Maintenance-free 3D-printed grippers improve effectiveness of packaging machines

Manufacturers save up to 85 percent in costs and 70 percent of time with 3D-printed plastic grippers

January 11, 2018 -- Metal grippers used in the packaging industry are usually limited to a single format. This forces customers to wait long periods of time until a new, customized gripper is made. Developed by 3D printing, plastic grippers made of igus tribo-filaments are up to 85 percent cheaper and 70 percent faster to manufacture than their metal counterparts.

Since 2015, igus has offered tribologically-optimized 3D print filaments for 3D printing. The high-performance plastics are optimized for wear and friction, and CAD data is available for the products. Several companies have already benefitted from igus tribo-filaments. For example, Carecos Kosmetik GmbH faced an issue where new grippers—which screwed lids onto cans—had to be made every time a product was changed. The company previously used aluminum grippers that cost up to 11,900 dollars per part and took six weeks to be made. In the industrial sector, it is extremely important to be able to produce products quickly and economically, even for small orders. Carecos Kosmetik found their solution with the tribologically-optimized iglide I150 filament, an extremely stable and impact-resistant material for 3D printing. A gripper can be printed in this material within 10 to 12 hours.

igus printing filaments: 50 times more wear-resistant than standard materials

Knowing the high cost and long production time that metal grippers require, Carecos Kosmetic initially tried to 3D print the grippers with standard plastics such as ABS and PLA. When printed, however, the grippers did not meet the company's standards. Carecos Kosmetic then turned to igus for the iglide I150 tribo-filament and now has a self-lubricating and maintenance-free material.

The individual components of a gripper are exposed to constant wear. Metallic components have to be constantly replaced or lubricated in order to withstand the wear. Not only are iglide grippers more cost-effective and quick to produce, but they are also seven times lighter than

metal grippers. igus has five other filaments available to accommodate a wide variety of application requirements. Compared to standard materials such as polylactide (PLA), the high-performance plastics from igus are up to 50 times more wear-resistant and can be processed on all standard 3D printers.

Caption:

Picture PM6017-1

3D-printed plastic grippers made of the tribological plastic iglide I150 save up to 85 percent cost and 70 percent manufacturing time. (Source: igus GmbH)

About igus®

igus® develops industry-leading energy chain® cable carriers, chainflex® continuous-flex cables, drylin® linear bearings and linear guides, iglide® plastic bushings, and igubal® spherical bearings. These seemingly unrelated products are linked together through a belief in making functionally advanced, yet affordable plastic components and assemblies. With plastic bearing experience since 1964, cable carrier experience since 1971 and continuous-flex cables since 1989, igus provides the right solution from over 100,000 products available from stock. No

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