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Fiche Technique

KIMYA PEBA-S 3D FILAMENT

Flexible and high-elongation filament for FFF 3D printers

DESCRIPTION

Kimya PEBA-S is a 3D printing filament made from PEBA (Polyether Block Amide), a thermoplastic elastomer known for its exceptional flexibility and energy return. Produced through the polycondensation of a polyamide and a polyether, PEBA-S stands out with an elongation at break greater than 550%, making it the most flexible material in the Kimya range. Its elasticity and rebound properties make it ideal for sports equipment and impact-absorbing parts.

BENEFITS

- Flexible.
- Great Impact resistance.
- Lightweight.

TECHNICAL DATA

Properties	Values	Test Methods
Diameter	1.75 ± 0.1 mm 2.85 ± 0.1 mm	INS-6712
Density	1.013 g/cm^3 (0.036 lb/in^3)	ISO 1183-1
Moisture Rate	< 1 %	ISO-6711
Melt flow index (MFI)	13.6 g/10 min	ISO 1133-1(@190°C-2.16kg)
Melting Temperature (Tm)	149°C (300°F)	ISO 11357-1 DSC (10°C/min- -90-190°C)

Properties	Values	Test Methods
Tensile Modulus	63 MPa (9.1 ksi)	ISO 37/2/500
Tensile Strength	32.8 MPa (4.76 ksi)	ISO 37/2/500
Tensile Strain at Strength	> 550 %	ISO 37/2/500
Tensile Stress at Break	32.3 MPa (4.68 ksi)	ISO 37/2/500
Tensile Strain at Break (type A)	> 550 %	ISO 37/2/500
Flexural Modulus	70 MPa (10 ksi)	ISO 178
Flexural Stress at Conventional Deflection (3.5% Strain)*	2.4 MPa (0.35 ksi)	ISO 178
Charpy Impact Resistance	No Break	ISO 179-1/1eA
Shore Hardness	93 A	ISO 868

PROCESSING

Printing Direction	XY
Printing Speed	44 mm/s
Nozzle Temperature	235°C - 245°C (455°F - 473°F)
Bed Temperature	80°C - 90°C (176°F - 194°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.