

Trucks

Solutions for trucks and trailers



plastics for longer life[®]

igus[®].eu...

www.igus.eu/trucks



Safety for trucks and trailers

Your technical innovator and cost reducer,

Dirk Tietz

Automotive Industry Manager

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www.igus.eu/trucks

Travelling safely and efficiently on the road. motion plastics® from igus® enable trucks and trailers to withstand adverse conditions.

Utility vehicles – No other high-quality means of transport is as flexible as they are or offers a concept tailored to meet every need. Transporters, delivery vehicles for deliveries in inner cities as well as heavy trucks for long-distance transport have become forces for innovation in the automotive industry. What's more, in everyday circumstances, they have to withstand rough conditions such as fluctuating temperatures, moisture and improper use. This requires durable and safe machine elements such as iglidur® plastic plain bearings, igubal® spherical bearings, e-chains®, chainflex® cables and drylin® linear guides. They are not only cost-effective but also maintenance-free, lubrication-free and versatile. For further information and application examples relating to trucks and trailers, go to our website at: www.igus.eu/trucks

Advantages of motion plastics® in trucks and trailers:

- Lubrication and maintenance-free
- High wear resistance and coefficients of friction
- Lighter than comparable metallic bearings
- Dirt-resistant
- Resistant to chemicals and temperatures
- No corrosion
- Economic
- UV-resistant
- For small installation spaces/space-saving
- Safe for movements in all directions and along all axes



Improve technology and reduce costs in trucks and trailers

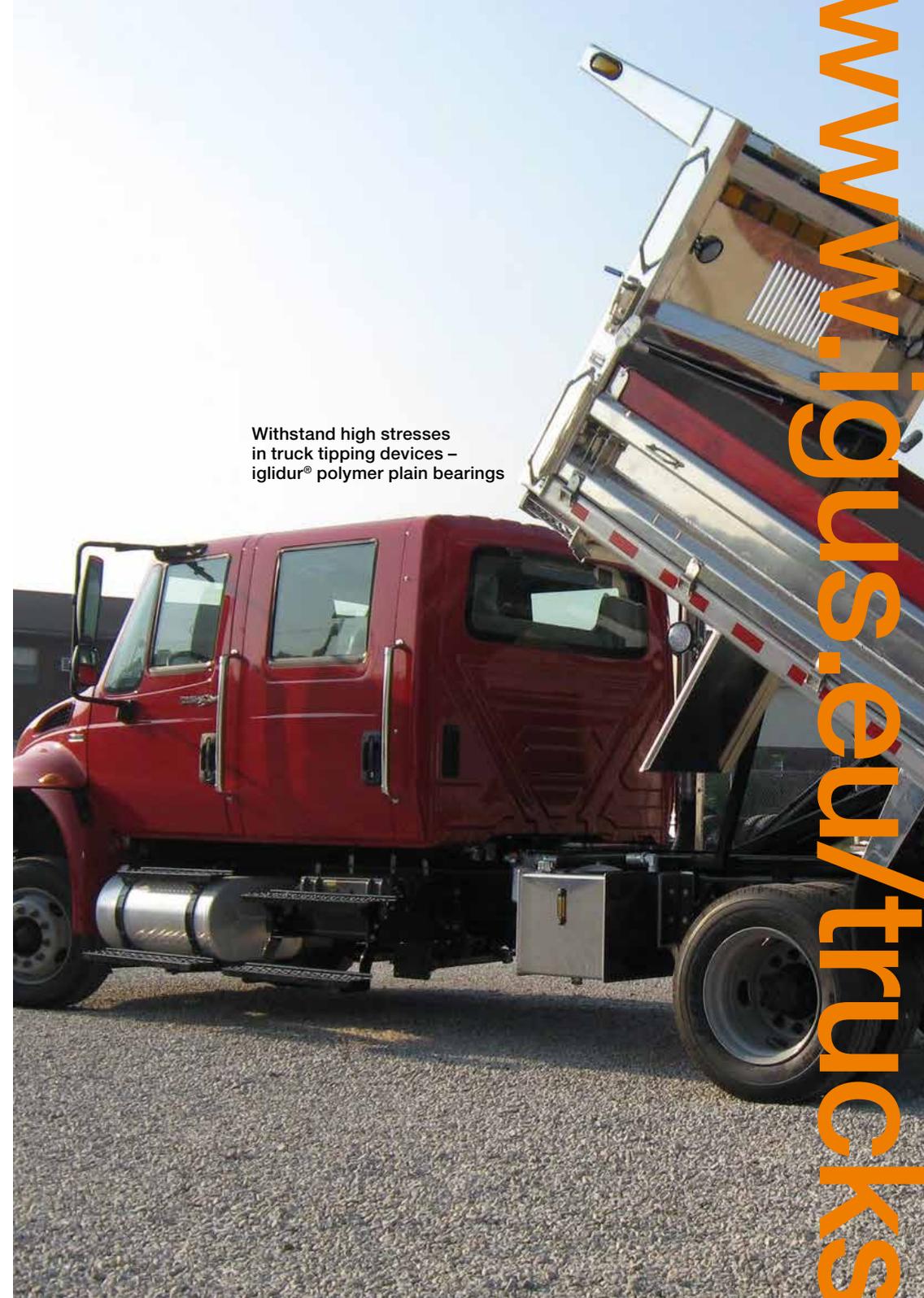
When it comes to utility vehicles, solutions that are technically highly specialised and complex are needed and require specific know-how.

