

## Fiche Technique

**KIMYA PEI-9085 3D FILAMENT**

Heat-resistant, abrasion-resistant filament for FFF 3D Printers

**DESCRIPTION**

Kimya PEI-9085 is a 3D printing filament made from polyetherimide (PEI), an amorphous thermoplastic from the polyimide family. It offers excellent resistance to high temperatures and abrasion, along with outstanding dimensional stability. These properties make it particularly well-suited for demanding industrial applications. Kimya PEI-9085 is commonly used in aerospace, railway, electronics, and transport sectors where performance under stress and strict tolerances are critical.

**BENEFITS**

- Flame retardant.
- Aerospace Standard.
- High Temperature Resistant.

**TECHNICAL DATA****Properties**

|                                   |                        |
|-----------------------------------|------------------------|
| Diameter                          | 1.75 ± 0.1 mm          |
| Density                           | 1.28 g/cm <sup>3</sup> |
| Melt flow index (MFI)             | 8 - 12 g/10 min        |
| Glass transition temperature (Tg) | 178°C (352°F)          |

**Properties**

|                                                           |                                                      |
|-----------------------------------------------------------|------------------------------------------------------|
| Heat Distortion Temperature (HDT) (1.8Mpa)                | 152°C (306°F)                                        |
| Tensile Modulus                                           | 2,322.5 MPa (336.9 ksi)                              |
| Tensile Strength                                          | 69.7 MPa (10.1 ksi)                                  |
| Tensile Strain at Strength                                | 6.2 %                                                |
| Tensile Stress at Break                                   | 69.7 MPa (10.1 ksi)                                  |
| Tensile Strain at Break (type B et C)                     | 6.2 %                                                |
| Flexural Modulus                                          | 2,250 MPa (326 ksi)                                  |
| Deformation at Flexural Strain                            | > 5 %                                                |
| Flexural Stress at Conventional Deflection (3.5% Strain)* | 74.5 MPa (10.8 ksi)                                  |
| Charpy Impact Resistance                                  | 11 kJ/m <sup>2</sup> (5.231 ft-lbs/in <sup>2</sup> ) |
| Shore Hardness                                            | 78.7 D                                               |

**Test Methods**

|                                    |
|------------------------------------|
| INS-6712                           |
| ISO 1183-1                         |
| ISO 1133-1(@295°C-6.7kg)           |
| ISO 11357-1 DSC (10°C/min-0-420°C) |

**Test Methods**

|                 |
|-----------------|
| ASTM D648       |
| 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 179/2C      |
| ISO 868         |

**PROCESSING****Printing Direction**

|                     |                               |
|---------------------|-------------------------------|
| Printing Speed      | <b>XY</b><br>20-30 mm/s       |
| Nozzle Temperature  | 350°C - 360°C (662°F - 680°F) |
| Chamber Temperature | 170°C - 180°C (338°F - 356°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.