Kimya PLA-R 3D Filament

The 3D filament Kimya **PLA-R** is a recycled and biodegradable polymer: this biosourced homopolymer can be obtained from corn starch. Polylactic acid (**PLA**) is a natural alternative to polyethylene. It is easy to print and is odorless. The 3D filament Kimya PLA-R can be used in industrial applications, notably packaging, and also in domestic applications: creation of everyday objects, toys, prototypes and for use in modeling. It offers the following properties:

- Easy to print
- Odorless
- Glossy finish
- Contains minimum 95% of recycled material (material that itself is obtained from 100% natural PLA-R)
- Eligible to the **EN 13432** and **EN 14995** standards (PLA-R Natural)
- Complies with the **REACH** regulation and the **RoHS** directive

*Note: slight variations in color may occur between production batches due to the use of recycled material. This does not affect the technical properties of the product which are systematically checked by our quality team!

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	1.235 g/cm3
Moisture rate	INS-6711	< 0.5 %
Melt flow index (MFI)	ISO 1133-1	9 - 12 g/10min
Glass transition temperature (Tg)	ISO 11357-1 DSC (10°C/min - 20-220°C)	61 °C
Melting Temperature (Tm)	ISO 11357-1 DSC (10°C/min – 20-220°C)	165 °C

PRINT PARAMETERS AND SPECIMENS DIMENSIONS

PRINTING DIRECTION	XY
Printing Speed	80 mm/s
Infill	100% - rectilinear
Infill Angle	45°/-45°
Nozzle Temperature	200°C
Bed T°	60°C

PRINTED SPECIMENS PROPERTIES

	PROPERTIES	TEST METHODS	VALUES
MECHANICAL PROPERTIES	Tensile modulus	ISO 527-2/5A/50	2,818 MPa
	Tensile Strength	ISO 527-2/5A/50	55.32 MPa
	Tensile strain at strength	ISO 527-2/5A/50	2.1 %
	Tensile Stress at Break	ISO 527-2/5A/50	41.2 MPa
	Tensile strain at break (type A)	ISO 527-2/5A/50	4,32 %
	Flexural modulus	ISO 178	2,304 MPa
	Flexural stress at conventional deflection (3,5% strain)*	ISO 178	81.72 MPa
	Flexural stress at break	ISO 178	82.3 MPa
	Deformation at Flexural Strength	ISO 178	4.22 %
	Charpy impact resistance	ISO 179-1/1eA	3.12 kJ/m²
	Shore Hardness	ISO 868	75.2D
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.		

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