

OVERTURE PC PROFESSIONAL TECHNICAL DATA SHEET

OVERTURE PC PROFESSIONAL has particularly good impact resistance, thermal stability, gloss and flame retardancy, and has a wide temperature range, widely used in the design of electronic product casings.

Physical Properties (Transparent)

Property	Testing method	Typical value
Density	ISO 1183, GB/T 1033	1.21 (g/cm ³ at 21.5 °C)
Vicat Softening temperature*	ISO 306 GB/T 1633	115.3 (°C)
Melt index	210 °C, 2.16 kg	10.0 (g/10 min)
Melting temperature	DSC, 10°C/min	N/A

Tested with 3D printed specimen of 100% infill

Mechanical Properties (Transparent)

Property	Testing method	Typical value
Young's modulus (X-Y)	ISO 527, GB/T 1040	2253 ± 59 (MPa)
Tensile strength (X-Y)	ISO 527, GB/T 1040	70.2 ± 1.8 (MPa)
Tensile strength (Z)	ISO 527, GB/T 1040	44.5 ± 0.9 (MPa)
Elongation at break (X-Y)	ISO 527, GB/T 1040	6.7 ± 0.6 (%)
Bending modulus (X-Y)	ISO 178, GB/T 9341	2588 ± 56 (MPa)
Bending strength (X-Y)	ISO 178, GB/T 9341	93.4 ± 2.1 (MPa)
Notched Charpy impact strength (X-Y)	ISO 179, GB/T 1043	5.7 ± 1.4 (kJ/m ²)

All testing specimens were printed under the following conditions:
 nozzle temperature = 260 °C, printing speed = 45 mm/s, build plate temperature = 95 °C, infill = 100%
 All specimens were conditioned at room temperature for 24h prior to testing

Physical Properties (Other filament)

Property	Testing method	Typical value
Density	ISO 1183, GB/T 1033	1.21 (g/cm ³ at 21.5 °C)
Vicat Softening temperature*	ISO 306 GB/T 1633	110.3 (°C)
Melt index	210 °C, 2.16 kg	7.0 (g/10 min)
Melting temperature	DSC, 10°C/min	N/A

Tested with 3D printed specimen of 100% infill

Mechanical Properties (Other filament)

Property	Testing method	Typical value
Young's modulus (X-Y)	ISO 527, GB/T 1040	2138 ± 134 (MPa)
Tensile strength (X-Y)	ISO 527, GB/T 1040	49.8 ± 2.1 (MPa)
Tensile strength (Z)	ISO 527, GB/T 1040	37.6 ± 1.3 (MPa)
Elongation at break (X-Y)	ISO 527, GB/T 1040	6.2 ± 1.2 (%)
Bending modulus (X-Y)	ISO 178, GB/T 9341	2293 ± 99 (MPa)
Bending strength (X-Y)	ISO 178, GB/T 9341	79.8 ± 3.4 (MPa)
Notched Charpy impact strength (X-Y)	ISO 179, GB/T 1043	20.5 ± 0.9 (kJ/m ²)

All testing specimens were printed under the following conditions:
 nozzle temperature = 260 °C, printing speed = 45 mm/s, build plate temperature = 95 °C, infill = 100%
 All specimens were conditioned at room temperature for 24h prior to testing

Recommended Printing Conditions

Nozzle temperature	250 - 270 (°C)
Build surface material	OVERTURE Build Surface, Textured PEI
Build surface treatment	None, Applying PVA glue to the build surface
Build plate temperature	90-105 (°C)
Cooling fan	Turned off
Printing speed	30-50 (mm/s)
Raft separation distance	0.1-0.2 (mm)
Retraction distance	1-3 (mm)
Retraction speed	20-40 (mm/s)
Threshold overhang angle	45 (°)

Based on 0.4 mm nozzle.
 Printing conditions may vary with different nozzle diameters

Disclaimer

The typical values presented in this data sheet are intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes. Actual values may vary significantly with printing conditions. End- use performance of printed parts depends not only on materials, but also on part design, environmental conditions, printing conditions, etc. Product specifications are subject to change without notice.

Each user is responsible for determining the safety, lawfulness, technical suitability, and disposal/recycling practices of OVERTURE materials for the intended application. OVERTURE makes no warranty of any kind, unless announced separately, to the fitness for any use or application. OVERTURE shall not be made liable for any damage, injury or loss induced from the use of OVERTURE materials in any application.