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Data Sheet

KIMYA PETG-S 3D FILAMENT

Low-cost filament for FFF 3D Printers

DESCRIPTION

Kimya PETG-S is a 3D printing filament made from PETG (Polyethylene Terephthalate Glycol). It is a durable, flexible polyester that offers a good balance between strength and flexibility, and it also allows for prints with higher clarity or translucency. Thanks to its low cost, PETG is an economical choice for a wide range of applications.

BENEFITS

- Good Chemical Resistance.
- Low Moisture Absorbtion.
- Excellent Layer Adhesion.

TECHNICAL DATA

Properties	Values	Test Methods
Diameter	1.75 ± 0.1 mm 2.85 ± 0.1 mm	INS-6712
Density	1.278 g/cm^3	ISO 1183-1
Moisture Rate	< 1 %	INS-6711
Melt flow index (MFI)	12.1 g/10min	ISO 1133-1 (@225°C-2.16kg)
Glass transition temperature (Tg)	80°C (176°F)	ISO 11357-1 DSC (10°C/min-20-300°C)

Properties	XY	ZX	Test Methods
Tensile Modulus	2,158 MPa (313.0 ksi)	2,057.5 MPa (298.4 ksi)	ISO 527-2/1A/50
Tensile Strength	52.2 MPa (7.6 ksi)	39.3 MPa (5.7ksi)	ISO 527-2/1A/50
Tensile Strain at Strength	3.4 %	2.3 %	ISO 527-2/1A/50
Tensile Stress at Break	52.2 MPa (7.6 ksi)	39.3 MPa (5.7ksi)	ISO 527-2/1A/50
Tensile Strain at Break (type A)	3.4 %	2.3 %	ISO 527-2/1A/50
Flexural Modulus	1,850 MPa (268.3 ksi)	1,636 MPa (237.3 ksi)	ISO 178
Deformation at Flexural Strain	0 %	4.4 %	ISO 178
Flexural Strength*	0 MPa (0 ksi)	63.9 MPa (9.3 ksi)	ISO 178
Flexural Stress at Conventional Deflection (3.5% Strain)*	69.7 MPa (10.1 ksi)	58.9 MPa (8.5 ksi)	ISO 178
Flexural Stress at Break	0 MPa (0 ksi)	63.9 MPa (9.3 ksi)	ISO 178
Deformation at Flexural Strength	0 %	4.5 %	ISO 178
Charpy Impact Resistance	3.991 kJ/m^2 (1.9 ft-lbs/in^2)	1.4 kJ/m^2 (0.7 ft-lbs/in^2)	ISO 179-1/1eA
Shore Hardness	76.6 D	74.1 D	ISO 868

PROCESSING

Printing Direction	XY
Printing Speed	Initial layers: 10-20 mm/s, further layers 30-60 mm/s
Nozzle Temperature	230°C - 260°C (446°F - 500°F)
Bed Temperature	75°C - 85°C (167°F - 185°F)

NOTES

- *According to ISO 178, end of the test at 5% deformation even if there is no specimen break.
- The data should be considered as indicative values - Properties can be influenced by production conditions.

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Catalogue position : KIMYA Filaments for Additive Manufacture