# HP Jet Fusion 5200 Series

# 3D Printing Solutions





### HP Jet Fusion 5200 Series 3D Printing solutions

Drive new growth and expand into volume production with HP's robust, manufacturing-ready 3D Printing solution

Ideal for mid-volume production environments



### Enhanced manufacturing predictability

- Get quality, from fine detail and sharp edges, to textures, and optimal yield at industrial-level OEE.
- Produce functional parts with best-in-class isotropy with the latest generation of HP Multi Jet Fusion systems.
- Reduce errors, failed jobs, and unplanned downtime with HP 3D Proactive Remote Service that includes service alerts.
- Uniquely predictable and consistent print time for any type of part, no support structures needed.

### Breakthrough productivity with integrated software, materials mixing, and unpacking automation

- Best-in-class economics and productivity (over 160,000 cm² per day) for production environments.
- Streamlined workflow, improved process development, optimized job efficiency, and enhanced production efficiency with a consolidated dashboard that integrates data across industrial management systems.
- Consistent unpacking results through an automatic process with an industrial-grade solution.
- Streamlined workflow and HP's most economical continuous 3D Printing with automated materials mixing, enclosed processing station, and natural cooling unit.

## Expand into new applications and markets

- Address more final part applications with new levels of repeatable accuracy and best-in-class economics.
- Deliver a breadth of applications for various markets with PP, PA 11, PA 12, PA 12 GB, and TPU materials today, and more in the future.
- Address sustainability, with lower carbon footprint parts<sup>1</sup>, and HP 3D materials offering industry-leading reusability<sup>2</sup>.







HP 3D hardware, software, and services designed to help you scale into volume production



# HP Digital Production Suite—delivering the science and power of HP Multi Jet Fusion technology

**Design** Production



Design Production

### HP 3D Build Manager



Quickly and easily prepare your jobs for printing with all the elements you need.

#### HP3D Command Center



Client/server application for system setup, registration, device monitoring, and connectivity management.

#### **HP3D Center**



Cloud-based dashboard delivers timely and historical data for greater productivity and efficiency.

#### HP 3D API<sup>3</sup>



Streamlined data access and automation across industrial management systems

#### Integration with industry-leading software partners







**SIEMENS** 



# Expanding materials and applications: new growth opportunities

Expand into new applications and markets with a growing portfolio of HP 3D materials that enable you to produce a variety of low-cost, quality parts, and address sustainability objectives with industry-leading reusability<sup>2</sup>.

### HP 3D High Reusability PA 11: ductile<sup>4</sup>, quality parts



Produce functional parts with impact resistance and ductility<sup>4</sup>. This thermoplastic material, made from renewable sources<sup>5</sup>, provides optimal mechanical properties and consistent performance at industry-leading surplus powder reusability<sup>2</sup>.

Statements<sup>6</sup>: Biocompatibility, REACH, RoHS (for EU, Bosnia-Herzegovina, China, India, Japan, Jordan, Korea, Serbia, Singapore, Turkey, Ukraine, Vietnam), PAHs, Statement of Composition for Toy Applications, UL 94 and UL 746A

### HP 3D High Reusability PA 12—strong, low-cost<sup>7</sup>, quality parts

Reduce total cost of ownership<sup>8</sup> and produce strong, functional, detailed complex parts with HP 3D High Reusability PA 12, a robust thermoplastic that enables industry-leading surplus powder reusability<sup>2</sup>.

Statements<sup>6</sup>: Biocompatibility, REACH, RoHS (for EU, Bosnia-Herzegovina, China, India, Japan, Jordan, Korea, Serbia, Singapore, Turkey, Ukraine, Vietnam), PAHs, Statement of Composition for Toy Applications, UL 94 and UL 746A



## HP 3D High Reusability PA 12 Glass Beads—stiff, dimensionally stable, quality parts







Produce stiff, functional parts, while achieving up to 70% surplus powder reusability<sup>9</sup>, with this glass bead filled thermoplastic material ideal for applications requiring high stiffness and dimensional stability like enclosures and housings, fixtures and tooling.

