

Printed, machined and now also injection moulded: wear-resistant polymer gears from igus

igus offers the cost-effective production of lubrication-free gears with in-house injection moulding

Gears made of polymer ensure power transmission in countless applications - whether in fully automatic coffee machines or in actuators. Specifically for the production of wear-resistant and durable gears in high volumes, igus now offers production with injection moulding in addition to mechanical processing from bar stock and additive manufacturing. The user has the possibility to use the large variety of lubrication-free iglidur materials from igus.

Polymer gears are becoming more and more popular because, compared to steel gears, they do not require even a drop of lubricating oil and are therefore maintenance-free. At the same time, polymer ensures quiet operation and considerable weight savings. Highly wear-resistant gears made from 3D printing as well as mechanically machined gears made from iglidur bar stock have been offered by igus for several years. For the economical production of high volumes, the motion plastics specialist has now expanded its range to include injection-moulded gears. "By using injection moulding, the user now has the option of obtaining his gear series from our wide-ranging material variety", explains Steffen Schack, Head of the new iglidur Gear Business Unit at igus GmbH. "Straight from stock, we currently offer injection-moulded gears made of the materials xirodur B180 and iglidur F, each in three hub designs." xirodur B180 is a wear-resistant endurance runner and dampens vibrations. iglidur F also has a long service life and is suitable for applications with high temperatures. In addition, the black polymer is electrically conductive.

Gears made of iglidur high-performance polymers last 4 times longer

The igus gears developed so far from the iglidur high-performance polymers are impressive with a significantly longer service life than gears made from standard plastics. In the in-house 3,800 square metre igus laboratory, the motion plastics

specialist subjects its injection moulded, printed and machined gears made of igus materials to rigorous testing. The test showed that injection-moulded gears made of the material xirodur B180, have a four times longer service life than gears made of POM. Depending on the configuration and application scenario, igus offers manufacturing in three different processes: for fast delivery of wear-resistant customised components within a few days, 3D printed gears made from the laser sintering material iglidur I3 are the medium of choice. Mechanical machining from iglidur bar stock, for example, is suitable for producing gears in large volumes. Injection moulding, on the other hand, offers the greatest iglidur material variety and above all a cost-effective batch production of special dimensions.

More information about the iglidur gears can be found at:

<https://www.igus.in/info/gears>

Caption:



Picture PM1021-1

For cost-effective production of wear-resistant gears in high volumes, igus now offers injection moulding production in addition to machining and 3D printing. (Source: igus GmbH)

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ABOUT IGUS:

igus GmbH develops and produces motion plastics. These lubrication-free, high-performance polymers improve technology and reduce costs wherever things move. In energy supplies, highly flexible cables, plain and linear bearings as well as lead screw technology made of tribo-polymers, igus is the worldwide market leader. The family-run company based in Cologne, Germany, is represented in 35 countries and employs 4,150 people across the globe. In 2020, igus generated a turnover of €727 million. Research in the industry's largest test laboratories constantly yields innovations and more security for users. 234,000 articles are available from stock and the service life can be calculated online. In recent years, the company has expanded by creating internal startups, e.g. for ball bearings, robot drives, 3D printing, the RBTX platform for Lean Robotics and intelligent "smart plastics" for Industry 4.0. Among the most important environmental investments are the "chainge" programme – recycling of used e-chains - and the participation in an enterprise that produces oil from plastic waste. (Plastic2Oil).

The terms "igus", "Apiro", "chainflex", "CFRIP", "conprotect", "CTD", "drygear", "drylin", "dry-tech", "dryspin", "easy chain", "e-chain", "e-chain-systems", "e-ketten", "e-kettensysteme", "e-skin", "e-spool", "flizz", "igear", "iglidur", "igubal", "kineKIT", "manus", "motion plastics", "pikchain", "plastics for longer life", "readychain", "readycable", "ReBeL", "speedigus", "tribofilament", "triflex", "robolink", "xirodu" and "xiros" are protected by trademark laws in the Federal Republic of Germany and internationally, where applicable.