This is all the more so given that moisture causes corrosion, while improper use in everyday life and frequently inadequate maintenance are commonplace. The installed machine elements also have to cope with these ambient conditions. In this context, iglidur® bearings from igus® work according to the motto "cost down, life up". The plastic plain bearings are not only cost-effective but also maintenance-free, lubrication-free and versatile. Even in bad weather conditions, they prove to be extremely robust and guarantee very long operating times. Polymer plain bearings ensure long-lasting functional reliability, especially at neuralgic points. At the same time, the fibre-reinforced compounds withstand even very high loads such as edge loads and impacts. They function reliably even in extreme temperatures and have a high chemical resistance. Moreover, they are extremely dirt-resistant as neither dust nor dirt can adhere to them. Actuators, shift-forks and shift-shafts, for example, profit from the materials iglidur® H4 and iglidur® H2. They ensure appropriate damping and silent movements, a high degree of wear resistance and long-term resistance to temperatures as high as +200 °C. In addition, contact corrosion simply does not occur. Such properties are also demanded in the manual gear change mechanism of gearboxes. The absence of a need for lubrication as well as vibration and impact damping are also necessary. iglidur® G is the means of choice for this. Plain bearings made of this material are also used as flange bearings in gearboxes, for example in the gearbox mechanisms of trucks and vans. The advantages in this application: simulation of a direct changeover to an existing transmission ratio as well as transfer of high gear-changing forces without the need for any maintenance whatsoever. Here, the bearings withstand abrasive media as well.

Change your bearing now! Plastic instead of metal: reduce maintenance by 100%, weight by 80%, cost by 40% while increasing the service life.



Withstand high stresses in truck tipping devices – iglidur® polymer plain bearings



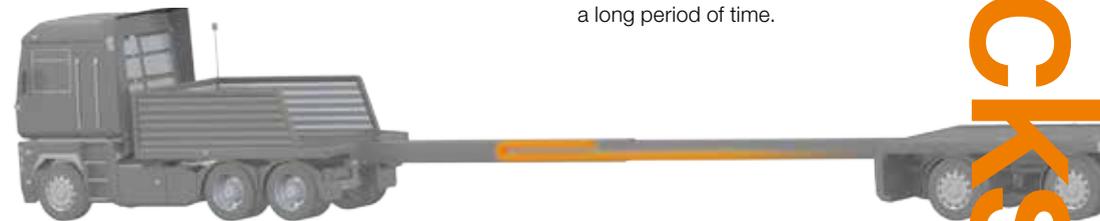
www.igus.eu/trucks

Extremely robust
and resistant
to vibrations –
e-chains®
for extendible
heavy-load
transporters



This vehicle has been specially designed for the transportation of wind-turbine blades. Thanks to the ability to extend the platform trailer so that is 62m long, i.e. three times its original length, it is possible to transport extremely long wind-turbine blades, even into areas that are very difficult to reach. Customised vehicle energy supply systems of the proven

E4.1 series are used in order to ensure that the electrical cables, brake lines and hydraulic hoses can roll safely in the inner tubes. When the vehicle is extended, the energy supply system is subjected to very strong push and pull forces, which it has to cope with over a long period of time.



www.jigus.eu/trucks

Polymer plain bearings used in extremely dirty environments



FAUN Viatic GmbH, a member of the German Kirchhoff Group, decided in favour of lubrication-free and therefore maintenance-free polymer plain bearings from igus®. They ensure the long service life of road sweepers over the long term. The robust machines are used for everyday work in cities and municipalities or in extremely heavy-duty applications on building-sites, in steelworks and in coal mining, as runway sweeping machines for cleaning airport runways or as manoeuvrable sweepers for small districts.





