

Clearance-Free Multi-Link Hinges With Self-Calibrating Iglide Plain Bearings For Automotive Applications

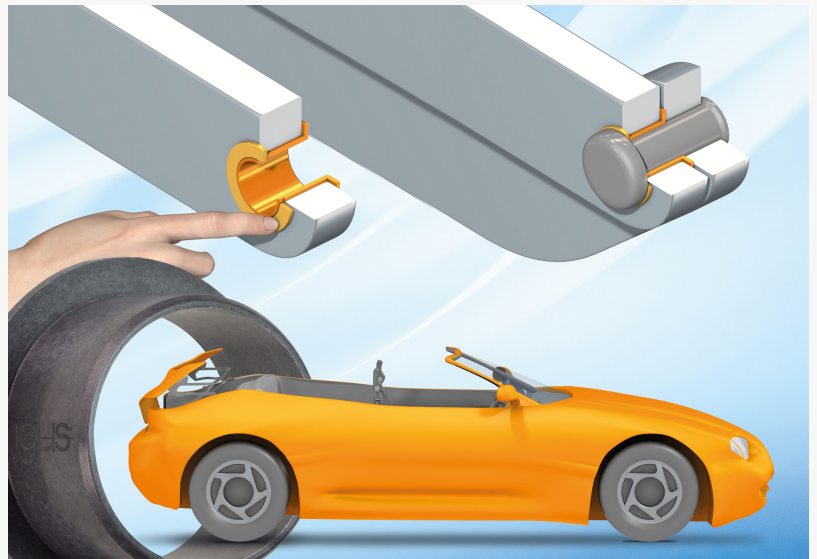
igus develops the new, highly wear-resistant iglide F300 material for e-coated assemblies

STAMFORD, CT, USA, January 31, 2023 /EINPresswire.com/ -- igus®, the leading global manufacturer of engineered components to increase the service life of customers' machines, announced the development of iglide® F300 – a highly wear-resistant material, especially for components in automobiles that should be clearance-free and silent moving.

Producing clearance-free multi-link hinges cost-effectively for spoiler kinematics and soft-top and hinge systems is challenging. Often only roughly punched holes with a limited number of fine cuts in the guides and sheet metals, combined with cold extrusion rivets, require costly bearing recalibration.

With its plain bearings made of tribologically optimized plastics, such as the new electrically conductive [iglide F300](#) material, igus offers a technically better solution that costs less. In the e-coating process, the bearing recalibrates itself and also prevents corrosion.

Manufacturing low-clearance multi-link hinges is challenging as the holes in the guides and sheet



igus developed iglide F300, a highly wear-resistant material especially for automobile clearance-free components. (Source: igus GmbH)

metals are only roughly punched, with a limited amount of fine cuts. In addition, there are rivets and plain bearings, which also have to operate without clearance throughout the entire system to avoid noise and rattling. Traditionally, manufacturers have used metallic rolled PTFE bearings. However, metallic bearings must be recalibrated. This is where igus plastic plain bearings made of the new iglide F300 material come into play.

"The disadvantage of plastic plain bearings – that they become soft at high temperatures – is an advantage here," explains Markus Feth, Head of Automotive at igus.

Self-calibration due to high temperatures

The bushing made of the iglide F300 material is mounted with pretension in the bearing point. It undergoes cathodic dip painting, a process for even surface coating. For this, igus has developed the new iglide F300 material to be electrically conductive so that it doesn't insulate the individual parts of the hinge from one another.

The conductivity is designed to be sufficient for a good coating result. However, the igus bearings are more insulating than metal plain bearings, so there is no significant corrosion in the usual OEM salt spray and climate change tests. This is especially important for aerodynamic components, such as spoiler kinematics and adjustable diffusers.

The material is also highly wear-resistant and withstands the special thermal requirements of the subsequent burning process. The bearing recalibrates at 180 to 220 degrees Celsius during the drying process. Despite roughly punched holes and cold-bolt extrusion, the customer thus receives a low-clearance bearing that operates smoothly, silently, and free of noise, without BSR buzz squeak or rattle.

Find out more about the new iglide F300 plain bearing at: <https://www.igus.com/info/n21-iglide-f300>

ABOUT IGUS

igus GmbH develops and produces motion plastics. These self-lubricating, high-performance polymers improve technology and reduce costs wherever things move. In energy supplies, highly flexible cables, plain and linear bearings, and 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 4,900 people across the globe. In 2021, igus generated a turnover of €961 million. Research in the industry's largest test laboratories constantly yields innovations and more user security. Two hundred thirty-four thousand articles are available from stock, and service life can be calculated online. In recent years, the company has expanded by creating internal startups, for example, ball bearings, robot drives, 3D printing, the RBTX platform for Lean Robotics, and intelligent "smart plastics" for Industry 4.0. Among the most significant environmental investments are the "chainge" program – recycling used e-chains and

participating in an enterprise that produces oil from plastic waste.

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