

Press release

High-performance resins for industrial applications: New Cubic Ink® materials from ALTANA expand 3D printing offer

- **Outstanding material properties:** Cubic Ink® resin-based printing material families for end-use applications with high heat resistance, toughness, and flexibility, among other properties
- **Adaptation to any resin-based 3D printing process:** The resins' low viscosity and stability make it possible to print with high resolution and productively
- **Two Cubic Ink® product families for resin 3D printing:** high performance and prototyping

Wesel, March 10, 2022 – Specialty chemicals group ALTANA is expanding its already launched Cubic Ink® 3D printing material families with new high-performance resins.

The two new resin-based Cubic Ink® 3D printing material series “High Performance” and “Prototyping” offer high heat resistance, toughness, and flexibility, among other things, in this material segment. Prototyping dental and transparent materials with an adjustable refractive index round out the portfolio. The Cubic Ink® printing materials combine process-friendly properties such as low viscosity and resin stability with properties that enable them to be used as final components.



Additively manufactured objects from the Cubic Ink® high-performance material portfolio for end-use applications

“Industrial 3D printing has the potential to change entire industries. This requires forward-looking products, such as our resin-based Cubic Ink® printing materials, which enable high-resolution and productive printing,” says Dr. Petra Severit, Chief Technology Officer of ALTANA AG. “The new product family is designed for end-use applications and is compatible with any UV 3D printing technology. Our customers benefit from our great solution expertise in the development of innovative resilient high-performance materials and our experience in the formulation of high-performance inkjet inks.”

ALTANA thus offers a resin portfolio for manufacturer-independent use in any resin-based 3D printing technologies. In addition, its property profile is intended for the end application – special focus is placed on aging and chemical resistance in particular. The low viscosity of the resins, among other things, permits reliable

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Page
1/3

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Press release

processing in time- and cost-efficient printing processes for high-performance products. Printing properties and processes can be individually adapted depending on the printer and customer requirements.

The two resin-based Cubic Ink® printing material families at a glance:

1. High Performance

Four material series:

- VP 1 series: With heat deflection temperatures exceeding 190°C, these rigid, solid materials are designed for use in demanding applications at very high temperatures, that is, very high HDT values and stability over a long period of time even in the high temperature range.
- VP 2 series: Solid and thermoforming materials for end-use applications; fast printing thanks to low viscosity and a wide range of applications thanks to adjustable mechanical and thermomechanical properties.
- VP 3 series: Materials with adjustable softness that permit high deformations, that is, materials that can be used flexibly even at low temperatures.
- VP 4 series: High-resolution materials striking a good balance between heat resistance and brittleness at low viscosity, plus good mechanical and thermomechanical properties as well as adjustable properties, so that fast yet high-resolution printing is achieved with great design freedom.

2. Prototyping

Four material series:

- Tough series (600 VP): Very high-resolution materials for prototyping and general applications with good chemical stability vis-à-vis aqueous systems and maximum design freedom.
- Rigid series (200 VP): Dimensionally stable materials for functional prototyping with adjustable rigidity.
- Dental series (100 VP): Materials that can be used in dental applications for efficient and high-resolution printing with adjustable rigidity and uncomplicated post-processing for maximum design freedom.
- Clear series (401 VP): Materials that have special optical effects with high transparency as well as an adjustable refractive index.

The resin-based Cubic Ink® printing material families now being presented expand the range of applications of ALTANA AG's pioneering solutions for industrial 3D printing. For example, ALTANA extended its portfolio in 3D printing materials by acquiring the business of TLS Technik GmbH & Co Spezialpulver KG and the British company Aluminium Materials Technologies Ltd. (AMT).

In the hardware segment, ALTANA had already acquired a stake in dp polar in 2017. dp polar is the manufacturer of the Inkjet AMpolar® generation of machines, the world's first 3D printing system on a continuously rotating printing platform designed specifically for Cubic Ink® printing materials.

The Cubic Ink® printing material families for industrial production open up entirely new possibilities for users in the automotive and aerospace industries in particular, as well as in medical technology (including dental medicine and orthopedics) in the manufacture of their products.

Press release

Cubic Ink® materials: technical data sheets and more at
www.altana.com/cubic-ink

About ALTANA:

ALTANA is a global leader in true specialty chemicals. The Group offers innovative, environmentally compatible solutions for coating manufacturers, paint and plastics processors, the printing and packaging industries, the cosmetics sector, and the electrical and electronics industry. The product range includes additives, specialty coatings and adhesives, effect pigments, sealants and compounds, impregnating resins and varnishes, and testing and measuring instruments. ALTANA's four divisions, BYK, ECKART, ELANTAS, and ACTEGA, all occupy a leading position in their target markets with respect to quality, product solution expertise, innovation, and service.

Headquartered in Wesel, Germany, the ALTANA Group has 48 production facilities and 60 service and research laboratories worldwide. Throughout the Group, more than 6,500 people work to ensure the worldwide success of ALTANA. In 2020, ALTANA achieved sales of around € 2.2 billion. About 7 percent of the total sales is invested in research and development each year. Its high earning power and high growth rate make ALTANA one of the world's most innovative, fastest growing, and most profitable chemical companies.

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