

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

Values

1.75 ± 0.1 mm

2.85 ± 0.1 mm

Density

1.28 g/cm³ (0.046 lb/in³)

Melt flow index (MFI)

14 - 16 g/10 min

Glass transition temperature (Tg)

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

Values

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/m² (1.5 ft-lbs/in²)

Shore Hardness

84.5 D

Test Methods

ISO 527

ISO 527-2/1A/50

ISO 527-2/1A/50

ISO 527-2/1A/50

ISO 527-2/1A/50

ISO 527-2/1A/50

ISO 178

ISO 178

ISO 178

ISO 179-1/1eA

ISO 868

PROCESSING

Printing Direction

XY

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)

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.