

Engineered
for
End-Use
Parts

LUVOCOM® 3F Case Study: Bicycle Wheel Stand

3D printing is increasingly establishing itself as a serious alternative to conventional manufacturing processes. This is made possible today by further developed, high-quality printers and materials customized to the processes. Among the processes, the Fused Granulate Fabrication (FGF) technology is predestined for the production of large-volume components. It is suitable for reliably printing large output quantities. On specially developed extrusion systems, printing is carried out directly from the melted plastic granulate, without the intermediate route of filament production (for fused filament fabrication technology (FFF)). This enables output rates of up to 60 kg/h and thus cost-effective component manufacture.

WEBER additive develops and manufactures FGF printing systems on an industrial scale. The portfolio includes gantry, robotic and hybrid systems. All components are specially tailored to the process, including the optimized print heads. The appropriate materials based on technical and high-performance polymers are required for resilient components. Of course, the right processing parameters are crucial for optimal component quality.

WEBER additive has developed a bicycle wheel stand to demonstrate the state of the art and to test applications. Printing was done on a gantry system. LUVOCOM 3F PET CF 9780 BK is used as the material. A carbon fiber reinforced PET developed for FGF and FFF with a tensile strength of 80 MPa and a temperature resistance of 125 °C. Furthermore, the material is characterized by high rigidity and very good layer strength. It enables excellent component surfaces.





3D printing of the bicycle wheel stand with the Weber additive gantry system (DX) and LUVOCOM 3F PET CF 9780 BK

About WEBER additive

WEBER additive provides machine solutions for the large-scale 3D printing technology based on the concept of "direct extrusion" with granules (FGF). Gantry (DX), robotic (DXR) and hybrid (HybriDX-LT & HybriDX-PRO) systems in combination with a series of high-performance additive pellet extruders allow the use in a wide range of applications.

Our company, the Hans Weber Maschinenfabrik GmbH has 60 years of experience in extrusion technology and looks back on a history of 100 years in machine building. Every single WEBER machine is developed and manufactured in Germany within a production area of more than 46,000 sqm and with the manpower of 500 employees. By now more than 20,000 machines are in use in over 60 countries around the world.

About LEHVOSS

The LEHVOSS Group under the management of Lehmann&Voss&Co. is a group of companies in the chemical industry that develops, produces and markets chemical and mineral specialties for various industrial customers. Lehmann&Voss&Co., Hamburg, was founded in 1894 as a trading house. Since then, the owner-managed company has developed into a powerful global organization - with long-standing connections to well-known, mostly foreign suppliers and with its own production facilities in Europe, the USA and Asia.

The Customized Polymer Materials (CPM) division has been a partner to industry since 1984 in terms of material development, production and support, from design to part production. LEHVOSS offers customized solutions for challenging applications that are unique and stand out in the market.

LUVOCOM® high-performance compounds, LUVOTECH® and LUVOTECH® eco-technical compounds expand the possible uses of plastics and ensure in many industries that products made from them reliably fulfill their function even under high requirements.

With the 3D printing product lines LUVOSINT® and LUVOCOM® 3F the LEHVOSS Group offers innovative and customized polymers for 3D printing. They are dedicated to the most common technologies as powder bed fusion, fused filament fabrication (FFF) and fused granulate fabrication (FGF).



Europe & Head Office

Lehmann&Voss&Co. KG
Alsterufer 19
20354 Hamburg | Germany
Phone: +49 40 44 197 250
Email: info@lehvoss.de

www.luvocom.com

North America

LEHVOSS North America, LCC
185 South Broad Street
Pawcatuck, CT 06379 | USA
Phone: +1 855 681 3226
Email: info@lehvoss.de

Follow us on:  

Asia

LEHVOSS (Shanghai) Chemical Co., Ltd
Unit 4805 Maxdo Centre
8 Xingyi Road, Changning District
Shanghai 200336 | China
Phone: +86 21 6278 5186
Email: info@lehvoss.cn



LEHVOSS
Group