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Fiche Technique

KIMYA ABS CARBON 3D FILAMENT

Low-cost reinforced filament for FFF 3D Printers

DESCRIPTION

Kimya ABS Carbon is a 3D printing filament made from a blend of ABS (Acrylonitrile-Butadiene-Styrene) and carbon fibers. As a member of the styrenic polymer family, this composite material benefits from the toughness of ABS while the added carbon fibers significantly improve its rigidity and dimensional stability. Kimya ABS Carbon is commonly used by drone manufacturers, modeling enthusiasts, and for producing tools and functional parts. It offers a strong balance of strength, durability, and precision for technical 3D printing projects.

BENEFITS

- Increased Rigidity.
- Lightweight and Strong.
- Enhanced Print Precision.

TECHNICAL DATA

Properties	Values	Test Methods
Diameter	1.75 ± 0.1 mm 2.85 ± 0.1 mm	INS-6712
Density	1.048 g/cm^3	ISO 1183-1
Moisture rate	<0.5%	INS-6711
Melt flow index (MFI)	17.4g/10min	ISO 1133-1 (@220°C-10kg)
Glass transition temperature (Tg)	108°C (226°F)	ISO 11357-1 DSC (10°C/min-20-280°C)
Properties	**Values**	**Test Methods**
Tensile Modulus	3,395 MPa (492.55 ksi)	ISO 527-2/5A/50
Tensile Strength	36.7 MPa (5.32 ksi)	ISO 527-2/5A/50
Tensile Stress at Break	31 MPa (4.50 ksi)	ISO 527-2/5A/50
Tensile Strain at Break (type A)	1.9 %	ISO 527
Flexural Modulus	2,952 MPa (428.15 ksi)	ISO 178
Deformation at Flexural Strain	>5%	ISO 178
Flexural Stress at Conventional Deflection (3.5% Strain)*	173 MPa (25.1 ksi)	ISO 178
Charpy Impact Resistance	18 kJ/m^2 (8.6 ft-lbs/in^2)	ISO 179-1/1eA
Shore Hardness	78.2D	ISO 868

PROCESSING

Printing Direction	XY
Printing Speed	Initial layers: 10-20 mm/s, further layers 30-60 mm/s
Nozzle Temperature	235°C - 255°C (455°F - 491°F)
Bed Temperature	85°C - 95°C (185°F - 203°F)

NOTES

- *According to ISO 178, end of the test at 5% deformation even if there is no specimen break.
- The data should be considered as indicative values - Properties can be influenced by production conditions.

Dernière mise à jour : 2025-09-29
Nom du chapitre : Print-Tech®

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