The requirements for slurry distribution have grown enormously in the last few years. Whether cattle, pig or biogas slurry is involved, the aim is always to distribute the nutrient fertilizer evenly and economically over the agriculturally used areas without violation of the regulations governing the use of such types of fertilizer. This is where robust slurry tankers prove their worth. In their pendulum axes, lubrication-free polymer bearings withstand all adverse operating and environmental conditions when the aggressive fertilizer is being delivered.

Lubrication-free polymer bearings in the pendulum axes of slurry tankers



www.igus.eu/trucks

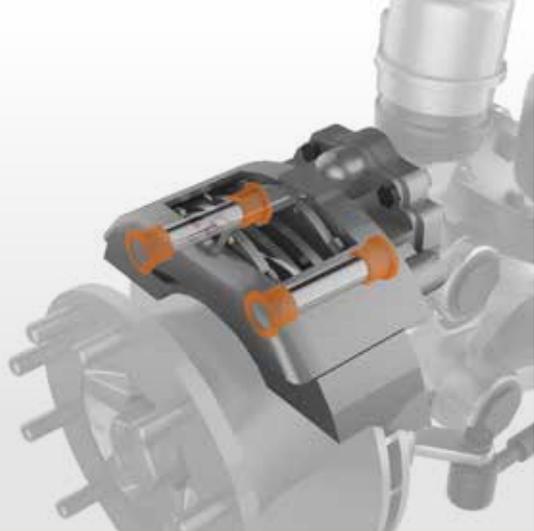
The perfect material for lubrication-free solutions - iglidur® Q290 in tail-lifts



Demand for corrosion resistant components

This order was for the construction of tail-lifts for ambulances in Great Britain. The new material iglidur® Q290 from igus® was launched on the market at the right time for the construction of the tail-lift of the ambulance. Like all plain bearing materials made of igus® high-performance plastics, this is also optimised for friction and wear, and is used without external lubrication. The compatibility of the plain bearings was very important – the bearings should fit into the existing housings of the structure.

www.igus.eu/trucks



igidur® H2 in brake caliper: resistant to vibrations

- High media resistance
- Lightweight
- Cost-effective
- Corrosion-resistant

 www.igus.eu/H2



igidur® P210 in the tilting mechanism: safe tilting of the driver's cab

- Low moisture absorption
- Resistant to high edge loads
- Resistant to dirt
- High wear resistance

 www.igus.eu/P210



igubal® double joints in gearboxes: low-noise substitute for metal

- Lightweight
- Vibration dampening
- High stability
- Cost-effective

 www.igus.eu/igubal

iglidur® G in door hinges: resistant to dirt

- High static loads
- Corrosion-free and dirt-resistant
- Resistant to edge pressure



iglidur® H4 in cab bearing systems: strong in hydraulic vibration absorbers

- Media-resistant
- Low static friction
- Good vibration damping
- Wear-resistant

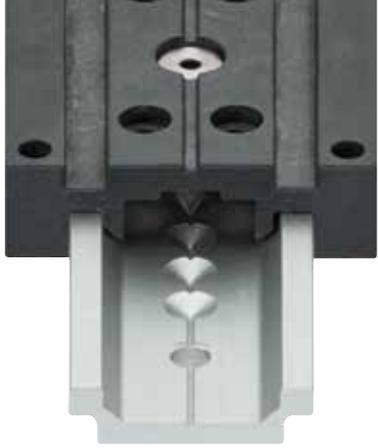


iglidur® G in dumper/tipper trucks: extremely durable and robust

- Resistant to high edge loads
- Resistant to dirt
- High wear resistance
- Cost-effective



www.igus.eu/trucks



drylin® pre-defined positional systems in head-rests: light weight, defined positioning