Statements<sup>6</sup>: REACH, RoHS (for EU, Bosnia-Herzegovina, China, India, Japan, Jordan, Korea, Serbia, Singapore, Turkey, Ukraine, Vietnam), PAHs, UL 94 and UL 746A

# HP 3D High Reusability PP enabled by BASF: chemical resistant<sup>10</sup>, weldable, low moisture absorption, functional parts

Produce genuine, functional PP parts with excellent chemical resistance<sup>10</sup>, low moisture absorption, outstanding welding capabilities, and biocompatibility<sup>6</sup> ideal for a wide range of automotive, industrial, consumer goods, and medical applications.

Statements<sup>6</sup>: Biocompatibility, REACH, RoHS (for EU, Bosnia-Herzegovina, China, India, Japan, Jordan, Korea, Serbia, Singapore, Turkey, Ukraine, Vietnam), PAHs, Statement of Composition for Toy Applications



### BASF Ultrasint® TPU01: flexible, functional parts





Produce flexible TPU parts, with a high throughput, excellent quality and level of detail, and suitable for a wide range of applications. Ideal for parts requiring shock absorption, energy return, and flexibility.



# HP 3D Printing materials portfolio selection guide<sup>11</sup>

|                                   | HP 3D HR PA 11 | HP 3D HR PA 12 | HP 3D HR PA 12 GB | HP 3D HR PP<br>enabled by BASF | BASF Ultrasint® TPU01 |
|-----------------------------------|----------------|----------------|-------------------|--------------------------------|-----------------------|
| Stiffness                         | •              | •              | *                 |                                | <b>A</b>              |
| Impact resistance                 | •              | •              | <b>A</b>          |                                | *                     |
| Elongation                        | •              | •              | <b>A</b>          | •                              | *                     |
| Dimensional capability            | •              | *              | •                 |                                |                       |
| Level of detail                   | *              | •              | •                 | •                              |                       |
| Flat part                         |                | •              | *                 | <b>A</b>                       |                       |
| Temperature resistance            | <b>A</b>       | •              | •                 |                                | <b>A</b>              |
| Chemical resistance <sup>10</sup> | •              | •              | n/a               | *                              |                       |
| Low moisture absorption           | <b>A</b>       | <b>A</b>       | <b>A</b>          | *                              |                       |
| Lightweight                       | •              | •              | •                 | *                              |                       |

For more information, visit: hp.com/go/3Dmaterials

Not recommended

Good

★ Best

# Working together through your digital manufacturing journey: HP 3D Solution services



Whether you're just starting out or you're in full production, we're here to help you successfully navigate your 3D Printing adoption journey with a world-class service experience dedicated to making digital manufacturing, and new growth, a reality for your business.

### HP 3D Printing Prepare services

From preparing your site to installing and calibrating your equipment and printing your first parts to helping you explore the full potential of HP 3D Printing, we'll help get you started on the right track with HP 3D Printing Prepare Services.

### HP 3D Printing Care services

Your uptime is our top priority. From preventive maintenance to proactive, big-data driven analytics, we're looking for every opportunity to help you improve the return on your investment through HP 3D Printing Care Services.

### HP 3D Printing Grow services

Accelerate your transformation with HP 3D Printing Grow Services, designed to help you grow, move into new materials, applications, and use cases, and further optimize your manufacturing processes.

Learn more at: hp.com/go/3DSupport

# HP 3D Professional services: accelerate your transformation to additive manufacturing (AM)

HP 3D Professional services help organizations identify viable strategic opportunities, optimize design for breakthrough applications, and streamline manufacturing processes to enable mass customization and scale production.





### Adopt

Identify new opportunities and advanced design techniques enabled with HP Multi Jet Fusion technology.

### Develop

Look to improve your product positioning and market differentiation through innovation and new application development.

### Manufacture

Set up customized, repeatable, and scalable manufacturing processes with HP 3D Factory Services.

Learn more at: hp.com/go/3DProfessionalServices
Learn more at: hp.com/go/FactoryServices



# Accelerate your move to HP 3D Printing with HP Integrated Financial Solutions

Leverage the latest technology to help accelerate your growth, profitability, and competitiveness. Partner with HP Integrated Financial Solutions to help accelerate your time to value. Enjoy the flexibility to meet both your technology and financial plans while allocating your cash to other priorities.

