



TECHNICAL DATA SHEET

DURAPRO PC-PBT

1. DESCRIPTION

PC-PBT is a blend of two materials: polycarbonate (PC) and polybutylene terephthalate (PBT). It combines the strengths of both polymers, making it a versatile material for industrial applications. It offers exceptional mechanical properties combined with outstanding heat resistance and resistance to degrees below zero. Thanks to its excellent chemical resistance and ease of printing, it is the optimal choice for demanding 3D printing projects.

2. FEATURES

- Excellent mechanical properties
- High thermal resistance (VICAT A 126°C)
- Good toughness even at low temperatures (at -20°C to -30°C)
- Excellent chemical resistance

3. PROPERTIES

TEST	METHOD	UNIT	VALUE
Melt Volume-Flow Rate (MVR)	ISO 1133	cm ³ /10 min	18
Tensile Modulus	ISO 527-1,-2	MPa	2200
Yield Strength	ISO 527-1,-2	MPa	60
Yield Strain	ISO 527-1,-2	%	5
Nominal Elongation at Break	ISO 527-1,-2	%	> 50
Tensile Strength at Break	ISO 527-1,-2	MPa	50
Flexural Modulus	ISO 178	MPa	2150
Outer Fiber Strain at Maximum Force	ISO 178	%	6
3.5% - Flexural Stress	ISO 178	MPa	70
Flexural Strength	ISO 178	MPa	80
Charpy Impact Strength	ISO 179/1eU	kJ/m ²	N
Charpy Notched Impact Strength	ISO 179/1eA	kJ/m ²	60
Puncture Performance - Maximum Force	ISO 6603-2	N	3800
Puncture Energy	ISO 6603-2	J	47
Izod Impact Strength	ISO 180/U	kJ/m ²	N
Izod Notched Impact Strength	ISO 180/A	kJ/m ²	50
Ball Indentation Hardness	ISO 2039-1	N/mm ²	108
Heat Deflection Temperature 1.8 Mpa	ISO 75-1,-2	°C	85
Heat Deflection Temperature 0.45 Mpa	ISO 75-1,-2	°C	110
Vicat Softening Temperature	ISO 306	°C	126
Linear Coefficient of Thermal Expansion, parallel	ISO 11359-1,-2	10 ⁻⁴ /K	0.9
Linear Coefficient of Thermal Expansion, perpendicular	ISO 11359-1,-2	10 ⁻⁴ /K	0.9
Flammability UL 94 (1.5 mm)	UL 94	Class	HB
Oxygen Index	ISO 4589-2	%	21
Thermal Conductivity, perpendicular	ISO 8302	W/(m·K)	0.2
Glow Wire Flammability Index (GWFI)	IEC 60695-2-12	°C	750
Relative Permittivity 100Hz	IEC 60250	-	3.2



TEST	METHOD	UNIT	VALUE
Relative Permittivity 1MHz	IEC 60250	-	3.0
Dielectric Loss Factor 100Hz	IEC 60250	10 ⁻⁴	7
Dielectric Loss Factor 1MHz	IEC 60250	10 ⁻⁴	45
Specific Volume Resistivity	IEC 62631-3-1	Ohm·m	>1E15
Specific Volume Resistivity	IEC 62631-3-2	Ohm	>1E17
Dielectric Strength	IEC 60243-1	kV/mm	30
Comparative Tracking Index (CTI)	IEC 60112	Stage	600
Comparative Tracking Index (CTI) M	IEC 60112	Stage	125
Water Absorption (Saturation Value)	ISO 62	%	0.5
Water Absorption (Equilibrium Value)	ISO 62	%	0.2
Density	ISO 1183-1	kg/m ³	1200

*Temperature resistance tested at a minimum wall thickness of 4 mm.

PRINT SETTINGS

Nozzle	260-290 °C
Heatbed	110 °C
Adhesive	recommended
Speed	max. 280 mm/s
Cooling	0-30 %
Enclosed Space	yes
Hardened Nozzle	no
max. Volumetric Flow Rate	18 mm ³ /s

Recommended settings for printers with a 0.4mm Nozzle. Max. 50% layerheight.
Optimal print settings may vary between different printers and also depend on environmental factors.

4. CERTIFICATIONS & ADDITIONAL INFORMATION



Certifications depend on colors in final product. More info in the additional information sheet.

5. STORAGE AND SHELF LIFE

Store in a dry room at room temperature (18-27°C / 65-80°F). Keep out of direct heat and sunlight.
When stored correctly, this material has a shelf life of 2 years.
Additional info in our regulatory, additional information and chemical resistance data sheets.