- Easy movement with roller support
- Wide range of sizes and versions
- For exact re-positioning

 www.igus.eu/drylin



igidur® J in steering systems: cost-effective with low friction

- Lightweight
- Withstands high shock loads
- Wear-resistant
- Noise-dampening

 www.igus.eu/J



igidur® TX + P210 washers in suspension: resistant to dirt and low temperatures

- Resistant to high edge loads
- Resistant to dirt
- High wear resistance

 www.igus.eu/TX www.igus.eu/P210

iglidur® J in gear lever: light and silent

- Lightweight
- Quiet
- Cost-effective



drylin® W in cabins: ergonomic operator control and silent

- Quiet operation
- Dirt-resistant
- No corrosion



iglidur® M250 MDM in seat systems: rattle-free positioning

- Tolerance compensation possible
- Suitable for e-coating
- High static load up to 120MPa



www.igus.eu/trucks



igidur® Q: in the articulated steering mechanism of a dump truck

- For high loads - wear-resistant on many shafts
- Excellent wear resistance, especially for extreme loads
- Recommended for extreme pv values

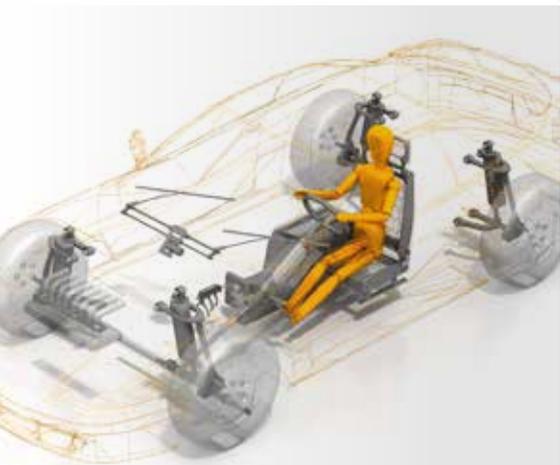
 www.igus.eu/Q



igidur® H2 in the gearbox: changing gears easily and cleanly

- Noise dampening
- Resistant to transmission oil
- No contact corrosion

 www.igus.eu/H2



igidur® I3 3D material: wear-resistant parts in 3 days

- Conforms with the requirements of the automotive industry in accordance with FMV SS 302
- High wear resistance
- Max. application temperature: +80 °C

 www.igus.eu/3dprintservice



Compliant according to FMV SS 302



twisterchain® in robot crane: protection for cables and hoses in the case of 400° rotation

- For small installation spaces
- For movements along all axes - rotating, hanging, standing
- Dirt and weather-resistant

 www.igus.eu/twisterchain



E2 micro e-chain® in rear doors: extremely small bend radii possible

- Safe cable guidance
- Easy to open and quick assembly
- Quiet operation, stable and cost-effective

 www.igus.eu/E2-1



E2/000 e-chain®: space-saving, lightweight and easy to assemble

- Corrosion and weather-resistant
- Weight reducing
- Assembly-friendly

 www.igus.eu/E2000

E2 e-chain® with extended crossbars: safe and reliable supply of hydraulic hoses

- Special inner contours for hose-friendly guidance of two hydraulic hoses
- High strength and long unsupported lengths
- For small installation spaces

 www.igus.eu/hydraulic-chain

E4.1 e-chain®: space-saving in aircraft towing vehicles

- Compact design
- Saves weight and makes maintenance almost superfluous
- For data, media and signals in one system

 www.igus.eu/E4-1

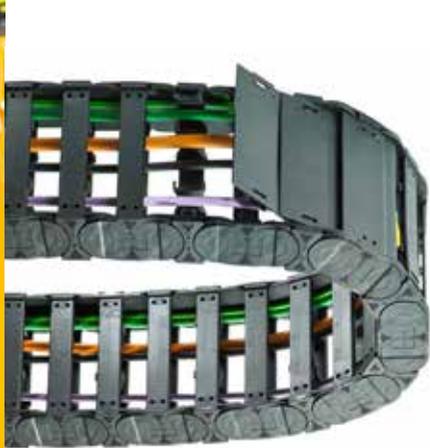
E2 e-chain®: light, very stable and safe in airfield fuel tankers

