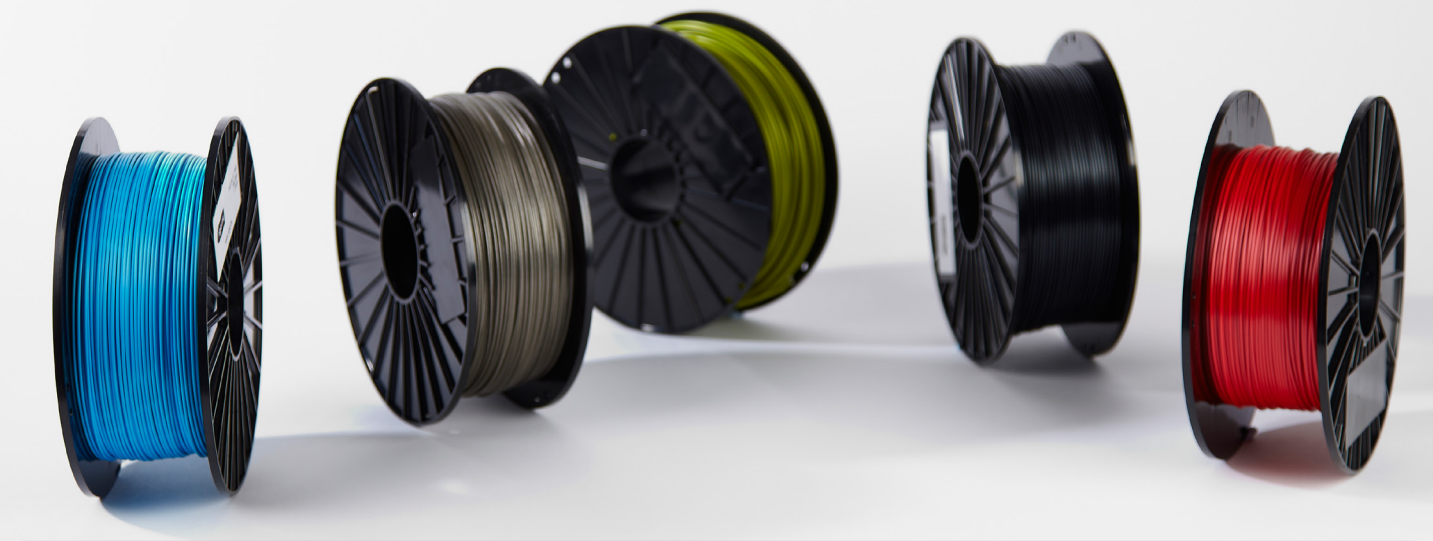
rigid.ink

TPU
Technical Data Sheet



HIGHEST RATED FILAMENT ON AMAZON
60-DAY MONEY BACK GUARANTEE

FAST, FREE MAINLAND DELIVERY OVER £65!
HEAVY USER? SUBSCRIBE AND SAVE!

Description:

A strong and flexible rubber substitute that has strong resilience and tear resistance, excellent abrasion resistance, high resistance to hydrolysis failure and oxidisation, with good stability towards solvents and light.

Applications:

Car parts, seals, toys, vibration isolation mounts, protective covers, castor wheels, delineators, timing belts.

Recommended Print Settings:

Printing Temps 1.75mm	245-250°C
Printing Temps 2.85mm	250-255°C
Heated Bed Temp	80-90°C
Cooling Fans	After 1st layer, 30-60%/as needed
Ideal Build Volume	Doors and covers open/removed
Extrusion Multiplier	x1.0 (100%)
Retraction (direct drive)	Try 2-3mm as a starting point at 20-30mm/s
Retraction (bowden feed)	As above, but try 6mm as a starting point
Print Speed Advisory	<20mms (depends on printer extruder type)
Print Surface Advisory	PEI and FR4/PrintBite and BuildTak bed surfaces are susceptible to serious over-adhesion issues if the first layer is printed too close to the bed (the use of a 'moderator' between the bed surface and the FPLA is advised – glue stick, 3DLAC, vinyl hairspray, etc. Also, increasing the air-gap between the nozzle for the first layer and the bed – do not 'squish' the first layer into the bed)
Print Layer Advisory	None
Other	Some bowden feed systems may not be able to print with this filament

General Advice:

Start at the low end of the temperature range and increase if needed for faster print speeds

Print without supports if possible as they are hard to remove

Properties:

Typical Properties(1)	Value	Test Standard
Density	1.21g/cm³	DIN ISO 1183-1 A
Hardness Shore A	93A	DIN 53505 – ISO 868
100% Modulus	9.5MPa	DIN 53504 – ISO 37
300% Modulus	19.5MPa	DIN 53504 – ISO 37
Tensile Strength	40MPa	DIN 53504 – ISO 37
Elongation at Break	500%	DIN 53504 – ISO 37
Tear Strength	180N/mm	DIN ISO 34-1 B/b
Abrasion Resistance	35mm³	DIN ISO 4649

(1) NOT to be construed as specifications

Other info:

Wide hardness range

Excellent abrasion and scratch resistance

High elasticity

High tensile & tear strength

Good oil and grease resistance

Low temperature flexibility

Customized and cost effective solutions

Recyclable

Adhesion to polar substrates

Service temperature; -50˚C to +100˚C

Print Surface Materials:

Adheres very strongly to PEI and FR4 bed materials. Care must be taken to ensure that the bed surfaces are not damaged by over-adhesion. It is advised that an adhesion moderating coating is applied to these surfaces. Do not 'squish' the first layer into the bed surface.
