

Fiche Technique

KIMYA PEI-1010 3D FILAMENT

Flame resistant and industry-ready Filament for FFF 3D printers

DESCRIPTION

Kimya PEI-1010 is a 3D printing filament made from polyetherimide (PEI), an amorphous thermoplastic belonging to the polyimide family. Known for its excellent resistance to high temperatures and chemicals, PEI-1010 also offers outstanding dimensional stability, making it ideal for precision applications. It is widely used in demanding industries such as electronics, transportation, and medical, where mechanical strength and thermal reliability are essential.

BENEFITS

- UV and Chemical Resistance.
- Flame retardant.
- Dimensional Stability.

TECHNICAL DATA

Properties

Diameter	1.75 ± 0.1 mm 2.85 ± 0.1 mm
Density	1.28 g/cm ³ (0.046 lb/in ³)
Melt flow index (MFI)	14 - 16 g/10 min
Glass transition temperature (Tg)	217°C (423°F)

Values

1.75 ± 0.1 mm
2.85 ± 0.1 mm
1.28 g/cm ³ (0.046 lb/in ³)
14 - 16 g/10 min
217°C (423°F)

Test Methods

INS-6712
ISO 1183-1
ISO 1133-1 (@340°C-5kg)
ISO 11357-1 DSC (10°C/min-0-420°C)

Properties

Tensile Modulus	2,917.5 MPa (423.1 ksi)
Tensile Strength	90.9 MPa (13.2 ksi)
Tensile Strain at Strength	5.6 %
Tensile Stress at Break	90.9 MPa (13.2 ksi)
Tensile Strain at Break (type A)	5.6 %
Tensile Strain at Break (type B et C)	5.6 %
Flexural Modulus	2,236 MPa (324.3 ksi)
Deformation at Flexural Strain	> 5 %
Flexural Stress at Conventional Deflection (3.5% Strain)*	76 MPa (11 ksi)
Charpy Impact Resistance	3.1 kJ/m ² (1.5 ft-lbs/in ²)
Shore Hardness	84.5 D

Values

2,917.5 MPa (423.1 ksi)
90.9 MPa (13.2 ksi)
5.6 %
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5.6 %
5.6 %
2,236 MPa (324.3 ksi)
> 5 %
76 MPa (11 ksi)
3.1 kJ/m ² (1.5 ft-lbs/in ²)
84.5 D

Test Methods

ISO 527
ISO 527-2/1A/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	35-45 mm/s
Nozzle Temperature	375°C - 390°C (707°F - 734°F)
Chamber Temperature	215°C - 225°C (419°F - 437°F)

XY

35-45 mm/s
375°C - 390°C (707°F - 734°F)
215°C - 225°C (419°F - 437°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.