- Space-saving solution
- Safe guidance of energy, data and media
- Easy and quick assembly

 www.igus.eu/E2000



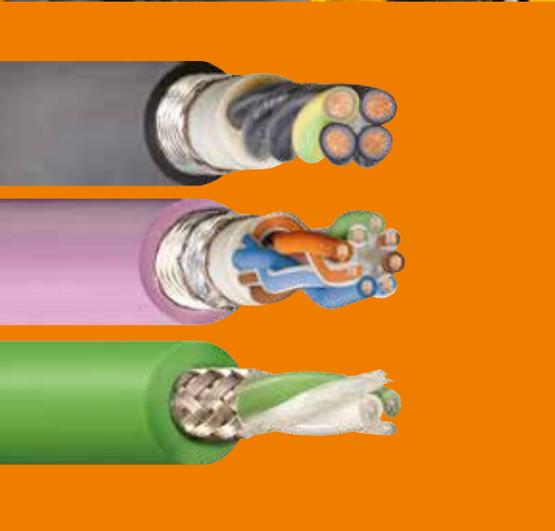
www.igus.eu/trucks



E4.1L e-chain® in truck platforms: small bend radii and low temperatures

- Fully harnessed energy chain systems
- For very small bend radii and low temperature applications
- For all movements and axes

 www.igus.eu/readychain



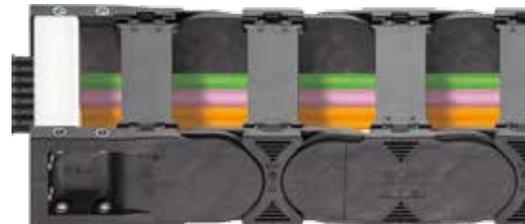
chainflex® cables: 36 month guarantee*

- For heaviest duty applications
- Low-temperature-flexible and UV-resistant
- 1,354 chainflex® types available from stock

 www.igus.eu/chainflex



*36 month guarantee with a minimum service life of up to 10 million double strokes



E4.1L e-chain® in concrete mixers: safety and reliability guaranteed

- Resistant to dirt and shock
- Space-saving
- UV-resistant

 www.igus.eu/E4-1

When it is all about the utility vehicle - igus® catalogue parts, special parts, bar stock and 3D printed solutions



We can also go your way: customised solutions, special designs and special materials - (virtually) everything is possible.

The standard is not the right solution for everyone. Therefore, igus® also manufactures a number of customised special designs. Structural and material special solutions such as plain bearings for multiple-edge shafts, bearings with reduced clearance or anti-rotation feature, special lead screw support blocks and glide pads, and so on, are specially adapted to your requirements. Starting from medium quantities we make almost everything possible.



www.igus.eu/speedigus
www.igus.eu/barstock



3D printing service – for individual parts made of high-performance plastics.

In two simple steps to the 3D-printed component - with instant price. We print your individual component, using lubrication-free, abrasion-resistant iglidur® high-performance plastics. Upload your drawing in the STEP (STP) format, check the 360° view and select a filament. We ship your desired product - depending on the complexity - from 24hours.



www.igus.eu/3Dprintservice

www.igus.eu/trucks

Assembly



- Service for fast, error-free installation
 - Specialised assembly personnel
- www.igus.eu/assembly

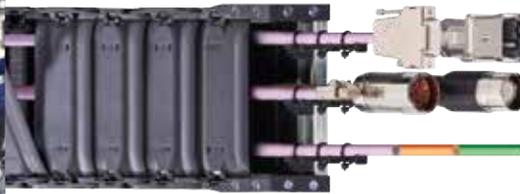
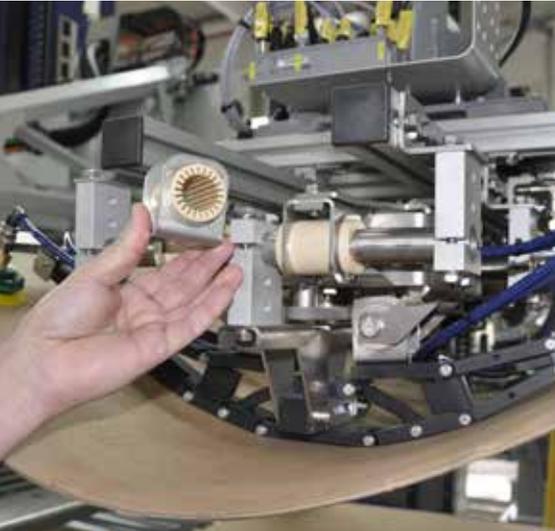


Ready to install and industrially harnessed: www.readychain.eu

Always the right harness for your application Ready-to-fit readychain® e-chain system® configured and delivered in 3-8 days.

