QLOK

PATENTED

Intellectual Property
of Q-Lok

KOTRACK

Head Office
5th floor, 421, Hwarang-ro, Nowon-go, Seoul, Korea
TEL. +82-2-3296-5527 **Email.** nick@kotrack.com

Kotrack Machinery Indonesia (Jakarta)
Signature Park Grande, Unit CTC/L1/03 Jl. MT Haryono Kav.20
Cawang - Kramat Jati Jakarta Timur 13630
TEL. +62 21 22049531 **Email.** marketing@kotrack.co.id

Kotrack Machinery Indonesia (Balikpapan)
Jl. Mulawarman, RT.41/RW.No.68, Manggar, Kec.
Balikpapan Timur, Kota Balikpapan, Kalimantan Timur, 76116
TEL. +62 811-5422-088 **Email.** sales.admbpn@kotrack.com

Factory
138, Janggogae-ro, Seo-gu, Incheon
www.kotrack.com

QLOK

MEMO

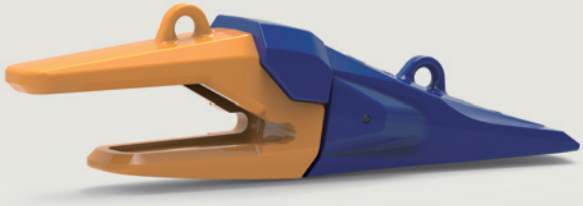
KOTRACK

Introduction to Q-Lok System

Innovative GET System of Q-Lok

KOTRACK has produced GET for construction and mining equipment for decades.
We have built and maintained trustworthy customer relationships with the world's biggest companies.

KOTRACK is now proudly introducing our own designed GET with hammerless locking system, Q-Lok.



Q-Lok System Features

Advantage of Q-Lok	Profit to Customer
Hammerless Locking System Easy & Safe : No Hammers Required Reliable Reusable Locking Parts	Reduce Down Time
Q-Lok Superior Materials High Wear Resistance High Impact Strength Excellent Durability	Reduce Maintenance Cost
Optimum Shape Design Offering Various Options Improving Work Efficiency Extending Wear Life	Improve Machine Productivity

Simple & Safe

Lateral pin makes hammerless locking system more simple & safe.
▶ Just 90 degree turn only

Stable & Robust

Free from vibration and external impact while in use
Locking Pins : Wear resistance material, re-usable for multiple times

Optimization

Minimize fitting volume, maximize workability, reduce weight, extend life time, and keep stable connection
(Verified by CAE Simulation and field tests)

Efficient & Durable

Optimized Design : Suitable for various working conditions
Penetration : Keeps its geometry, Improves operational efficiency
(PP, SP, SC, DS)
Abrasion : Worn out uniformly throughout the life time(HD, RC, AB)

Strong & Tough

Well balanced between impact strength and hardness for quality consistency

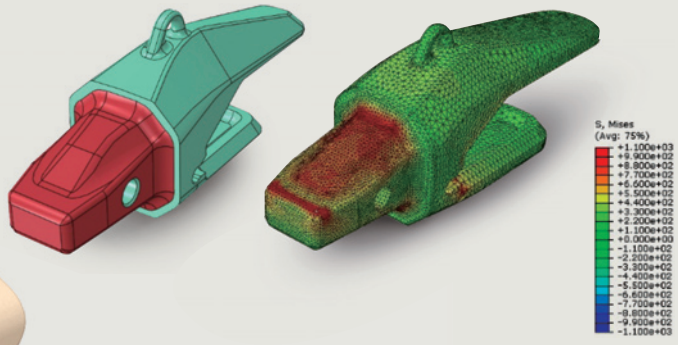
Innovative Hammerless Locking System

Locking System Mechanism

- Hammerless locking system makes working environment safe & convenient
- The primary part of locking is a pin that can be used multiple times
- No special tool is required, only general square head wrench is needed
- Once locked up, a locking mechanism is stable and free from vibration and force of impact.
  (Confirmed by thousands hours of field tests)

