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Fiche Technique

KIMYA ABS-EC 3D FILAMENT

Electrically conductive ABS additive manufacturing filament

DESCRIPTION

Kimya ABS-EC is a 3D printing filament made from a blend of ABS (Acrylonitrile Butadiene Styrene) and electrically conductive carbon nanotubes. As a member of the styrenic polymer family, it retains the impact strength and heat resistance of ABS while adding electrical conductivity, making it suitable for specialized technical applications. Thanks to its resistance to impact, heat, and aging, Kimya ABS-EC is commonly used in the automotive and electronics industries for functional parts that require both durability and electrical performance.

BENEFITS

- Electrical Conductivity.
- High Temperature Resistance.
- Industrial Use Ready.

TECHNICAL DATA

Properties	Values	Test Methods
Diameter	1.75 ± 0.05 mm 2.85 ± 0.05 mm	INS-6712
Density	1.035 g/cm^3	ISO 1183-1
Moisture rate	< 0.5 %	INS-6711
Melt flow index (MFI)	8 - 16 g/10min	ISO 1133-1
Glass transition temperature (Tg)	108°C (226°F)	ISO 11357-1
Properties	**Values**	**Test Methods**
Surface resistivity	< 10^6 Ω/sq	ASTM D257
Tensile Modulus	2,398 MPa (347 ksi)	ISO 527-2/5A/50
Tensile Strength	36.7 MPa (5.3 ksi)	ISO 527-2/5A/50
Tensile Strain at Strength	2.3 %	ISO 527-2/5A/50
Tensile Stress at Break	29.2 MPa (4.2 ksi)	ISO 527-2/5A/50
Tensile Strain at Break (type A)	5.2 %	ISO 527-2/5A/50
Flexural Modulus	1,393 MPa (347 ksi)	ISO 178
Deformation at Flexural Strain	< 5 %	ISO 178
Flexural Stress at Conventional Deflection (3.5% Strain)*	49.3 MPa (7.15 ksi)	ISO 178
Charpy Impact Resistance	14.6 kJ/m^2 (6.94 ft-lbs/in^2)	ISO 179-1/1eA
Shore Hardness	67.2 D	ISO 868

PROCESSING

Printing Direction	XY
Printing Speed	Initial layers: 20-30 mm/s, further layers 45-60 mm/s
Nozzle Temperature	255°C - 270°C (491°F - 518°F)
Bed Temperature	90°C - 100°C (194°F - 212°F)

SUSTAINABILITY

Can be recycled

Recyclable packaging

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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