

Fiche Technique

KIMYA PC-S 3D FILAMENT

Strong and highly versatile filament for FFF 3D Printers

DESCRIPTION

Kimya PC-S is a 3D printing filament made from polycarbonate (PC), an amorphous thermoplastic known for its strength and heat resistance. Naturally transparent and highly durable, PC-S is designed for demanding applications that require both toughness and thermal stability. Its mechanical properties make it ideal for use in sectors such as automotive, engineering, and aerospace, as well as for producing impact-resistant consumer goods like helmets, housings, toys, and electronics.

BENEFITS

- Sterilizable.
- High Heat Resistance.
- Exceptional Toughness.

TECHNICAL DATA**Properties**

Diameter	1.75 ± 0.1 mm 2.85 ± 0.1 mm
Density	1.184 g/cm ³ (0.0428 lb/in ³)
Moisture Rate	< 1 %
Melt flow index (MFI)	21 - 27 g/10 min
Glass transition temperature (Tg)	145°C (293°F)

Values

1.75 ± 0.1 mm 2.85 ± 0.1 mm
1.184 g/cm ³ (0.0428 lb/in ³)
< 1 %
21 - 27 g/10 min
145°C (293°F)

Test Methods

INS-6712
ISO 1183-1
ISO-6711
ISO 1133-1 (@260°C-5kg)
ISO 11357-1 DSC (10°C/min-20-300°C)

Properties

Maximum use Temperature	140°C (284°F)
Tensile Modulus	2,116 MPa (306.9 ksi)
Tensile Strength	59.9 MPa (8.69 ksi)
Tensile Strain at Strength	5.6 %
Tensile Stress at Break	59.8 MPa (8.67 ksi)
Tensile Strain at Break (type A)	5.5 %
Flexural Modulus	1,630 MPa (236.4 ksi)
Deformation at Flexural Strain	> 5 %
Flexural Stress at Conventional Deflection (3.5% Strain)*	56.7 MPa (8.22 ksi)
Charpy Impact Resistance	5.2 kJ/m ² (2.4 ft-lbs/in ²)
Shore Hardness	77.1 D

Values

140°C (284°F)
2,116 MPa (306.9 ksi)
59.9 MPa (8.69 ksi)
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1,630 MPa (236.4 ksi)
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56.7 MPa (8.22 ksi)
5.2 kJ/m ² (2.4 ft-lbs/in ²)
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Test Methods

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ISO 527-2/5A/50
ISO 527-2/1A/50
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ISO 527-2/1A/50
ISO 178
ISO 178
ISO 178
ISO 179-1/1eA
ISO 868

PROCESSING**Printing Direction**

Printing Speed	45 - 55 mm/s
Nozzle Temperature	270°C - 280°C (510°F - 536°F)
Bed Temperature	135°C - 145°C (275°F - 293°F)
Chamber Temperature	135°C - 145°C (275°F - 293°F)

XY

45 - 55 mm/s
270°C - 280°C (510°F - 536°F)
135°C - 145°C (275°F - 293°F)
135°C - 145°C (275°F - 293°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.