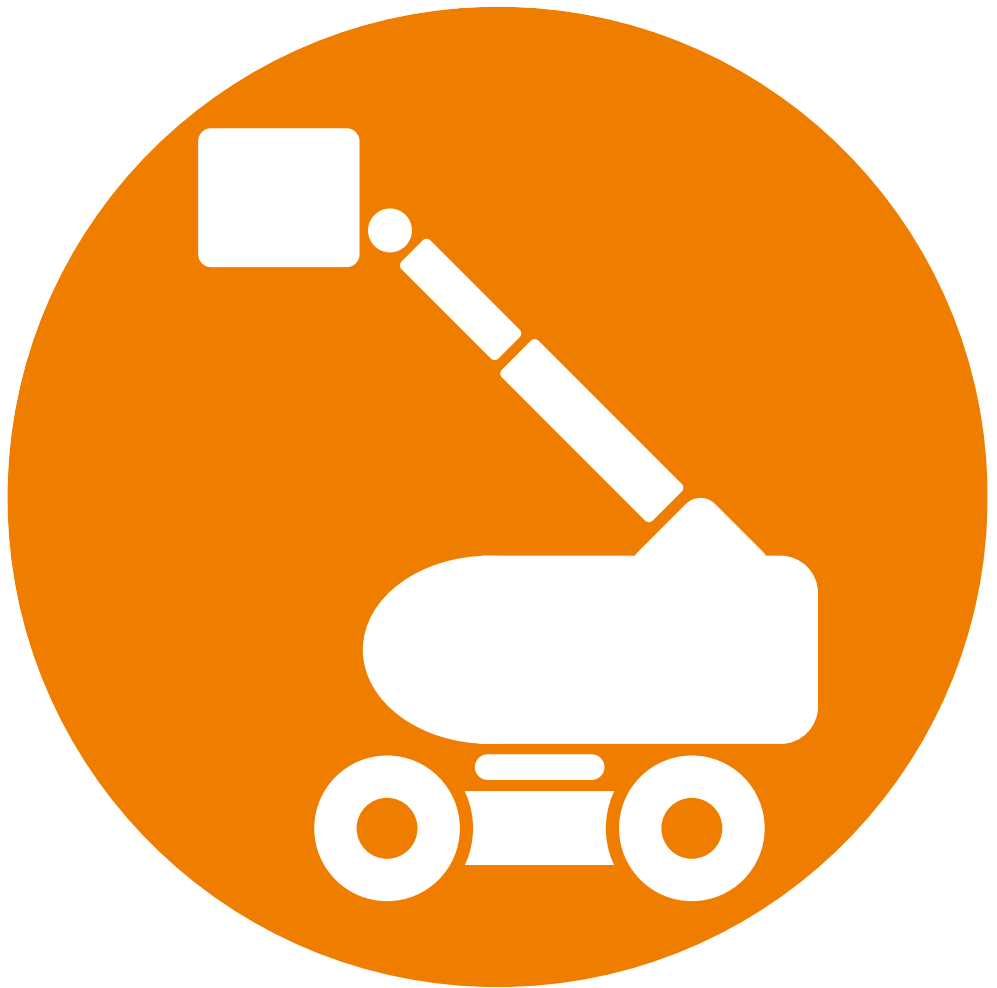


Work platforms

Solutions for cherry pickers and telescopic equipment



plastics for longer life®

igus®.eu...

www.igus.eu/telescopic



Safe and easy energy supply for telescopic applications

Your technology improves whilst your costs fall

Birte Jendahl

Industry manager

Work platforms and construction machinery

Phone: +49 2203 9649-578

E-mail: bjendahl@igus.net

Secure guidance of data and signal cables on inclined equipment

Lifting masts or telescopic equipment offer limited space for a safe energy supply system. Consequently users like to use energy chains made of high-performance plastics or hybrid e-chains® to protect and guide their cables and hoses. Hybrid e-chains® from igus® are made of plastic and steel. They protect the cables not only from external influences such as shocks, dirt, and moisture, but also from wear during the retraction and extension cycles of the telescopic arms. Additional protection is provided by the internal separation of the e-chains® minimising abrasion for cables and hydraulic hoses. The energy chains from igus® are very robust yet lightweight. They ensure high strength, even with long unsupported lengths. The energy supply system's modular design makes it quick to install and easy to maintain. Users can therefore cut costs by using energy chains from igus®.

