

## Fiche Technique

# KIMYA PA6-CO 3D FILAMENT

## Nylon 6 copolymer additive manufacturing filament

### DESCRIPTION

Kimya PA6-CO is a 3D printing filament made from a Nylon 6-based copolymer. This unfilled polyamide stands out for its excellent tensile strength, low warping, and ease of use—even on open-chamber printers. Unlike many other nylon filaments, PA6-CO combines strong mechanical, chemical, and heat resistance with user-friendly printability, making it an ideal standard polyamide for functional parts and industrial applications. As with all polyamides, the filament should be dried before printing to ensure optimal results.

### BENEFITS

- Strong and Reliable.
- Low Warping Behavior.
- Chemical and Heat Resistant.

### TECHNICAL DATA

#### Properties

|                                                |                                                     |
|------------------------------------------------|-----------------------------------------------------|
| Diameter                                       | 1.75 ± 0.1 mm<br>2.85 ± 0.1 mm                      |
| Density                                        | 1.157 g/cm <sup>3</sup> (0.042 lb/in <sup>3</sup> ) |
| Glass transition temperature (T <sub>g</sub> ) | 65°C (149°F)                                        |
| Melting Temperature (T <sub>m</sub> )          | 227°C (440°F)                                       |

#### Values

|                                                     |
|-----------------------------------------------------|
| 1.75 ± 0.1 mm                                       |
| 2.85 ± 0.1 mm                                       |
| 1.157 g/cm <sup>3</sup> (0.042 lb/in <sup>3</sup> ) |
| 65°C (149°F)                                        |
| 227°C (440°F)                                       |

#### Test Methods

|                                     |
|-------------------------------------|
| INS-6712                            |
| ISO 1183-1                          |
| ISO 11357-1 DSC (10°C/min-20-300°C) |
| ISO 11357-1 DSC (10°C/min-0-300°C)  |

#### Properties

|                                                           |                                                      |
|-----------------------------------------------------------|------------------------------------------------------|
| Tensile Modulus                                           | 2,166 MPa (314.2 ksi)                                |
| Tensile Strength                                          | 56.1 MPa (8.14 ksi)                                  |
| Tensile Strain at Strength                                | 4.3 %                                                |
| Tensile Stress at Break                                   | 13.4 MPa (1.94 ksi)                                  |
| Tensile Strain at Break (type A)                          | < 14 %                                               |
| Flexural Modulus                                          | 2,017 MPa (292.5 ksi)                                |
| Deformation at Flexural Strain                            | < 5 %                                                |
| Flexural Stress at Conventional Deflection (3.5% Strain)* | 65.9 MPa (9.56 ksi)                                  |
| Charpy Impact Resistance                                  | 3.9 kJ/m <sup>2</sup> (1.85 ft-lbs/in <sup>2</sup> ) |
| Shore Hardness                                            | 77.3 D                                               |

#### Values

|                                                      |
|------------------------------------------------------|
| 2,166 MPa (314.2 ksi)                                |
| 56.1 MPa (8.14 ksi)                                  |
| 4.3 %                                                |
| 13.4 MPa (1.94 ksi)                                  |
| < 14 %                                               |
| 2,017 MPa (292.5 ksi)                                |
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| 65.9 MPa (9.56 ksi)                                  |
| 3.9 kJ/m <sup>2</sup> (1.85 ft-lbs/in <sup>2</sup> ) |
| 77.3 D                                               |

#### Test Methods

|                 |
|-----------------|
| 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     | 50-60 mm/s                    |
| Nozzle Temperature | 265°C - 275°C (509°F - 527°F) |
| Bed Temperature    | 70°C - 80°C (158°F - 176°F)   |

#### XY

|                               |
|-------------------------------|
| 50-60 mm/s                    |
| 265°C - 275°C (509°F - 527°F) |
| 70°C - 80°C (158°F - 176°F)   |

### SUSTAINABILITY



Can be recycled



Recyclable packaging

### 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.