



OBJECTIVE

To offer products and services that maximize the activity and productivity of the machines, providing profitability, reliable and safe bucket protection systems for the mines.



Proven reliability

MTG offers reliable and safe hammerless locking systems that provide excellent retention, minimizing the loss of teeth and offering the maximum safety to prevent operational breakages.



Safety

MTG provides comprehensive bucket protection systems, with entirely hammerless systems, which prevent accidents that may be caused by hammering or flying metal particles. Using MTG products is synonymous with safety, quick and easy replacement of teeth, adapters and shrouds.



Reducing costs

MTG products have been designed to guarantee an efficient wearing of all parts and are manufactured using the highest quality steel. This combination of design and raw materials have resulted in a longer life service of the parts, thus maximizing the operating time of the machines and generating an important reduction in the cost per ton of extracted material.



Personalized team of technical engineers

A specialized team of technical engineers at G.E.T. supervise, record and analyze all the data obtained from the wear process. This information will help the technical team recommend changing some of the wear parts and find the most suitable design based on the ground and working conditions.

EXCAVATORS

100 - 120 TON

CAT⁽¹⁾ 6015 RH⁽¹⁾ 40 EX⁽¹⁾ 1200 - 6 PC⁽¹⁾ 1250 **170 - 200 TON 280 -** CAT⁽¹⁾ 6015 CAT⁽¹⁾

CAT⁽¹⁾ 6018 RH⁽¹⁾ 90 EX⁽¹⁾ 1900 - 6 PC⁽¹⁾ 2000 280 - 350 TON

CAT⁽¹⁾ 6030 RH⁽¹⁾ 120 EX⁽¹⁾ 2600 - 6 EX⁽¹⁾ 3600 OVER 350 TON

EX⁽¹⁾ 5500 CAT⁽¹⁾ 6050 CAT⁽¹⁾ 6060 RH⁽¹⁾ 200 RH⁽¹⁾ 340 PC⁽¹⁾ 5500



LOADERS

95 - 110 TON 130 - 145 TON

CAT⁽¹⁾ 992 WA⁽¹⁾ 800 WA⁽¹⁾ 900 LT⁽¹⁾ - 950 ...

CAT⁽¹⁾ 993 LT⁽¹⁾ -1150 180 - 220 TON

CAT⁽¹⁾ 994 WA⁽¹⁾ 1200 LT⁽¹⁾ - 1350 **240 - 250 TON** LT⁽¹⁾ - 1850 LT⁽¹⁾ - 2350



ELECTRIC ROPE SHOVELS

P&H^[1] 2800

CAT^[1] 7395 (BE395)

P&H^[1] 4100 CAT^[1] 7495 (BE495)



BULLDOZER

SIZE 45 SIZE 50

CATERPILLAR^[1]

CATERPILLAR⁽¹⁾

D10R

KOMATSU⁽¹⁾ D155AX - 5B

D8T

KOMATSU⁽¹⁾ D375A - 5 **KOMATSU**⁽¹⁾ D475A - 5

D11N

SIZE 55

CATERPILLAR[1]



UNDERGROUND MINING LOADERS

LHD LOADERS

CATERPILLAR⁽¹⁾
R1300, R1600, R1700

LT1050

SANDVIK⁽¹⁾ **ATLAS COPCO**⁽¹⁾ LH307 AND LH410 ST10, ST14, ST1510

NOTE: Examples of the most common machines.



















Visit mtgsystems.com or use our MTG Pro app (for iOS and Android) to configure your machine.

