3D PARTS UNLIMITED
A SERVICE OF MSC

YOUR MIDWEST SOURCE FOR HP PA 12 GLASS FILED MATERIAL

HP 3D High Reusability PA 12 Glass Beads

Produce Stiff, Functional Parts

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

Quality at The Lowest Cost Per Part

- Achieve the lowest cost per part
- Get consistent quality
- Optimize cost and part quality-cost-efficient

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 cost
- Engineered to produce final parts and functional prototypes with fine detail and dimensional accuracy

Fast Turnaround

- Parts shipped in as little as **24 hours**
- High production capabilities

The Midwest's first print house offering HP PA 12 Glass Beads.

Menomonee Falls, WI	Appleton, WI	Machesney Park, IL	East Peoria, IL	Charlotte, NC
262-255-9300	920-739-0242	815-282-1211	309-694-0292	704-921-9988
800-236-1975	800-236-3820	800-236-7282	800-232-0295	800-523-6051

www.3DPartsUnlimited.com

Technical specifications

Category	Measurement	Value	Method
General properties	Powder melting point (DSC)	186 °C/367 °F	ASTM D3418
	Particle size	58 µm	ASTM D3451
	Bulk density of powder	0.48 g/cm3	ASTM D1895
	Density of parts	1.30 g/cm3	ASTM D792
Mechanical properties	Tensile strength, max load7, XY	30 MPa/4350 psi	ASTM D638
	Tensile strength, max load7, Z	30 MPa/4350 psi	ASTM D638
	Tensile modulus7, XY	2800 MPa/406 ksi	ASTM D638
	Tensile modulus7, Z	2900 MPa/421 ksi	ASTM D638
	Elongation at break7, XY	6.5 %	ASTM D638
	Elongation at break7, Z	6.5 %	ASTM D638
	Izod impact notched (@ 3.2 mm, 23 °C), XYZ	2.7KJ/m2	ASTM D256 Test Method A
Thermal properties	Heat deflection temperature (@ 0.45 MPa, 66 psi), Z	173 °C/344 °F	ASTM D648 Test Method A
	Heat deflection temperature (@ 1.82 MPa, 26.4 psi), Z	121 °C/250 °F	ASTM D648 Test Method A
Recyclability	Refresh ratio for stable performance	30%	

Ordering Information

	HP 3D High Reusability PA 12 Glass Beads	
Product Number	V1R11A	V1R22A
Weight	15 kg	150 kg
Capacity	30L8	300L8
Dimensions (xyz)	600 x 333 x 302 mm	800 x 600 x 1205 mm
Compatibility	HP Jet Fusion 3D 4210/4200/3200 Printing Solution	HP Jet Fusion 3D 4210/4200 Printing Solution

Eco Highlights

- Powders and agents are not classified as hazardous[9]
- Cleaner, more comfortable workplace—enclosed printing system, and automatic powder management[10]
- Minimizes waste due to high Reusability of powder[11]

Find out more about HP sustainable solutions at hp.com/ecosolutions

Learn more at
hp.com/go/3DMaterials

1. Based on using recommended packing densities, offers high Reusability of surplus powder. Liters refers to the materials container size and not the actual materials volume. Materials are measured in kilograms.
2. Testing according to ASTM D638, ASTM D256, and ASTM D648 using HDT at different loads with a 3D scanner for dimensional stability. Testing monitored using statistical process controls.
3. Compared to selective laser sintering (SLS) and fused deposition modeling (FDM) technologies, HP Multi Jet Fusion technology can reduce the overall energy requirements needed to attain full fusing and reduce the system requirements for large, vacuum-sealed ovens. In addition, HP Multi Jet Fusion technology uses less heating power than SLS systems for better material properties and material reuse rates, minimizing waste.
4. HP Jet Fusion 3D printing solutions using HP 3D High Reusability PA 12 Glass Beads provide 70% post-production surplus powder Reusability, producing functional parts batch after batch. For testing, material is aged in real printing conditions and powder is tracked by generations (worst case for recyclability). Parts are then made from each generation and tested for mechanical properties and accuracy.
5. Compared to selective laser sintering (SLS) technology. Based on running a scan on the 3D printing part to measure and compare with the original STL file (using GOM software). For testing, material is aged in real printing conditions and powder is tracked by generations (worst case for recyclability). Parts are then made from each generation and tested for mechanical properties and accuracy.
6. The following technical information should be considered representative of averages or typical values and should not be used for specification purposes. These values refer to a balanced print mode with FW BD6.1.
7. Test results realized under the ASTM D638 with a test rate of 1mm/min for Z type test and a test rate of 10mm/min for XY type test, specimens type V.
8. Liters refers to the materials container size and not the actual materials volume. Materials are measured in kilograms.
9. The HP powder and agents do not meet the criteria for classification as hazardous according to Regulation (EC) 1272/2008 as amended.
10. Compared to manual print retrieval process used by other powder-based technologies. The term "cleaner" does not refer to any indoor air quality requirements and/or consider related air quality regulations or testing that may be applicable.
11. HP Jet Fusion 3D printing solutions using HP 3D High Reusability PA 12 Glass Beads post-production surplus powder reusability, producing functional parts batch after batch.

4AA7-0716ENA, November 2017

This is an HP Indigo digital print.