Kimya TPU-R 3D Filament

The 3D filament Kimya **TPU-R** belongs to the polyurethane family. Thermoplastic polyurethane (**TPU**) is an elastomer formulated using recycled materials. It combines elastic and mechanical properties. This combination provides it with multiple advantages such as elasticity, transparency and resistance to oils, greases and abrasion. The 3D filament Kimya TPU-R provides Shore hardness of 92 A. It can be used to produce highly resistant and flexible parts. It is used in the sectors of electronics, automotive, consumer goods and sports equipment. The 3D filament Kimya TPU-R has the following properties:

- Flexible
- 100% produced from recycled materials
- Complies with the **REACH** standard

2-year ARMOR warranty.

FILAMENT PROPERTIES

PROPERTIES	TEST METHODS	VALUES
Diameter	INS-6712	1,75 ± 0,1 mm
Density	ISO 1183-1	1,14 g/cm3
Moisture rate	INS-6711	< 1 %
Melt flow index (MFI)	ISO 1133-1 (@200°C – 5 kg)	42 - 45 g/10min
Glass transition temperature (Tg)	ISO 11357-1 DSC (10°C/min - 90-190°C)	-33 °C

PRINT PARAMETERS AND SPECIMENS DIMENSIONS

PRINTING DIRECTION	XY
Printing Speed	33 mm/s
Infill	100% - rectilinear
Infill Angle	45°/-45°
Nozzle Temperature	210°C
Bed T°	85°C

PRINTED SPECIMENS PROPERTIES

	PROPERTIES	TEST METHODS	VALUES
MECHANICAL PROPERTIES	Tensile modulus	ISO 37/2/500	55,2 MPa
	Tensile Strength	ISO 37/2/500	27,7 MPa
	Tensile strain at strength	ISO 37/2/500	0 %
	Tensile Stress at Break	ISO 37/2/500	27,4 MPa
	Tensile strain at break	ISO 37/2/500	0 %
	Flexural modulus	ISO 178	45,6 MPa
	Flexural stress at conventional deflection (3,5% strain)*	ISO 178	1,9 MPa
	Charpy impact resistance	ISO 180	No Break
	Shore Hardness	ISO 868	90A
Note 1	*Fin de l'essai à 5% d'allongement d'après la norme ISO 178 même si l'éprouvette ne rompt pas.		
Note 2	Les données doivent être considérées comme des valeurs indicatives - Les propriétés peuvent être influencées par les conditions de production.		

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