PP material: polypropylene

HP 3D Polypropylene (PP) is a material designed for 3D printing using Multi Jet Fusion technology by HP. It was designed based on thermoplastic polypropylene, which allows you to create components with high chemical resistance, low density, and minimal moisture absorption.

Due to its high isotropic mechanical properties, the printed components have the same strength throughout the entire volume. It is ideal for creating functional prototypes, finished products, and components.

Manufacturer:
Hewlett-Packard

General properties

Powder melting point	138 °C
Particle size	62 µm
Bulk density of powder	0.34 g/cm^3

Physical characteristics

Natural color	Dark gray
Maximum working dimensions	250 × 250 × 250 mm
Minimum tolerance	±0.60 mm less than 100 mm ±0.6% more than 100 mm
Heat distortion temperature at 0.45 MPa	100 °C

Heat distortion temperature at 1.8 MPa	60 °C
Water absorbency	0–0.05% by weight

Mechanical characteristics

Elongation at break, XY	20%
Elongation at break, Z	14%
Elongation at tensile strength, XY	9.5%
Elongation at tensile strength, Z	9.5%
Notched Izod impact strength (at 3.2 mm, 23 °C), XY	3.5 kJ/m^2
Notched Izod impact strength (at 3.2 mm, 23 °C), Z	3 kJ/m^2
Hardness (Shore D), XY	69.5
Hardness (Shore D), Z	68
Young modulus, XY	1600 MPa
Young modulus, Z	1600 MPa
Tensile strength, XY	29 MPa
Tensile strength, Z	29 MPa
Dielectric constant	2.2-2.4
Dielectric strength	30–45 kV/mm

Immunity to fluids

Exposure to alkaline medium	Almost no effect
Exposure to benzene	Almost no effect
Exposure to acetone	Almost no effect

Exposure to methyl alcohol	Almost no effect
Exposure to acetic acid	Almost no effect
Exposure to carbon dioxide	Almost no effect
Exposure to engine oil	Almost no effect
Exposure to UV radiation	Almost no effect
Exposure to IR radiation	Almost no effect
Exposure to bleach	Affecting
Exposure to sulfuric acid	Affecting
Exposure to hydrochloric acid, 20% solution	Affecting
Exposure to phosphoric acid, 10% solution	Affecting