



Mining Mobile Plant **Crawler Systems**

Our Innovation. Your Advantage.



What We Do

From pit to port, we specialise in wear parts and services for mining equipment including ground engaging tools, mining buckets, crawler systems and wear monitoring systems.

Why work with us:



Experience and Expertise

With over 90 years' experience in the foundry business and with world-class manufacturing facilities located globally, Bradken has the knowledge, expertise and capability to produce fully machined cast iron and steel products from a mass of 0.5 kg (1.1lbs) to 25 tonne (55,000 lbs).



Safety

Bradken products provide comprehensive safety features designed specifically to prevent accidents that may be caused by infield maintenance during installation and removal.



Reducing Costs and Increasing Productivity

Bradken products have been designed and engineered to optimise operational performance and aim to provide our customers with lowered Total Cost of Ownership (TCO).



Innovation and Design

Leading edge design simulation capability, focused development resources and collaborative customer partnerships delivering a unique end-to-end capability.



Support Services

Global mining and resources companies partner with Bradken because they know we will leverage our extensive design and engineering capability and in field support services to solve their specific operational challenges with high quality solutions that exceed expectations.



Local Sales and Support Networks

Bradken's global sales and distribution networks supply the world's major mining and industrial regions with ease.



Sustainability and Environment

Bradken is committed to reducing its impact on the environment through a comprehensive and targeted sustainability plan.



Equal Opportunities

We value diversity and inclusion in the workplace. We seek to recruit, develop and retain the most talented people from diverse cultures, perspectives, skills and experiences within our workforce.

Registered Trademarks.

All company names, logos, product names, and identifying marks used throughout this publication are the property of their respective trademark owners. They are used for descriptive purposes only and are protected by the relevant laws of the countries in which the trademarks are registered.

Product Overview

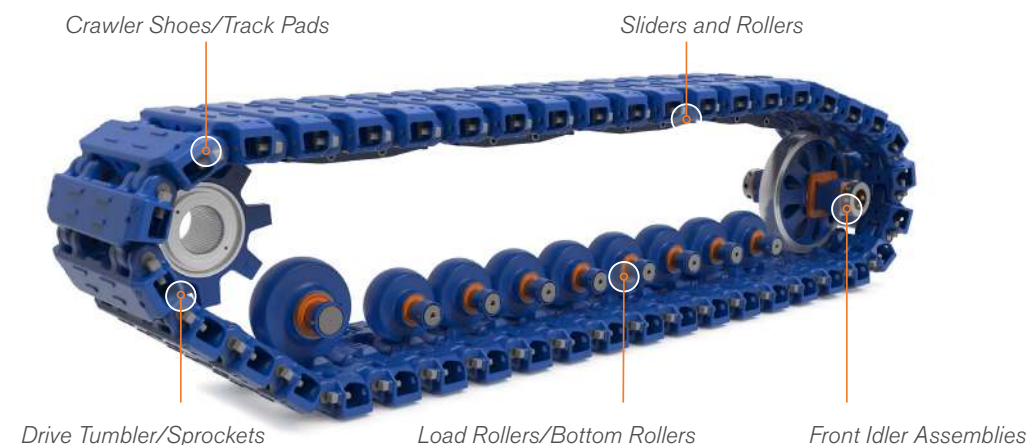
Our reputation for providing high quality, dependable products has been proven over decades of supplying to mining markets around the world. Today, Bradken is one of the largest manufacturers of undercarriage for mining machines over 200T.

Electric Rope Shovel

P&H® Electric Rope Shovel 2800A, 2800XPA, 2800XPB, 2800XPC, 4100A, 4100C, 4100XPB, 4100XPC, 4100WRP, 4100BOSS, 4100DELTA

Caterpillar® Electric Rope Shovel 7295/BE295, 7495/BE495, 7495HD, 7495HR, 7495HF, BE495

