Material Information

Nylon PA12 Black

Introduction

Nylon PA12 Black is a powered polyamide 12 material with a black color, high-temperature resistance, good toughness, and high strength, developed exclusively for HP's MJF technology. It is suitable for creating works-like prototypes and functional parts.

Advantages

The printing technology of MJF allows this exclusive material to have perfect combination of exquisite details and ultra-high dimensional accuracy. It can produce extremely fine small holes, thin walls, shanks, solid structural parts, complex parts, and lattice structural parts, thus producing high-quality parts.

Disadvantages

Grainy surface, may have powder residue inside hollow structure.

Tolerance

±300μm or 0.3%

Recommendation

The outstanding material performance of Nylon PA12 Black makes it suitable for engineering validation and design validation of products with extremely complicated structures.

Material Specifications		
Heat deformation (0.45 MPa)	GB/T 1634.2-2004	145 ℃
Heat deformation (1.8 MPa)	GB/T 1634.2-2004	82 ℃
Melting point	GB/T 19466.1-2004	183 ℃
Tensile strength	GB/T 1040.2-2006	46 MPa
Tensile modulus	GB/T 1040.2-2006	1600 MPa
Elongation at Break	GB/T 1040.2-2006	36%
Flexural strength	GB/T 9341-2008	46.3 MPa
Flexural modulus	GB/T 9341-2008	1300 MPa
Notched impact strength	GB/T 1843-2008	4.9 kJ/m²
Unnotched impact strength	GB/T 1843-2008	13.2 kJ/m²

Attention

Products printed with powdered material come with grainy surface. If you have a specific requirement on surface finishing, you may need to add 3D Plus services such as grinding and vapor smoothing to reach a smooth surface.

Applications

3DSPRO find people using Nylon PA12 Black to make functional parts and prototypes in the following industries & applications.

Automotive parts and supplies:
Car bezels, rearview mirrors, dashboards, steering wheels, lights, seats, handles, etc.

Household appliances:
Air conditioner, air purifier, vacuum cleaner, electric fan, ironing machine, water dispenser, juicer, hair dryer, etc.

Consumer electronic products:
Laptops, tablets, mobile phones, digital cameras, game consoles, MP3, mobile power bank.

Electromechanical equipment:
Industrial display panels, switches, sockets, power tools, electrical instruments, experimental instruments, measuring tools, etc.

Artwork and toys:
Sculptures, props, jewelries, lighting, interior decorations, toys, dolls, etc.