HP Jet Fusion 3D Printing Solution

Reinventing Prototyping and Manufacturing
1. Creating limitless potential
2. Reinventing prototyping and manufacturing: HP Jet Fusion 3D 4200/3200 Printing Solution
3. HP Jet Fusion 3D 4200/3200 Printing: an end-to-end solution
4. Engineering-grade thermoplastics... and beyond
5. HP 3D printing software: maximum efficiency end-to-end
6. Boost your competitive advantage with HP Technical Service and Support
7. Technical specifications
Creating limitless potential

Welcome to a new era of 3D printing.

Leap beyond the limits of previous technologies and enter a world where 3D printing allows you to move rapidly from thoughts to things, from radical prototyping to final parts manufacturing.

A world where you can think and create without limits and propel your business forward by unlocking the full potential of 3D printing.

Because now, HP is bringing decades of expertise in printing and materials science—with more than 5,000 HP patents—to the unique performance of HP Multi Jet Fusion technology.

Faster form, fit and function

HP Multi Jet Fusion technology enables production of functional parts, up to 10 times faster, at the lowest cost, and with no trade-offs in the process.

That’s because HP’s technology can transform part properties voxel by voxel—enabling a future of limitless applications, materials and colors. Imagine a future where we can produce ‘Smart Parts’ with embedded electronics and integrated traceability and intelligence.

HP is here to help your business get ready for a future era of Digital Manufacturing.

Collaboration to advance the state of the art

HP’s Multi Jet Fusion Open Platform, will bring down the barriers to widespread 3D printing adoption across industries, in order to:

- Facilitate the development of never-before-seen 3D printing materials and new software to expand applications
- Enable new 3D printing materials that combine lower costs with enhanced properties
- Support the transformation from traditional manufacturing to a future of Digital Manufacturing
- Drive software innovation and standards such as 3MF, an improved 3D printing file format, through collaboration with partners

Meet the mighty HP voxel.

You and this little thing are about to change the world in a big way.
Reinventing prototyping and manufacturing: HP Jet Fusion 3D 4200/3200 Printing Solution

The HP Jet Fusion 3D printing solution reinvents how you prototype and produce functional parts, delivering quality output, up to 10 times faster\(^1\) at half the cost\(^2\).

### Superior, consistent part quality
- Get extreme dimensional accuracy and fine detail,\(^3\) thanks to HP’s unique Multi-Agent printing process
- Produce truly functional parts with optimal mechanical properties,\(^4\) faster\(^1\)
- Obtain predictable, reliable final printed parts that match your design\(^5\)
- Access new future materials and uncover new applications thanks to the HP Multi Jet Fusion Open Platform

**Only with the HP Jet Fusion 3D 4200 Printing Solution**
- Use advanced and custom print modes to control mechanical, functional, and aesthetic properties, accuracy, and speed
- Benefit from advanced part quality monitoring during the printing process

### Breakthrough productivity
- Produce more parts per day with continuous printing and fast cooling\(^6\)
- Streamline your workflow with HP’s automated materials preparation and post-processing station
- Cleaner experience with an enclosed Processing Station and materials not classified as hazardous\(^7\)
- Rely on HP’s world-class Technical Services and Support to maximize uptime and productivity
- Choose your ideal end-to-end solution from a range of printing and processing options

**Only with the HP Jet Fusion 3D 4200 Printing Solution**
- Add additional parts while printing is already in progress for urgent jobs
- Experience enhanced performance thanks to a higher disk capacity and additional memory

### Lowest cost-per-part\(^2\)
- Achieve lowest cost-per-part\(^2\) and reduce operational costs, opening your doors to short-run manufacturing
- Benefit from a competitively-priced 3D printing solution\(^2\)
- Optimize cost and part quality, with cost-efficient materials that offer industry-leading reusability\(^8\)
- Plan production times more accurately and predictably, to increase your overall operational efficiency