TZ® Electric Rope Shovel WK35



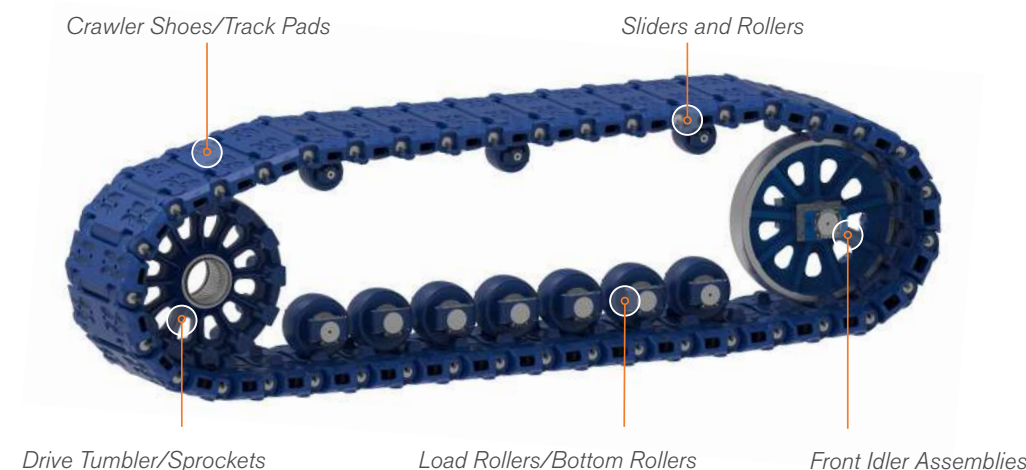
Hydraulic Excavator

Hitachi® Hydraulic Excavator EX2500/EX2600, EX3600, EX5500/EX5600, EX8000

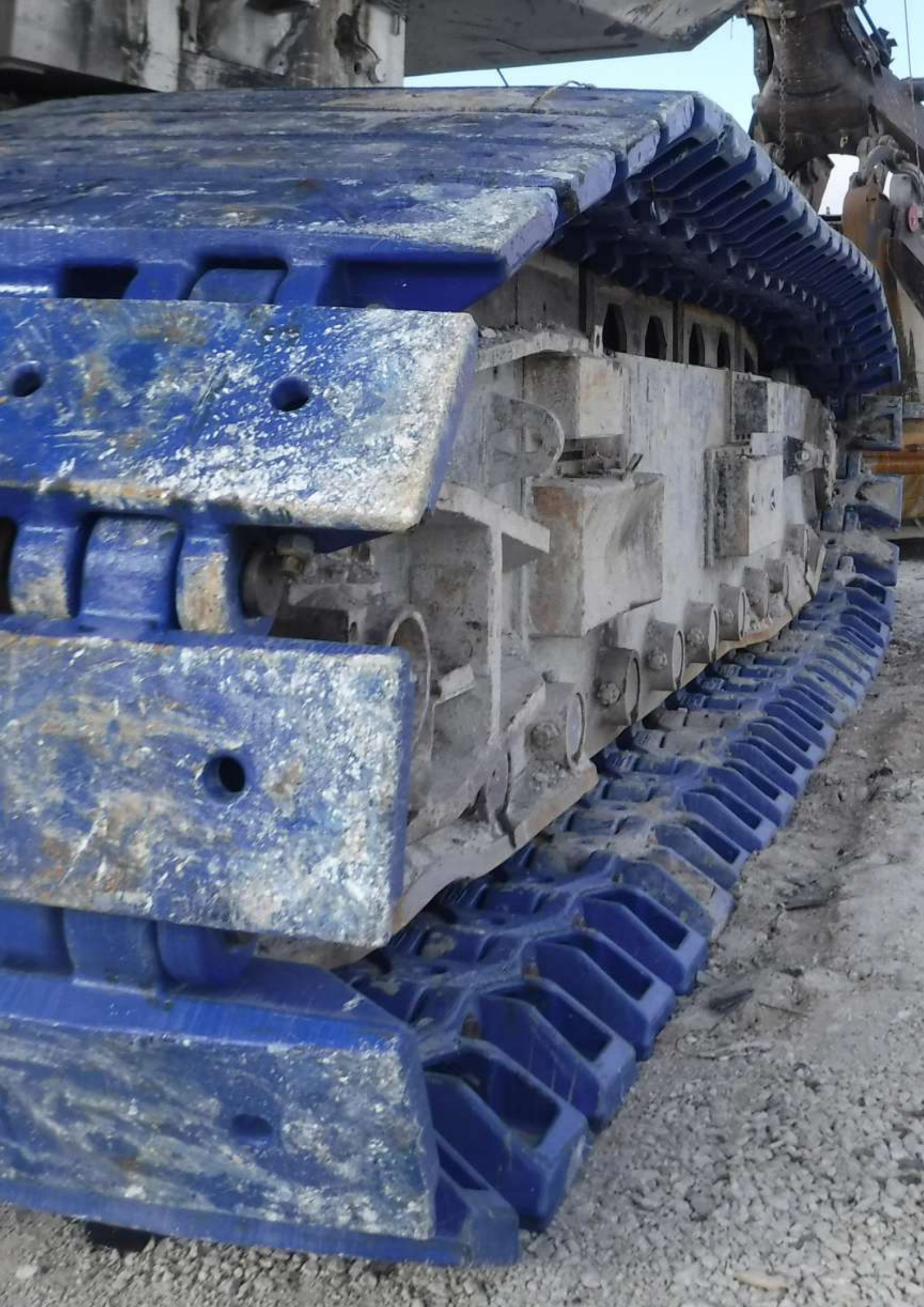
Komatsu® Hydraulic Excavator PC3000, PC4000, PC5500, PC7000, PC8000

