



## Kimya ABS-ESD 3D Filament

The Kimya **ABS-ESD** 3D filament belongs to the styrenic polymer family. **ABS-ESD** is an Acrylonitrile Butadiene Styrene to which an additive has been added to give it Electro Static Discharge properties: this material protects against electrostatic discharge. It also provides good impact resistance. It is a lightweight and rigid material that is also easy to print. It is ideal for applications requiring protection against electrostatic discharge. The Kimya ABS-ESD 3D filament has the following properties:

- Easy to print
- Protects against electrical discharge
- Complies with the **RoHS** and **REACH standards**

2-year KIMYA warranty.

### FILAMENT PROPERTIES

PROPERTIES	TEST METHODS	VALUES
<b>Diameter</b>	INS-6712	1.75 ± 0.1 mm 2.85 ± 0.1 mm
<b>Density</b>	ISO 1183-1	1.03 g/cm <sup>3</sup>
<b>Moisture rate</b>	INS-6711	< 0.5 %
<b>Melt flow index (MFI)</b>	ISO 1133-1 (@220°C – 10 kg)	15 - 20 g/10min
<b>Glass transition temperature (T<sub>g</sub>)</b>	ISO 11357-1 DSC (10°C/min - 20-220°C)	107 °C

### PRINT PARAMETERS AND SPECIMENS DIMENSIONS

PRINTING DIRECTION	XY
<b>Printing Speed</b>	40 mm/s
<b>Infill</b>	100% - rectilinear
<b>Infill Angle</b>	45°/-45°
<b>Nozzle Temperature</b>	260°C
<b>Bed T°</b>	100°C

## PRINTED SPECIMENS PROPERTIES

	PROPERTIES	TEST METHODS	VALUES
<b>MECHANICAL PROPERTIES</b>	Tensile modulus	ISO 527-2/5A/50	1,121 MPa
	Tensile Strength	ISO 527-2/5A/50	24.3 MPa
	Tensile strain at strength	ISO 527-2/5A/50	3.1 %
	Tensile Stress at Break	ISO 527-2/5A/50	19.8 MPa
	Tensile strain at break (type A)	ISO 527	6.4 %
	Flexural modulus	ISO 178	856 MPa
	Deformation at Flexural Strain	ISO 178	>5 %
	Flexural stress at conventional deflection (3,5% strain)*	ISO 178	27.3 MPa
	Charpy impact resistance	ISO 179-1/1eA	10.9 kJ/m <sup>2</sup>
	Shore Hardness	ISO 868	66,7D
<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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