PolyCore ASA-3012

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

PolyCore ASA-3012 is a glass fiber reinforced (20% mass percent) ASA pellets featured with excellent printability, warping resistance and weather resistance

Physical Properties

Property	Testing Method	Typical Value
Density (g/cm^3 at 21.5 °C)	ASTM D792 (ISO 1183, GB/T 1033)	1.2
Melt index (g/10 min)	220 °C, 10 kg	6 - 10
Glass transition temperature (°C)	DSC, 10 °C/min	98
Vicat Softening temperature (°C)	ASTM D1525 (ISO 306 GB/T 1633)	105

Mechanical Properties[1]

Property	Testing Method	Typical Value
Young's modulus (MPa)	ASTM D638 (ISO 527, GB/T 1040)	7237 ± 136
Tensile strength (MPa)	ASTM D638 (ISO527, GB/T 1040)	101.3 ± 2.4
Elongation at break (%)	ASTM D638 (ISO527, GB/T 1040)	2.6 ± 0.3
Bending modulus (MPa)	ASTM D790 (ISO 178, GB/T 9341)	7094 ± 89
Bending strength (MPa)	ASTM D790 (ISO 178, GB/T 9341)	149.6 ± 2.1
Charpy Impact strength (kJ/m^2)	ASTM D256 (ISO 179, GB/T 1043)	8.5 ± 0.5

1. Tested with injection molding specimens

Mechanical Properties[1]

Property	Testing Method	Typical Value
Bending modulus (MPa) (X - Y)	ASTM D790 (ISO 178, GB/T 9341)	3320 ± 160
Bending strength (MPa) (X - Y)	ASTM D790 (ISO 178, GB/T 9341)	66.6 ± 3.5

Charpy Impact strength (kJ/m^2) (X - Y)	ASTM D256 (ISO 179, GB/T 1043)	5.0 ± 0.32
Bending modulus (MPa) (Z)	ASTM D790 (ISO 178, GB/T 9341)	1646 ± 170
Bending strength (MPa) (Z)	ASTM D790 (ISO 178, GB/T 9341)	27.2 ± 2.1
Charpy Impact strength (kJ/m^2) (Z)	ASTM D256 (ISO 179, GB/T 1043)	2.3 ± 0.2

1. Tested with the specimens printed under the following conditions:
Nozzle temperature = 230 °C, printing speed = 12kg/h, Nozzle diameter: 5.0 mm, 100% solid specimens,

Recommended Printing Conditions

Parameter	Recommended Setting
Drying temperature (°C)	80
Drying Time (h)	4
Maximum moisture content (%)	0.1
Barrel – zone 1 temperature (°C)	200 - 220
Barrel – zone 2 temperature (°C)	230 - 250
Barrel – zone 3 temperature (°C)	220 - 240
Nozzle temperature (°C)	210 – 230
Bed temperature (°C)	Room temperature - 80
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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