
Ground Engaging Tools

Wear Parts

LIEBHERR

Mining



Overview



Wide applications range



Innovative design



Easy serviceability



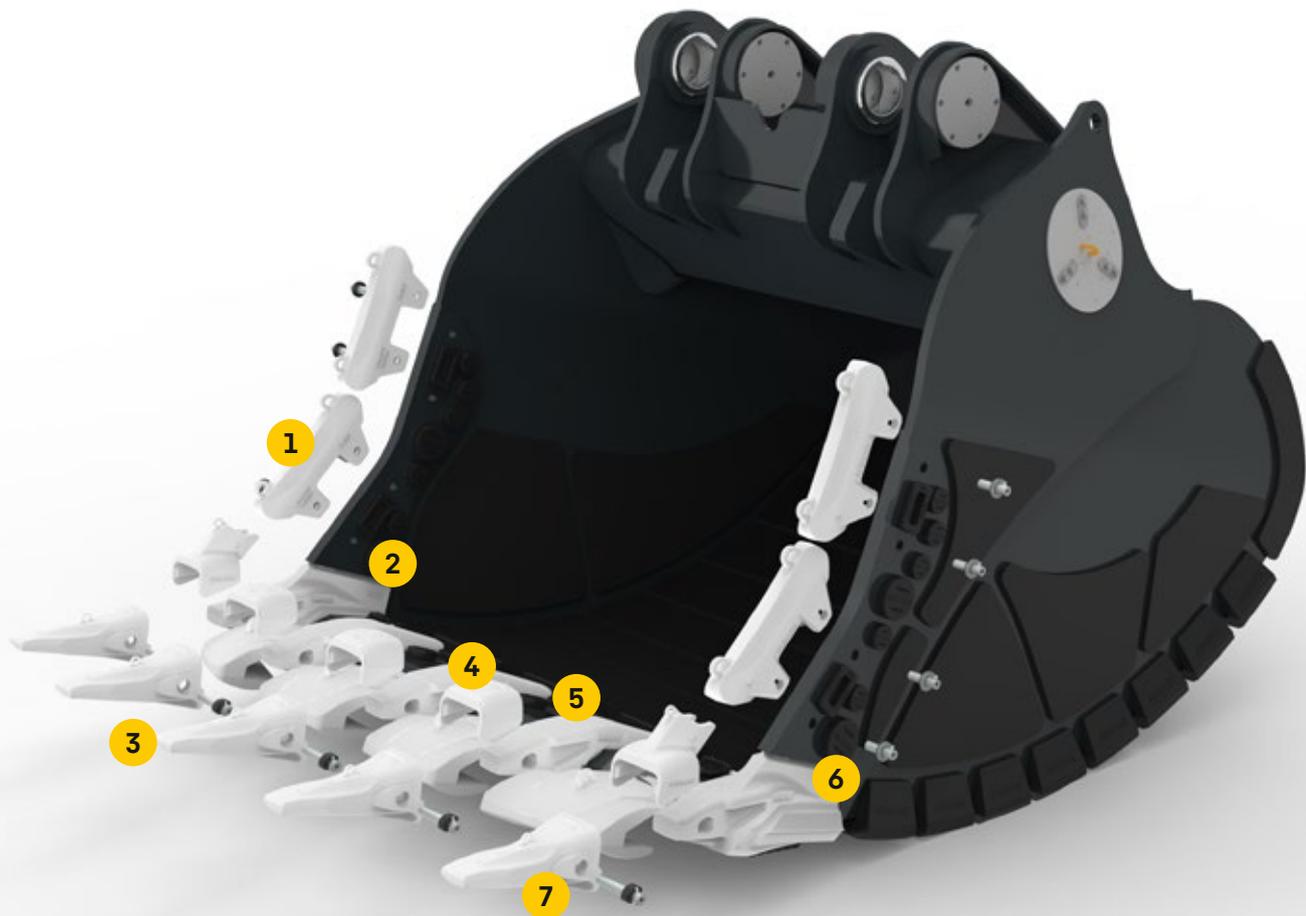
OEM quality and support



Liebherr's Ground Engaging Tools (GET) have been designed to complement both backhoe and face shovel buckets for 100- to 400-tonne mining excavators. The optimised design of the GET components – including teeth, adapters, shrouds, and side cutters – enable easy material penetration while also extending the life of the bucket, resulting in improved efficiency and productivity of mining operations.