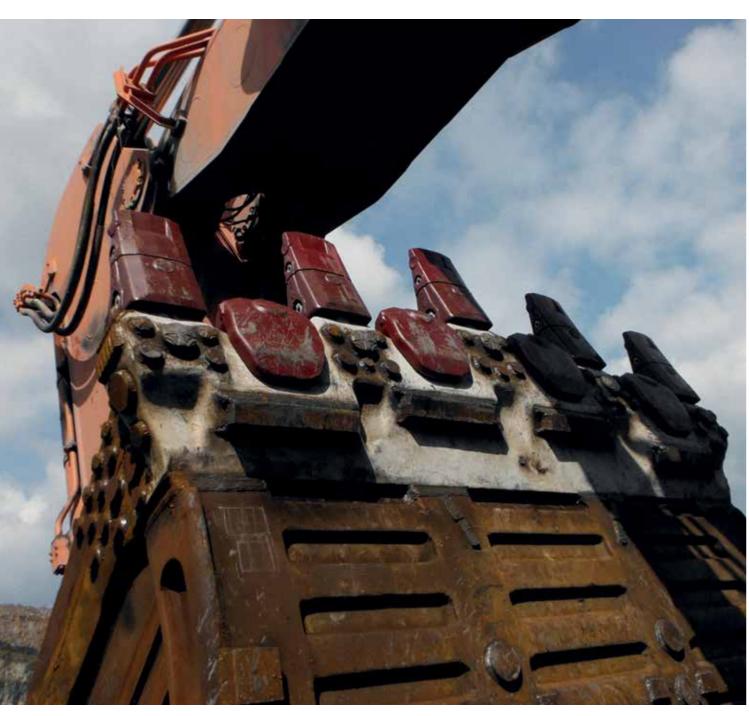


NEW MTG SYSTEMS TWINMET

MTG Systems TwinMet is an innovative three-part system (tooth - intermediate adapter - nose) for large mining machines.



Hydraulic Excavators over 350 tonnes.

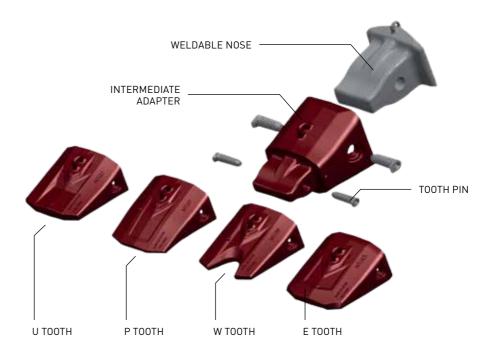


TWINMET ADVANTAGES

Robustness, reliability and optimization

- The design of the nose offers greater robustness to the system and more resistance in maximum tension areas.
- The large stabilization areas improve contact between parts and reduce stress.
- The fitting system allows load stresses and traction to be reduced.
- Horizontal stabilization in multiple axes leads to increased system reliability.
- Optimal adjustment between parts reduces their wear.

- Hammerless locking system: Conical pin makes assembly and disassembly of the parts easy.
- Optimum tooth box design that allows an increased wear material ratio.
- Tooth designs specific for different applications that offer a high penetration capacity and are self-sharpening.



MTGTWIST HAMMERLESS LOCKING SYSTEM

1. Lateral pins to attach the adapter to the nose. 2. Lateral pins to attach the tooth to the intermediate adapter.



MTG SYSTEMS STARMET

Hammerless tooth-adapter system for mining that offers optimized, robust and resistant designs for excavators and loaders.



Mining Excavator.



Mining Loader.



> STARMET ADVANTAGES

Increased safety, longer wear life, higher productivity and greater savings

MTG Systems StarMet includes the MTGtwist tooth-adapter locking solution, which provides:

- **Safety.** There is no chance of accidents being caused by impacts or flying metal particles.
- **Comfort.** Less effort is required when replacing teeth, compared to when a hammer is used.
- Ease of use. Only one operator is needed to replace the tooth.
- Greater safety in the locking device. Tested system that offers an excellent retention and prevents tooth loss. MTGtwist hammerless locking system.

Teeth

• Optimized designs that are more penetrating, selfsharpening and have a greater ratio of wear material, which allows increased machine productivity.

Adapter

 Optimized designs that protect the weld and from lower and lateral wear and tear, increasing the wear life of the adapter. Allow reductions in the number and length of stops, generating savings in maintenance downtimes.

Fitting system

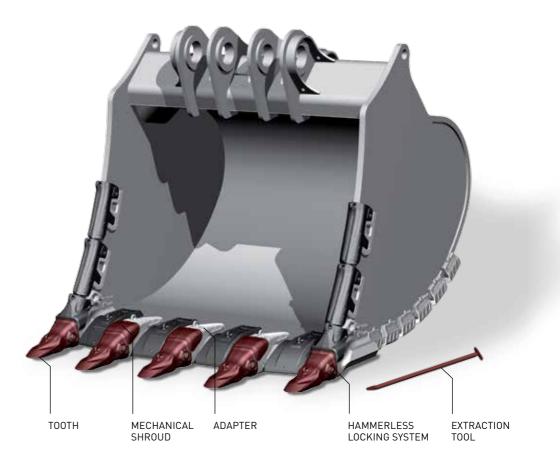
• Designed to provide an optimal distribution of the forces, thus obtaining the maximum resistance and robustness.

