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Fiche Technique

KIMYA ABS-S 3D FILAMENT

Low-cost filament for FFF 3D Printers

DESCRIPTION

Kimya ABS-S is a 3D printing filament made from ABS (Acrylonitrile Butadiene Styrene), a thermoplastic polymer from the styrenic family. Known for its high impact resistance, rigidity, and low weight, ABS-S is particularly valued for its excellent surface finish and ease of coloring. These properties make it a preferred material for aesthetic, visible parts. Kimya ABS-S is commonly used for outer casings in domestic appliances, telephony, IT equipment, and toys, offering a balance of strength and visual appeal.

BENEFITS

- Rigid.
- Lightweight.
- Colorable.

TECHNICAL DATA

Properties	Values	Test Methods
Diameter	1.75 ± 0.1 mm 2.85 ± 0.1 mm	INS-6712
Density	1.035 g/cm^3	ISO 1183-1
Moisture rate	< 0.5 %	INS-6711
Melt flow index (MFI)	3.5 - 6 g/10min	ISO 1133-1 (@220°C-10kg)
Glass transition temperature (Tg)	107°C (224°F)	ISO 11357-1 DSC (10°C/min-20-300°C)
Properties	**Values**	**Test Methods**
Tensile Modulus	1,484 MPa (215 ksi)	ISO 527-2/5A/50
Tensile Strength	35.3 MPa (5.1 ksi)	ISO 527-2/5A/50
Tensile Strain at Strength	2.7 %	ISO 527-2/5A/50
Tensile Stress at Break	22.8 MPa (3.3 ksi)	ISO 527-2/5A/50
Tensile Strain at Break (type A)	9.8 %	ISO 527-2/5A/50
Flexural Modulus	1,433 MPa (209.3 ksi)	ISO 178
Deformation at Flexural Strain	> 5 %	ISO 178
Flexural Stress at Conventional Deflection (3.5% Strain)*	43.6 MPa (6.32 ksi)	ISO 178
Charpy Impact Resistance	24.7 kJ/m^2 (11.75 ft-lbs/in^2)	ISO 179-1/1eA
Shore Hardness	70 D	ISO 868

PROCESSING

Printing Direction	XY
Printing Speed	Initial layers: 10-15 mm/s, further layers 20-50 mm/s
Nozzle Temperature	255°C - 270°C (491°F - 518°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.

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