Caterpillar® Hydraulic Excavator 6030/RH120E, 6040/RH170, 6050/RH200, 6060/RH340, 6090/RH400

Liebherr Hydraulic Excavator R996B and R9800



Bradken designs and manufactures undercarriage solutions for mining class Electric Rope Shovels and Hydraulic Excavators. Our reputation for high quality dependable products has been proven over decades of supplying to mining markets around the world.



Fitment Compatibility

Bradken can supply undercarriage components for the following machines:

P&H® Electric Rope Shovel	HEX	HEX (Evolution®)	ERS
2800A (DELTA)			✓
2800XPA (DELTA)			✓
2800XPB			✓
2800XPC			✓
4100A (DELTA)			✓
4100C			✓
4100XPB			✓
4100XPC			✓
4100BOSS			✓
Caterpillar® Electric Rope Shovel			
7295/BE295			✓
7495/BE495			✓
7495HD			✓
7495HR			✓
7495HF			✓
China® Electric Rope Shovel			
WK35			✓
Hitachi® Hydraulic Excavator			
EX2500/EX2600	✓		
EX3600	✓		
EX5500/EX5600	✓		
EX8000	✓		
Komatsu® Hydraulic Excavator			
PC3000	✓		
PC4000	✓		
PC5500	✓		
PC7000	✓		
PC8000	✓		
Caterpillar® Hydraulic Excavator			
6030/RH120E		✓	
6040/RH170		✓	
6050/RH200	✓	✓	
6060/RH340	✓		
6090/RH400	✓		
Liebherr® Hydraulic Excavator			
R9400	TBA		
R996B	✓	✓	
R9600	TBA	TBA	
R9800	✓	✓	

By focusing on our customers' undercarriage requirements we are able to offer effective, site specific solutions, that provide superior performance with minimal maintenance.



Components are designed, engineered and manufactured to excel in any mining condition, whatever the terrain.



Hard rock



Coal



Oil sands

Extreme Conditions

Bradken's mining products can be found in the harshest regions in the world.

By focusing on our customers' requirements we are able to offer effective, site-specific solutions, employing superior components that minimise the effects of extreme environment conditions.



Extreme Temperature

Bradken's undercarriage components are designed to withstand the extreme mining conditions of the Arctic regions (Russia, Canada, Mongolia and Kazakhstan) where temperatures can drop to -60°C.

Bradken's proprietary alloys and processes maximise impact strength and toughness over a wide range of operating temperatures.

While our alloys ensure reliable performance in extreme temperatures, we also carefully select our lubricants for our range of rollers and idlers.



Extreme Corrosion

Extremely corrosive conditions such as those experienced in sulphurous volcanic geologies, particularly when water combines with volcanic fines to create a corrosive slurry, can adversely affect the life of undercarriage components.

Bradken's precision-machined components and sealed-for-life rollers minimise ingress of detrimental material, and Bradken uses only the highest quality alloys to ensure component durability in corrosive environments.



Extreme Abrasion

The majority of the world's mining regions face abrasive wear due to the quantity and nature of mineral fines on site. Rock dust, combined with water creates an abrasive slurry that plays a significant part in accelerating wear and reducing undercarriage service life.

Bradken's induction hardening processes achieve greater case depth than competitor products, resulting in greater wear life of these components. Our proprietary, through-hardened alloy, offers an alternative unique to Bradken undercarriage products, prolonging shoe life in systems that have sufficient space for interconnecting parts to wear. Finally, all Bradken undercarriage designs are optimised to maximise wear face contact areas, minimising contact pressure and reducing the detrimental effect of abrasive wear.

