Xometry

Datasheet

ABS-FDM

Raise3D Premium ABS is made from a special bulk-polymerized ABS resin, which has a volatile content which is significantly lower than that of conventional ABS resins. During printing, it produces minimal odor and provides excellent print quality, mechanical strength, and heat and warp resistance.

The properties of Raise3D Premium ABS make it suitable for engineering design, prototyping design, functional testing, and part assembly.

Part 1: Physical Properties*

Parameter	Testing Method	Value
Density	ISO 1183, GB/T 1033	1.12 (g/cm³ at 23°C)
Glass transition temperature	DSC, 10°C/min	101°C
Vicat Softening Temperature (VST)	ISO 306, GB/T 1633	104°C
Melt Flow Index (MFI)	220°C, 2.16 kg	9–14 g/10 min
Odor	/	Almost odorless
Solubility	/	Insoluble in water

* Tested using 3D printed samples with 100% infill. These values refer to newly opened filament. The filament may absorb moisture during use.

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Part 2: Mechanical Properties (Dry)*

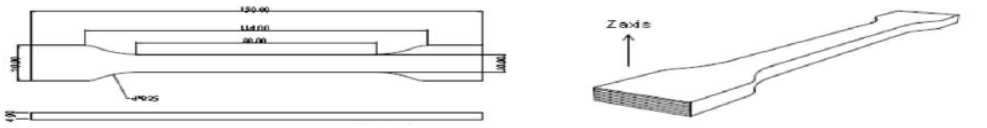
Parameter	Testing Method	Value
Young's Modulus (X-Y)	ISO 527, GB/T 1040	2174±285 (MPa)
Tensile Strength (X-Y)	ISO 527, GB/T 1040	33±1 (MPa)
Elongation at Break (X-Y)	ISO 527, GB/T 1040	2.7±0.4 (%)
Flexural Modulus	ISO 178, GB/T 9341	1339±238 (MPa)
Flexural Strength	ISO 178, GB/T 9341	59±1 (MPa)
Charpy Impact Strength	ISO 179, GB/T 1043	12.6±1.1 (kJ/m²)

All specimens were printed under the following conditions:

Print Temperature = 255°C, Print Speed = 60 mm/s, Bed Temperature = 100°C, Infill Density = 100%

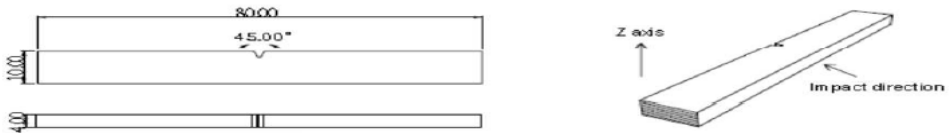
Appendices

Test Samples:



Tensile test specimen; ASTM D638 / ISO 527, GB/T 1040

Flexural test specimen; ASTM D790 / ISO 178, GB/T 9341



Impact test specimen; ASTM D256 / ISO 179, GB/T 1043