



TECHNICAL DATA SHEET

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PCTG Prime 3D Printer Filament

PCTG copolyester · Product code CX15 · 1.75 mm

Base resin: PCTG copolyester

Typical values for the base resin. Printed parts vary with print settings, orientation and moisture content. Test standards as printed by the resin maker.

Physical properties

Property	Standard	Unit	Typical value
Specific density	ASTM D-792	g/cm ³	1.27
Mold shrinkage	ASTM D 955	%	0.2–0.5
Water absorption	ASTM D 570	%	0.15
Humidity absorption	ISO 62/method 4	%	0.17

Mechanical properties

Property	Standard	Unit	Typical value
Hardness (Shore D)	ASTM D2240		76
Tensile stress at yield	ISO 527-1/-2	MPa (psi)	50 (7,250)
Tensile strain at yield	ISO 527-1/-2	%	4.2
Tensile strain at break	ISO 527-1/-2	%	84
Tensile modulus	ISO 527-1/-2	MPa (psi)	2,175 (315,000)
Flexural modulus	ISO 178	MPa (psi)	1,822 (264,000)
Flexural strength	ISO 178	MPa (psi)	61 (8,850)
Izod impact resistance, notched, 23 °C	ISO 178/A (as printed by the maker)	kJ/m ²	5.2
Izod impact resistance, notched, 0 °C	ISO 178/A (as printed by the maker)	kJ/m ²	5.2
Izod impact resistance, notched, -30 °C	ISO 178/A (as printed by the maker)	kJ/m ²	5.2
Izod impact resistance, unnotched, 23 °C	ISO 180/U	kJ/m ²	Not break
Izod impact resistance, unnotched, 0 °C	ISO 180/U	kJ/m ²	Not break
Izod impact resistance, unnotched, -30 °C	ISO 180/U	kJ/m ²	Not break
Puncture impact behaviour, energy to maximum force	ISO 6603-2/3,3 m/s	J	43

Thermal properties

Property	Standard	Unit	Typical value
Glass transition temperature	ASTM D3418	°C (°F)	80–85 (176–185)
Vicat softening temperature	ISO 306/A50	°C (°F)	79 (174)
Heat deflection temperature, 0.45 MPa	ISO 75-1/-2	°C (°F)	71 (160)
Heat deflection temperature, 1.80 MPa	ISO 75-1/-2	°C (°F)	61 (142)

Optical properties

Property	Standard	Unit	Typical value
Gloss	ASTM D 2457/60°	GU	166

Filament specifications

Diameter	Nominal	Minimum	Maximum	Tolerance
1.75 mm	1.75 mm (0.0689 in)	1.72 mm (0.0677 in)	1.78 mm (0.0701 in)	±0.03 mm (±0.0012 in)

Recommended print settings

Nozzle temperature	250–280°C
Bed temperature	75–90°C
Part cooling fan	20–50%
Enclosure	Recommended
Drying	65°C for 4–6 hours

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