



## Kimya ABS Carbon 3D Filament

The Kimya **ABS Carbon** 3D filament belongs to the styrenic polymer family. Acrylonitrile-butadiene-styrene-carbon (**ABS Carbon**) is a mixture of ABS and carbon fibers. The carbon fibers give the filament improved rigidity compared to a standard ABS. This filament is highly valued by manufacturers of drones and by modeling aficionados. It is also used to make tools. The Kimya ABS Carbon 3D filament has the following properties:

- No shrinkage
- Better tensile modulus than ABS-S
- Less warpage than ABS-S
- 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
<b>Diameter</b>	INS-6712	1.75 ± 0.1 mm 2.85 ± 0.1 mm
<b>Density</b>	ISO 1183-1	1.048 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)	17.4 g/10min
<b>Glass transition temperature (T<sub>g</sub>)</b>	ISO 11357-1 DSC (10°C/min - 20-280°C)	108 °C

### PRINT PARAMETERS AND SPECIMENS DIMENSIONS

PRINTING DIRECTION	XY
<b>Printing Speed</b>	10 mm/s
<b>Infill</b>	100% - rectilinear
<b>Infill Angle</b>	0°/0°
<b>Nozzle Temperature</b>	245°C
<b>Bed T°</b>	90°C

## PRINTED SPECIMENS PROPERTIES

	PROPERTIES	TEST METHODS	VALUES
<b>MECHANICAL PROPERTIES</b>	Tensile modulus	ISO 527-2/5A/50	3,396 MPa
	Tensile Strength	ISO 527-2/5A/50	36.7 MPa
	Tensile Stress at Break	ISO 527-2/5A/50	31 MPa
	Tensile strain at break (type A)	ISO 527	1.9 %
	Flexural modulus	ISO 178	2,952 MPa
	Deformation at Flexural Strain	ISO 178	>5 %
	Flexural stress at conventional deflection (3,5% strain)*	ISO 178	173 MPa
	Charpy impact resistance	ISO 179-1/1eA	18 kJ/m <sup>2</sup>
	Shore Hardness	ISO 868	78.2D
<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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