

PolyCore™ PC-7414

Technical Data Sheet (Ver. 1.0, last updated: May., 2020)

PolyCore™ PC-7414 is 40% glass fiber reinforced PC pellets featured with $T_g = \sim 140^\circ\text{C}$

Physical Properties¹

Property	Testing Method	Typical Value
Density (g/cm ³ at 21.5 °C)	ASTM D792 (ISO 1183, GB/T 1033)	1.3
Melt index (g/10 min)	300 °C, 1.2 kg	15.4
Glass transition temperature (°C)	DSC, 10 °C/min	140
Vicat Softening temperature (°C)	ASTM D1525 (ISO 306 GB/T 1633)	154
Heat Deflection Temperature (°C)	ISO 75 1.8MPa	137
	0.45MPa	141

1. Tested with injection molding specimens

Mechanical Properties¹

Property	Testing Method	Typical Value
Young's modulus (MPa)	ASTM D638 (ISO 527, GB/T 1040)	10949 ± 443
Tensile strength (MPa)	ASTM D638 (ISO527, GB/T 1040)	129.6 ± 11.8
Elongation at break (%)	ASTM D638 (ISO527, GB/T 1040)	2.0 ± 0.4
Bending modulus (MPa)	ASTM D790 (ISO 178, GB/T 9341)	9690 ± 434
Bending strength (MPa)	ASTM D790 (ISO 178, GB/T 9341)	180.4 ± 8.9
Charpy Impact strength (kJ/m ²)	ASTM D256 (ISO 179, GB/T 1043)	11.3 ± 0.6

1. Tested with injection molding specimens

Recommended Printing Conditions

Parameter	Recommended Setting
Air drying temperature (°C)	120
Air drying time (h)	2 - 3
Maximum moisture content (%)	0.02
Barrel – zone 1 temperature (°C)	250 - 260
Barrel – zone 2 temperature (°C)	280 - 300
Barrel – zone 3 temperature (°C)	290 - 310
Nozzle temperature (°C)	290 - 300
Bed temperature (°C)	60 - 100
Other Comments	

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.

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