GET wear parts

1. **Wing shroud:** to optimise wear life and reduce the number of parts needed in the customer's onsite inventory, Liebherr designed symmetrical wing shrouds that are fully interchangeable from top to bottom, left to right.
2. **Corner wear cap:** the corner wear caps are designed to offer optimised protection on corner adapters, bucket sidewall, and lower wing shrouds and do not require any welding or locking device as they are slipped on the adapter and locked by the tooth.
3. **Teeth:** the size and profile of the self-sharpening teeth were designed to optimise ground penetration, service life, and wear ratio.
4. **Lip shroud:** the lip shrouds are fully in line with adapters and teeth for maximum frontal contact, improving penetration and reducing stress on the lip.
5. **Wear cap:** designed to optimise the adapters' protection and does not require welding or any locking device.
6. **Adapters:** Liebherr developed centre and corner adapters that are perfectly balanced in terms of weight and resistance to breakout force.
7. **Locking device:** to reduce tooling, the teeth, shrouds, and wing shrouds are equipped with a single locking system that requires only one extraction tool.



Tooth sizes

Liebherr GET offers versatility with four different sizes, making them compatible with a range of mining backhoe and face shovel excavators, from R 9100 up to R 9400. This flexibility empowers customers to select the ideal teeth for specific mining applications, providing them with versatile options.

Size	Z100		Z110			Z120			Z140											
Bucket wear package	HD	XHD	GP	HD	XHD	GP	HD	XHD	GP	HD	XHD	GP	HD	XHD	GP	HD	XHD	GP	HD	XHD
Excavator	R 9100		R 9150			R 9200			R 9250			R 9300			R 9350			R 9400		
Lip thickness	100 mm					120 mm			140 mm											

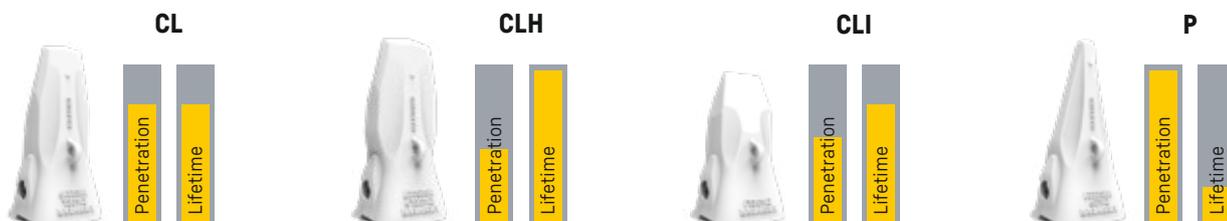
GP – General Purpose
 HD – Heavy Duty
 XHD – Heavy Duty Rock

Tooth profiles

The Z tooth system is an innovative, and patented tooth system from Liebherr. It consists of the tooth adapter, tooth, securing bolt with a locking arrangement, and a protective plug. All that is required to replace the tooth is the lock spanner – a single and easy-to-carry double sided extraction tool designed by Liebherr to match the complete range of tooth sizes.

The Z tooth system is available in four profiles to cover an extensive range of application types, from well-blasted material to very hard ground mine sites.

Digging condition	Abrasive		
	Slightly abrasive	Abrasive	Highly abrasive
Soft	CL	CL	CLH
Medium	CL	CL	CLH
Hard	CLI	CL	CLH
Compact / frozen	CLI/P	CL/CLI	CLH





CL profile

The long, pointed shape provides a sharp cutting edge for superior penetration into surfaces of differing hardness – from rocky and blasted material to medium compacted ground.



CLH profile

The CLH design guarantees optimal penetration and extended lifetime in highly abrasive application.



CLI profile

The CLI tooth profile offers better service life in hard and non-abrasive applications while maintaining optimal penetration. A short but sharp tooth reduces the lever arm and thus the stress on the equipment.



P profile

The pointed shape offers optimal penetration for very hard and compacted ground applications.

Single locking system

To increase machine's uptime and reduce tooling to one unique extraction tool, the teeth, shrouds and wing shrouds are equipped with one single locking system. In addition, the wear cap does not require any locking system as it is slipped on the adapter and locked by the tooth. Instead, the wear caps can be locked in place by the tooth and adapter.