Advantages of e-chains® in work platforms:

- Lubrication and maintenance-free
- Corrosion-free
- Lighter than metallic chains
- Resistant to dirt and chemicals
- UV and temperature-resistant
- For small installation spaces/space-saving
- Safe for movements in all directions and along all axes
- No screws, rivets, or bolts to come loose under vibration



YE.1 plastic-steel hybrid e-chain®: Light yet strong

The strength of steel combined with the lightness of plastic

The YE.1 plastic-steel hybrid e-chain® combines the weight savings of plastic with the strength of steel. The optimum strength-to-weight ratio allows long unsupported lengths while reducing weight. The weight saving makes it possible to reduce the counterweight of the work platform thus providing the work basket with more functions



Other utility

The modular snap-lock design eliminates screws, rivets, and bolts. This prevents energy chain parts from coming loose under vibration. Assembling the plastic-steel hybrid chain is simple and fast. Individual parts of the energy chain as well as cables and hoses, can be replaced quickly.



Proven safety and
guaranteed service life under
the toughest conditions



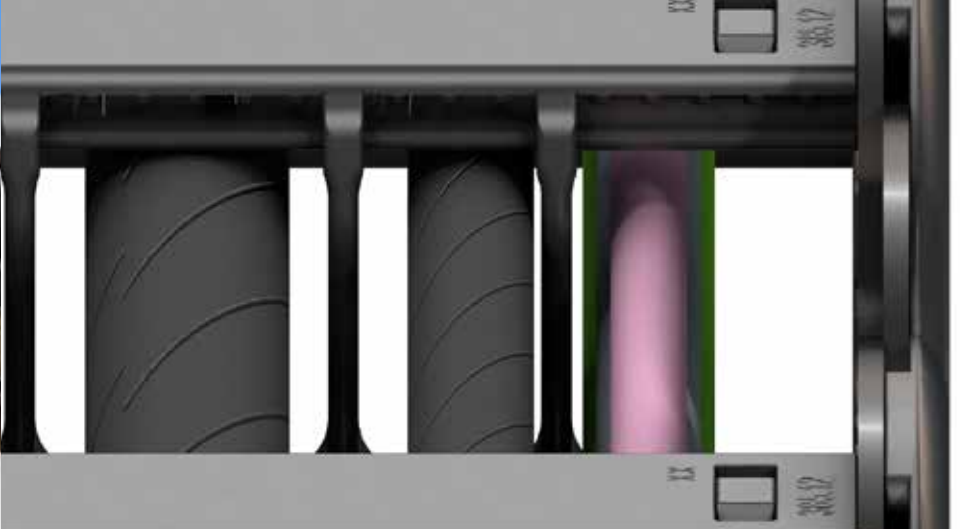
Flying high with igus® e-chains®

igus® does not just draw its know-how from the laboratory. Our customers' experiences in the real world are just as important.

In Ruthmann GmbH, igus® has a partner whose expertise in telescopic hoist platforms has led to the popularity of the "Steiger" brand name. The European market leader, which produces telescopic jibs with a wide variety of working heights, requires flexible energy supply systems for very small bend radii and installation spaces. Because of its focus on the shortest possible throughput and storage times, Ruthmann prefers components that greatly reduce assembly time.



