

## **Selective laser sintering with igus: SLS powder for wear resistant components in motion**

**The motion plastics specialist is expanding its 3D printing portfolio**

**The motion plastics specialist igus has further expanded its 3D printing range and now presents its first SLS material. With the familiar wear resistance of iglidur materials, customers can now manufacture special parts and prototypes specifically for moving applications with selective laser sintering. Very complex shapes and a high accuracy of components are possible. And with at least three times higher abrasion resistance compared to other SLS materials.**

The process of 3D printing is booming and for a while now it is not only hobbyists who have been printing special geometries for self-made projects. Corresponding components are used today as standard in the industry. In order to offer more and more product variety to the users of this technology, the motion plastics specialist igus has now presented the first SLS material iglidur I3-PL. In addition to the four already available tribo-filaments for the FDM process, the new tribo-powder is remarkable with good wear coefficients. "The laser sintering is known in 3D printing for a much higher precision compared to the FDM process," explains Tom Krause, product manager at igus. "Another advantage of our new material is also that the parts can achieve a much higher strength due to the pressure in the SLS method." In laser sintering, no support structures are needed, as the loose powder that is not melted by the laser, acts as a support material. Thus less finishing work is needed on the components and the finished parts can be used directly. In the test laboratory at igus, plain bearings made from the new material have been compared with common materials for selective laser sintering. Both in pivoting, rotating and linear motion, the parts were at least three times more abrasion resistant than the compared materials. In the current beta phase, wear-stressed components are tested in customer applications in addition, other interesting applications have been sought for the SLS print by tribo-optimised components.

### **Printed parts supplied on request**

Those who have no 3D printer available can use this technology anyway, for example, for prototypes or special parts in small series: because for such cases igus provides a 3D printing service for the materials iglidur I180-PF, iglidur I180-PF BL, iglidur I170-PF and iglidur J260-PF. A printing service is also being planned for the new SLS material iglidur I3-PL. Customers can get their components printed and delivered quickly. For the print service all we need are the CAD models. The price and the delivery time will vary here depending on the complexity of the components. The delivery time target is, however, 'from 24 hours'.

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#### **ABOUT IGUS:**

igus GmbH is a globally leading manufacturer of energy chain systems and polymer plain bearings. The Cologne-based family business has offices in 36 countries and employs around 2,700 people around the world. In 2014, igus generated a turnover of 469 million euros with motion plastics, plastic components for moving applications. igus operates the largest test laboratories and factories in its sector to offer customers quick turnaround times on innovative products and solutions tailored to their needs.

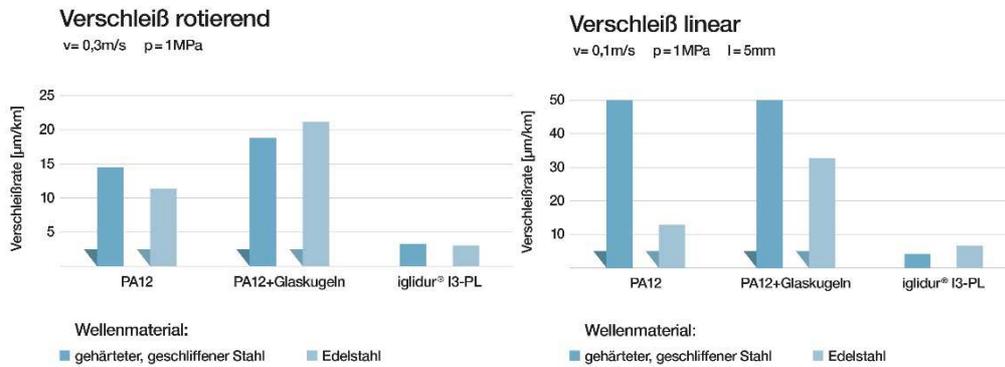
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**Caption**



**Picture PM5115-1**

In order to offer users a diverse variety of products from the 3D printing industry, the motion plastics specialist igus has now presented the first SLS material iglidur I3-PL. (Source: igus GmbH)



**Picture PM5115-2a and -2b**

In the test the new iglidur I3-PL was about three times more resistant to abrasion than conventional SLS materials both in rotating and linear movement. (Source: igus GmbH)



**Picture PM5115-3**

Compared with iglidur I3-PL, for example, it was found in the test lab that the plain bearings made of standard SLS materials and stainless steel shafts have significant wear in the rotating movement. (Source: igus GmbH)