Robustus™
The Berco rotating bushing track system

The n. 1 in
Undercarriage

5,000,000 Track Shoes
1,100,000 Rollers
100,000 Track Chains
320,000 Idlers and Sprockets
220,000 Tons of Products
12,000 Containers of Product

YOUR BERCO DEALER:

A Company of ThyssenKrupp Group

BERCO S.p.A.
YOUR BEST UNDERCARRIAGE VALUE

Since 1920 Berco has offered an innovative, reliable and economical solution to any undercarriage need. Whether for the original equipment manufacturers (OEM) or the aftermarket, for a special machine or a mini-excavator, for a bulldozer or a mining excavator, Berco can offer you the right answer to your specific requirement.

Superior engineering, innovative technology, comprehensive know how and state-of-the-art manufactu-ring guarantee the total quality of the products and services offered to you. "Original Equipment Quality, aftermarket Value"

AN EXPERT PARTNER YOU CAN RELY ON

Custom made solutions and project engineering support is available upon request. Our team of engineers can help you choose or design the most effective and efficient solution to your specific undercarriage need.

They can help you reduce development and engineering time, tooling expenses and facility costs, while adding value to your business.

"Berco, The choice of the leading OEMs"

Making a superior product

ADDITIONAL VALUE TO YOUR BUSINESS

State-of-the-art 3D modeling, Finite Element Analysis (FEM) and Rapid Prototyping enables Berco to design, optimize and evaluate a component before it is built.

Artificial Intelligence techniques are currently being developed to automatically inspect 100% of components. Reliability Test on components are carried out to determine life and performance in a variety of field applications.

Berco Metallurgy Laboratory employs advanced machines such as an electron microscope with microanalysis, a spectrophotometer, tribometers for wear tests, MTS presses for static and fatigue tests (also at extreme temperatures -70°C ÷ 250°C) on materials and components. Huge efforts are also devoted to the development of New Materials and improvement of the Heat Treating Processes, to guarantee longer product life and superior products.

Photo-elasticity and Strain Gauge techniques are commonly used for stress and fatigue analysis on individual and assembled components. Berco adds value not only to the products but also to Your Business.

State of the art production

AUTOMATED PROCESSES AUTOMATIC QUALITY

The entire production process is fully automated and computer controlled via Computer Manufacturing Technology systems. This guarantees a highly reliable process and constant quality of the products.

THE RIGHT PRODUCT AT THE RIGHT TIME

A vast variety of raw materials and flexible manufacturing give the competitive advantage of short lead times while matching your specific need. That’s what we also call Customer Satisfaction.

Heat treated to treat you even better

Quality materials and state-of-the-art manufacturing are not enough to guarantee the quality of the finished products. That’s why the heat treating processes are carried out making sure that all process parameters (temperature gradients, time, quenching temperature, etc.) are constantly monitored online.

Hardening and tempering upgrade mechanical properties for superior wear resistance, stress relieving guarantees perfect geometry and excellent resistance for longer product life.

All products shown in this document originate from Berco exclusively.

Any references to Caterpillar (the Caterpillar word signs) are mentioned to communicate that the aforementioned products are only suitable for Caterpillar machines with the corresponding model designation.
Robustus™ system

According to common experience, 50% or more of the maintenance costs during the life of a crawler dozer or loader belongs to undercarriage maintenance and repairs. In a machine fitted out with traditional undercarriage the sprocket slides on the external surface of the bushing during normal operation, causing bushing and sprocket wear.

THE WINNING STRATEGY
Increasing the life of undercarriage components is the winning strategy to reduce ownership and operating costs.

In the new system ROBUSTUS™ the bushing rotates when in contact with the sprocket, reducing the bushing and sprocket friction and wear and thus enabling longer life. As a consequence, it is not necessary to turn bushings and pins and replace sprocket segments during the whole life of the undercarriage. A wider track link rail (“big footprint” track link) provides an extended running surface area, balancing the wear of all components and eliminating scalloping wear in the contact between chain and roller and between chain and idler. The reinforced hardware improves joint stability. The resulting dampening of vibrations and noise assures more comfortable ride and maximum control of the machine during the operations.

Berco Positive Pin Retention and an improved seal design produce a lasting seal capacity and assure long life to the complete system. The new system is fully compatible with existing frames and standard components: (D6H and D5H machines), older machines can be easily upgraded to increase their productivity and the life of the undercarriage.

In the same way ROBUSTUS™ is forward-compatible with the new generation undercarriages equipped with parallel or twin links.

The innovative rotating bushing tracks system can be easily installed on any machine at any time. With a simple operation and no extra work you can extend the life of your undercarriage, improving reliability and reducing costs.

Berco field tests proved that the new system increases the track life of 35 percent, with a maximum of 6,000 hours of operation without maintenance; and this means cutting operating costs up to 30 percent.

Main features & benefits

- Rotating bushing chain
- Wear perfectly balanced through all components
- Positive pin retention (PPR)
- New concept of seal design
- Reinforced hardware to improve joint stability
- Completely interchangeable system, using standard sprocket
- Rollers & idlers fitting existing frame
- Increased machine resale value
- Less friction, more power
Increasing the life of undercarriage components is the winning strategy to reduce ownership and operating costs.

I - First Fit Cost (0 working hours)
The initial cost for Robustus™ is higher than the one for a traditional undercarriage.

II - Total cost, for 6000 working hours
These are the necessary expenses for a traditional undercarriage in 6000 working hours: no need of replacement for Robustus™.

- 6000 hours: Total replacement
- 4500 hours: Pin & Bushing turn + Segment
- 3000 hours: Total replacement
- 1500 hours: Pin & Bushing turn + Segment
- 0 hours: Initial cost

III - 6000 working hours: a different prospective for the end user
Summing up all the necessary expenses for the traditional undercarriage, the situation shown in the first graphic now is completely reversed. The cost of Robustus™ has remained exactly the same, while the traditional undercarriage costs have more than doubled.

IV - Cost/hour, considering the undercarriage maintenance: min* -30%
PROVEN BENEFITS
The data refers to extensive field tests. Berco field tests proved that the new Robustus™ system cuts the operating costs of min. 30%.

*Benefit can be even bigger if considering also machine downtimes and the cost of labour.

Robustus™ cuts costs by min. 30%