Financing options include a low per-month payment for HP Jet Fusion 5200 Series 3D Printing Solutions, enabling the flexibility to:

- Avoid a large upfront payment
- Align payments with revenue by using deferred or step payment options
- Simplify your administration: bundle hardware and services into a single agreement
- Change as your requirements evolve, refresh every 3-5 years

Financing and service offerings available through Hewlett-Packard Financial Services Company and its subsidiaries and affiliates (collectively HPFSC) in certain countries and is subject to credit approval and execution of standard HPFSC documentation. Rates and terms are based on customer's credit rating, offering types, services and/or equipment type and options. Not all customers may qualify. Not all services or offers are available in all countries. Other restrictions may apply. HPFSC reserves the right to change or cancel this program at any time without notice.

Learn more at: hp.com/go/3DIntegratedFinancialSolutions



# HP 3D as a Service (HP 3DaaS)<sup>12</sup>—Gain new levels of cost predictability with the flexibility to scale your business as you grow

In this business climate, there are many advantages to a pay-as-you-go business model when the focus is on outcomes. Paying on a usage basis puts the focus on your business results rather than equipment or transactions.

HP Jet Fusion 3D Printing Solutions are reinventing design and manufacturing. From accelerating design cycles, to running efficient volume production with repeatable part quality.

Speed up your digital manufacturing transformation with HP 3DaaS:

- Predictable: usage-based price per successful build<sup>13</sup> gives you certainty around your variable costs
- Convenient: gain new operational efficiencies by simplifying supplies ordering and inventory management
- Affordable: avoid up-front investment, and help align your costs directly with your revenue by paying monthly14

#### HP 3DaaS includes:

- HP 3D Printing Care Services: HP 3D Production Care or HP 3D Shared Care
- HP Supplies and Automatic Replenishment<sup>12</sup>
- HP 3D Preventive Maintenance Kits
- Online dashboard for convenient billing and usage tracking

 $Contact \ your \ local \ HP \ sales \ representative \ for \ more \ information \ or \ learn \ more \ at: \ \underline{hp.com/go/3DaaS}$ 

### Technical specifications

### HP Jet Fusion 5200 Series 3D Printers

| PRINTER                              | Technology  | HP Multi Jet Fusion technology  |  |
|--------------------------------------|---|---|--|
| PERFORMANCE                          | Effective build volume  | 380 x 284 x 380 mm (15 x 11.2 x 15 in)  |  |
|                                      | Building speed <sup>15</sup>  | Up to 5058 cm²/hr (309 in²/hr)  |  |
|                                      | Layer thickness   | 0.08 mm (0.003 in)  |  |
|                                      | Job processing resolution (x, y)  | 1200 dpi  |  |
|                                      | Print resolution (x, y)   | 1200 dpi  |  |
| DIMENSIONS                           | Printer   | 2210 x 1268 x 1804 mm (87 x 50 x 71 in)   |  |
| (WXDXH)                              | Shipping  | 2300 x 1325 x 2027 mm (91 x 52 x 80 in)   |  |
|                                      | Operating area  | 3700 x 3700 x 2500 mm (146 x 146 x 99 in  |  |
| WEIGHT                               | Printer   | 880 kg (1940 lb)  |  |
|                                      | Build unit  | 140.5 kg (309.7 lb)   |  |
|                                      | Shipping  | 1037.5 kg (2287 lb)   |  |
| NETWORK <sup>16</sup>                | Gigabit Ethernet (10/100/1000Base-T), supporting the following standards: TCP/IP, DHCP (IPv4 only), TLS/SSL |   |  |
| PROCESSOR AND                        | Processor   | Intel® Core™ i7 7770 (3.6 GHz, up to 4.2 GHz)   |  |
| MEMORY                               | Memory  | 32 GB DDR4  |  |
| HARD DISK                            | 1TB HDD SED (AES-256 e  | encrypted)  |  |
|                                      | 1TB SDD SED (AES-256 e  | ncrypted), TGC-OPAL 2.01 compliant  |  |
| SOFTWARE                             | Compatible software   | HP 3D Build Manager,<br>HP 3D Command Center<br>HP 3D Center<br>HP 3D API <sup>3</sup>  |  |
|                                      | Supported file formats  | 3MF, STL, OBJ, and VRML (v2.0)  |  |
|                                      | Certified third-party software  | Autodesk® Netfabb® with HP<br>Work-space, Materialise Build<br>Processor for HP Multi Jet Fusion<br>technology, Siemens NX AM for<br>HP Multi Jet Fusion technology |  |
| POWER                                | Consumption   | 12 kw <sup>17</sup>   |  |
|                                      | Requirements  | 380-415 V (line-to-line), 50 A max,<br>50/60 Hz<br>200-240 V (line-to-line), 80 A max,<br>50/60 Hz  |  |
| CERTIFICATIONS<br>AND STATEMENT      | Safety  | IEC 60950-1+A1+A2 compliant; United<br>States and Canada (UL listed); EU<br>(LVD and MD compliant, EN 60950-1,<br>EN 12100-1, EN 60204-1, and EN 1010)              |  |
|                                      | Electromagnetic   | Compliant with Class A requirements, including: USA (FCC rules), Canada (ICES), EU (EMC Directive), Australia (ACMA), New Zealand (RSM), Korea (KCC                 |  |
|                                      | Environmental statement   | REACH compliant   |  |
| WARRANTY & SERVICE COVERAGE INCLUDED | One-year limited hardware warranty  |   |  |
| ENVIRONMENTAL<br>SPECIFICATIONS      | Temperature during installation   | 20-30°C (68-86°F)   |  |
|                                      | Operating temperature   | 20-30°C (68-86°F)   |  |
|                                      | Recommended<br>temperature for<br>best performance  | 20-30°C (68-86°F)   |  |
|                                      | Storage temperature   | -25 to 55°C (-13 to 131°F)  |  |
|                                      | Operating humidity  | 30-80% without condensation   |  |
|                                      | Storage humidity  | <90% without condensation   |  |
|                                      |   |   |  |

