

# MJF Nylon PA12

## Description

MJF Nylon PA12 is a widely used printing material and does not require support structures. The PA 12 material used in Multi Jet Fusion technology features remarkable granularity, resulting in higher density and lower porosity in the printed parts compared to those produced by laser sintering. This characteristic also makes MJF Nylon PA12 an ideal choice when more detailed surface resolution or thinner walls are required than what laser sintering can achieve.



## Features

- [Print size]: 380x284x380 mm
- [Features]: Chemical resistant, impact resistant, high strength and UV stability, heat-resistant, flexible, high resolution, and high detail.
- Colors: Dyed black, pure gray
- [Advantages]: No need for support structures, direct color printing of parts, good physical and mechanical properties, excellent cost-performance ratio, short lead time, reduced waste
- Disadvantages: Limited material options, relatively rough surface
- Recommended applications: Consumer goods, medical, cases, eyewear frames, game consoles, prosthetics, automotive components, electrical applications

## Parameters

| Category              | Measurement                                                                                | Value            | Method                  |
|-----------------------|--------------------------------------------------------------------------------------------|------------------|-------------------------|
| General properties    | Powder melting point (DSC)                                                                 | 187 °C/369 °F    | ASTM D3418              |
|                       | Particle size                                                                              | 60 µm            | ASTM D3451              |
|                       | Bulk density of powder                                                                     | 0.425 g/cm³      | ASTM D1895              |
|                       | Density of parts                                                                           | 1.01 g/cm³       | ASTM D792               |
| Mechanical properties | Tensile strength, max load⁹, XY                                                            | 48 MPa/6960 psi  | ASTM D638               |
|                       | Tensile strength, max load⁹, Z                                                             | 48 MPa/6960 psi  | ASTM D638               |
|                       | Tensile modulus⁹, XY                                                                       | 1700 MPa/247 ksi | ASTM D638               |
|                       | Tensile modulus⁹, Z                                                                        | 1800 MPa/261 ksi | ASTM D638               |
|                       | Elongation at break⁹, XY                                                                   | 20%              | ASTM D638               |
|                       | Elongation at break⁹, Z                                                                    | 15%              | ASTM D638               |
|                       | Flexural strength (@ 5%)¹⁰, XY                                                             | 65 MPa/9425 psi  | ASTM D790               |
|                       | Flexural strength (@ 5%)¹⁰, Z                                                              | 70 MPa/10150psi  | ASTM D790               |
|                       | Flexural modulus¹⁰, XY                                                                     | 1730 MPa/251 ksi | ASTM D790               |
|                       | Flexural modulus¹⁰, Z                                                                      | 1730 MPa/251 ksi | ASTM D790               |
| Thermal properties    | Izod impact strength - notched (@ 3.2 mm, 23°C), XYZ                                       | 3.5 kJ/m²        | ASTM D256 Test Method A |
|                       | Heat Deflection Temperature (@ 0.45 MPa, 66 psi), XY                                       | 175 °C/347 °F    | ASTM D648 Test Method A |
|                       | Heat Deflection Temperature (@ 0.45 MPa, 66 psi), Z                                        | 175 °C/347 °F    | ASTM D648 Test Method A |
|                       | Heat Deflection Temperature (@ 1.82 MPa, 264 psi), XY                                      | 95 °C/203 °F     | ASTM D648 Test Method A |
| Recyclability         | Heat Deflection Temperature (@ 1.82 MPa, 264 psi), Z                                       | 106 °C/223 °F    | ASTM D648 Test Method A |
|                       | Refresh ratio for stable performance                                                       | 20%              |                         |
| Certifications        | USP Class I-VI and US FDA guidance for Intact Skin Surface Devices, RoHS¹¹, EU REACH, PAHs |                  |                         |

|                  | HP 3D High Reusability PA 12                      | HP 3D High Reusability PA 12 Bundle 12 units | HP 3D High Reusability PA 12                 |
|------------------|---------------------------------------------------|----------------------------------------------|----------------------------------------------|
| Product Number   | V1R10A                                            | V1R15A                                       | V1R16A                                       |
| Weight           | 13 kg                                             | 156 kg                                       | 130 kg                                       |
| Capacity         | 30L <sup>12</sup>                                 | 360L <sup>12</sup>                           | 300L <sup>12</sup>                           |
| Dimensions (xyz) | 600x333x302 mm                                    | 600x333x302 mm                               | 800 x 600 x 1205 mm                          |
| Compatibility    | HP Jet Fusion 3D 4210/4200/3200 Printing Solution | HP Jet Fusion 3D 4200 Printing Solution      | HP Jet Fusion 3D 4210/4200 Printing Solution |