



Kimya ABS-EC 3D Filament

The Kimya **ABS-EC** 3D filament belongs to the styrenic polymer family. Acrylonitrile Butadiene Styrene *electrical conductor* (**ABS-EC**) is a combination of ABS and electrically active additives: carbon nanotubes. ABS-EC is resistant to impact, heat and ageing. It is used in the automotive and electronics industries. The Kimya ABS-EC 3D filament has the following properties:

- Good resistance to impact
- High temperature resistance
- Electrical conductivity
- Complies with the **REACH** regulation and the **RoHS** directive

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 ± 0.05 mm 2.85 ± 0.05 mm
Density	ISO 1183-1	1.035 g/cm ³
Moisture rate	INS-6711	< 0.5 %
Melt flow index (MFI)	ISO 1133-1 (@280°C – 10 kg)	8 - 16 g/10min
Glass transition temperature (T_g)	ISO 11357-1	108 °C

PRINT PARAMETERS AND SPECIMENS DIMENSIONS

PRINTING DIRECTION	XY
Printing Speed	45 mm/s
Infill	100% - rectilinear
Infill Angle	45°/-45°
Nozzle Temperature	260°C
Bed T°	95°C

PRINTED SPECIMENS PROPERTIES

	PROPERTIES	TEST METHODS	VALUES
ELECTRICAL PROPERTIES	Surface resistivity	ASTM D257	$< 10^6 \Omega/\text{sq}$
MECHANICAL PROPERTIES	Tensile modulus	ISO 527-2/5A/50	2,398 MPa
	Tensile Strength	ISO 527-2/5A/50	36.7 MPa
	Tensile strain at strength	ISO 527-2/5A/50	2,3 %
	Tensile Stress at Break	ISO 527-2/5A/50	29.2 MPa
	Tensile strain at break (type A)	ISO 527-2/5A/50	5,2 %
	Flexural modulus	ISO 178	1,393 MPa
	Deformation at Flexural Strain	ISO 178	< 5 %
	Flexural stress at conventional deflection (3,5% strain)*	ISO 178	49.3 MPa
	Charpy impact resistance	ISO 179-1/1eA	14.6 kJ/m ²
	Shore Hardness	ISO 868	67,2D
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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