**Only with the HP Jet Fusion 3D 4200 Printing Solution**
- Achieve a lower cost-per-part\(^2\) versus the HP Jet Fusion 3D 3200 Printing Solution

For more information, please visit: [hp.com/go/JetFusion3Dsolutions](http://hp.com/go/JetFusion3Dsolutions)
HP Jet Fusion 3D 4200/3200 Printer

HP Jet Fusion 3D 4200 printing solution
Ideal for your prototyping and short-run manufacturing needs, with high productivity⁶ to meet same-business-day demands, at lowest cost per part²

HP Jet Fusion 3D 3200 printing solution
Ideal for prototyping, giving you improved productivity⁶ and the capacity to grow your usage at a low cost per part²

Ordering information

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<th>Product Category</th>
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<th>HP Jet Fusion 3D 3200 printing solution</th>
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<tr>
<td>Product</td>
<td>M0P44A HP Jet Fusion 3D 4200 Printer</td>
<td>M0P41A HP Jet Fusion 3D 3200 Printer</td>
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<td>Accessories</td>
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<td>M0P45A HP Jet Fusion 3D Build Unit</td>
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<td>M0P54B HP Jet Fusion 3D External Tank 5 units Bundle</td>
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* Next Business Day
** Defective Media Retention
HP Jet Fusion 3D 4200/3200 Printing: an end-to-end solution

1. Prepare your design for printing:
   Open your 3D model and check for errors with an easy-to-use HP software.

2. Pack models and send to printer:
   Place multiple models in build platform and submit job to printer.

3. Add Materials:
   Insert the pre-packed HP 3D Materials cartridges into the HP Jet Fusion 3D Processing Station.

6. Slot the Build Unit into the Printer

7. Printing with voxel level control:
   Just press Start to get extreme dimensional accuracy and fine detail, thanks to HP’s unique Multi-Agent printing process.

10. Cleaner extraction:
    Eliminate the need for an additional room for parts removal with enclosed unpacking and material collection system.

11. Industry-leading materials reusability:
    Minimal powder wastage. Get consistent performance with only 20% refresh rates.

12. Breakthrough productivity:
    Produce parts up to 10 times faster at half the cost.

Enabled by HP Jet Fusion 3D Processing Station
HP Jet Fusion 3D 4200/3200 Printing: an end-to-end solution

4 Automated mixing:
A cleaner loading and mixing experience because the Processing Station is enclosed and automated. Materials are loaded into the HP Jet Fusion 3D Build Unit.

5 Remove the HP Jet Fusion 3D Build Unit from the Processing Station...

8 Streamlined workflow:
The Build Unit is removed from the Printer—which is now ready for the next build—and slotted back into the Processing Station.

9 Produce more parts per day with HP Jet Fusion 3D Processing Station:
With continuous printing and fast cooling. Once cooled, parts are ready for post processing.

13 Job done:
As soon as the parts are ready, you receive an alert.

14 HP Services:
Rely on HP’s world-class Technical Services and Support to maximise uptime and productivity.

keep reinventing
HP 3D High Reusability PA 12 is a strong, multi-purpose thermoplastic, not classified as hazardous, for functional prototyping and final parts. This material, combined with the HP Jet Fusion 3D Printing Solution, lets you optimize cost and part quality thanks to industry-leading reusability.

HP 3D High Reusability PA 12 offers minimal powder wastage between production cycles, achieving consistent performance with only 20% refresh rate required. This material is optimized for HP's Multi Jet Fusion platform to increase safety and deliver high-density parts with balanced property profiles. It is ideal for complex assemblies, housings, enclosures and connectors.

**HP Open Platform Certified Materials**

VESTOSINT® is a modified polyamide-based powder that is produced at Evonik’s Marl site in Germany using the company’s own special process. The powders are certified for HP Jet Fusion 3D printer.

