

Co-operation of Polymaker and Kuraray: 3D printing filament based on Mowital®

Hattersheim, July 5th, 2017. Based on its co-operation with Kuraray, Polymaker is now launching PolySmooth™, the first PVB-based 3D printing filament. This filament, whose main component is Kuraray's polyvinyl butyral resin Mowital®, marks a breakthrough in filament-based 3D printing. Due to its excellent 'smoothability', objects printed in PolySmooth™ and post processed with Polymaker's Micro-Droplet Polishing™ technology show such smooth and bright surfaces that they can compete with industrially-manufactured injection molded parts.

Polymaker's material scientists worked closely with the Kuraray team in the development of PolySmooth™. "Mowital® is the ideal basis for our formulation", says Dr. Xiaofan Luo, the Co-Founder and President of Polymaker: "We tested many different PVB raw materials and Mowital® was clearly the best in terms of quality and consistency. With this product we were able to significantly improve the surface properties of 3D printed parts."

"The use of Mowital® in 3D printing makes it possible to print objects with high surface quality at home too", explains Jörg Bruss, Director, Global Business - Technical Resin at Kuraray. "We are looking forward to continuing to work with Polymaker. Together, we will expand the market share of PVB in 3D printing."

A bright result

What really makes this launch a landmark in 3D printing is the unique 'smoothability' of PolySmooth™. When a 3D model printed in PolySmooth™ is placed inside the Polysher™, the dedicated post-processing machine for PolySmooth™, an ultrasonic nebulizer creates a very fine mist of Isopropanol (IPA) that engulfs the model. Due to the filaments excellent solubility in alcohols, the IPA mist inside the Polysher™ rapidly melts the surface of the PolySmooth™ model. This process fuses the layers together and levels out any unevenness on the surface, turning a rough layered matte surface into a watertight glossy object - a true highlight in filament based 3D printing. This means that users will be able to produce 3D objects at home to an industry standard.

Outstanding material properties

In comparison to the current standard materials for filament-based 3D printing, PolySmooth™ displays outstanding printability, excellent mechanical

properties and has a very minimal odor during the printing process, making it suitable for both industrial as well as office/studio environments.

Mowital® are specialty polymers with specific technical properties. The polymers can be customized for a wide range of applications. Polyvinyl butyral's properties such as mechanical stability, resistance to light and excellent thermoplastic processibility contribute to the characteristics of PolySmooth™, whose great dimensional stability with minimal warping which makes it ideal for large prints.

Images

Source: Polymaker



Caption Pic 1:

Bright result: PolySmooth™, whose main component is Kuraray's polyvinyl butyral resin, marks a breakthrough in filament-based 3D printing. Mowital® significantly improves the surface properties of 3D printed parts.



Caption Pic 2:

True highlight: PolySmooth™, a filament based on Kuraray's polyvinyl butyral resin Mowital®, allows for printing objects with such smooth and bright surfaces that they can compete with industrially-manufactured injection molded parts.



Caption animated gif for ONLINE media:

Milestone: The use of Mowital® in 3D printing makes it possible to print objects with high surface quality at home. This means that users will be able to produce 3D objects at home to an industry standard.

About Kuraray:

Established in 1991, Kuraray Europe GmbH is based in Hattersheim, near Frankfurt am Main, Germany. In 2016 the company generated annual sales of over EUR 600 million. It has 660 employees in Germany at its sites in Hattersheim, Frankfurt and Troisdorf. Kuraray is a global speciality chemicals company and one of the largest suppliers of polymers and synthetic

microfibres for many sectors of industry. Examples are KURARAY POVAL™, Mowital®, Trosifol® and CLEARFIL™. Kuraray Europe also has 180 employees at six other European sites. They are also working on the development and application of innovative high-performance materials for a wide range of sectors, including the automotive, paper, glass and packaging industries, as well as for architects and dentists.

Kuraray Europe is a wholly owned subsidiary of the publicly listed Kuraray Group, which is based in Tokyo, Japan, and has around 10,000 employees worldwide and sales of over EUR 4 billion.

www.kuraray.eu.

About Polymaker LLC:

Polymaker is a company committed to innovation, quality and sustainability in the pursuit of producing high-quality materials for the 3D printing industry. Headquartered in Shanghai, China, Polymaker now has global offices in the USA, Netherlands and Japan. With their state-of-the-art manufacturing center and market leading quality control process, Polymaker's filaments are not only ensured to have the best quality standards, but also provide innovative properties. Whether it is with their increased mechanical strength, unparalleled Jam-Free™ printing or the world's first 3D printable foam based filament, Polymaker will continue to bring new performance enhanced materials to the 3D printing community.

www.polymaker.com

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