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PA12

NYLON

DETAIL AND HIGH DIMENSIONAL ACCURACY:
Precise features and fine details—such as small holes, walls, and pins—with high dimensional accuracy thanks to HP's exclusive Multi-Agent printing process

HIGH-QUALITY PART PRODUCTION:
Robust thermoplastic material that optimizes part quality and cost, producing sturdy structures

PRODUCTION OF COMPLEX PARTS AND LATTICE STRUCTURES:
Ideal for complex assemblies, housings, enclosures, and connectors

LOWEST COST PER PART

- Optimize part cost and quality [2], with a cost-efficient material offering industry-leading reusability. [1]
- No need to dispose of reusable powder. [3]
- Produce quality parts use after use by reusing excess powder time after time. [1]
- Achieve minimal powder waste between production cycles.
- No need to track powder history. Stable performance with a 20% refresh rate. [1]

LOWEST COST PER PART

- A robust thermoplastic material for functional prototyping and production parts.
- Optimized for HP's MultiJet Fusion platform to increase printer safety and deliver truly functional parts.
- Produces high-density parts, with balanced property production cycles.
- Excellent chemical resistance to oils, greases, aliphatic hydrocarbons, and alkalis.
- Optimal for post-finishing processes.

Reduces total cost of ownership and produces quality parts with High Reusability PA 12, a robust and multi-purpose thermoplastic that enables industry-leading surplus powder reusability. [1]

CATEGORY	MEASUREMENT	VALUE	METHOD
General properties			
	Powder melting point (DSC)	187 °C/369 °F	ASTM D-3418
	Particle size	60 µm	ASTM D-3451
	Bulk density of powder	0.425 g/cm^3	ASTM D-1895
	Density of parts	1.01 g/cm^3	ASTM D-792
Mechanical properties			
	Tensile strength, max load[4], XY	48 MPa/6960 psi	ASTM D-638
	Tensile strength, max load[4], Z	48 MPa/6960 psi	ASTM D-638
	Tensile modulus[4]-XY	1700 MPa/245 ksi	ASTM D-638
	Tensile modulus[4]-Z	1800 MPa/260 ksi	ASTM D-638
	Elongation at break[4]-XY	20%	ASTM D-638
	Elongation at break[4]-Z	15%	ASTM D-638
Proprietà termiche			
	Heat deflection temperature (@ 0.45 MPa)-Z	175 °C/350 °F	ASTM D-648
	Heat deflection temperature (@ 1.82 MPa)-Z	95 °C/250 °F	ASTM D-648

- 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]
- Minimal waste thanks to high powder reusability [1]

1. HP MJF solution with High Reusability HP PA 12 features the highest post-production surplus powder reusability compared to any other powder-based 3DP technology using PA 12 material. Stable performance with only a 20% powder refresh rate.
2. Based on internal testing and public data, the average HP Jet Fusion 3D printing solution cost per print is half the average cost of comparable FDM and SLS printing solutions from $100,000 USD to $300,000 USD, averaged together and not individually, available on the market as of April 2016. Cost analysis based on: standard solution configuration price, supplies price, and manufacturer-recommended maintenance costs.
Cost criteria: printing 1 build chamber per day / 5 days per week over 1 year of 30-gram parts at 10% packing density using HP 3D High Reusability PA 12 material and the manufacturer-recommended powder reusability ratio.
3. For packing density ^ 20%
4. Test results obtained using ASTM D638, Type V specimens.
5. HP powder and agents do not meet the criteria for classification as hazardous under Regulation (EC) 1272/2008 and subsequent amendments.
6. The term "cleaner" does not refer to indoor air quality requirements and/or consider applicable indoor air quality standards or tests.