Standard steel energy chains vs. igus® YE.1 hybrid chains



Frequently observed problems with pure steel energy supply systems

Steel: corrosion at the joints, resulting in stiffness of the entire energy supply

igus®: plastic-metal joints prevent seizure of the chain links due to corrosion

Steel: crossbar deformation allows the energy chain to jam/seize. Sharp edges can also damage the cables.

igus®: plastic crossbars do not deform permanently. They can also be replaced individually if there is a defect. Rounded crossbars are easy on the cables and hoses

Steel: screws, bolts and circlips can be lost over time and make the whole system unstable

igus®: no screws or rivets connecting the e-chains®

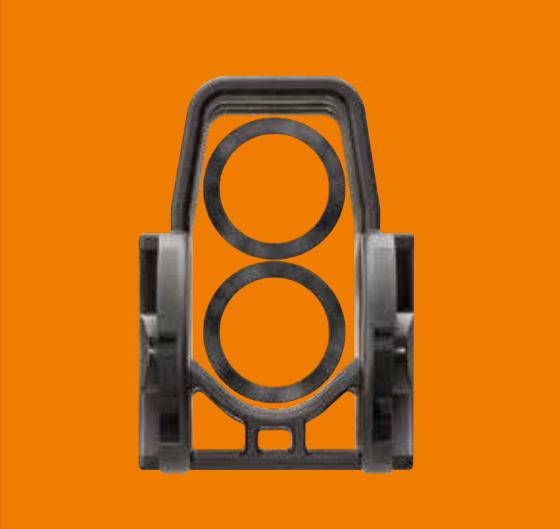
Steel: heavy, because of the metal energy supply system

igus®: up to 50% lighter hybrid chain

Steel: chain links of steel chains cannot be opened and can hardly be partially replaced

igus®: e-chain® links can be opened whenever needed. If required, cables can be added or removed. igus® chainflex® cables can be used in any application due to high UV resistance and tolerance of high/low temperature. All cables have up to 36 months guarantee

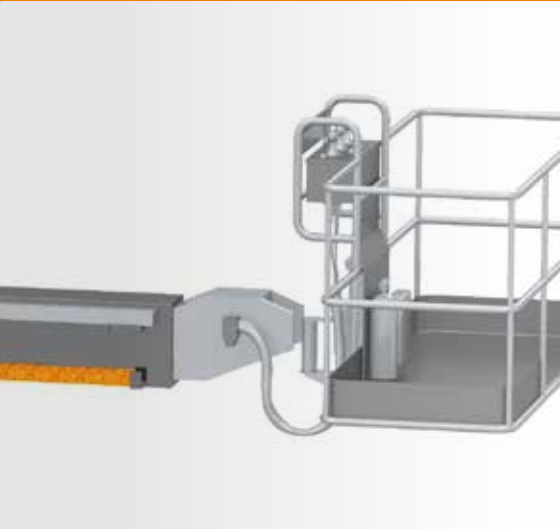




E2 hydraulic hose guidance on side wall of supporting legs

- Special inner contours and clamps for hose-friendly guidance of two hydraulic hoses
- Long unsupported lengths thanks to stable stop-dog system and pin/bore connection
- Single-piece clamp design for extremely stable hydraulic hose guidance requiring little installation space

 www.igus.eu/hydraulic-chain



triflex® R on a carrying basket joint: ideal energy supply system for multi-axis movements

- Defined torsion stop-dog and minimum bend radius
- Easy to lengthen and shorten
- Suitable torsion-resistant chainflex® cables

 www.igus.eu/triflexR



E2.1 e-chain® in telescopic forklifts: space-saving and lightweight

- Corrosion and weather-resistant
- Weight reducing
- Easy to install

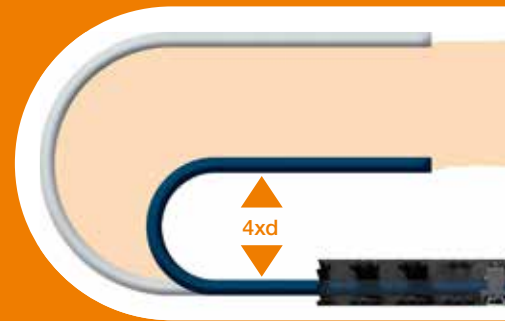
 www.igus.eu/E2-1



chainflex® cables: tight spaces, high UV resistance

- Control, data and bus cables
- Heavy duty for in outdoor applications
- Up to 36 months guarantee*