Possible due to the large selection of energy chains for all kinds of motion, cables for e-chains® with 36 month guarantee plus the relevant connectors. Reduce the number of suppliers and orders by 75%. Minimise machine downtimes. System guarantee – depending on the application.

Sampling



- We can provide support in the construction phase of your machine
- www.igus.eu/sampling



Basic
e-chain® with fitted cables - strain relief in the system

Standard
e-chain® with cables and relevant connectors

Standard+
Harnesses e-chain systems® with associated sheet metal parts

Premium
Ready-to-install complete system with transport rack



Engineering



- Customised products
- Many solutions from the "modular construction system"



The type of harnessing most frequently used in trucks and trailers

Basic
e-chain® with cables and relevant connectors

www.igus.eu/RCbasic





Long-term durability
10 billion e-chain® cycles
per year in e-chains® and
the chainflex® laboratory

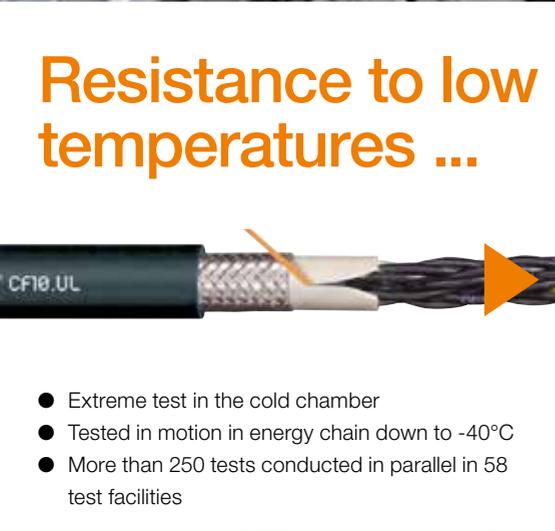
Cable torsion ...



- Service life test for torsion in e-chain®
- Twisting of +/- 180°



Extensive
test
database



Resistance to low temperatures ...

- Extreme test in the cold chamber
- Tested in motion in energy chain down to -40°C
- More than 250 tests conducted in parallel in 58 test facilities



Investigation of coefficient of friction ...

- Constant load test
- Tests of wear and coefficient of friction
- Test of functioning, service life, strength and failure scenarios



Vibration test
In this test, energy chains
are subjected to
vibrations between 30 and
60 Hz.

Front loader test rig ...

- More than 3 billion test cycles per year
- Special test set-ups for specific industries
- Further information at

www.igus.eu/frontloadertest



Polymer bearings in a heavy-duty test with a maximum load of 500kg

From more than 15,000 tests per year was created, what is probably the world's largest test database. This database gives us the ability to always select the right product for your specific application. Individual tests for your industry are also possible.

www.igus.eu/test

igus.eu/24

Buy online - 24hrs!

Visit our industry web pages for more information, products, application examples and useful online tools. Quickly find and configure products and calculate service life – all online. With the help of our product finders, you can quickly find the right article and obtain an exact prediction of service life. All online tools also enable you to reduce process costs. igus® delivers from stock in 24-48 hours!

The screenshot shows the igus website interface. At the top, there is a navigation bar with 'Products', 'Calculators', 'Sales literature', 'Service', 'Company', and 'MyShop' (Shopping Cart: 0). Below the navigation bar, there is a search bar and a main banner for 'Automotive' with the text 'modern plastic reduce costs and weight' and an image of a silver sports car. Below the banner, there is a section titled 'Optimise cars and production with Tribo-turbo' and a question 'Which products are you interested in? Choose your area of use:'. There are four icons representing different product categories: 'O-ring', 'O-ring', 'Equipment - a chain', and 'Equipment and plastic dry-socket bearings'. Below this, there is a section titled 'Advantages of our automotive production solutions:' with a list of benefits: 'Reduce cost by 40%', 'Reduce weight by 80%', '100% less maintenance and lubrication', 'Individual custom-made products', 'Predictable service life', 'Dirt resistant', and 'Especially durable'.

Always the right solution for the automotive, trucks and trailers industry. igus® is certified in accordance with ISO 9001:2015 and IATF 16949:2016 in the field of energy supply systems, cables and harnessing, as well as plastic bearings.

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