MTGtwist locking system

 The MTGtwist hammerless locking solution facilitates the assembly and disassembly, reducing the machine's downtime. In normal working conditions, the pin can be reused at least twice.

Wear parts manufactured using MTG Steels

• They last longer and break less.





MTGTWIST LATERAL LOCKING SYSTEM

- 1. Hammerless conical pin for an easier extraction.
- 2. Standard shaped square hole.
- 3. MTGtwist retainer made of Elastomet and polyurethane.
- Plug to prevent the square hole becoming filled with soil, saving cleaning time during disassembly.



LATEST MTG STARMET RELEASES



M-A design.Mechanical shroud.

NEW MECHANICAL SHROUD FOR EXTREME AND HIGH IMPACT APPLICATIONS

For sizes 120 to 500, the top zone and the radius of the workpiece have been reinforced, providing more wear material, and ensuring maximum strength and protection for the adapter.



WL/WR designs.Asymmetrical Cast Corner.

ASYMMETRICAL CAST CORNER ADAPTERS

Designed to withstand the harshest working conditions. Available for sizes 120,180, 240 and 500. Full range of StarMet side adapters for working in all types of applications.



HD-A design.Reinforced wear bottom leg shroud.

REINFORCED WEAR BOTTOM LEG SHROUDS

Designed to extend the wear life of the adapter in abrasive applications. Available StarMet adapter sizes 120, 180, 240 and 500.



WS design. Side straddle adapter.

SIDE STRADDLE ADAPTER

Scissor-type size 180 StarMet adapter for bucket edges with a 100 mm blade thickness. These adapters allow for quick, reliable installation without the need to cut the blade or the bucket edge.





















ACCESSORIES



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MTG SYSTEMS PROMET

Bucket protection systems for excavators and loaders, with a full range of wing and lip shrouds, and hammerless locking system.



Mining Excavator.



Mining Loader.



▶ **PROMET** ADVANTAGES

Greater protection, safety, comfort and speed

Full range of wing and lip shrouds for excavator and loader buckets.

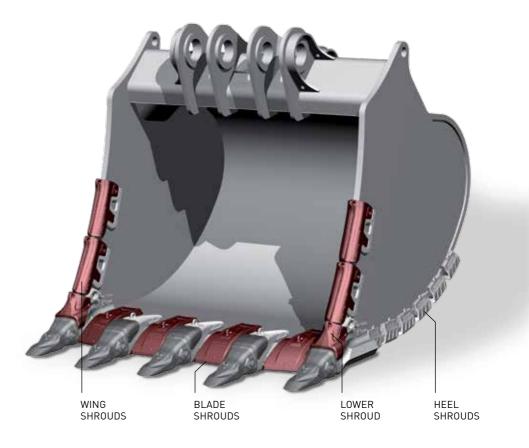
Wing shrouds

- The top wing shrouds have been specifically redesigned for extreme and high impact applications.
 More stylized shrouds with improved distribution of the wear material and the contact surfaces, reducing plastic deformation.
- Safety: with the MTGtwist hammerless locking system, optimal locking is ensured on the most aggressive of applications avoiding possible accidents during assembly and disassembly.
- **Comfort:** less effort is required than with traditional systems with a hammer.
- Easier and faster: changing the system's elements can be completed much easier and more quickly.
- Excellent retention: the pin retention system always

keeps the pin in its initial position, avoiding shroud loss. Optimum support in the most aggressive applications.

Blade shrouds

- Safety and reliability of the system thanks to the MTGTwist hammerless locking system.
- The design of the lip shrouds has been specifically optimized and is able to offer up to 30% more wear material in comparison with the equivalent model from the competition.
- The shrouds reduce blade exposure to impacts and abrasions, increasing the bucket's wear life.
- The fitting system only requires welding a base for each shroud, thus making installation easy and quick while reducing machine downtimes.
- Optimized design of the locking device elements, improving the contact and stability of the parts.





PROMET LATERAL LOCKING SYSTEM

- 1. Wing shroud
- Weld-on base for stabilization (one on each side)
 MTGtwist retainer made of Elastomet and polyurethane.
- 4. MTGtwist hammerless pin.
- Plug to prevent the square hole becoming filled with soil, saving cleaning time during disassembly.