*B The only terms and conditions governing the sale of HP 3D printer solutions are those set forth in a written sales agreement. The only warranties for HP products and services are set forth in the express warranty statements for such products and services. Nothing herein should be construed as constituting an additional warranty or additional binding terms and conditions. HP shall not be liable for technical or editorial errors or omissions contained herein and the information herein is subject to change without notice. The Certified for HP Jet Fusion 3D Materials have not been designed, manufactured or tested by HP for compliance with legal requirements and recipients are responsible for making their own determination as to the suitability of Vestosint 3D Z2773 for their purposes, including but not limited as regards direct or indirect food contact applications.

*By enabling us to directly develop 3D printing materials leveraging the HP Multi Jet Fusion Open Materials Platform, Arkema believes that we will be able to develop user-specific materials and uncover new applications for our customers and industry leaders. This great concept will accelerate the adoption of 3D printing and unlock its full potential. As a global designer of innovative, environmentally responsible Technical Polymer solutions for a wide variety of markets, Arkema is excited to collaborate with HP to change the way products are designed and produced and lead the way for the next industrial revolution.*

Adrien Lapeyre
Global Market Manager – Technical Polymers Powders
Arkema

*BASF has one of the broadest 3D Material portfolios in the chemical industry, and therefore, we are proud to join the HP Multi Jet Fusion Open Platform. BASF is a founding member of this Open Platform, and with our experience, knowledge of customer needs and applications, we are motivated to collaborate. The HP Open Platform is a great foundation to develop new materials and enable economies of scale, making materials more affordable and enabling not only prototyping but unlocking the potential of 3D printing for production.*

Dietmar Geiser
Senior Manager 3D - Printing Strategy & Planning
BASF New Business GmbH
…and beyond

Next up, HP will be offering a wider family of thermoplastics—including PA 11, PA 12 glass beads and materials with flame retardant properties—as well as elastomers.

Thanks to the HP Multi Jet Fusion Open Platform and a network of materials innovation partners, HP plans to continue expanding the pallet of materials offerings even further. Accelerated materials innovation via the HP Multi Jet Fusion Open Platform is key so that even applications not yet imagined will become possible.

Accelerating materials innovation

HP is bringing down the barriers of 3D printing adoption across industries through materials innovation.

Materials cost, quality, performance, and diversity are real pain points for 3D printing customers today. So HP is addressing this with HP’s unique Open Platform approach based on:

- Expanding 3D printing materials to address a broader set of applications
- Driving down materials costs—resulting in a consistently lower cost-per-part—so that 3D printing becomes a viable alternative to traditional production methods
- Driving performance improvements and new possibilities for part properties that address specific industry needs—thanks to unique combinations of materials and agents

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

“Evonik is developing new materials leveraging the HP Multi Jet Fusion Open Materials Platform. Evonik believes that HP’s Open Materials program provides a unique opportunity to expand the adoption of 3D printing and creates a new platform to drive materials innovation through development of materials specifically suited for this process. HP’s new MJF technology has the capabilities to create new applications for the 3D printing market by allowing us to develop new materials for the future.”

Dr. Matthias Kottenhahn
Sr. VP & GM, High Performance Polymers
Evonik Resource Efficiency GmbH

“Lehmann&Voss&Co. believes HP’s Open Materials platform is a great concept and that with this approach HP can fulfill market needs that have so far limited the 3D printing market expansion. This platform will drive 3D adoption and will provide an on-ramp to companies to drive materials innovation using HP Multi Jet Fusion technology. Lehmann&Voss&Co. plans to collaborate with HP and looks forward to introducing a new material on this platform.”

Dr. Marcus Rechberger
Market Development LUVOSINT®
Lehmann&Voss&Co.
HP 3D printing software: maximum efficiency end-to-end

Discover a complete and easy-to-use 3D printing software solution

Best in class algorithms help you achieve superior, consistent part quality with dimensional accuracy and fine detail. Embedded quality checks help minimize errors, automated packing increases the number of parts per build, and accurate build time estimations let you plan production more efficiently.