 www.igus.eu/chainflex



readychain® modules: for direct installation

- Optimally matched components
- Delivered ready to install
- With cables, hoses, attachments and energy chain

 www.igus.eu/readychain



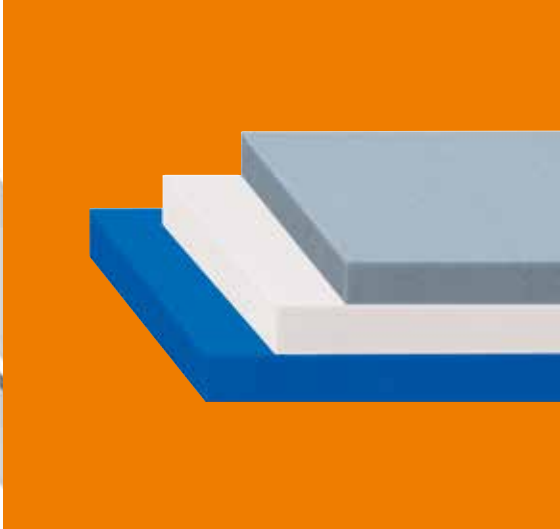
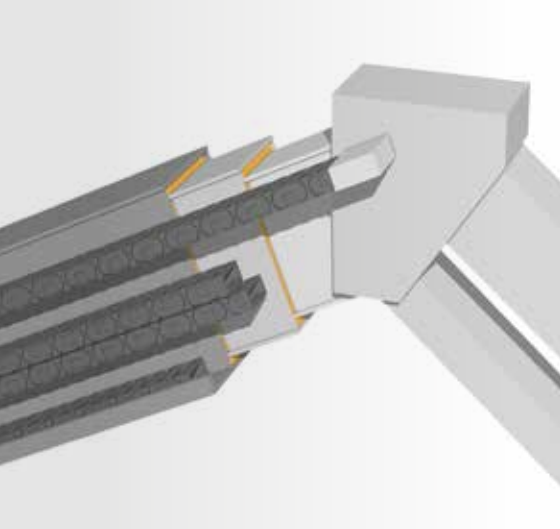
e-chain® E4.1L: reduce weight and increase payload of the basket

- Less weight - more payload
- Easy to open and install
- High strength and compact

 www.igus.eu/E4.1L



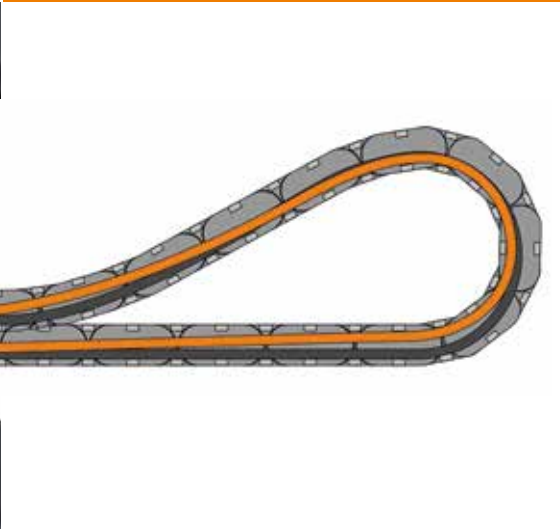
www.igus.eu/telescopio



igidur® bar stock: individual telescopic bearing for high loads on support legs

- No maintenance or lubrication necessary
- Easy to machine, available as round bar and plate material with online predictable service life
- As a plastic bar stock for DIY or in mechanically finished required shapes and sizes

 www.igus.eu/barstock



Roller clip: reliable guidance of hoses

- Reduce abrasion, increase safety
- Secure hold even at high pressures
- Hose-friendly under constant motion

 www.igus.eu/hydraulics



36-month e-chain® guarantee **

- Enter fill weight, travel, speed, and acceleration
- Determine expected service life with the service life calculator
- Click "Request a 36-month guarantee certificate" to have your certificate e-mailed to you

 www.igus.eu/ECS-service-life

When it is all about the cherry picker – igus® catalogue parts, special parts, bar stock, and 3D printed solutions



We can also go your way: customised solutions and designs, and special materials - virtually everything is possible. The standard is not the right solution for everyone. That is why igus® also manufactures a number of customised special geometries. Customised design and material solutions, such as plain bearings for multi-edge shafts, low-clearance bearings, bearings with the anti-rotation feature, special support blocks and glide pads, etc. are adapted specifically to your requirements. We make almost anything possible, starting at just medium quantities.



