

When every gram counts: Polymer plain bearings on carbon fibre shafts convince in the test

Test series in the igus test laboratory identify iglidur J260 as optimal material in combination with shafts made of carbon.

With tribo polymers and carbon two future marking materials meet and this combination promises low weight and low wear. The igus GmbH from Cologne has now found the optimal iglidur plain bearing material with iglidur J260 for the use on carbon fibre shafts. Previously 25 iglidur variants were tested on the test bench to prove its durability at linear short-stroke applications.

Over a number of months igus performed and evaluated test runs. Because carbon fibre shafts are relatively new on the market, the material experts from igus GmbH faced an experiment with an open result. Above all it became clear, that materials, which harmonize perfectly with metal shafts, don't necessarily have to be the first choice for carbon fibre shafts. iglidur J260 was the clear winner on the test bench in view of wear, abrasion and driving force. All in all, the material passed double strokes with a length of 5 millimetres for more than 200 hours. It doesn't only harmonize perfectly with plastic, but also with carbon fibre shafts and guarantees highest service life for the plain bearing.

Carbon fibre - a material with future

Wherever masses are moved, we are looking for lightweight and at the same time robust materials that save energy with less weight and finally save costs too. Carbon fibre shafts show an extreme bending resistance in spite of being lightweight. The shafts can reach high speed and therefore more efficiency. The industrial need made carbon-manufactured carbon fibre to become a shooting star amongst shaft materials. Also for igus: The company offers carbon fibre shafts suitable for iglidur plain bearings in different diameters up to 30 mm from stock.



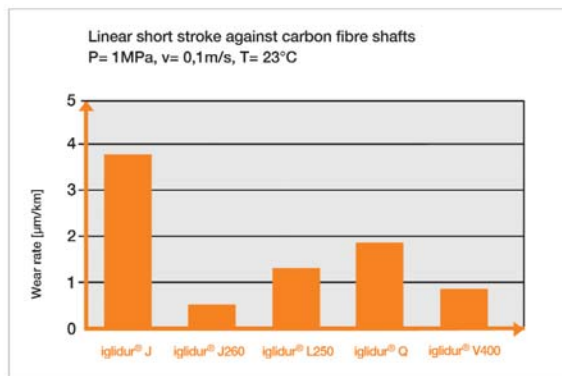
Picture PM2813-01:

Tribo-polymer plain bearings and carbon fibre shafts are no contradiction: After 2,560 test kilometres, iglidur J260 is definitely the best possible plain bearing material for the use on carbon fibre shafts. (Source: igus GmbH)

iglidur J260 as an ideal supplement

Carbon fibre shaft require high-performance and stressable plain bearings. iglidur J260 is lubrication and maintenance-free and it has proved to be the ideal combination in the tests. It shows excellent wear characteristics and due to low humidity consumption it can be used even in a wet or humid environment. The abrasion remains low with carbon fibre shafts as counter partner. Because of these quality features, iglidur J260 clearly won the internal igus tests for plain bearing materials.

The results clearly indicate the importance of a consequent investment in research of new materials and also, to perform extensive tests not only in standard constellations. Test cycles show, which material reflects the special requirements in an application. So at the end, the research from igus literally cares for a smooth application and durability of the products - very much according to the igus maxim: "plastics for longer life".



Picture PM2813-02:

Results of the test marathon with iglidur plain bearings on carbon fibre shafts. This shows the low wear rate of iglidur J260.
(Source: igus GmbH)



Picture PM2813-03

In the largest test laboratory of the branch with it's 1,750 square metres, iglidur J260 convinced with regard to wear, abrasion and driving force
(Source: igus GmbH).

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About igus®:

The igus GmbH is a world's leading manufacturer in the field of energy chain systems and polymer plain bearings. The family-run company is based in Cologne, represented in 29 countries and contracts 2,200 employees worldwide. In 2012 igus generated a turnover of 399 million Euro. igus operates the largest test laboratories and fabrics in its branch to offer customers innovative and tailor-made products and solutions within the shortest time.

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