

# HP PA12 Glass Bead



HP PA12 Glass Bead is a thermoplastic material reinforced with 40% glass beads, designed for high stiffness, dimensional stability, and repeatable performance. It's ideal for producing strong, functional parts that need enhanced rigidity and minimal warping. Commonly used in housings, enclosures, tooling, and fixtures, this material is well-suited for applications that demand durability under mechanical stress and thermal load.

## Produce stiff, functional parts

- 40% glass bead filled thermoplastic material with both optimal mechanical properties and high reusability <sup>1</sup>
- Provides dimensional stability along with repeatability <sup>2</sup>
- Ideal for applications requiring high stiffness like enclosures and housings, fixtures and tooling

## Quality at a low cost per part

- Produce at a low cost per part and reduce your total cost of ownership <sup>3</sup>
- Less waste - reuse surplus powder batch after batch and get functional parts, no throwing away anymore <sup>1</sup>
- Get consistent performance while achieving 70% surplus powder reusability <sup>4</sup>
- Optimize cost and part quality - cost-efficient material with high surplus powder reusability <sup>1</sup>

## Engineered for HP Multi Jet Fusion technology

- Designed for production of functional parts across a variety of industries
- Provides the best balance between performance and reusability <sup>5</sup>
- Engineered to produce common glass bead applications with detail and dimensional accuracy

## Technical specifications

Category	Measurement	Value	Method
<b>General properties</b>	Powder melting point (DSC)	186°C/367°F	ASTM D3418
	Particle size	58 µm	8.29 g/cm <sup>3</sup>
	2370-2510°F	1300-1375°C	1300-1375°C
	1827°F	997°C	997°C
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<b>Mechanical properties</b>	Tensile strength, max load, <sup>7</sup> XY	30 MPa/4350 psi	ASTM D638
	Tensile strength, max load, <sup>7</sup> Z	30 MPa/4350 psi	ASTM D638
	Tensile modulus, $\bar{\chi}$ XY	2800 MPa/406 ksi	ASTM D638
	Tensile modulus, $\bar{\chi}$ Z	2900 MPa/421 ksi	ASTM D638
	Elongation at break, $\bar{\chi}$ XY	6.5%	ASTM D638
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	Izod impact notched (@ 3.2 mm, 23°C), XYZ	2.7 KJ/m <sup>2</sup>	ASTM D256 Test Method A
<b>Thermal properties</b>	Heat deflection temperature (@0.45 MPa, 66 psi), Z	173° C/344° F	ASTM D648 Test Method A
	Heat deflection temperature (@1.82 MPa, 264 psi), Z	121° C/250° F	ASTM D648 Test Method A
<b>Recyclability</b>	Refresh ratio for stable performance	30%	