

Fiche Technique

KIMYA PETG-R 3D FILAMENT

Low-cost recycled filament for FFF 3D Printers

DESCRIPTION

Kimya PETG-R is a 3D printing filament made from recycled PETG, sourced from the industrial waste of a luxury and medical packaging manufacturer. Despite being recycled, PETG-R offers technical properties like those of Kimya PETG-S, including good mechanical strength and printability. It provides an environmentally responsible alternative for users seeking sustainable materials without compromising performance.

BENEFITS

- Eco-Friendly.
- Great Mechanical Strength.
- High rigidity.

TECHNICAL DATA

Properties

Diameter	1.75 ± 0.1 mm
Density	2.85 ± 0.1 mm
Melt flow index (MFI)	1.27 g/cm ³
Glass transition temperature (Tg)	8 g/10min
	80°C (176°F)

Properties

Tensile Modulus	1,845 MPa (267.6 ksi)
Tensile Strength	47.1 MPa (6.8 ksi)
Tensile Strain at Strength	3.8 %
Tensile Stress at Break	37.2 MPa (5.4 ksi)
Tensile Strain at Break (type A)	3.6 - 13 %
Flexural Modulus	1,746 MPa (253.2 ksi)
Flexural Stress at Conventional Deflection (3.5% Strain)*	6.8 MPa (8.8 ksi)
Charpy Impact Resistance	6.1 kJ/m ² (2.9 ft-lbs/in ²)
Shore Hardness	75.5 D

Values

	1.75 ± 0.1 mm
	2.85 ± 0.1 mm
	1.27 g/cm ³
	8 g/10min
	80°C (176°F)
	1,845 MPa (267.6 ksi)
	47.1 MPa (6.8 ksi)
	3.8 %
	37.2 MPa (5.4 ksi)
	3.6 - 13 %
	1,746 MPa (253.2 ksi)
	6.8 MPa (8.8 ksi)
	6.1 kJ/m ² (2.9 ft-lbs/in ²)
	75.5 D

Test Methods

	INS-6712
	ISO 1183-1
	ISO 1133-1 (@225°C-2.16kg)
	ISO 11357-1 DSC (10°C/min-20-300°C)

Test Methods

	ISO 527-2/1A/50
	ISO 527-2/1A/50
	ISO 527-2/1A/50
	ISO 527-2/1A/50
	ISO 527-2/5A/50
	ISO 178
	ISO 178
	ISO 179-1/1eA
	ISO 868

PROCESSING

Printing Direction

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

XY

Initial layers: 10-20 mm/s, further layers 30-60 mm/s
230°C - 260°C (446°F - 500°F)
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.