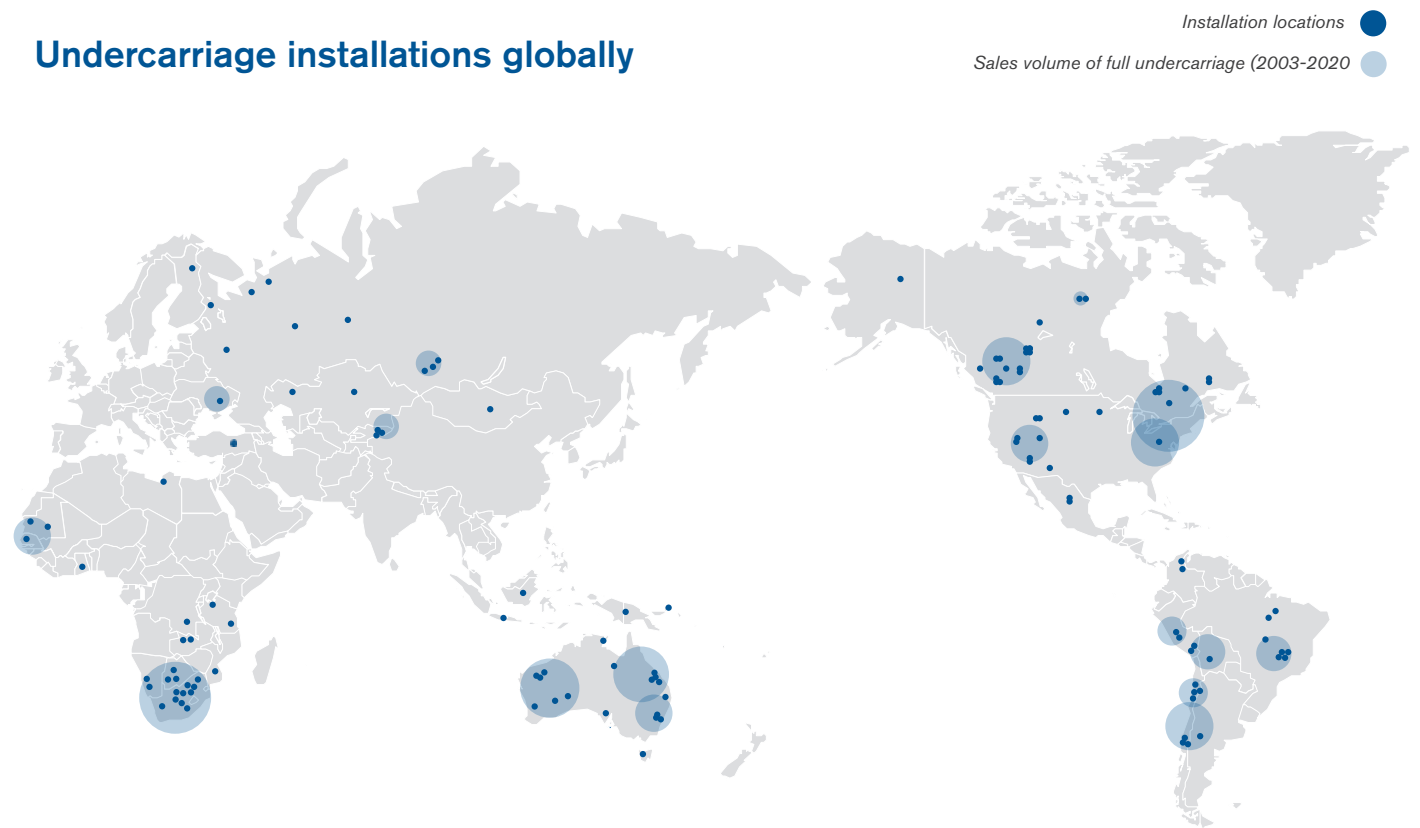
Extreme Ground Conditions

Bradken has experience in undercarriage solutions for high traction and high flotation applications. These can be site specific modifications (at a cost) and can be offered via a consultation process with your local representative.

Global Reach

Over the past 25 years, we've manufactured and supplied more than 200,000 crawler shoes for mining customers worldwide.

