



## 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 standard**

2-year KIMYA warranty.

### FILAMENT PROPERTIES

PROPERTIES	TEST METHODS	VALUES
<b>Diameter</b>	INS-6712	1.75 ± 0.05 mm 2.85 ± 0.05 mm
<b>Density</b>	ISO 1183-1	1.035 g/cm <sup>3</sup>
<b>Moisture rate</b>	INS-6711	< 0.5 %
<b>Melt flow index (MFI)</b>	ISO 1133-1 (@260°C – 10 kg)	8 - 16 g/10min
<b>Glass transition temperature (T<sub>g</sub>)</b>	ISO 11357-1	108 °C

### PRINT PARAMETERS AND SPECIMENS DIMENSIONS

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

## PRINTED SPECIMENS PROPERTIES

	PROPERTIES	TEST METHODS	VALUES
<b>ELECTRICAL PROPERTIES</b>	Surface resistivity	ASTM D257	< 10 <sup>6</sup> Ohms/m <sup>2</sup>
<b>MECHANICAL PROPERTIES</b>	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	27.6 kJ/m <sup>2</sup>
Shore Hardness	ISO 868	67,2	
<b>Note 1</b>	*According to ISO 178, end of the test at 5% deformation even if there is no specimen break.		
<b>Note 2</b>	The data should be considered as indicative values - Properties can be influenced by production conditions.		

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