KIMYA
Additive Manufacturing by ARMOR

Kimya ABS Kevlar 3D Filament

The Kimya **ABS Kevlar** 3D filament belongs to the styrenic polymer family. Acrylonitrile Butadiene Styrene Kevlar (**ABS Kevlar**) is a composite filament enriched in aramid fibers. It offers properties that are superior to a standard ABS. It provides the printed parts with increased resistance to abrasion. It is used for finished parts and tools. The Kimya ABS Kevlar 3D filament has the following properties:

- Low warpage - compared to ABS-S-
- Lighter-weight printed parts - compared to ABS Carbon-
- Complies with the **REACH standard**

2-year ARMOR warranty.

FILAMENT PROPERTIES

PROPERTIES	TEST METHODS	VALUES
Diameter	INS-6712	1,75 ± 0,1 mm 2,85 ± 0,1 mm
Density	ISO 1183-1	1,037 g/cm3
Moisture rate	INS-6711	< 1 %
Melt flow index (MFI)	ISO 1133-1 (@220°C – 10 kg)	14,8 g/10min
Glass transition temperature (Tg)	ISO 11357-1 DSC (10°C/min - 20-220°C)	100 °C

PRINT PARAMETERS AND SPECIMENS DIMENSIONS

PRINTING DIRECTION	XY
Printing Speed	40-70 mm/s
Infill	100% - rectilinear
Infill Angle	45°/-45°
Nozzle Temperature	250-270°C
Bed T°	90-110°C

PRINTED SPECIMENS PROPERTIES

	PROPERTIES	TEST METHODS	VALUES
MECHANICAL PROPERTIES	Tensile modulus	ISO 527-2/5A/50	1 775 MPa
	Tensile Strength	ISO 527-2/5A/50	31,1 MPa
	Tensile strain at strength	ISO 527-2/1A/50	2 %
	Tensile Stress at Break	ISO 527-2/5A/50	27,7 MPa
	Tensile strain at break	ISO 527-2/5A/50	4 %
	Flexural modulus	ISO 178	1 509 MPa
	Flexural strength*	ISO 178	> 5 %
	Flexural stress at conventional deflection (3,5% strain)*	ISO 178	44,7 MPa
	Charpy impact resistance	ISO 179-1/1eA	8 kJ/m^2
	Shore Hardness	ISO 868	65,2D
Note 1	*Fin de l'essai à 5% d'allongement d'après la norme ISO 178 même si l'éprouvette ne rompt pas.		
Note 2	Les données doivent être considérées comme des valeurs indicatives - Les propriétés peuvent être influencées par les conditions de production.		

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