Technical Data Sheet

TPU 64D Filament

The Flashforge TPU 64D filament is a high-performance flexible 3D printing material. Compared to conventional TPU 95A, the TPU 64D offers greater hardness and moderate elasticity, making it compatible with most direct-drive 3D printers. Its higher hardness prevents feeding issues often caused by softer materials. The filament also provides excellent transparency, high print accuracy, and contains no harmful additives, making it suitable for a wide range of applications, including footwear, bags, automotive components, electronics, and sports equipment.

Features:

UV stabilized/Oil and grease resistance/High elasticity/High hardness.

Properties:

Physical Properties	**Test Method**	**Units**	**Typical Value**
Density	ISO 1183	g/cm^3	1.22~1.24
Melt Flow Rate (MFR) (210℃/2.16Kg)	ISO 1133	g/10min	40~50
Mechanical Properties			
Tensile Strength (X-Y)	ISO 527	Mpa	30~35
Elongation at Break (X-Y)	ISO 527	%	540~550
Elongation at Break (X-Z)	ISO 527	%	490~500
Maximum force (X-Y)	ISO178	Mpa	5~10
Flexural modulus (X-Y)			100~200
Impact strength (Z-X)	ISO 179	KJ/m^2	20~25
Notch impact strength[2] (X-Y)			62~66
Tear strength (X-Z)	ASTMD 624	N/mm	150~160

Testing Specimen Printing Conditions:

Test Equipment	Flashforge AD5X
Nozzle Diameter	0.4mm
Nozzle Temperature	230°C
Printing Speed	150mm/s
Heated bed temperature	35°C
Wall Thickness	1.8mm
Shell thickness	1.2mm
Infill	100%
Standard Testing Specimen	Specific dimensions are shown in Appendix 1.

Recommended Printing Conditions:

Parameter	
Nozzle Temperature	220~240℃ (230℃ recommended)
Build Platform Temperature	35~55℃(40℃ recommended)
Build Surface Material	Tempered glass, BuildTak, Carbon fiber plate
Nozzle Diameter	ϕ0.4/0.6mm(0.4mm recommended)
Nozzle & Gear Material	Hardened steel
Cooling Fan	50%~100%
Layer Thickness	0.2mm
Printing Speed	≤150mm/s(150mm/s recommended)

Cautions:

In order to prevent moisture absorption and contamination, supplied packaging should be kept closed and undamaged. For the same reason, partially used filaments should be re-sealed before storage.

In case the filament has become wet, it should be dried before being used. Using a hot dry air oven at 90℃-100℃ for at least 12 hours is recommended in order to ensure the print success rate and quality.

After the printing process, it is recommended to dry the model in the oven at 120-130°C for 6-8 hours to increase the strength of the model.

Disclaimer:

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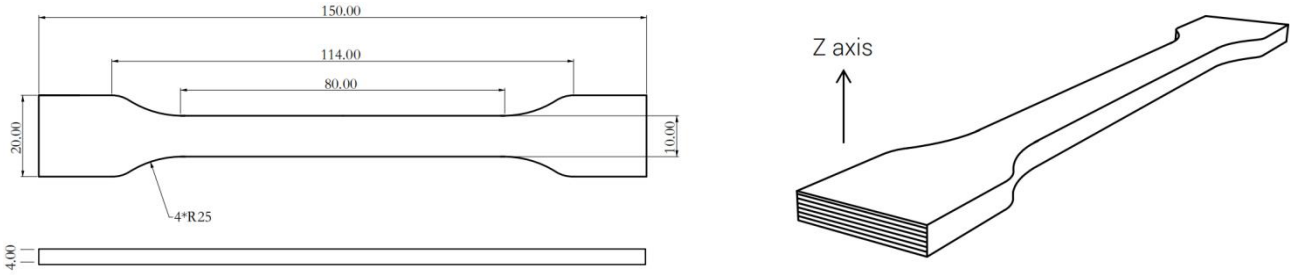
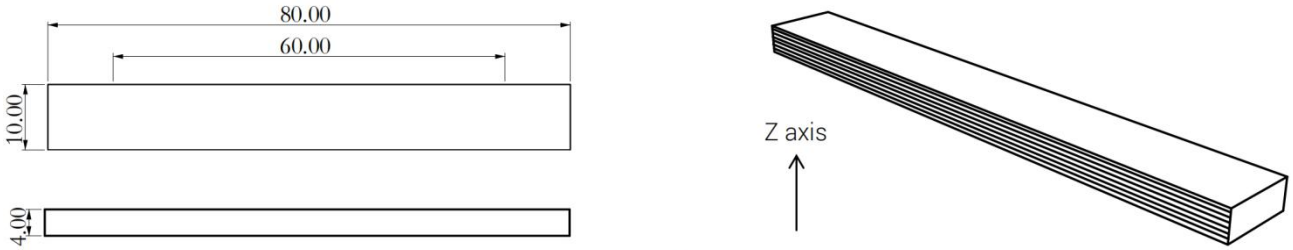
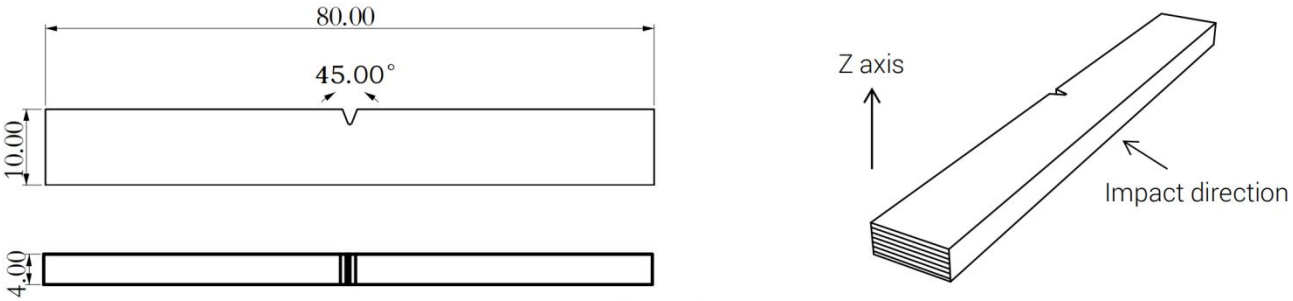
Attachment 1:
Testing Specimen Size and Printing Direction



Tensile testing specimen; ASTM D638 (ISO 527, GB/T 1040)



Flexural testing specimen; ASTMD790 (ISO 178, GB/T 9341)



Impact testing specimen; ASTM D256 (ISO 179, GB/T 1043)