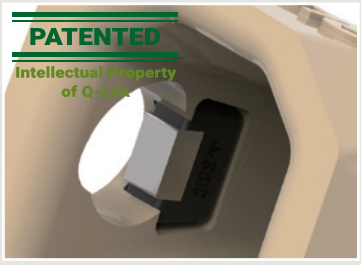
Volume Optimized Design

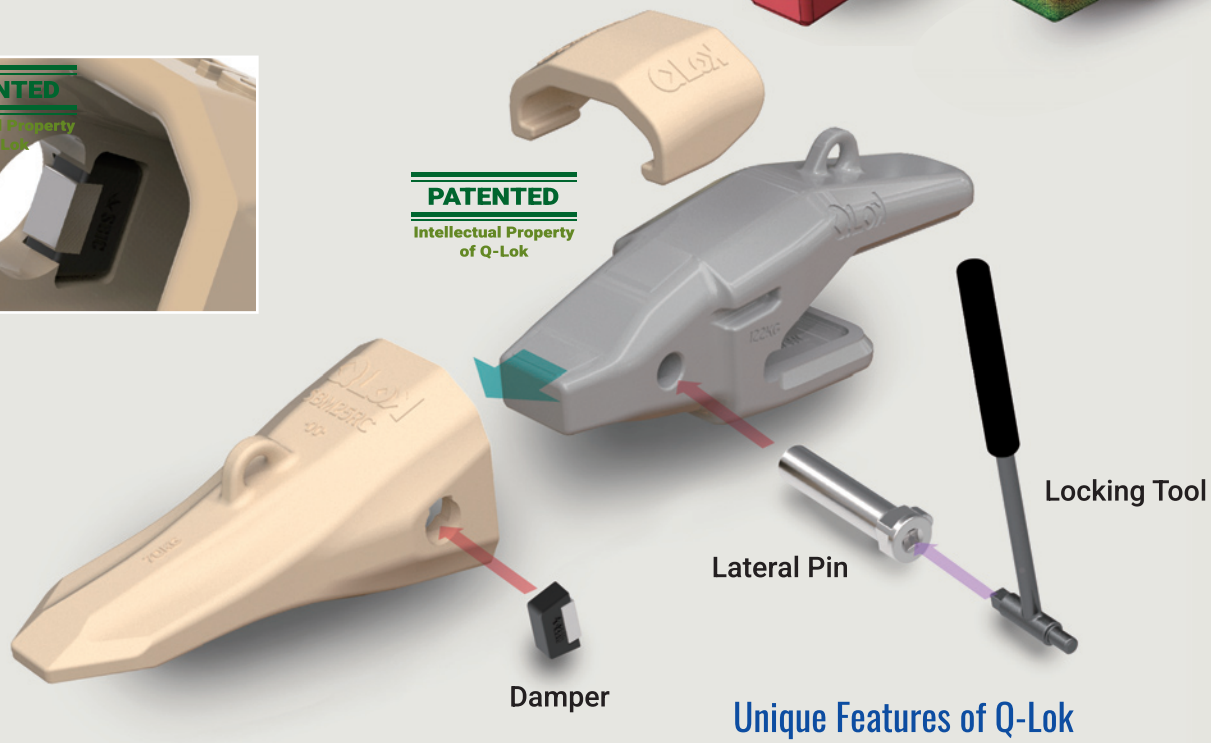
- Q-Lok's innovative assembly design
- Internal volume optimized & External volume maximized
- Structural Robustness is proved by CAE analysis & field tests



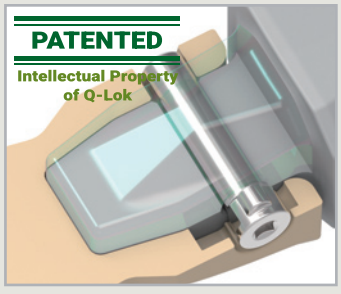
System Configuration

A

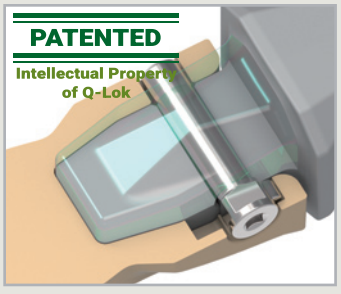




Locking Mechanism



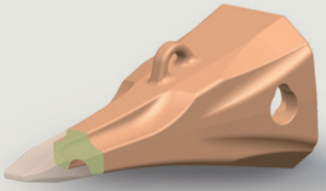
Unlock



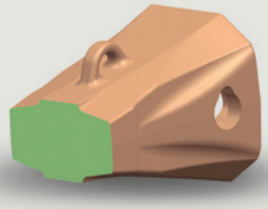
Lock

Unique Features of Q-Lok

- Contact surface is designed to be adequate at work fields
- Satisfying both efficiency and maximum wear life
- Q-Lok keeps its penetration ability by its self sharpening design(SP)
- Optimized volume to keep its original shape while in use(HD)



