Kimya PEBA-S 3D Filament (PEBAX®)

The Kimya **PEBA-S** 3D filament is a thermoplastic elastomer. Polyether block amide (**PEBA**) is produced via polycondensation of a carboxylic acid polyamide with an alcohol-terminated polyether. PEBA, based on PEBAX by Arkema, is very flexible: it has the best elongation % in the range (>550%). It can be used to make shoe soles or other sports equipment (cycling, golf, American football helmet) as it offers substantial energy return. The Kimya PEBA-S 3D filament has the following properties:

- Flexibility (>550% tensile elongation at break)
- Impact resistance
- Complies with the **REACH** regulation and the **RoHS** directive

2-year KIMYA warranty.
Store away from light, humidity and heat to maintain the properties of the product

FILAMENT PROPERTIES

PROPERTIES	TEST METHODS	VALUES
Diameter	INS-6712	1.75 ± 0.1 mm 2.85 ± 0.1 mm
Density	ISO 1183-1	1.013 g/cm3
Moisture rate	INS-6711	< 1 %
Melt flow index (MFI)	ISO 1133-1 (@220°C – 10 kg)	13.6 g/10min
Melting Temperature (Tm)	ISO 11357-1 DSC (10°C/min – -90-190°C)	149 °C

PRINT PARAMETERS AND SPECIMENS DIMENSIONS

PRINTING DIRECTION	XY
Printing Speed	44 mm/s
Infill	100% - rectilinear
Infill Angle	45°/-45°
Nozzle Temperature	240°C
Bed T°	85°C

PRINTED SPECIMENS PROPERTIES

	PROPERTIES	TEST METHODS	VALUES
MECHANICAL PROPERTIES	Tensile modulus	ISO 37/2/500	63 MPa
	Tensile Strength	ISO 37/2/500	32.8 MPa
	Tensile strain at strength	ISO 37/2/500	>550 %
	Tensile Stress at Break	ISO 37/2/500	32.3 MPa
	Tensile strain at break (type A)	ISO 37/2/500	>550 %
	Flexural modulus	ISO 178	70 MPa
	Flexural stress at conventional deflection (3,5% strain)*	ISO 178	2.4 MPa
	Charpy impact resistance	ISO 179-1/1eA	No Break
	Shore Hardness	ISO 868	93A
Note 1	*According to ISO 178, end of the test at 5% deformation even if there is no specimen break.		
Note 2	The data should be considered as indicative values - Properties can be influenced by production conditions.		

Created on 13/11/2019 - Revised on 16/06/2022.

KIMYA SAS - 20 RUE CHEVREUL
44105 NANTES – FRANCE
TEL. : 02 40 38 40 00 – EMAIL : kimya@armor-group.com
www.armor-group.com/kimya