PROMET BLADE LOCKING SYSTEM

- 1. Weld-on base (only one required).
- Mechanical locking block.
- MTGtwist retainer made of Elastomet and polyurethane.
- 4. MTGtwist hammerless pin.
- Plug to prevent the square hole becoming filled with soil, saving cleaning time during disassembly.

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▶ MTG PROMET, FULL RANGE OF SHROUDS FOR MINING MACHINERY

WING SHROUDS FOR HEAVY MINING APPLICATIONS, DESIGNED SPECIFICALLY FOR EXCAVATORS AND LOADERS.



Wing shrouds for Heavy Mining.



Lip shrouds for loaders.



Lip shrouds for excavators.



▶ MTG PROMET MECHANICAL WING AND LIP SHROUD RANGE



Wing shroud

U

For excavators and loaders with 30-60mm wings. For abrasive applications with a medium high impact level.



Left delta

Protects the left wing of the bucket in excavators and



UX

"Heavy" wing shroud

For excavators and loaders with 60 mm to 140 mm wings For high abrasion/impact applications.



Central lip shroud

Protects the bucket blade in excavators and loaders.



Protects the right wing of the bucket in excavators and



Right delta

ACCESSORIES



Weldable base for ProMet wing shrouds



Weldable base for ProMet "Heavy" wing shrouds



Weldable base for ProMet lip shrouds



Mechanical block for lip shrouds



MTGtwist locking system for wing



MTGtwist locking system for lip shrouds



▶ MTG PLUS RANGE OF WELDED AND BOLT-ON WING, CORNER AND LIP SHROUDS





ULH/ULHX

Heel shrouds

Protect the corner of the bucket and adapt to its curvature. Range that covers excavators from 20 to 300 tons.



UC/URD/ULD

Welded blade shrouds

Welded blade shrouds for excavators in multiple applications. Range which covers blade thicknesses of 40 mm to 120 mm.



BC-A/BCX-A/BLD-A/ **BLDX-A/BRD-A/BRDX-A**

Bolt-on half arrow blade shrouds for Caterpillar $^{[1]}$ loaders which work on abrasive applications.

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^[1] See the Notes section on the back cover

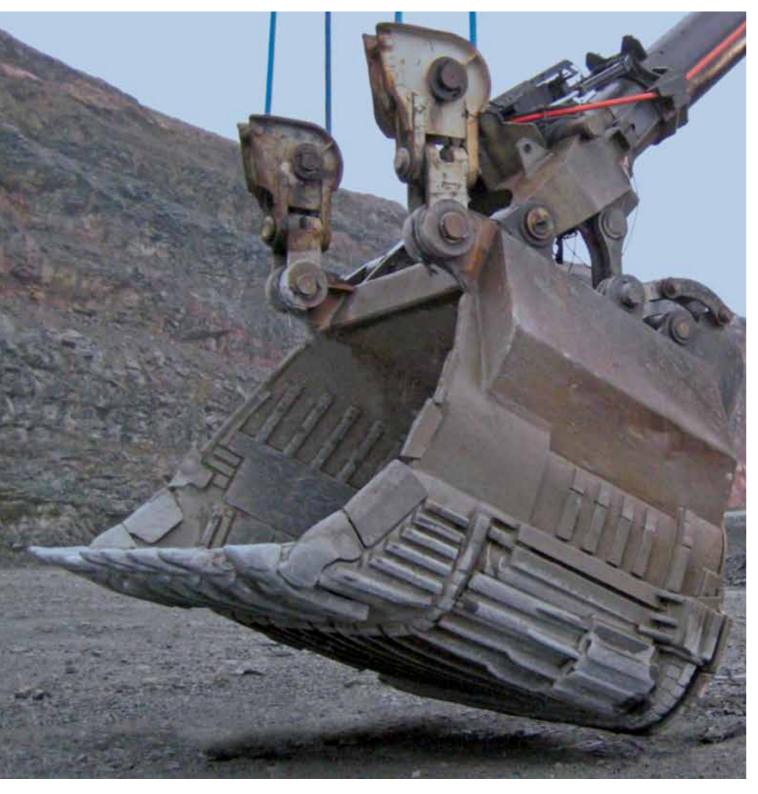


MTG SYSTEMS STARMET ROPE SHOVELS

Teeth, adapters and shrouds for electric rope shovels. Wear parts with mechanical locking system to equip the most widely used lip fitting configurations for electric rope shovels.



Electric rope shovel.



