (TG)	DSC	-16°C
Vicat softening temperature	ASTM D1525	138°C

### ADDITIONAL INFO:

ICE Filaments TPU does not require a heated bed to stick well though you can set it to 0 – 60°C for extra reassurance. ICE Filaments TPU works superb with a direct drive feeder, or newer types of bowden FDM or FFF technology 3D printers.

By changing the infill/amount of walls you can create the perception of a higher/lower shore than 98A.

Storage: cool and dry (15 – 25°C) and away from UV light. This enhances the shelf life significantly.

ICE Filaments will supply this product with a moisture content < 0.2%. After being out of the bag for several hours, redrying in an oven is recommended to eliminate moisture.