Undercarriage installations globally



PC5500 Komatsu

Siberia, Russia
Coal Mine



PC8000 Komatsu

British Columbia
Copper Mine



P&H 4100C

Alberta, Canada
Coal Mine



CAT 7495 HD

Brazil, South America
Hard Rock; Copper Mine



Hitachi EX2500

East Kalimantan, Indonesia
Coal Mine



CAT 6060

West Africa
Hard Rock; Gold Mine



CAT 6040

Queensland, Australia
Coal Mine



Hitachi EX5500

Northern British Columbia
Coal Mine



Komatsu PC5500

Chile, South America
Hard Rock; Copper Mine



P&H 2800 XPB

Ontario, British Columbia
Hard Rock; Copper Mine

Electric Rope Shovel Crawler Shoes

Bradken’s electric rope shovel range of crawler shoes and undercarriage components was developed to provide improved performance.

- **P&H® Electric Rope Shovel** 2800A, 2800XPA, 2800XPB, 2800XPC, 4100A, 4100C, 4100XPB, 4100XPC, 4100WRP, 4100BOSS, 4100DELTA
- **Caterpillar® Electric Rope Shovel** 7295/BE295, 7495/BE495, 7495HD, 7495HR, 7495HF, BE495
- **TZ Electric Rope Shovel** WK35

Reliability

Bradken ERS crawler shoes feature either induction hardened alloy or austenitic manganese steel providing superior wear resistance and increased service life for any mining application.

Machine Availability

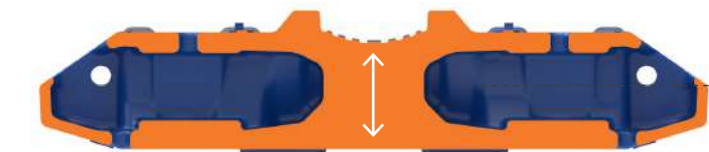
High toughness connecting pins are manufactured from induction hardened NiCrMo steel, resulting in reduced pin failures and unscheduled downtime thus increasing machine availability.

Determined to Perform

At Bradken we are determined to extend your ERS undercarriage to the next milestone. Using new design initiatives like Bradken’s EDH process, or WRP product line, we align our customers’ undercarriages to fit with planned maintenance outages thus reducing the Total Cost of Ownership (TCO) and machine downtime.

OEM and Beyond

Bradken “DRP” crawler shoes are interchangeable with OEM components meaning they can be easily integrated as replacement parts into existing OEM track systems. If exceeding the current OEM offering to increase machine availability and reduce cost is appealing to you, Bradken is ready to develop a customer offering to meet your specific needs.



Bradken Crawler Shoe
Section View

Bradken’s ‘Pillar of Strength’ prevents crushing of the roller path increasing service life



If you purchased an Electric Rope Shovel Undercarriage for P&H or CAT (Bucyrus) machines between 1982 and 2014 it was most likely cast in a Bradken foundry. We take pride in our long-standing history and ownership of our cast track shoe product.

Hydraulic Excavator Crawler Shoes

Bradken's range of Hydraulic Excavator crawler shoes offer significant advantages over traditional designs.

-  **Hitachi® Hydraulic Excavator EX2500/EX2600, EX3600, EX5500/EX5600, EX8000**
-  **Komatsu® Hydraulic Excavator PC3000, PC4000, PC5500, PC7000, PC8000**
-  **Caterpillar® Hydraulic Excavator 6050/RH200, 6060/RH340, 6090/RH400**

Reliability

State of the art design, materials selection and manufacturing processes equate to dependable performance. Even in the worn condition, our shoes are designed to incorporate superior factors of safety, so that overload failure is less likely. This gives users confidence to change parts on condition rather than hours alone.

Machine Availability

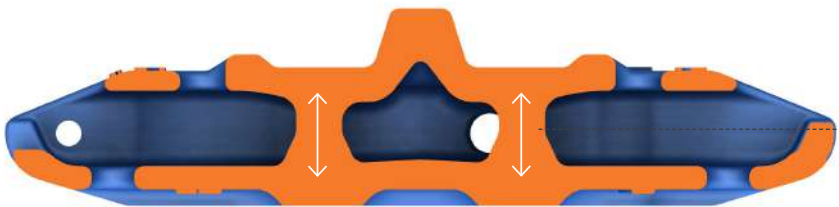
Over the years, mine operations have experienced unscheduled downtime that is related to failure of connecting pins and hardware – even leading to crawler shoe failure. Bradken has applied the same design review principles to these aspects of our products ensuring there is no “Weakest Link”.

Operational Safety

Matched material, hardness and wear surface profiles of the mating components minimise in-field maintenance requirements. Less frequent replacement of components reduces likelihood of safety incident occurring.