ROPE SHOVELS ADVANTAGES

Increased reliability, comfort, speed and safety

Wide range of Whisler⁽¹⁾ and Wide Radius⁽¹⁾ type adapter and shrouds for electric rope shovels and teeth specifically designed for this type of machinery.

• Specific tooth design with advanced self-sharpening, offering the perfect balance between penetration and resistance to abrasion. New range of teeth that are stronger and with more wear material which guarantee increased bucket productivity with these machines. MTG Systems StarMet uses the MTGtwist hammerless locking solution. A proven solution that makes attaching and removing teeth reliable, easier, faster and safer.

Adapters

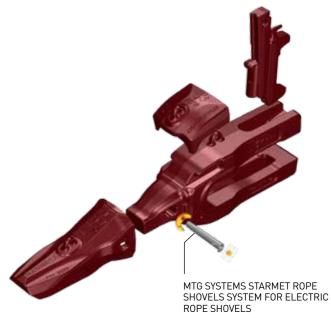
Electric shovel adapters have been designed with the StarMet tooth-and-adapter fitting system and a conventional two or three-part lip locking system.

• The adapter allows the use of wear caps where necessary. Different wear cap designs are available, depending on the soil abrasion level and type of application.

Shrouds

• The wing and lip shrouds allow for complete bucket protection. The robust design extends the wear life of the bucket and its productivity.







CONVENTIONAL LOCKING SYSTEM (2 PARTS)

1. Insert the C-clamp 2. Insert the wedge



CONVENTIONAL LOCKING SYSTEM (3 PARTS)

- 1. Insert the C-clamp 2. Insert the inverted wedge
- 3. Insert the wedge





CONVENTIONAL LOCKING SYSTEM (MECHANICAL) FOR WHISLER^[1] SYSTEM 3 PARTS WITH RACHET

- 1. Insert the C-clamp
- 2. Insert the inverted wedge
- 3. Insert the ratchet

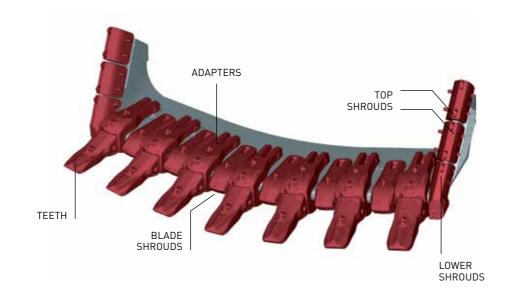
^[1] See the Notes section on the back cover



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▶ LATEST MTG STARMET ROPE SHOVEL RELEASES

EXPANDING RANGE OF BUCKET LAYOUTS FOR P&H^[1]2800



MORE RESISTANT AND REINFORCED TEETH FOR APPLICATIONS WITH HIGH LEVEL OF ABRASION

- RSS: Tooth in hard applications with a high abrasion level and medium impact.
- RSXX: Tooth in applications with an extreme abrasion level and very high impact.



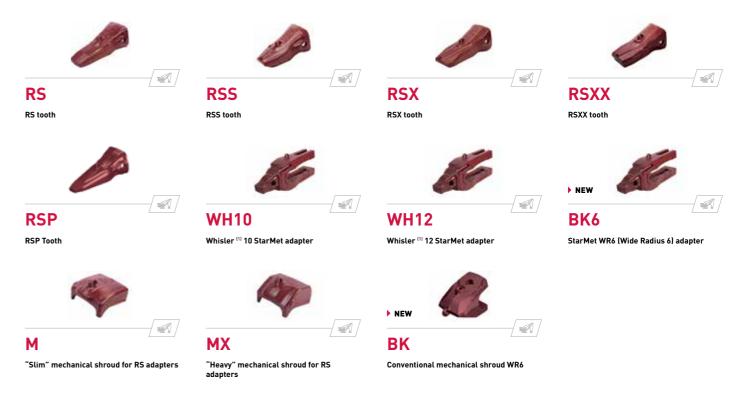
RSS tooth



RSXX tooth



► MTG STARMET ROPE SHOVELS RANGE OF TEETH, ADAPTERS AND MECHANICAL SHROUDS







^[1] See the Notes section on the back cover.