SP(Spike)



HD(Heavy Duty)

Design & Styling

Tooth Option

GD
General Duty

General purpose

HD
Heavy Duty

Improved wear-life, tough working condition

RC
Rock Chisel

Excellent Penetration, improved wear life

AB
Abrasion

Improved wear-life, excellent abrasion resistance material at the bottom

SP
Spike

Max penetration, suitable for coal mining Best performance at the center position

SC
Spike Coal

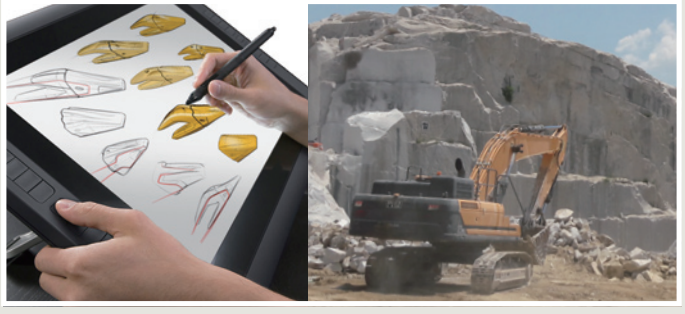
Penetration with durability, suitable for coal mining best performance

PP
Penetration Plus

Self sharrpening design, excellent penetration

DS
Double Spike

Max penetration, suitable for coal mining Best performance at the corner position



Advanced Materials

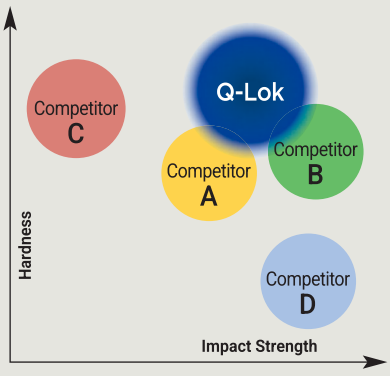
Longer Wear Life

- Q-Lok's distinctive material (Balancing hardness & impact strength)
- Superior quality material for wear resistance and shock resistance
- Casting quality consistency is guaranteed
- Actual data collected from various tests in fields proves superior quality comparing our products to others

Mechanical Properties : TS, YS, El, Hardness, CVN
Wear Resistance : Sand Abrasion Test(ASTM G65)

SA510 / Tooth, Shroud

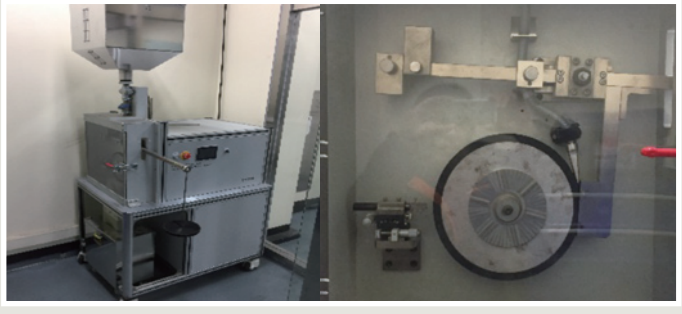
Best hardenability.
Well balanced high hardness value for wear resistance and impact strength for system robustness



Material Mechanical Properties Comparison: Q-Lok vs. Competitors

SA410/ Adapter, Heel Shroud

Alloy design with improved weldability and shock resistance



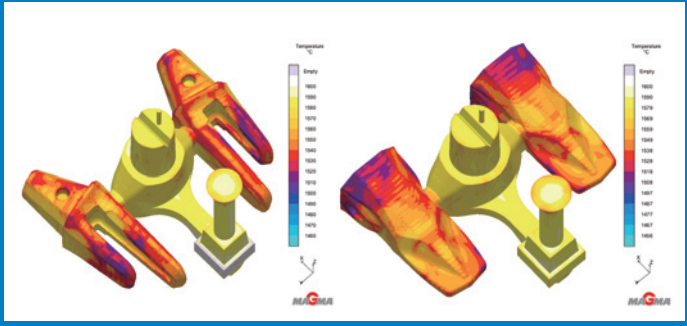
▲ ASTM G65
Sand Abrasion Test

Manufacturing

Manufacturing

KOTRACK is specialized in GET with accumulated knowhow for decades.
Global top tier customers have recognized our remarkable production and quality management systems. The quality consistency is strictly monitored and controlled to supply the best products.

