



Kimya TPC-ESD 3D Filament

The Kimya **TPC-ESD** 3D filament belongs to the thermoplastic copolyester family: is an elastomer. **TPC** is obtained by copolymerization of two types of monomers: an ester (a rigid segment) and an ether (a flexible segment). Its "-ESD" formulation also provides protection against electrostatic discharge. It offers resistance to chemicals and to impacts and has a Shore hardness of 91 A. It can be used to print flexible, elastic parts. The Kimya TPC-ESD 3D filament is used in industry to produce connectors, sensors, measuring devices, etc. It has the following properties:

- Excellent flexibility
- Electro Static Discharge: protects against electrical discharge
- Easy to print
- 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	1,2 g/cm ³
Moisture rate	INS-6711	< 1 %
Melt flow index (MFI)	ISO 1133-1 (@210°C – 2,16 kg)	21 - 25 g/10min
Melting Temperature (Tm)	ISO 11357-1 DSC (10°C/min – 0-300°C)	160 °C

PRINT PARAMETERS AND SPECIMENS DIMENSIONS

PRINTING DIRECTION	XY
Printing Speed	20-60 mm/s
Infill	100% - rectilinear
Infill Angle	45°/-45°
Nozzle Temperature	230-270°C
Bed T°	60-85°C

PRINTED SPECIMENS PROPERTIES

	PROPERTIES	TEST METHODS	VALUES
ELECTRICAL PROPERTIES	Surface resistivity	ASTM D257	$10^7 - 10^9$ Ohms/m ²
MECHANICAL PROPERTIES	Tensile modulus	ISO 37/2/500	46 MPa
	Tensile Strength	ISO 37/2/500	13,1 MPa
	Tensile Stress at Break	ISO 37/2/500	12,8 MPa
	Tensile strain at break	ISO 37/2/500	0 %
	Flexural modulus	ISO 178	54 MPa
	Flexural stress at conventional deflection (3,5% strain)*	ISO 178	2 MPa
	Charpy impact resistance	ISO 179-1/1eA	No Break
	Shore Hardness	ISO 868	91A
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.		

Created on 13/11/2019 - Revised on 13/11/2019.