OEM Interchangeability and Processes

Bradken's products can be installed with the OEM products and OEM procedures. This is particularly beneficial to help use up existing spares on site and not having to develop and train staff in new installation procedures.



Bradken Crawler Shoe
Section View

Bradken's 'Pillar of Strength' prevents crushing of the roller path thus increasing service life



Hydraulic Excavator Evolution[®] Crawler Shoes

Bradken's innovative Evolution[®] range of induction hardened crawler shoes was developed to overcome the safety and reliability shortfalls of traditional designs for OEM hydraulic excavator platforms.



Caterpillar[®] Hydraulic Excavator 6030/RH120E, 6040/RH170, 6050/RH200

Reliability

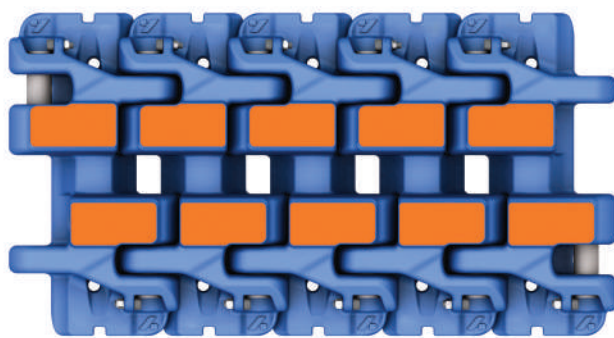
Evolution crawler shoes feature Bradken's 'Continuous Roller Path' that improves contact pressure distribution between the roller and shoe, resulting in reduced metal flow on the shoe roller path, subsequently increasing the service life of mating components.

Increased Performance

Connecting pins are manufactured from induction hardened NiCrMo steel that can withstand high impact loads with increased wear resistance.

