



## 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 standard

2-year ARMOR 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	1,045 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 - 20-220°C)	108 °C
<b>Melting Temperature (T<sub>m</sub>)</b>	ISO 11357-1 DSC (10°C/min – 20-220°C)	30 °C

### PRINT PARAMETERS AND SPECIMENS DIMENSIONS

PRINTING DIRECTION	XY
<b>Printing Speed</b>	50-60 mm/s
<b>Infill</b>	100% - rectilinear
<b>Infill Angle</b>	45°/-45°
<b>Nozzle Temperature</b>	245-260°C
<b>Bed T°</b>	90-95°C

## PRINTED SPECIMENS PROPERTIES

	PROPERTIES	TEST METHODS	VALUES
<b>MECHANICAL PROPERTIES</b>	Tensile modulus	ISO 527-2/5A/50	2 665 MPa
	Tensile Strength	ISO 527-2/5A/50	35,7 MPa
	Tensile Stress at Break	ISO 527-2/5A/50	37,5 MPa
	Tensile strain at break (type A)	ISO 527	2 %
	Flexural modulus	ISO 178	1 809 MPa
	Flexural stress at conventional deflection (3,5% strain)*	ISO 178	51,4 MPa
	Deformation at Flexural Strength	ISO 178	0 %
	Charpy impact resistance	ISO 179-1/1eA	6,2 kJ/m <sup>2</sup>
	Shore Hardness	ISO 868	72.7
<b>Note 1</b>	*Fin de l'essai à 5% d'allongement d'après la norme ISO 178 même si l'éprouvette ne rompt pas.		
<b>Note 2</b>	Les données doivent être considérées comme des valeurs indicatives - Les propriétés peuvent être influencées par les conditions de production.		

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