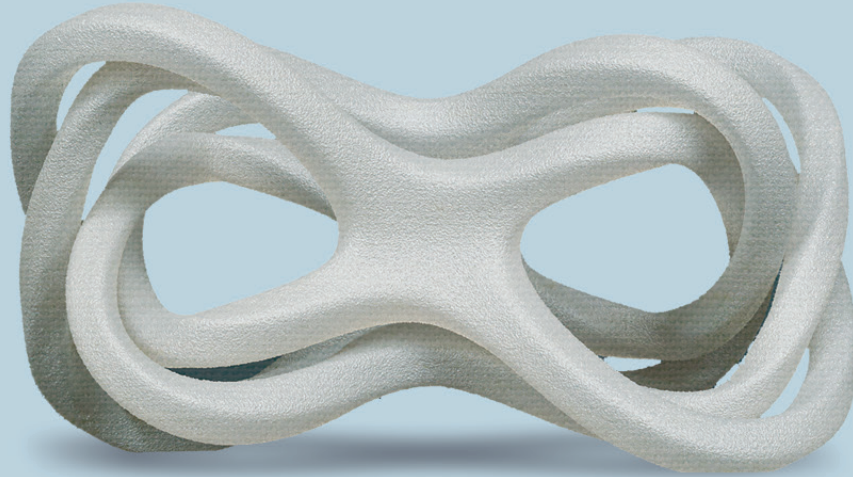




## TPC-91A KIMYA



KIMYA FLEXIBLE FILAMENT OF THE FAMILY OF THERMOPLASTIC ELASTOMERS COPOLYESTERS

| FLEXIBILITY | EASY TO PRINT | LENGTHENING > 500%

### FILAMENT PROPERTIES

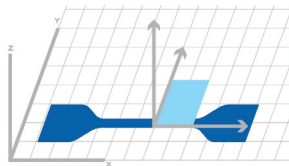
PROPERTIES	TESTS METHODS	UNITS	VALUES
Diameter	INS-6712	mm	1.75 ± 0.1 2.85 ± 0.1
Density	ISO 1183-1	g/cm <sup>3</sup>	1.22
Moisture rate	INS-6711	%	< 1
Melt Flow Index (MFI) (@210°C – 2,16 kg)	ISO 1133-1	g/10min	18 - 20
Melting temperature Tm	ISO 11357-1 DSC (10°C/min – 20 à 220°C)	°C	160

## PRINT PARAMETERS AND SPECIMENS DIMENSIONS

<b>PRINTING DIRECTION</b>	XY
<b>PRINTING SPEED</b>	44 mm/s
<b>INFILL</b>	100% - rectilinear
<b>INFILL ANGLE</b>	45°/-45°
<b>EXTRUSION TEMPERATURE</b>	260°C
<b>BED TEMPERATURE</b>	60°C

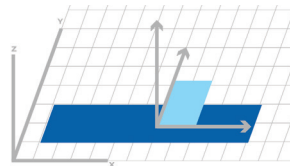
## RESULTS

### TENSILE TEST



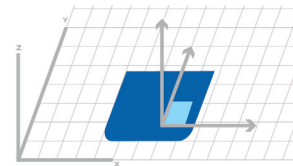
Dim.(mm) : 75x12.5x2  
Specimen type ISO 527-5A

### BENDING TEST - CHARPY IMPACT



Dim. (mm) : 80x10x4

### HARDNESS



Dim.(mm) : 45x45x4

## PRINTED SPECIMENS PROPERTIES

PROPERTIES	TEST METHODS	UNITS	VALUES
<b>TENSILE TEST</b>			
Tensile modulus	ISO 37/2/500	MPa	67
Strength	ISO 37/2/500	MPa	17.7
Strain at Strength	ISO 37/2/500	%	> 500
Stress at break	ISO 37/2/500	MPa	17.5
Strain at break	ISO 37/2/500	%	> 500
<b>BENDING TEST</b>			
Flexural modulus	ISO 178	MPa	66
Constraint to 3,5%*	ISO 178	MPa	2.6
*According to ISO 178, end of the test at 5% deformation even if there is no specimen break			
<b>CHARPY IMPACT</b>			
Charpy impact resistance	ISO 179-1/1eA	kJ/m <sup>2</sup>	No break
<b>HARDNESS</b>			
Shore Hardness	ISO 868	Shore A	91