### HP Jet Fusion 5200 Series 3D Processing Stations

|  |  | •   |  |
|--|--|---|--|
| FEATURES                                   | Automated mixing and loading with ultrasonic sieving and accessible sieve mesh; semi-manual unpacking; high-temperature unpacking; automated external storage tank; optional trained self-service deep-cleaning; optional cooling unit |   |  |
| DIMENSIONS<br>(WXDXH)                      | Processing station   | 2990 x 934 x 2400 mm<br>(117.7 x 36.8 x 94.5 in)  |  |
| (W ADAII)                                  | Shipping   | 2389 x 1176 x 2182 mm<br>(94 x 46.3 x 85.9 in)  |  |
|  | Operating area   | 3190 x 2434 x 2500 mm<br>(125.6 x 95.8 x 99 in)   |  |
| WEIGHT                                     | Processing station   | 485 kg (1069 lb)  |  |
|  | Loaded   | 724 kg (1596 lb)  |  |
|  | Shipping   | 620 kg (1366 lb)  |  |
| POWER                                      | Consumption  | 2.6 kW (typical)  |  |
|  | Requirements   | Input voltage single phase<br>200-240 V (line-to-line) 19 A max,<br>50/60 Hz (line-to-neutral) 14 A<br>max, 50 Hz   |  |
| CERTIFICATIONS<br>AND STATEMENT            | Safety   | UL 2011, UL508A, NFPA 70/ NFPA 79, C22.2 NO. 14-13 compliant;<br>United States and Canada (UL listed); EU (MD compliant, EN 60204-1, EN 12100-1, EN 1127-1, EN-ISO 11201 and EN 1010) |  |
|  | Electromagnetic  | Compliant with Class A<br>requirements, including: USA<br>(FCC rules), Canada (ICES), EU<br>(EMC Directive), Australia<br>(ACMA), New Zealand (RSM),<br>Korea (KCC)                   |  |
|  | Environmental statement  | REACH compliant   |  |
| WARRANTY &<br>SERVICE COVERAGE<br>INCLUDED | One-year limited hardware warranty   |   |  |
| ENVIRONMENTAL<br>SPECIFICATIONS            | Temperature during installation  | 20-30°C (68-86°F)   |  |
|  | Operating temperature  | 20-30°C (68-86°F)   |  |
|  | Recommended<br>temperature for<br>best performance   | 20-30°C (68-86°F)   |  |
|  | Storage  | -25 to 55°C (-13 to 131°F)  |  |
|  | temperature  |   |  |
|  | Operating humidity   | 30-80% without condensation   |  |

HP 3D Printing materials have their own restrictions published in material data sheets.

