

Berco Mining Products

The Widest Undercarriage Choice

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The specifications and processes described in this brochure are subject to change without notice



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BERCO S.p.A.



Berco

Moving Your Business Ahead



Leadership in Undercarriage

For 80 years, Berco's leadership and research has resulted in the greatest undercarriage value. Quality is the critical link that assures the maximum productivity of your machine. No one has invested more than Berco to assure dependable **High Quality Undercarriage**. Berco starts with the highest quality steel, then controls hardened depth along with other performance features. As a result, Berco's undercarriage is second to none for extended wear life and value.

Getting the Most from your Undercarriage

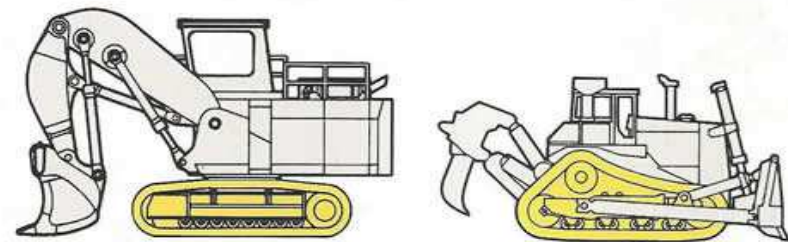
Since 1920, Berco has continued to innovate and improve undercarriage performance. High-quality materials and careful manufacturing processes ensure that Berco undercarriage components are reliable, durable and wear at a predictable rate. Longer life and controllable wear mean that you get **maximum undercarriage performance** at the **lowest operating cost**. At Berco we call it "**Best Undercarriage Value**"

Berco Process Control

Berco builds value & durability into every undercarriage component. Berco controls processes critical to durability and value, such as: design, raw material, heat treating, manufacturing and because **Berco has control over these processes**, our undercarriages wear at a predictable rate and can be managed as a system.

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Berco Mining Products offer an efficient, reliable and economical solution to your mining operation. Whether in open pit mining, quarrying or earthmoving of large land reclamation, Berco can offer you the right answer to your undercarriage need. Superior engineering and technology, comprehensive know how and state of the art manufacturing ensure the total quality of the products and services offered to you. Our **team of engineers** is available to help you **choose or design** the most effective and efficient solution to your specific undercarriage need.

The Widest Choice

- Complete undercarriage systems for Dozers and Excavators: track chains, track shoes, rollers, sprockets and idler groups
- For track-type machine classes ranging from **35-100 tons (dozers)** and **100-300 tons (excavators)**
- Low temperature version (-40°) available
- Track chains for **special applications**: large conveyor systems, pipeline handling, etc.
- **Custom made solutions** and project engineering support available upon request
- The choice of the leading OEMs

Customer Satisfaction

Considering that more than 50% of your maintenance costs will go into maintaining the undercarriage, it is not surprising that Berco represents the best choice when the time comes for the replacement. And the best choice is confirmed by the large number of **Satisfied Customers that Keep Choosing Berco**