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



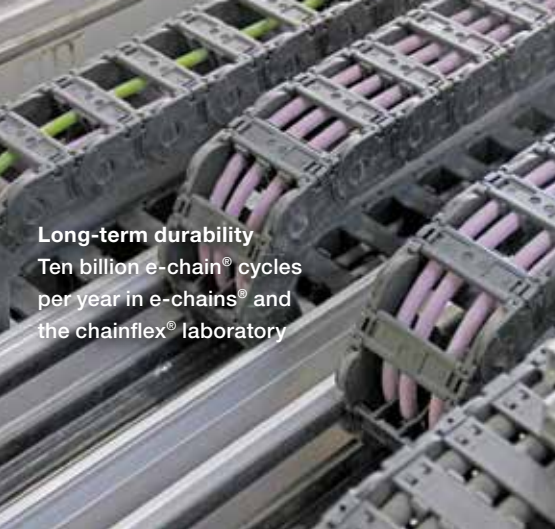
3D printing service – for individual parts made of high-performance plastics.

A 3D-produced component in just two steps – with immediate price display. We print your individual component from lubricant-free, abrasion-resistant iglidur® high-performance plastics. Upload your drawing in the STEP (STP) format, check the 360° degree view, and select a special filament. Depending on its complexity, we will deliver your product in as little as 24 hours.



www.igus.eu/3D-printservice

www.igus.eu/telescopio



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

Cable torsion ...



- Cable for torsion and e-chain®
- Service life test for long and short distances
 - Motion test in torsion
 - +/- 180° rotation angle
 - Travel lengths of up to 100m



Testing load capacity
 with high unsupported lengths

Extensive test database

Resistance to low temperatures ...



- Extreme testing in the cold chamber
- Tested in moving energy chains at temperatures as low as -40°C
- More than 250 tests conducted simultaneously in 58 test facilities



Coefficient of friction evaluation



- Permanent load test
- Evaluation of coefficients of wear and friction
- Testing for function, service life, strength, and failure scenarios



Front loader test rig ...



- More than three billion test cycles per year
- Branch-specific test set-ups
- Information at www.igus.eu/frontloadertest



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

Possibly the world's largest test database has been created from over 15,000 tests per year. It enables us to always select the right product for your specific application. Individual tests can also be performed for your industry.

 www.igus.eu/test



/9001:2015 /16949:2016

igus® is certified in accordance with ISO 9001:2015 and ISO/TS 16949:2016 in energy supply systems, cables, harnessing, and plastic plain bearings.

/14001:2015

igus® is certified according to ISO 14001:2015. This environmental management system supports us on becoming a CO²-neutral factory.

/newsletter

Get more information about motion plastics® innovations and trends: exciting applications, videos, test results, online seminars, and much more.

Compact and free of charge. Register now at www.igus.eu/newsletter

/online

You can find out more about work platforms here: www.igus.eu/telescopic

/igus®.eu

igus® GmbH

Spicher Str. 1a
51147 Cologne

Phone +49 2203 9649-800

Fax +49 2203 9649-222

info@igus.de

www.igus.eu

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* The igus® chainflex® guarantee of up to 36 months applies to the number of double strokes calculated by the online service life calculator www.igus.eu/chainflexlife. The guarantee conditions available at www.igus.eu/guarantee apply.

** The igus® e-chain® guarantee of up to 36 months applies to the number of double strokes calculated by the online service life calculator www.igus.eu/ECS-service-life. The guarantee conditions available at www.igus.eu/guarantee apply.

www.igus.eu/telescopic
Solutions for cherry pickers
and telescopic equipment