

## Fiche Technique

**KIMYA PLA-R 3D FILAMENT**

## Recycled PLA additive manufacturing filament

**DESCRIPTION**

Kimya PLA-R is a 3D printing filament made from recycled and biodegradable PLA (Polylactic Acid), a biosourced polymer derived from corn starch. As a natural alternative to petroleum-based plastics like polyethylene, PLA-R is both eco-friendly and easy to print with. It is odorless and well-suited for a wide range of applications—from industrial uses such as packaging to everyday items, toys, prototypes, and modeling. Kimya PLA-R combines printability, sustainability, and versatility, making it a great choice for environmentally conscious 3D printing.

**BENEFITS**

- Consistent Print Quality
- Low Shrinkage
- Fast Printing Speed

**TECHNICAL DATA****Properties**

|                                   |                                |
|-----------------------------------|--------------------------------|
| Diameter                          | 1.75 ± 0.1 mm<br>2.85 ± 0.1 mm |
| Density                           | 1.235 g/cm <sup>3</sup>        |
| Moisture rate                     | < 0.5 %                        |
| Melt flow index (MFI)             | 9-12 g/10min                   |
| Glass transition temperature (Tg) | 61°C (142°F)                   |
| Melting Temperature (Tm)          | 165°C (329°F)                  |

**Values**

|                                |
|--------------------------------|
| 1.75 ± 0.1 mm<br>2.85 ± 0.1 mm |
| 1.235 g/cm <sup>3</sup>        |
| < 0.5 %                        |
| 9-12 g/10min                   |
| 61°C (142°F)                   |
| 165°C (329°F)                  |

**Test Methods**

|                                     |
|-------------------------------------|
| INS-6712                            |
| ISO 1183-1                          |
| INS-6711                            |
| ISO 1133-1                          |
| ISO 11357-1 DSC (10°C/min-20-220°C) |
| ISO 11357-1 DSC (10°C/min-20-220°C) |

**Properties**

|                                                           |                                                      |
|-----------------------------------------------------------|------------------------------------------------------|
| Tensile Modulus                                           | 2,818 MPa (408.7 ksi)                                |
| Tensile Strength                                          | 55.32 MPa (8.0 ksi)                                  |
| Tensile Strain at Strength                                | 2.1 %                                                |
| Tensile Stress at Break                                   | 41.2 MPa (6.0 ksi)                                   |
| Tensile Strain at Break (type A)                          | 4.32 %                                               |
| Flexural Modulus                                          | 2,304 MPa (334 ksi)                                  |
| Flexural Stress at Break                                  | 82.3 MPa (11.94 ksi)                                 |
| Deformation at Flexural Strain                            | 4.22 %                                               |
| Flexural Stress at Conventional Deflection (3.5% Strain)* | 81.72 MPa (11.9 ksi)                                 |
| Charpy Impact Resistance                                  | 3.12 kJ/m <sup>2</sup> (1.5 ft-lbs/in <sup>2</sup> ) |
| Shore Hardness                                            | 75.2 D                                               |

**Values**

|                                                      |
|------------------------------------------------------|
| 2,818 MPa (408.7 ksi)                                |
| 55.32 MPa (8.0 ksi)                                  |
| 2.1 %                                                |
| 41.2 MPa (6.0 ksi)                                   |
| 4.32 %                                               |
| 2,304 MPa (334 ksi)                                  |
| 82.3 MPa (11.94 ksi)                                 |
| 4.22 %                                               |
| 81.72 MPa (11.9 ksi)                                 |
| 3.12 kJ/m <sup>2</sup> (1.5 ft-lbs/in <sup>2</sup> ) |
| 75.2 D                                               |

**Test Methods**

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

**PROCESSING****Printing Direction**

|                    |                                                       |
|--------------------|-------------------------------------------------------|
| Printing Speed     | Initial layers: 10-20 mm/s, further layers 30-60 mm/s |
| Nozzle Temperature | 190°C - 210°C (374°F - 410°F)                         |
| Bed Temperature    | 20°C - 60°C (68°F - 140°F)                            |

**XY**

|                                                       |
|-------------------------------------------------------|
| Initial layers: 10-20 mm/s, further layers 30-60 mm/s |
| 190°C - 210°C (374°F - 410°F)                         |
| 20°C - 60°C (68°F - 140°F)                            |

**SUSTAINABILITY**

Can be recycled



Contains recycled materials



Made with Bio-based materials



Recyclable packaging



Biodegradable Product

**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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