## Ordering information

| PRINTER                    | 3FW25B   | HP Jet Fusion 5200 3D Printer  |
|----------------------------|--|--|
| ACCESSORIES                | 3FW27A   | HP Jet Fusion 5200 3D Processing Station   |
|                            | 3FW29A   | HP Jet Fusion 5200 3D Build Unit   |
|                            | 2W883A   | HP Jet Fusion 5200 Series 3D<br>Automatic Unpacking Station  |
|                            | 2M7W6A   | HP Jet Fusion 5200 Series 3D<br>Automatic External Tank  |
|                            | 4QG11A   | HP Jet Fusion 5200 3D Automatic<br>External Tank Starter Kit   |
|                            | M0P54B   | HP Jet Fusion 5200/4200 Series 3D<br>External Tank 5-units Bundle  |
|                            | 5ZR21A   | HP Jet Fusion 5200 3D Semaphore  |
|                            | 4QG10A   | HP Jet Fusion 5200 3D Natural<br>Cooling Unit  |
|                            | 5ZR22A   | HP Jet Fusion 5200 3D Natural<br>Cooling Unit Starter Kit  |
|                            | 5ZR19A   | HP Jet Fusion 5210 3D Printer<br>Installation Kit  |
|                            | 5ZR23A   | HP Jet Fusion 5210 Pro 3D Printer<br>Installation Kit  |
|                            | 5ZR20A   | HP Jet Fusion 5210 3D Processing Station Installation Kit  |
|                            | 5ZR24A   | HP Jet Fusion 5210 Pro 3D Processing<br>Station Installation Kit   |
|                            | 6Q2W8A   | HP Jet Fusion 5420W 3D Printer<br>Installation Kit   |
|                            | 3WL35A   | HP Jet Fusion 5200/4200 Series 3D<br>Material Unloading Kit <sup>18</sup>  |
|                            | 3FW24A   | HP Jet Fusion 5200/4200 Series 3D<br>Material Loading 3-units Bundle <sup>18</sup>   |
|                            | UB8N4E   | HP 3D Long Term Consumable<br>Cleaning Kit Service for HP Jet Fusion<br>5200 Series 3D Processing<br>Station/Build Unit      |
|                            | HP OfficeJet<br>Pro 7740 Wide<br>Format All-in-<br>One Printer | For more information on availability ir<br>your region, please check with your<br>local HP Amplify 3D Printing<br>Specialist |
| RECOMMENDED<br>THIRD-PARTY | Hovmand<br>Forklift 5200                                       | Please consult with your local<br>HP Amplify 3D Printing Specialist  |
| ACCESSORIES                | Girbau DY130<br>Dyeing<br>Solution <sup>19</sup>               | Please consult with your local<br>HP Amplify 3D Printing Specialist  |
| ORIGINAL<br>HP PRINTHEADS  | F9K08A   | HP 3D600 Printhead   |
| HP 3D<br>LONG-TERM         | 8VJ68A   | HP Jet Fusion 5200/4200 Series 3D<br>Vacuum Pump Filter  |
| CONSUMABLES                | 2X0E1A   | HP Jet Fusion 5200 Series 3D<br>Automatic Unpacking Station<br>E-cabinet Fan Filter  |
|                            | 2X0E2A   | HP Jet Fusion 5200 Series 3D<br>Automatic Unpacking Station<br>Pneumatic Filter  |
|                            | 2X0E3A   | HP Jet Fusion 5200 Series 3D<br>Automatic Unpacking Station Top<br>Lid Filter  |

