



Press Release

November 15, 2019

Open technology breakthrough in collaboration with Origin

Henkel launches first photoreactive 3D printing material meeting aerospace fire, smoke and toxicity safety standards

Düsseldorf – Since the [announcement](#) of their collaboration in February 2019, Henkel and Origin have been collaborating to develop new materials by optimizing print processes that extend the current boundaries of additive manufacturing. As a result of this partnership Henkel has developed an entirely new 3D printable photopolymer material with fire, smoke and toxicity resistance properties for use with Origin One printers.

The new photoreactive material that will be presented during the Formnext in Frankfurt meets the fire, smoke and toxicity safety standard UL's 94V-0 and the industry leading aerospace 12 and 60 second vertical burn tests. The innovative product sets a new threshold for fire-, smoke- and toxicity-resistant 3D printing materials across many industries, including aerospace, automotive and transportation.

“The development of our new fire-resistant material is a real breakthrough innovation exceeding the properties of all currently available materials for DLP systems on the market,” says Philipp Loosen, Head of 3D Printing at Henkel. “Our open materials platform was specifically designed to enable a wide range of our resin portfolio for use in additive mass production. Together with Origin we have proven our capabilities to unlock the transformative power of 3D printing towards industrial manufacturing.”

Henkel aims to eliminate some of the most severe limitations in the additive manufacturing space. By combining software, data and chemistry, the company is rapidly introducing new production quality materials for the 3D printing market. With the [launch](#) of its open materials platform, Henkel is taking a more inclusive approach,



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working directly with manufacturers of 3D printers and system providers to unlock new applications.

Henkel's new fire-, smoke- and toxicity-resistant material demonstrates the power of open collaborations as the development was facilitated by the unique capabilities of the Origin One printer and Henkel's capability of rapid innovation. Origin's technology enables the printing of many different types of chemistries through world class hardware, environmental control and software tools to fine tune the print process. With its Programmable Photopolymerization (P³) technology, the company can precisely orchestrate light, temperature, and other conditions, automatically optimizing prints in real-time for the best possible results.

"Since its inception, we have been committed to an open materials approach," says the Origin's CEO, Chris Prucha. "We were able to specifically program the Origin One to meet the environmental conditions needed to cure the material in a way that activates Henkel's innovative chemistry, creating 3D printed parts that set a new standard for fire resistance. It's a perfect example of how open collaboration between technology providers and materials companies should work, and we're excited about the opportunities it creates for our clients and their end users."

"For a long time, materials have been a big limiting factor in additive manufacturing," says Ken Kisner, Innovation Lead and Founder of Molecule Corp., which is part of Henkel since [May](#). "We're committed to solving that piece of the puzzle. Our scientists aren't just contributing chemistry, they're also leveraging the material science data that we generate to generate new technologies at a fast pace."

Henkel will introduce the novel material during the upcoming Formnext on November 19 to 22 in Frankfurt, Germany, in hall 12.1 at booth C41. Watch a video about the development and the unique properties by clicking on this [link](#). Demo parts can be ordered via the new '[Loctite Powered by Shapeways](#)' program under www.loctite3dp.com.

Want to learn more about Henkel's innovative new solution? An engineering consultant is required to validate if this technology is the right fit for a specific application. For more information, send an email to Loctite3DP@henkel.com

About Henkel



Henkel operates globally with a well-balanced and diversified portfolio. The company holds leading positions with its three business units in both industrial and consumer businesses thanks to strong brands, innovations and technologies. Henkel Adhesive Technologies is the global leader in the adhesives market – across all industry segments worldwide. In its Laundry & Home Care and Beauty Care businesses, Henkel holds leading positions in many markets and categories around the world. Founded in 1876, Henkel looks back on more than 140 years of success. In 2018, Henkel reported sales of around 20 billion euros and adjusted operating profit of around 3.5 billion euros. Henkel employs around 53,000 people globally – a passionate and highly diverse team, united by a strong company culture, a common purpose to create sustainable value, and shared values. As a recognized leader in sustainability, Henkel holds top positions in many international indices and rankings. Henkel's preferred shares are listed in the German stock index DAX. For more information, please visit www.henkel.com.

About Origin

Based in San Francisco, CA, Origin is pioneering the concept of Open Additive Production, a new way to build based on open materials, extensible software, and modular hardware. Origin One, the company's manufacturing-grade 3D printer, uses programmable photopolymerization to precisely control light, heat, and force among other variables to produce parts with exceptional accuracy and consistency. The company works with a network of material partners to develop a wide range of commercial-grade materials for its system, resulting in some of the toughest and most resilient materials in additive manufacturing. The company was founded in 2015 and is led by alumni from Google and Apple. Investors include Floodgate, DCM, Mandra Capital, Haystack, Stanford University, and Joe Montana. Learn more about Origin here: <https://www.origin.io>

Photo material is available at <http://www.henkel.com/press>

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Henkel's novel fire-, smoke- and toxicity-resistant photopolymer enables the 3D printing of applications with high fire safety standards such as plane cabinet pressure vents.



Fire-, smoke- and toxicity-resistant demo applications of Henkel's novel photopolymer 3D printed on the Origin One printer: electrical bullet connectors and L pipe connectors.