COMPLETE SYSTEMS FOR DOZERS

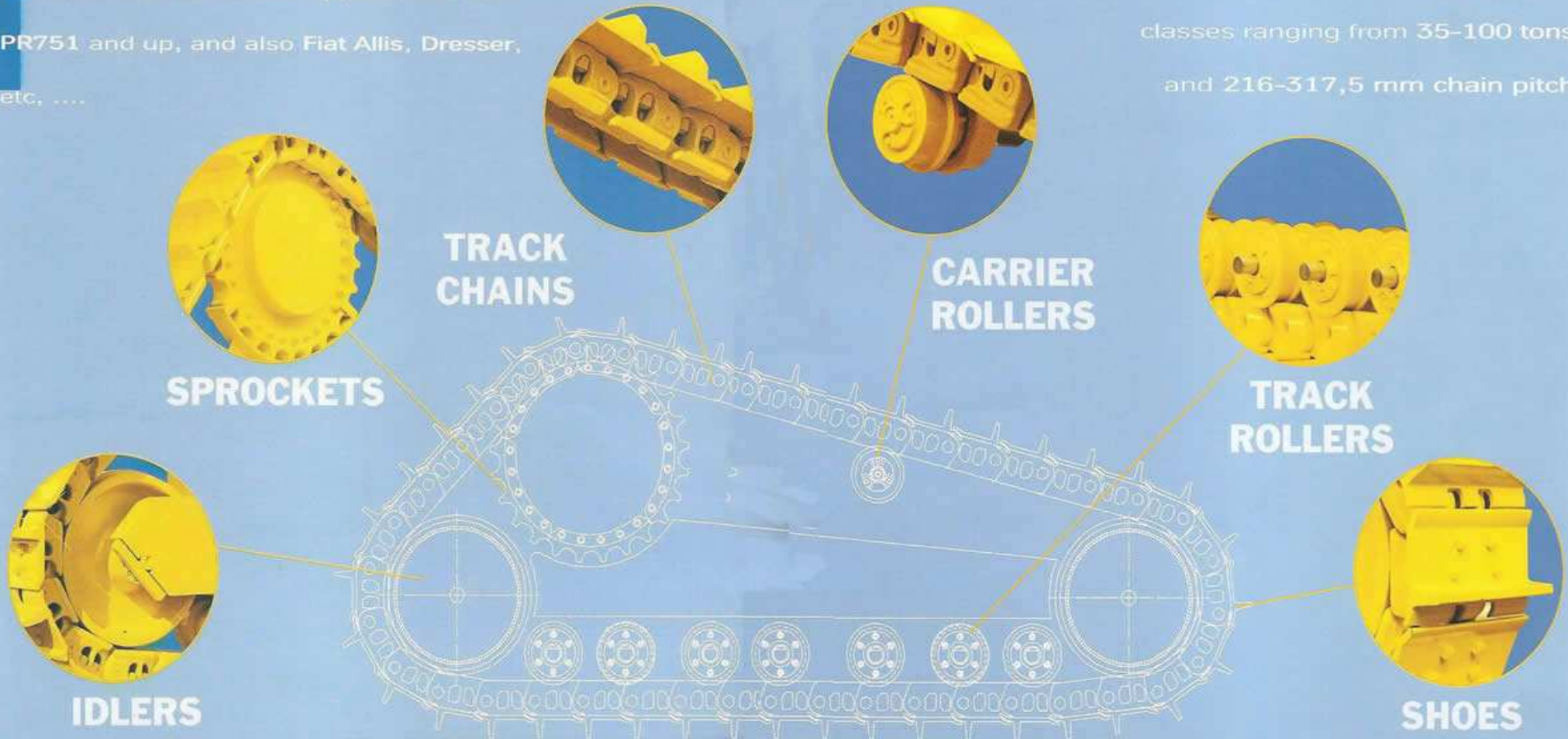


The Widest Undercarriage Choice

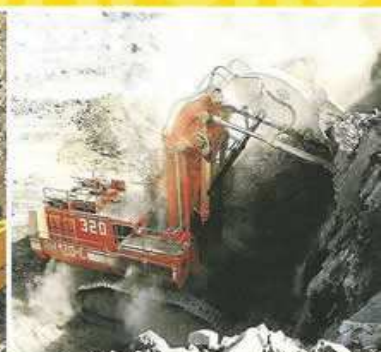
for Caterpillar machines from D8 to D11,
Komatsu from D155 and up, Liebherr from
PR751 and up, and also Fiat Allis, Dresser,
etc,



For track-type machine
classes ranging from 35-100 tons
and 216-317,5 mm chain pitch



COMPLETE SYSTEMS FOR EXCAVATORS



The Widest Undercarriage Choice

for Komatsu from PC750 and up, Caterpillar, Liebherr
from 984 to 994, O&K Mining (Terex) from RH30 and up,
and also Hitachi, Sumitomo,



For track-type machine classes ranging from
100-300 tons and
260-350 mm chain pitch



SHOES



**TRACK
CHAINS**



ROLLERS



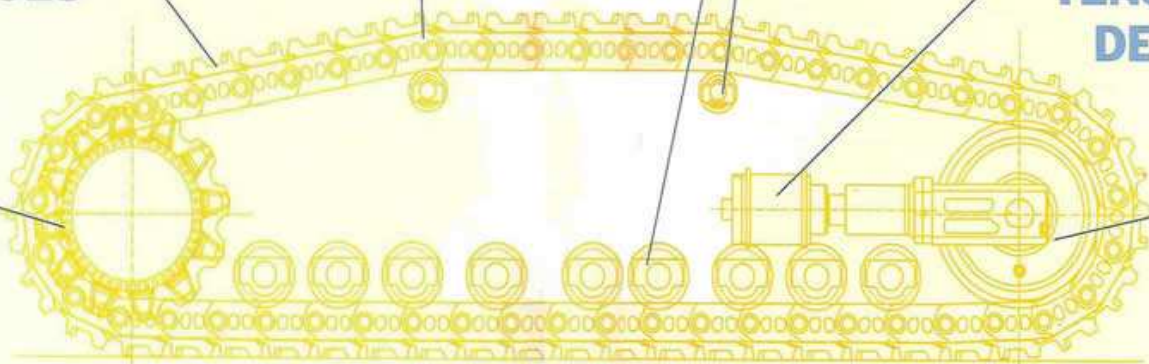
**TENSIONING
DEVICES**



SPROCKETS



IDLERS



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Track Chains

Special heavy duty, sealed & lubricated track chains have been accurately designed for increased pin & bushing retention. The links incorporate greater pin-to-link and bushing-to-link contact areas while additional link wear material increases component life.

Exclusive **heat treatment** gives Berco links consistent surface hardness, unmatched hardened depth and strong core hardness for increased component life.

Berco **pins & bushings** are dimensionally matched to the links and manufactured to provide excellent track joint reliability, while the specific design ensures maximum sealability.