Pattern design based on Casting Simulation



Casting Manufacturing & Heat Treatment

Quality Management & Assurance

Advanced Performance

Field Test

Test Case 1

- Work Site : Finland
- Site Condition : Quarry (Granite)
- Work Mode : Loading
- Machine Grade : 50 Ton / CAT

Test Result

- Longer life time proven in a harsh working environment.

	Workload (ton)	**Operation Time** (hr)
Q-Lok	52,000	320
Competitors	40,000	240

※ 30% more efficient than competitors

- Reliability & reusability of Locking System

Test Case 2

- Work Site : Korea
- Site Condition : Quarry(Granite)
- Work Mode : Loading
- Machine Grade : 80 Ton / Hyundai

Test Result

- Longer life time proven in a harsh working environment.

	Operation Time
Q-Lok	7 weeks
Competitors	4 weeks

※ 60% more efficient than competitors

- Reliability & reusability of Locking System

Advanced Performance

Test Case 3

- Work Site : Halmahera, Indonesia
- Site Condition : Rocky Digging(Nickel)
- Work Mode : Loading
- Machine Grade : 40 Ton / Hitachi

Test Result

- Longer life time proven in a harsh working environment.

	Workload (ton)	Operation Time (hr)
Q-Lok	875	
Competitors	120	

※ 629% more efficient than competitors

- Reliability & reusability of Locking System

Test Case 4

- Work Site : Muara Bungo, Indonesia
- Site Condition : Overburden (Coal)
- Work Mode : Loading
- Machine Grade : 40 Ton / Komatsu

Test Result

- Longer life time proven in a harsh working environment.

	Workload (ton)	Operation Time (hr)
Q-Lok	424	
Competitors	250	

※ 70% more efficient than competitors

- Reliability & reusability of Locking System

Test Case 5

- Work Site : Sorowako, Indonesia
- Site Condition : Rocky Digging(Nickel)
- Work Mode : Loading
- Machine Grade : 200 Ton / Hitachi

Test Result

- Longer life time proven in a harsh working environment.

	Workload (ton)	Operation Time (hr)
Q-Lok	346	
Competitors	200	

※ 70% more efficient than competitors

- Reliability & reusability of Locking System

Test Case 6

- Work Site : Bengalon, Indonesia
- Site Condition : Overburden (Coal)
- Work Mode : Loading
- Machine Grade : 250 Ton / Hitachi

Test Result

- Longer life time proven in a harsh working environment.

	Workload (ton)	Operation Time (hr)
Q-Lok	564	
Competitors	300	

※ 90% more efficient than competitors

- Reliability & reusability of Locking System

Advanced Performance

Test Case 7

- Work Site : Muara Enim
- Site Condition : Overburden (Coal)
- Work Mode : Loading
- Machine Grade : 200 Ton / Komatsu

Test Result

- Longer life time proven in a harsh working environment.

	Workload (ton)	**Operation Time** (hr)
Q-Lok	1,342	
Competitors	600	

※ 128% more efficient than competitors

- Reliability & reusability of Locking System

Test Case 8

- Work Site : Tanjung Adaro, Indonesia
- Site Condition : Overburden (Coal)
- Work Mode : Loading
- Machine Grade : 200 Ton / Liebherr

Test Result

- Longer life time proven in a harsh working environment.

	Workload (ton)	**Operation Time** (hr)
Q-Lok	945	
Competitors	500	

※ 89% more efficient than competitors

- Reliability & reusability of Locking System

Test Case 9

- Work Site : Tabang, Indonesia
- Site Condition : Overburden (Coal)
- Work Mode : Loading
- Machine Grade : 120 Ton / Komatsu

Test Result

- Longer life time proven in a harsh working environment.

