

Buddy3D

Product card

PET-G



easy to print



high chemical
resistance



good mechanical
strength



highly transparent



made with raw
materials approved for
food contact

1. GENERAL INFORMATION ABOUT THE PRODUCT

Buddy3D PET-G – durable copolyester with an amorphous structure. Very universal – combines print simplicity, high mechanical resistance, strong layers bonding, lack of unpleasant odors and high chemical resistance. New formula provides even greater durability and simplicity of printing than before.

Natural PET-G is transparent. Buddy3D PET-G was made entirely of raw materials that meet the ISO 11607-1: 2006 and ISO 10993 directives (applies to natural color). All materials used are approved for contact with food.

Main PET-G features:

- easy to print
- high chemical resistance
- high durability
- very high transparency
- base raw materials and dyes meet the EU Directive 10/2011, the ISO 11607-1: 2006, and ISO 10993 directives (for natural color)

2. TECHNICAL PARAMETERS

CHARACTERISTICS	TEST METHOD	TEST CONDITIONS	IU	VALUE
	ASTM			
PHYSICAL				
Density	ASTM D792	-	g/cm ³	1.28
Moisture absorption	ASTM D570	-	%	0.12
MECHANICAL				
Elongation at break	D638	-	%	138
Tensile strength	D638	-	MPa	51
Bending stress	D790	-	MPa	73
Modulus of elasticity	D790	-	GPa	2.1
Notched impact strength, IZOD	D256	1.27 mm/min	J/m	100
THERMAL				
Vicat softening point	D1525	-	°C	85
Deflection temperature under load	D648	0.45 MPa	°C	70
	D648	1.8 MPa	°C	64
Glass transition	DSC	-	°C	90
COMBUSTIBILITY				
Flammability rating according to UL 94		1.6 mm	-	HB
		3.2 mm	-	V-2
ELECTRICAL				
Surface resistivity	D257	-	□	10 ¹⁶
Conductivity	D257	-	□ x cm	10 ¹⁵
Dielectric constant	D149	-	kV/mm	16

Tests have been done at 23°C if it's not marked differently.

3. RECOMMENDATION OF PRINTING

PET-G may require drying before use, although usually it is not necessary.

It is good to apply this material from a certain height (it doesn't require 'squeezing' the layers). Appropriate selection of the height allows to minimize the effect of thread pulling and polymer accumulation around the nozzle. Printing without the cooling allows to achieve the best layer adhesion, but it can cause worse quality of print surface. An alternative may be to use efficient cooling, starting from the 2nd layer of the print, in combination with increased hotend temperature. Buddy3D PET- G has an elevated working window - it is recommended to print a temperature tower to select the optimal printing temperature for the application. Prints at temperatures over 240°C have a high glossy surface, at lower temperatures the print becomes more matte.

Recommended parameters of printing:

Hotend temperature	235 - 265 °C
Bed temperature	< 85 °C
Print speed	< 300 mm/s

4. SAFETY NOTES

Exhaust fan is recommended.

Air filters in printer is recommended.

PET-G needs to be used only in well-ventilated conditions.

Inhaling fumes generated during the printing must be avoided.

Generating fumes during the printing depends mainly on printing temperature. In case of visibly raising emission level, the printing needs to end. Check the hotend temperature and efficiency of the control system before using it next time.

In proper using conditions, the product doesn't endanger health.

It's forbidden to set fire or exceed decomposition temperature!

Decomposition of PET-G is typically over 350 °C and it should be strictly avoided.

Decomposition of PET-G may cause the release of harmful substances: carbon monoxide, carbon dioxide, and acetaldehyde.

Detailed safety information available in SDS.