All this results in excellent wear resistance, strength and durability for superior sealability and longer life.

- Links are forged from deep hardening boron steels with certified hardenability based on Berco specification
- Links are either quenched and tempered or through hardened for strong core hardness, superior strength and higher pin & bushing retention
- Rail surface induction hardened (HRC>53) to the wear limit (HRC>45)
- Final furnace tempering reduces link chipping and spalling
- Bushings are treated in a special furnace for high temperature carburizing
- Pins are deep hardened for best resistance to wear and fatigue
- Precision designed and accurately machined for proper fit, higher reliability and longer life

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Rollers

Rollers feature reinforced flanges and have been designed and manufactured for longer life in the most severe applications. Berco's **differential quenching** or **through hardening** processes upgrade mechanical properties for increased wear life, superior structural support and resistance to deformation.

Berco's exclusive seal groups help to ensure lifetime lubrication for extended life and to reduce your costs.

Berco offers a complete range of rollers to meet your work environment requirements.

- Hot forged in two halves to obtain best internal grain texture (higher resistance)
- Specific medium alloyed boron steel for high hardenability
- Heat treatment of the roller shell guarantees superior hardened depth (hardness >50 HRC) and rail wear resistance, while maintaining internal shell surfaces (in contact with hubs and bushings) hardness at 40 HRC, for extreme resistance to fatigue and shock stresses caused by the most severe applications
- Induction hardening and superior finishing of the shafts
- Large bearing and bushings area for high resistance to radial loads
- Sizeable oil capacity and perfect sealing
- Berco exclusive artic type & heavy duty seal groups (Cromium Vanadium cast iron type with surface hardness HRC 65) ensure anti-wear, anti-sizing and anti-rusting properties (up to -40°C).
- Maintenance free, for longer life and perfect operation under any working condition
- Precision designed and carefully manufactured for perfect alignment, perfect fit of bushings and final assembly of the components

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Idler Groups

Berco track Idler Groups are manufactured for superior wear resistance. Whether cast, forged or fabricated, Berco idlers provide superior structural support.

Special heat treatment and ultrasonic quality check ensure proper hardness level, providing long wear resistance. Berco's seal groups ensure lifetime lubrication eliminating idler maintenance and reducing operating costs.

Berco seal groups ensure lifetime lubrication eliminating idler maintenance. Berco offers a complete variety of idler groups to meet your work environment requirements.

- Heavy duty ring-rolled rail rims
- Low alloyed boron steels with certified hardenability based on Berco specification (fabricated version)
- Induction hardened rail surface diameter
- High tread surface hardness (HRC > 50)
- Minimum hardened depth 8 mm
- Tempered to resist cracking and chipping
- Idlers can be supplied alone or fully assembled with brackets, adjuster and tensioning device
- Precision design and accurately machined for proper fit, higher reliability and longer life

Tensioning Device

For the higher class machines, a hydraulic unit replaces the standard spring assembly. It is connected to the machine power unit and to an accumulator through special hydraulic valves. Accurate cylinder shell, piston design and hi-pressure seals ensure maintenance free operation.

Track Shoes

In extreme applications, products with exceptional properties are needed. To satisfy the needs of these highly demanding customers, Berco has also developed a range of **forged** shoes.

A fully automated forging line, employing a 32.000 ton press, followed by machining and heat treat processes, deliver a product with the greatest mechanical and wear resistance properties.

Berco offers the widest variety of track shoes and track shoe options (clipped corners, mud holes, etc.) to meet the requirements of every work environment.

- Low alloyed boron steels with certified hardenability based on Berco specification
- *Through hardened* and stress relieved for high strength and resistance to bending and breakage
- Surface hardness HRC 47 for superior wear resistance and longer life
- Precision designed and carefully manufactured for proper fit



D575

Forged shoes



D11

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Sprockets

Deep induction hardened and excellent depth pattern on entire tooth profile provide long wear life. Either from cast steel or from hot forging, Berco sprockets guarantee maximum resistance and durability even in the most severe applications. Accurate machining of hubs and flanges provide perfect interchangeability.

- Cast steel or hot forged steel for optimum internal grain flow
- Single Shot Induction hardening for high surface hardness (HRC > 50)
- Effective hardened depth 4+10 mm for HRC45
- Specific low alloyed boron steel (low alloyed steel for cast version) for high hardenability
- Tempered to resist cracking and chipping
- Optimized design to reduce stress concentration areas
- Uneven tooth design extends wear life
- Accurate machining of the mounting surfaces ensures best performance
- Sprockets, sprocket rims and bolt-on type

Segments

Segments are *through hardened* for improved wear resistance. High, surface depth and core hardness mean Berco segments provide long wear life, resistant to bending, breakage and maximum hardware retention. The bolt-on design reduces your machine downtime.

- Hot forged for optimum internal grain flow
- *Through hardened* for high surface hardness (HRC > 50) and tough core (HRC 45)
- Specific low alloyed boron steel for high hardenability
- Precise design and accurate machining of the mounting surfaces ensures best performance



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