| ORIGINAL   | V1Q63A      | HP 3D700 5L Fusing Agent   |
|--|-------------|--|
| HP AGENTS  | V1Q64A      | HP 3D700 5L Detailing Agent  |
| OTHER SUPPLIES   | V1Q66A      | HP 3D600 Cleaning Roll   |
| ORIGINAL HP 3D   | V1R10A      | HP 3D High Reusability PA 12 30L (13 kg)   |
| HIGH REUSABILITY<br>MATERIALS <sup>20</sup>                              | V1R16A      | HP 3D High Reusability PA 12 300L (130 kg)   |
|  | V1R34A      | HP 3D High Reusability PA 12<br>Production Material 300L (130 kg) <sup>21</sup>  |
|  | V1R20A      | HP 3D High Reusability PA 12 1400L (600 kg) <sup>18,22,23</sup>  |
|  | V1R12A      | HP 3D High Reusability PA 11 30L (14 kg)   |
|  | V1R18A      | HP 3D High Reusability PA 11 300L<br>(140 kg)  |
|  | V1R36A      | HP 3D High Reusability PA 11<br>Production Material 300L (140 kg) <sup>21</sup>  |
|  | V1R24A      | HP 3D High Reusability PA 11 1700L<br>(750 kg) <sup>18,22,23</sup>   |
|  | V1R11A      | HP 3D High Reusability PA 12 Glass<br>Beads 30L (15 kg)  |
|  | V1R22A      | HP 3D High Reusability PA 12 Glass<br>Beads 300L (150 kg)  |
|  | V1R35A      | HP 3D High Reusability PA 12 Glass<br>Beads Production Material 300L<br>(150 kg) <sup>21</sup>                                     |
|  | V1R23A      | HP 3D High Reusability PA 12 Glass<br>Beads 1400L (700 kg) <sup>18,22,23</sup>   |
|  | V1R28A      | HP 3D High Reusability PP enabled by BASF 300L (100 kg)  |
|  | V1R37A      | HP 3D High Reusability PP enabled by<br>BASF Production Material 300L<br>(100 kg) <sup>21</sup>                                    |
| MATERIALS<br>CERTIFIED FOR<br>HP JET FUSION<br>3D PRINTING <sup>24</sup> | 300071 BASF | F Ultrasint® TPU01 30L (15 kg)<br>F Ultrasint® TPU01 300L (150 kg)<br>F Ultrasint® TPU01 1000L (500 kg) <sup>22</sup>              |
| HP JET FUSION<br>3D SOLUTION<br>SERVICES <sup>25</sup>                   | UB4P2E      | HP Digital Manufacturing Site Readiness Assessment Tier 1 Service for HP Jet Fusion 5200/4200 Series 3D Printing Solutions         |
|  | UB6Y0E      | HP 3D Ready-to-Print Service for HP<br>Jet Fusion 5200 Series 3D Printing<br>Solutions   |
|  | UB4P0E      | HP Digital Manufacturing Tech<br>Transition Service for HP Jet Fusion<br>5200/4200 Series 3D Printing<br>Solutions                 |
|  | UB9V8E      | HP 3 Year NBD* On-site HW Support<br>with DMR** Production Care for HP<br>Jet Fusion 5200/4200 Series 3D<br>Printer                |
|  | UB9X6E      | HP 3 Year NBD* On-site HW Support<br>Production Care for HP Jet Fusion<br>5200/4200 Series 3D Build Unit                           |
|  | UB7R3E      | HP 3 Year NBD* On-site HW Support<br>Foundation and Production Care for<br>HP Jet Fusion 5200/4200 Series 3D<br>Processing Station |
|  | UB7H6E      | HP Customer Self-Repair Uptime Kit<br>Service for HP Jet Fusion 5200 Series<br>3D Printers   |
|  | U34Z3E      | HP 3D Platform Conversion Service to<br>HP Jet Fusion 5420W 3D Printer   |
|  | U34Z4E      | HP 3D Platform Conversion Service to<br>HP Jet Fusion 5420W 3D Processing<br>Station   |
|  |             | dia Retention  |

<sup>\*</sup> Next Business Day \*\*Defective Media Retention



Cofinanced Project by Minetur -SETSI TSI-100802-2014-1







Dynamic security enabled printer. Only intended to be used with cartridges using an HP original chip. Cartridges using a non-HP chip may not work, and those that work today may not work in the future. More at: <a href="https://hp.com/go/learnaboutsupplies">hp.com/go/learnaboutsupplies</a>.