Job preparation and monitoring

HP SmartStream 3D Build Manager
The intuitive and powerful HP SmartStream 3D Build Manager helps you prepare your jobs for printing and contains the essential features you need to prepare and send to print, including:

- Import 3MF and STL files
- 3D model error detection and correction
- 3D autopacking
- Send to print

HP SmartStream 3D Command Center
The HP SmartStream 3D Command Center allows you to fully monitor your HP Jet Fusion 3D Printers from your desktop. Keep track of build status, check consumables, and get real-time alerts.

Integration with industry-leading software solutions

Autodesk® Netfabb® Engine for HP provides advanced software for the additive manufacturing of production quality parts. Quality control functions prevent machine errors and enhance your overall process reliability and efficiency.

Connect with Materialise Magics with Materialise Build Processor for HP Multi Jet Fusion, the industry standard software for professional 3D Printing, to unlock the full potential of your HP 3D printer and manage every step in your production process.

Founding member of 3MF Consortium

HP is a founding member of the 3MF Consortium—an industry consortium working to define a new 3D printing format that will allow design applications to send full-fidelity 3D models to a mix of other applications, platforms, services and printers.

For more information, please visit: hp.com/go/3Dsoftware
Boost your competitive advantage with HP Technical Service and Support

Rely on HP Technical Services and Support to stand behind your business maximizing your uptime and productivity, and driving your business growth.

With exclusive HP installation, training, support services and market-leading applications expertise, you can optimize your 3D printer performance, throughput, part quality and yield.

- Next-business-day onsite support1
- Next-business-day spare parts availability,12 thanks to HP’s global reach
- 3D printing productivity and professional services to accelerate your business growth

We help you do more as well as get more return on your investment. Not just from day one, but every day as your needs evolve. So you can grow your business with real peace of mind.

For more information, please visit:
hp.com/go/3Dsupport
Based on dimensional accuracy of ±0.2 mm/0.008 inches, measured after sand blasting. See HP Jet Fusion Processing Station with Fast Cooling 4200 Printer for more information on materials specifications.

6. Fast Cooling is enabled by HP Jet Fusion 3D Processing Station with Fast Cooling, available in July 2017. HP Jet Fusion 3D Processing Station with Fast Cooling accelerates parts cooling time versus recommended manufacturer time of 3SL printer solutions from $100,000 USD to $300,000 USD on market as of April 2016. Cost analysis based on: standard solution configuration price, supplies and/or Service Agreement. Please consult with your local sales representatives for further details.

7. 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. The HP powder and agents do not meet the criteria for classification as hazardous according to Regulation (EC) 1272/2008 as amended.

8. HP Jet Fusion 3D print solution with HP Jet Fusion 3D High Reliability PA 12 has the highest post-production surplus powder reusability with 80% reusability vs any other powder based 3D printing technology using PA 12 material. Consistent performance with only 20% powder refresh rate.

9. 3BL refers to the materials container size and not the actual materials volume. Only available until September 2017.

10. Within warranty or Care Pack coverage.

11. Next-business-day parts availability in most countries.

12. Next-business-day parts availability in most countries.

13. For latest technical specifications, please visit hp.com/go/3Dprint.

14. Based on 0.1-mm (0.004-in) layer thickness and 8 sec/layer.

15. Based on 0.1-mm (0.004-in) layer thickness and 8 sec/layer.

16. The HP Jet Fusion 3D Printing Solution should be connected to the HP Cloud in order to guarantee the correct functioning of the printer and to offer better support.

17. Only available in certain countries and subject to Terms and Conditions of HP Limited Warranty and/or Service Agreement. Please consult with your local sales representatives for further details.

18. Printing supplies eligible for recycling vary by printer. Visit the recycling page to see how to participate and for HP Planet Partners program availability; program may not be available in your area. Where this program is not available, and for other consumables not included in the program, consult your local waste authorities on appropriate disposal.