	Workload (ton)	**Operation Time** (hr)
Q-Lok	641	
Competitors	400	

※ 60% more efficient than competitors

- Reliability & reusability of Locking System

Test Case 10

- Work Site : Muara Teweh, Indonesia
- Site Condition : Overburden (Coal)
- Work Mode : Loading
- Machine Grade : 120 Ton / CAT

Test Result

- Longer life time proven in a harsh working environment.

	Workload (ton)	**Operation Time** (hr)
Q-Lok	530	
Competitors	300	

※ 77% more efficient than competitors

- Reliability & reusability of Locking System

Q-Lok System For Construction

Tooth

▸▸▸ GD
General Duty

▸▸▸ HD
Heavy Duty

▸▸▸ RC
Rock Chisel

▸▸▸ AB
Abrasion

▸▸▸ PP
Penetration Plus

▸▸▸ SC
Spike Coal

▸▸▸ SP
Spike Coal

▸▸▸ DS
Double Spike

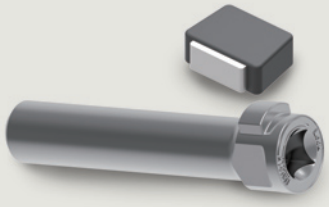
Adapter

▸▸ STDCE
General Duty

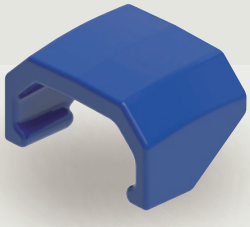
▸▸ STDL
▸▸ STDR
Corner AD(L)
Corner AD(R)

▸▸ WC AD
Wear cap AD

Locking Parts

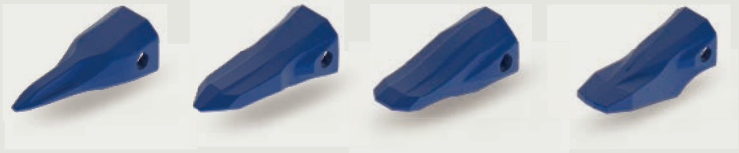


Wear Cap



Q-Lok System For Mining

Tooth



▸▸▸ PP
Penetration Plus

▸▸▸ RC
Rock Chisel

▸▸▸ HD
Heavy Duty

▸▸▸ AB
Abrasion

Shroud

▸▸ LIP
Lip Shroud

▸▸ Wing
Wing Shroud

▸▸HEEL
Heel Shroud

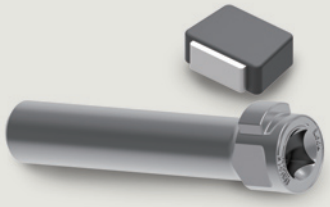
Adapter

▸▸ STDCE
Center AD

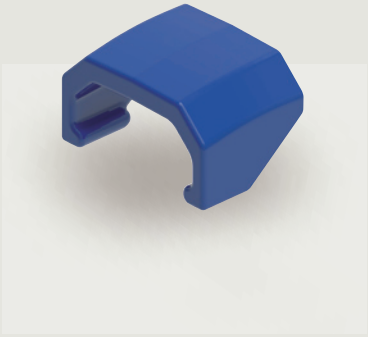
▸▸ WC AD
Wear cap AD

▸▸ CCL
▸▸ CCR
Cast Corner AD(L)
Cast Corner AD(R)

Locking Parts



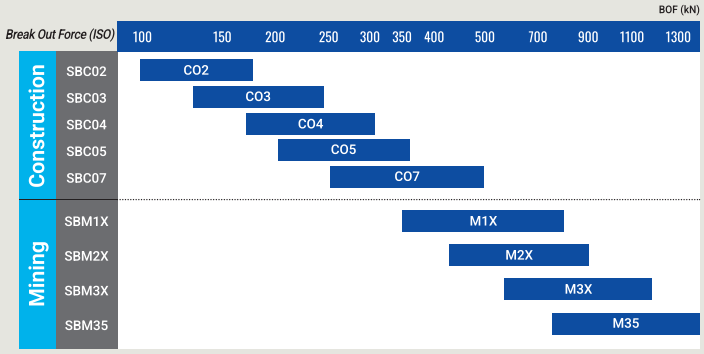
Wear Cap



GET Selection Guide

1. Size Selection

- For Construction / SBC02, SBC03, SBC04, SBE05, SBC07
- For Mining / SBM1X, SBM2X, SBM3X, SBM35