Key benefits

Easy maintenance: single locking system simplifies GET maintenance, eliminating the need for specialised tools or training and simplifying inventory management.

Reduced downtime: interchangeable parts enable easier maintenance, reducing machine downtime and enhancing efficiency.

Innovative design



Wear tooth design

Liebherr Mining's GET teeth demonstrate exceptional material wear efficiency, resulting in extended lifetime and enhanced durability. These teeth are specifically engineered to withstand high wear environments, ensuring they resist premature wearing and maintain their effectiveness over an extended period of time.

Self-sharpening tooth design

The unique design of the teeth allows them to maintain a sharp point throughout their life, resulting in the improved penetration capabilities of worn teeth and reduced cost per tonne.

Key benefits

Extended lifetime: outstanding durability in all conditions

Long lasting performance: self sharpening tooth design enables optimal penetration and high fill factor over the teeth lifetime

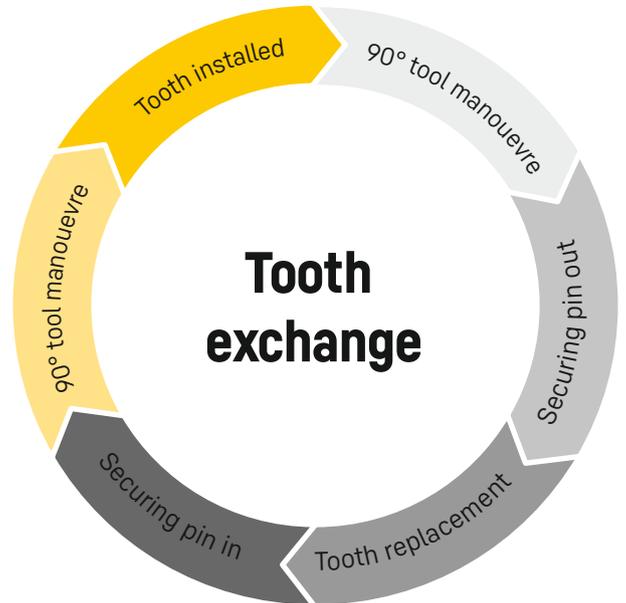
Easy serviceability

Hammerless system

Lock spanner is a single and easy double sided extraction tool designed by Liebherr to match complete range of tooth sizes.



The lock spanner in action



1. Unlock the securing pin with the locking spanner.



2. Remove the securing pin from the mounting.



3. Draw the worn tooth from the tooth adapter.

The wear cap and corner wear cap are slipped onto the adaptors and locked by the teeth. As such, these protectors need to be positioned before the teeth are assembled.



4. Slide the new tooth onto the tooth adapter.



5. Slide the securing pin into the mounting.



6. Lock the securing pin with the locking spanner.

The lip and wing shrouds are attached with one locking system; the exchange procedure remains the same and no other tools are required.

The Z tooth system consists of tooth adapter, tooth securing bolt with a locking arrangement, and a protective plug. All that is required to replace the tooth is a lock spanner.

Key benefits

Enhanced safety: hammerless system prevents from risks of manipulation and projection

Reduced downtime: one single tool required for replacement operation

Why Liebherr?

The philosophy of excellence

As an OEM service provider, Liebherr delivers an innovative GET solution that complies with Liebherr's four pillars philosophy of performance, safety, service, and sustainability, which leads to reduced owning and operating costs.

Liebherr's relentless desire to innovate combined with the longstanding tradition of high-quality product manufacture, has enabled Liebherr to produce the class standard in wear resistance. In collaboration with customers, Liebherr GET undergoes intensive factory and field testing program to diagnose technical constraints that might occur in severe environment. The reliability of Liebherr's field testing program relies on repeatability and consistency, giving the highest possible product value.



Performance

Designed for tough applications



Service

Inspect, recommend, and plan



Safety

Truly hammerless system



Sustainability

Optimised wear life ratio



Shop online



Connect to our MyLiebherr Portal to access our product range and to benefit from our worldwide support teams in your country.

www.myliebherr.com

Worldwide support and assistance

Liebherr offers comprehensive customer support in over 20 countries, going beyond manufacturing GETs by providing inspections, repair services, and customer assistance tailored to unique site conditions, maintenance practices, and operational goals.

