HP 3D High Reusability PA 12

Engineering-grade thermoplastics, optimized for 3D printing efficiency

Picture taken after graphite post-processing

Fine detail and high dimensional accuracy

Get precise small features and detail such as small fine holes, walls and shafts with dimensional accuracy thanks to HP's unique Multi-Agent printing process

Picture taken after dye post-processing

Produce strong quality parts

Robust thermoplastic that optimizes part quality with cost, producing strong structures

Picture taken after dye post-processing

Produce complex parts and lattice structures

Ideal for complex assemblies, housings, enclosures and connectors

Reduce Total Cost of Ownership and produce quality parts with HP 3D High Reusability PA12, a strong, multi-purpose thermoplastic that enables industry-leading surplus powder reusability.[1]

Lowest Cost-Per-Part[2]

- Optimize cost and part quality,[2] with a cost-efficient material that offers industry-leading reusability.[1]
- No need to throw away reused powder anymore.[3]
- Produce quality parts batch-after-batch reusing surplus powder time after time.[1]
- Achieve minimal powder wastage between production cycles.
- No need to track powder history. Stable performance with only 20% refresh rate.[1]

Optimized for HP Multi Jet Fusion: the best balance between strength and reusability

- A strong thermoplastic for functional prototyping and final parts.
- Optimized for HP's Multi Jet Fusion platform to increase printer safety and deliver truly functional parts.
- Produce high-density parts, with balanced property profiles.
- Excellent chemical resistance to oils, greases, aliphatic hydrocarbons and alkalies.
- Optimal for post finishing processes.

For more information, please visit
hp.com/go/3DMaterials

Technical specifications

Category	Measurement	Value	Method
General Properties	Powder melting point (DSC)	187 °C/369 °F	ASTM D3418
	Particle size	60 µm	ASTM 03451
	Bulk density of powder	0.425 g/cm^3	ASTM D1895
	Density of parts	1.01 g/cm^3	ASTM D792
Mechanical Properties	Tensile Strength, Max Load[4] - XY	48 MPa/6960 psi	ASTM D638
	Tensile Strength, Max Load[4] - Z	48 MPa/6960 psi	ASTM D638
	Tensile Modulus[4] - XY	1700 MPa/245 ksi	ASTM D638
	Tensile Modulus[4] - Z	1800 MPa/260 ksi	ASTM D638
	Elongation at Break[4] - XY	20%	ASTM D638
	Elongation at Break[4] - Z	15%	ASTM D638
Thermal Properties	Heat Deflection Temperature (@ 0.45 MPa) - Z	175 ºC/350 ºF	ASTM D648
	Heat Deflection Temperature (@ 1.82 MPa) - Z	95 ºC/205 ºF	ASTM D648

Ordering Information

Product name	HP 3D High Reusability PA 12
Product Number	V1R10A
Weight	13 kg
Compatibility	HP Jet Fusion 3D 4200/3200 Printing Solution
Dimensions	Box: 600 x 333 x 301.8 mm

Eco Highlights

- **Powders and agents are not classified as hazardous[5]**
- **Enclosed printing system and automated powder management, including post-processing, for a cleaner and more comfortable environment[6]**
- **Minimum waste thanks to high reusability of powder[1]**

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

1. HP MJF Solution with HP High Reusability PA 12 has the highest post-production surplus powder reusability with 80% reusability vs any other powder based 3DP technology using PA 12 material. Stable performance with only 20% powder refresh rate.
2. Based on internal testing and public data, HP Jet Fusion 3D printing solution average printing cost-per-part is half the cost of comparable FDM & SLS printer solutions from $100,000 USD to $300,000 USD, when averaged together and not taken individually, on market as of April 2016. Cost analysis based on: standard solution configuration price, supplies price, and maintenance costs recommended by manufacturer. Cost criteria: printing 1 build chamber per day/ 5 days per week over 1 year of 30-gram parts at 10% packing density using the powder reusability ratio recommended by manufacturer.
3. Per packing densities >20%.
4. Test results realized under the ASTM D638, speciments type V.
5. The HP powder and agents do not meet the criteria for classification as hazardous according to Regulation (EC) 1272/2008 as amended.
6. 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.

Learn more at
hp.com/go/3DMaterials

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