Learn more about HP Multi Jet Fusion technology at: <a href="hp.com/go/3DPrint">hp.com/go/3DPrint</a>
Connect with an HP 3D Printing expert or sign up for the latest news about HP Jet Fusion 3D Printing: <a href="hp.com/go/3Dcontactus">hp.com/go/3Dcontactus</a>
For more information, please visit: <a href="hp.com/go/3DPrinter5200">hp.com/go/3DPrinter5200</a>

- Low carbon footprint per printed HP Multi Jet Fusion part for runs of 1500 or less when compared to injection molded parts. Data comes from an ISO 14040/44 compliant and peer reviewed LCA study, January 2018.
- Industry-leading surplus powder reusability based on using HP 3D High Reusability PA 11 and PA 12 at
  recommended packing densities and compared to selective laser sintering (SLS) technology, offers
  excellent reusability without sacrificing mechanical performance. Tested according to ASTM D638,
  ASTM D256, ASTM D790, and ASTM D648 and using a 3D scanner. Testing monitored using statistical
  process controls
- 3. Only core capabilities available
- Testing according to ASTM D638, ASTM D256, and ASTM D648 using HDT at different loads with a 3D scanner for dimensional accuracy. Testing monitored using statistical process controls.
- 5. HP 3D High Reusability PA 11 powder is made with 100% renewable carbon content derived from castor plants grown without GMOs in orid areas that do not compete with food crops. HP 3D High Reusability PA 11 is made using renewable sources, and may be made together with certain non-renewable sources. A renewable resource is a natural organic resource that can be renewed at the same speed in which it is consumed. Renewable stands for the number of carbon atoms in the chain coming from renewable sources (in this case, castor seeds) according to ASTM D6866.
- For more information, see hp.com/go/statementsPA11, hp.com/go/statementsPA12 hp.com/go/statementsPA12GB, and hp.com/go/statementsPP.
- 7. Based on internal testing and public data for solutions 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 1.4 full build chambers of parts per day/5 days per week over 1 year of 30 cm3 parts at 10% packing density on Fast print mode using HP 3D High Reusability PA 12 material, and the powder reusability ratio recommended by manufacturer, and printing under certain build conditions and part geometries.
- 8. 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.
- 9. HP Jet Fusion 3D Printing Solutions using HP 3D High Reusability PA 12 Glass Beads provide up to 70% powder reusability ratio, producing functional parts batch after batch. For testing, material is aged in real printing conditions and powder is tracked by generations (worst case for reusability). Parts are then made from each generation and tested for mechanical properties and accuracy.
- 10. For HP 3D High Reusability PP enabled by BASF, based on internal HP testing, May 2020, with tests for mechanical property retention, dimensional stability, and weight change after 7- and 30-day immersion with acids, bases, organic solvents, and aqueous solutions. Due to the material characteristics, extra tuning is required in part design and printing, compared to other rigid HP 3D Printing materials. For HP 3D High Reusability PA 11 and PA 12, based on internal HP testing, June 2017. Tested with diluted alkalies, concentrated alkalies, chlorine salts, alcohol, ester, ethers, ketones, aliphatic hydrocarbons, unleaded petrol, motor oil, aromatic hydrocarbons, toluene, and DOT 3 brake fluid. For BASF Ultrasint\* TPU01, based on testing by BASF, April 2020, according to ASTM D471 for select IRM oils and Fuel A.
- Based on internal HP testing, March 2020. For testing methodology and results, see hp.com/go/3Dprintingmaterialswhitepapers. Please consult your local HP sales representative for more information.
- 12. HP Supplies and Automatic Replenishment is currently available in the US, Canada, Austria, Belgium, Check Republic, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Poland, Portugal, Spain, Sweden, UK and South Korea. HP 3DaaS Service Only (HP Supplies not included) is available in Mexico, Brazil, Israel, Hungary, Romania, Slovenia, Turkey, United Arab Emirates, Greece, South Africa, China, Singapore and Taiwan.

- 13. A successful build is a printed job that ends with the exit code "job completed successfully."
- 14. HP 3DaaS defined usage-based price applies for a one-year term.
- 15. Based on using HP 3D High Reusability PA 12, 0.11-mm (0.0043-in) layer thickness and 8.45 sec/layer.
- 16. The HP Jet Fusion 3D Printing Solution should be connected to the HP Cloud in order to enable the correct functioning of the printer and to offer better support.
- 17. Average power for HP 3D High Reusabiility PA 11 and PA 12 in Balanced print mode.
- 18. This product number is sold directly by HP.
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