2. Bucket Option (Adapter)

- Lip Edge Configuration : 30˚, 90˚
- Lip Thickness : 30 ~ 140mm
- Wear Cap :
  SBC07, SBM1X ~ SBM35
- Corner Type(for Mining) :
  Cast Corner, Straddle

Tooth Selection (Work Mode Option)

▶ Trenching Application

Penetration \ Abrasion			
Penetration Plus	Spike Double Spike	Spike & Double Spike Rock Chisel	Rock Chsel
General Duty	Penetration Plus Heavy Duty	Heavy Duty	Rock Chsel
	Heavy Duty	Heavy Duty	Heavy Duty

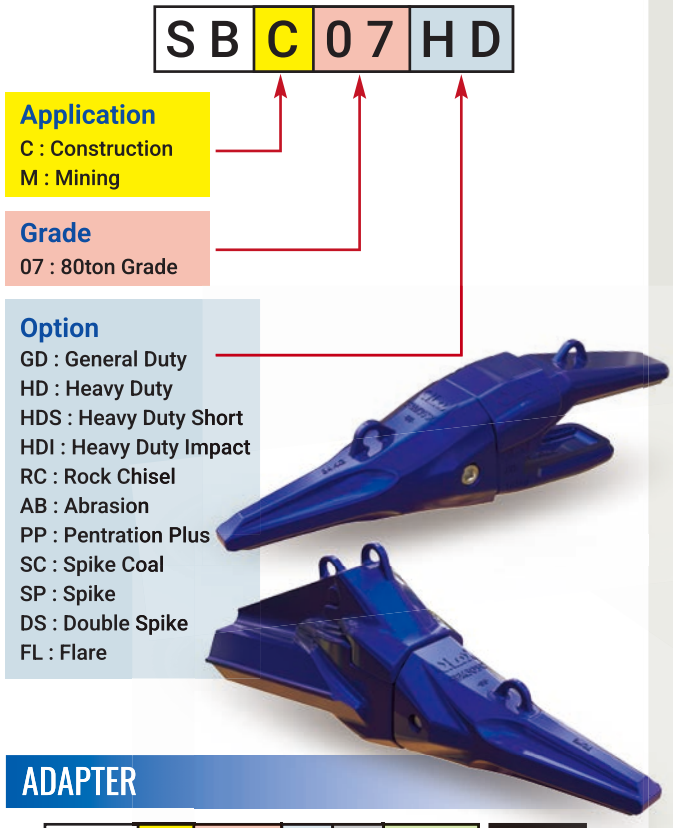
▶ Loading Application

Penetration \ Abrasion			
Penetration Plus	Penetration Plus General Duty	Rock Chsel	Rock Chsel
General Duty	Penetration Plus Heavy Duty	Penetration Plus Heavy Duty	Rock Chsel Heavy Duty
	Heavy Duty	Heavy Duty	Abrasion

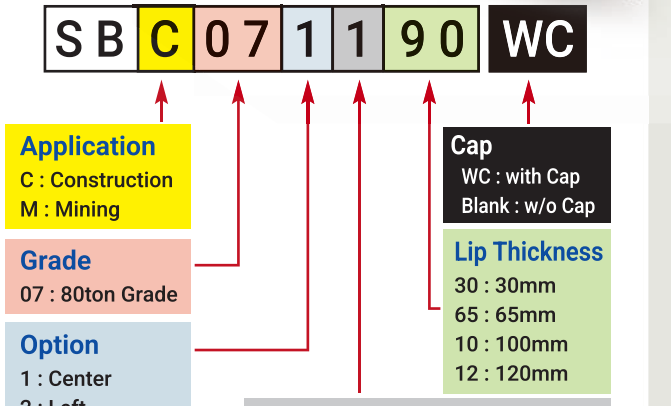
* Please use Q-Lok Numbering System as a refence(P18)

Q-Lok Numbering System

Tip



ADAPTER



Type 2

Code	Machine Type	Nose Angle	Ramp Angle
1	Excavator	10	30
2	Loader	15	30
3	Excavator	10	90
4	Loader	15	22-25