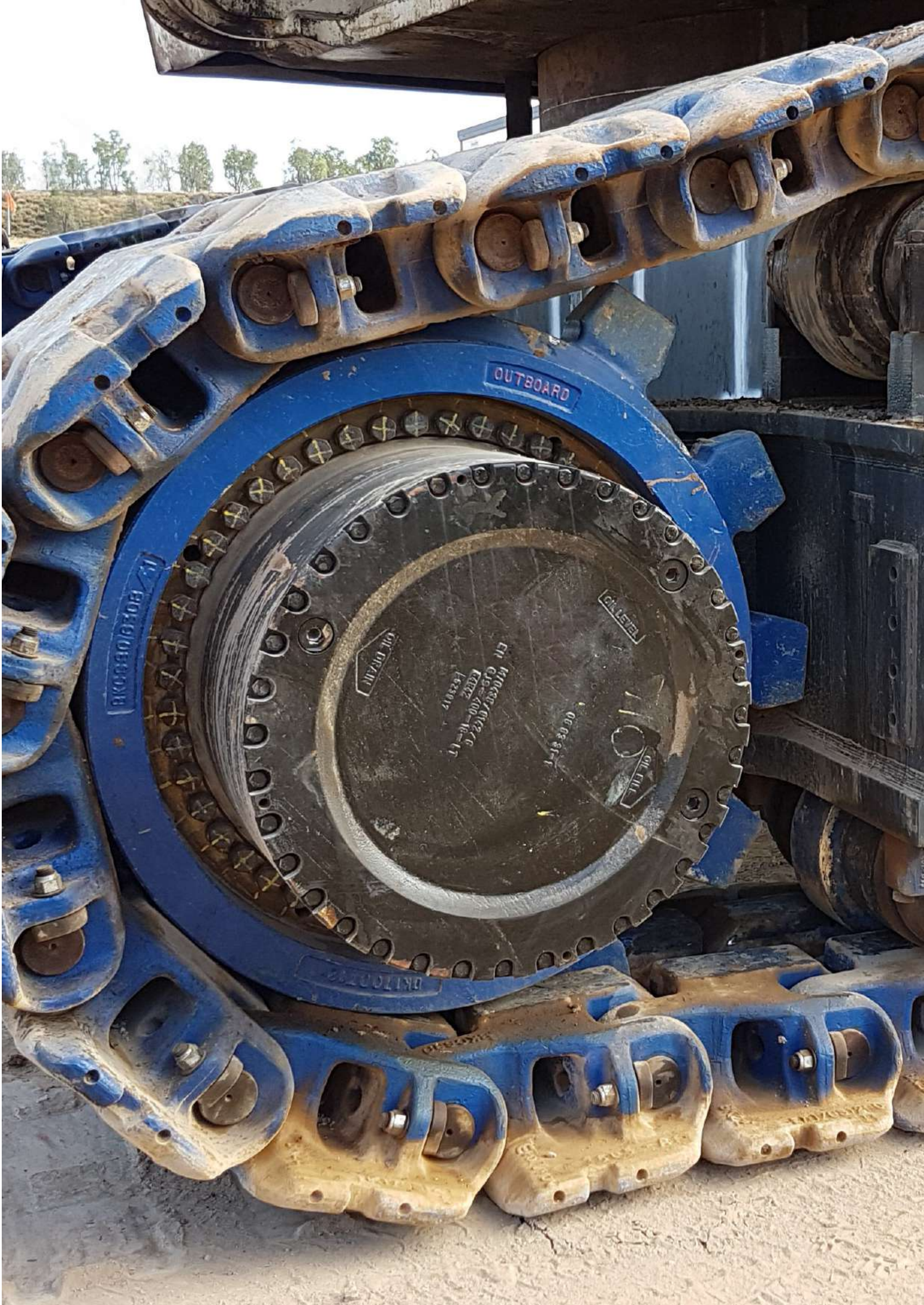
Operational Safety

The simplified nut and bolt retention system negates the need to use retaining plates and circlips (as used in some competitor designs) allowing for easy installation, removal and maintenance which decrease machine down time.



Evolution Crawler Shoe
Top View

Continuous Roller Path reduces pressure between the roller and shoe, reducing wear on the product and extending its service life.



Bradken Materials

Bradken offers an extensive range of superior materials and processes to maximise your undercarriage wear life, no matter the terrain.

Material	Application	Benefits	Conditions
Through Hardened BKC400		- Consistent uniform wear properties throughout entire metal section. - Enables accurate wear prediction.	 Hard rock  Coal  Medium Abrasion
Through Hardened Bushed BKC400	 	- Consistent uniform wear properties throughout entire metal section. Enables accurate wear prediction. - Use at sites with high Pin eye wear (Stretch).	 Hard rock  Coal  Medium Abrasion
Induction Hardened BKCS30	 	- Strong wear properties for life of induction hardened layer. - Tough, ductile core for maximum impact strength.	 Hard rock  Coal  Oil sands  High Abrasion
Induction Hardened Bushed BKCS30	 	- Strong wear properties for life of induction hardened layer. - Tough, ductile core for maximum impact strength. - Use at sites with high Pin eye wear (Stretch).	 Hard rock  Coal  High Abrasion
Austenitic Manganese Steel BK14		Tough work-hardening that arrests the propagation of cracks. Significant hardenability.	 Hard rock  Coal  Medium Abrasion
EDH Austenitic Manganese Steel BK14		- Tough, work-hardening material that arrests the propagation of cracks. Significant hardenability. - Pre-hardened roller path.	 Hard rock  Coal  Medium Abrasion

Undercarriage Components

When you order from us, you are ordering direct from the designer and manufacturer.

Bradken offers an extensive range of undercarriage components including:



Return/Load Rollers
Our rollers feature a one piece shell. This eliminates unscheduled downtime caused by the roller failing due to the shell splitting in half.

The rollers are supplied as a sealed, ready to install unit (including mounting hardware) with the option of oil or a molybube filled lubricant. This means the rollers do not have to be fitted to the autolube system (if it exists). High quality seals, bushes, axles and axle retention systems offer dependable service life.



Front Idlers
Using our detailed understanding of the machine and its operation, the front idler assembly designs are optimised to handle high impact loads and feature improvements to the thrust and bearing surfaces. No modifications are needed to be made to the track frames however we do recommend that any track frame wear is repaired prior to assembly to prevent uneven loading and premature wear.

