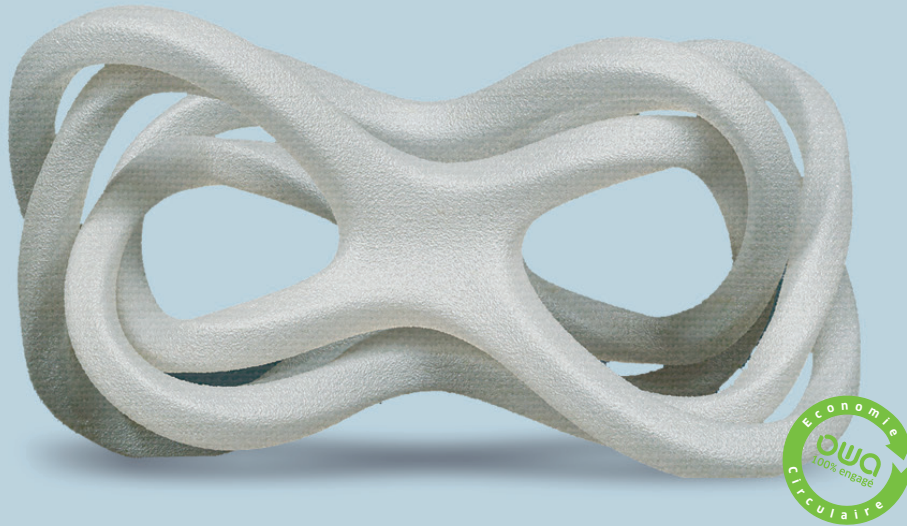




KIMYA **PLA-R**



PLA-R is a recycled filament for prototypes, design printings. PLA-R Natural is biodegradable eligible.

| **EASY TO PRINT** | **SHINY APPEARANCE**
| **≥ 97 % RECYCLED MATERIAL** | **NO ODOR**

FILAMENT PROPERTIES

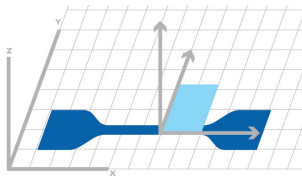
DESCRIPTION	TEST METHODS	UNITS	VALUES
Diameter	INS-6712	mm	1.75 ± 0.1 2.85 ± 0.1
Density	ISO 1183-1	g/cm ³	1,24
Moisture rate	INS-6711	%	< 1
Melt Flow Index (MFI) (@210°C – 2,16 kg)	ISO 1133-1	g/10min	9 - 12
Glass transition temperature (Tg)	ISO 11357-1 DSC (10°C/min – 20 à 220°C)	°C	61
Melting temperature	ISO 11357-1 DSC (10°C/min – 20-220°C)	°C	150

PRINT PARAMETERS AND SPECIMENS DIMENSIONS

PRINTING DIRECTION	XY
PRINTING SPEED	50 mm/s
INFILL	100% - rectilinear
INFILL ANGLE	45°/-45°
EXTRUSION TEMPERATURE	200°C
BED TEMPERATURE	60°C

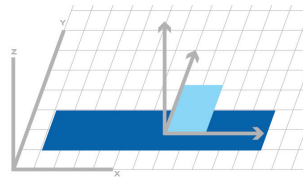
RESULTS

TENSILE TEST



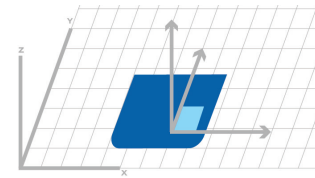
Dim.(mm): 75x12.5x2
Specimen type: ISO 527-5A

BENDING TEST - CHARPY IMPACT



Dim. (mm): 80x10x4

HARDNESS



Dim.(mm): 45x45x4

PRINTED SPECIMENS PROPERTIES

	PROPERTIES	TEST METHODS	UNITS	VALUES
MECHANICAL PROPERTIES	Tensile modulus	ISO 527-2/5A/50	MPa	2,963
	Tensile strength	ISO 527-2/5A/50	MPa	57,9
	Tensile strain at strength	ISO 527-2/5A/50	%	2,2
	Tensile stress at break	ISO 527-2/5A/50	MPa	47,3
	Tensile strain at break	ISO 527-2/5A/50	%	4,0
	Flexural modulus	ISO 178	MPa	2,675
	Flexural stress at conventional deflection (3,5% strain)**	ISO 178	MPa	88,8
	Flexural stress at break	ISO 178	MPa	91,6
	Flexural strength	ISO 178	%	4,3
	Charpy impact resistance	ISO 179-1/1eA	kJ/m ²	3,22
	Shore Hardness	ISO 868	Shore D	79,1

*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.

CERTIFICATION

% RECYCLED	≥ 97 % Recycled
% RECYCLED (FOR PLA-R NATURAL ONLY)	100 % Recycled
BIODEGRADABILITY (FOR PLA-R NATURAL ONLY)	NF EN 13432 & NF EN14995 (for a thickness of 1 mm)