Steinhagen, Date of publication

**Plasmatreat at K 2022: Plasma treatment optimizes additive manufacturing**

**Plasmatreat GmbH from Steinhagen is demonstrating its innovative Openair-Plasma processes at the world's leading trade fair for the plastics and rubber industry. In addition to its main booth I65 in Hall 11, the company is also represented in the VDMA Circular Economy Forum. At both booths, the world market leader for atmospheric plasma technology and various partners will be demonstrating, among other things, how the quality of components produced by 3D printing can be significantly improved by plasma treatment, while at the same time reducing the carbon footprint of the manufacturing company.**

Product samples, tools, products in small batches, individualized items, spare parts and more can be produced in a very short time using 3D printing. This makes additive manufacturing a technology in demand, e.g. to counteract supply bottlenecks. Surface treatment with plasma can significantly improve the quality of the end result - visitors to the K show can experience live what this looks like in practice and what solutions Plasmatreat offers.

**Post-processing of 3D-printed components.**

Plasmatreat will demonstrate the cell4\_Plasmatreat automation solution developed together with KUKA and the Openair-Plasma treatment using the example of a dashboard printed in 3D technology. Benchmarks are set by the icon-based programming of partner FPT Robotics GmbH, which enables simple and fast commissioning, as well as program changes, without the operator having to have special robotics knowledge. The parts were produced by 3D printing specialist thinkTEC using HP Multi Jet Fusion technology, which uses a powder bed process. The individual parts are then subsequently bonded with adhesives from the manufacturer DreiBond GmbH, selectively coated with PlasmaPlus and individually digitally printed.

**Improved haptics, appearance and bonding**

At the booth, visitors will experience live how the CO2-neutral Openair-Plasma process significantly improves the product properties of 3D-printed components as well as process efficiency: activating the surface with Openair-Plasma allows environmentally friendly printing and painting without resorting to conventional flame treatment or chemical pretreatment. The long-term durability of inks and coatings can also be further increased by a supplementary PlasmaPlus coating. When bonding products from the 3D printer, the use of plasma technology also replaces the use of chemical adhesion promoters (primers) and achieves long-term stable bonds - even when originally incompatible materials are used. Users thus benefit from an expanded choice of materials.

"3D printing alone is not enough. A strong network of manufacturers and companies that master the upstream and downstream processes is key to the breakthrough of this revolutionary technology in the industry. Plasmatreat is taking a step ahead here and demonstrating at the K show that solutions can be implemented quickly and sustainably," says Frank Petrolli, VP Strategic Market Development at Plasmatreat.

Plasmatreat at K: In the Circular Economy Dome at the "Machine", at the CE-11 joint booth on the VDMA open-air site and at its own booth (Hall 11, Booth I65) with various Plasmatreat applications and possible solutions.

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For more information, please visit: [www.plasmatreat.com](http://www.plasmatreat.com)

***Info box:***

**How plasma technology optimizes industrial processes**

When plasma with its high energy level comes into contact with materials, it changes the surface properties, e.g. from hydrophobic to hydrophilic. Fine cleaning of metal and glass, for example, with Openair-Plasma from Plasmatreat gently and safely removes dust, grease, release agents and additives from surfaces. In the case of plastics, in addition to cleaning, an increase in surface energy is brought about by so-called activation through the introduction of hydroxyl groups into the plastic surface. In both cases, an optimized wettability of the substrate surface can be achieved and the adhesion ability significantly increased. In this way, long-term stable adhesion of adhesives and coatings is achieved. With Plasmatreat's PlasmaPlus technology, the application (deposition) of nanocoatings can additionally produce specifically functionalized surfaces with defined properties, e.g. an adhesion promoter layer.

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**About Plasmatreat**

Plasmatreat is an international leader in the development and manufacture of atmospheric plasma systems for the pretreatment of substrate surfaces. Whether plastic, metal, glass or paper - the industrial use of plasma technology modifies the properties of the surface in favor of the process requirements.

Openair-Plasma® technology is used in automated and continuous manufacturing processes in almost every industrial sector. Examples include the automotive, electronics, transportation, packaging, consumer goods and textile industry, but the technology, cost and environmental advantages of the plasma technology are used in medical technology and in the renewable energy sector as well.

The Plasmatreat Group has technology centers in Germany, USA, Canada, China, and Japan. With its worldwide sales and service network, the company is represented in more than 30 countries by subsidiaries and sales partners.

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**Image:**

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Even large components, such as an automotive dashboard, can emerge from the 3D printer and then be bonded, painted or printed - all possible through pretreatment with Openair-Plasma. (Copyright: Plasmatreat)