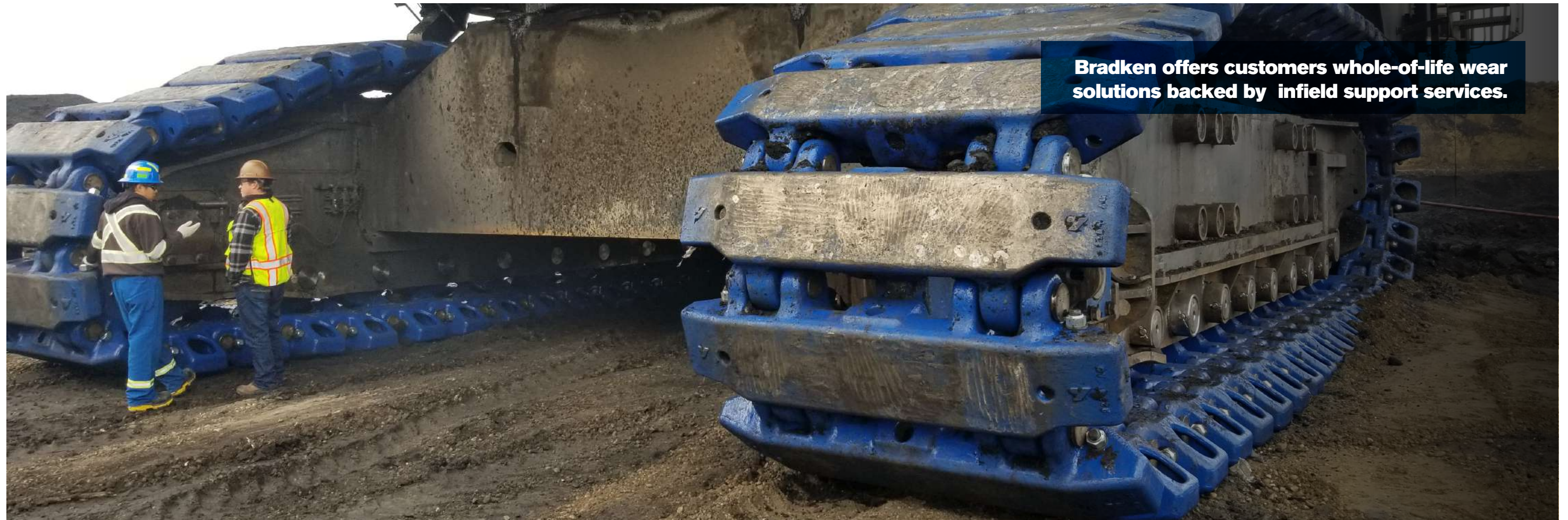


Drive Tumblers
Depending on the platform, Bradken drive tumblers are supplied in either high grade, high quality, induction hardened material or quench & tempered high grade alloy providing increased impact and wear characteristics.

Hardness levels of the wear surfaces are matched to the mating components whilst retaining a ductile core that is able to absorb impact.

CNC machined surfaces and the use of superior quality components ensure that the replacement parts are a consistent fit and are of optimum quality.

Focus on Our Customers



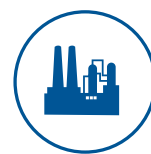
Bradken offers customers whole-of-life wear solutions backed by infield support services.



Design and Engineering

Bradken's highly experienced Product Development Team embraces new technologies that enable us to provide our customers with world-class products. Bradken's solutions help our customers achieve the maximum life expectancy from their undercarriage components, which are safer to install and remove. Typical technologies include:

- FEA – Finite Element Analysis
- Dynamic motion analysis/contact force analysis
- Virtual prototyping
- Solidification simulation
- Fatigue testing



Manufacturing

With nearly 100 years' experience in foundry operations, Bradken's wealth of knowledge and expertise enables us to offer our customers high quality, reliable products that have been designed with an intimate understanding of the casting process.

Our global network of foundry and manufacturing facilities has the capability to produce fully machined products ranging from 0.5 kg (1.1lbs) to 25 tonnes (55,000 lbs), covering the full range of undercarriage parts from 200T hydraulic machines up to 1400T rope shovels.



Wear Monitoring

Just as mining conditions vary from site to site, so do the wear characteristics of undercarriage components.

Bradken's experienced team offers wear monitoring to assist mine operators and contractors to accurately assess component wear and to predict service life.

An understanding of our customers' operational challenges provides Bradken with the knowledge to customise preventative maintenance strategies to extend component service life, and reduce machine downtime.



Support Services

By focusing on our customers' requirements, we are able to offer effective, site specific solutions, employing superior components that provide extended service life with minimal maintenance.

Our focus is to maximise our customers productivity through quality and superior performance while minimising Total Cost of Ownership (TCO).



Visit bradken.com for your local representative.

Our Business Units

Mining Mobile Plant

High-precision wear parts for mobile mining equipment.

Mineral Processing

Customised wear solutions for mills and crushers and fixed plant.

Specialty Products NAM

High-spec, specialty castings for energy, defense and industry.

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Our Innovation. Your Advantage.

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