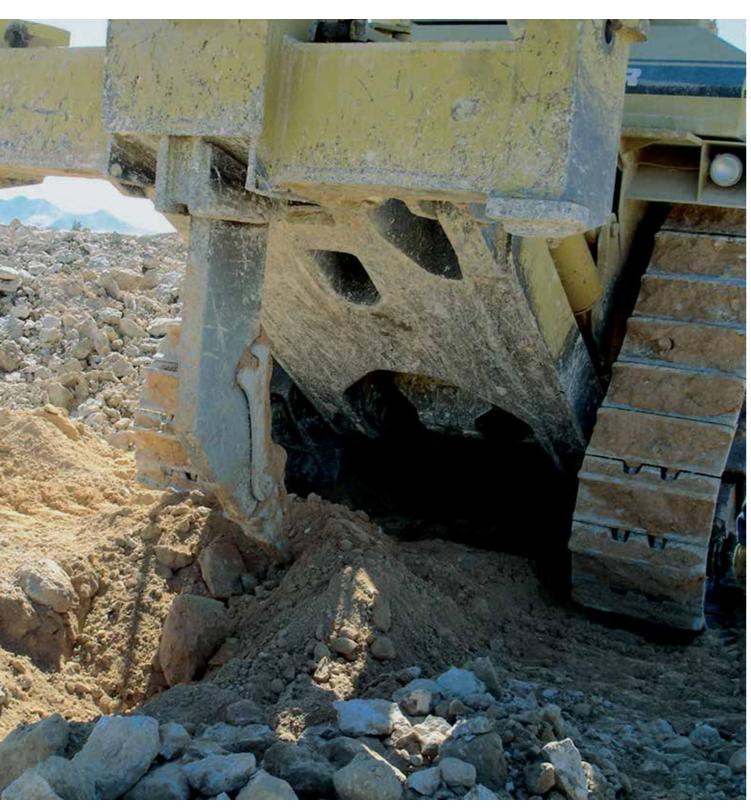


MTG SYSTEMS RIPMET

Patented wear parts for Bulldozers that provide a longer wear life and optimum penetration.



Bulldozers in quarries and mining jobs.



▶ **RIPMET** ADVANTAGES

Providing greater wear life and optimal penetration

When other rippers on the market need replacing, RipMet teeth keep working with excellent penetration

- The shorter shape of the adapter nose has had a positive effect on the performance of the adapter.
- The teeth have a higher percentage of wear material, which increases their wear life.
- The teeth's longer self-sharpening channel maintains the penetration until the end of their life.
- The shroud protects and optimizes the penetration of the arm durably, preventing the wear on the central nerve to the maximum.
- The components of the RipMet are fully integrated into the system, improving material flow and optimizing the penetration.

Excellent resistance on the toughest applications

The stability of the fitting system better distributes the forces when working, minimizing breakages even on the toughest applications.

 The stabilization surfaces of the fitting system guarantees improved distribution of forces while working and keep the tooth firmly in place. This stability minimizes breakages, even in the most extreme applications.

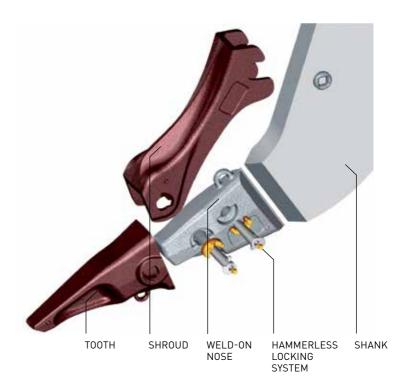
• The fitting system stops the impacts from being transmitted to the locking devices, preventing the pin from bending or breaking.

Safety and ease when changing teeth

MTG Systems RipMet wear parts use the MTGtwist hammerless locking solution which offers the following advantages during tooth and shroud changing operations:

- **Safety:** the fact that no hammer is required prevents accidents due to flying metal particles.
- **Comfort:** less effort is required than with traditional systems with a hammer.
- Easier and faster: changing the elements of the system can be completed much easier and more quickly.

When working: excellent retention. The pin retention system ensures it always remains in its initial position.





MTGTWIST LOCKING SYSTEM FOR BULLDOZERS

- 1. Hammerless conical pin for an easier extraction.
- 2. Standard shaped square hole.
- MTGtwist retainer made of Elastomet polyurethane.
 Plug to prevent the square hole becoming filled with soil.
- Plug to prevent the square hole becoming filled with so saving cleaning time during disassembly.



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▶ MTG RIPMET RANGE OF TEETH, ADAPTERS AND SHROUDS AX PX Abrasion X Penetration X WA WN **S2** Shroud Weld-on nose ▶ ACCESSORIES MTG Systems RipMet locking system Extraction Tool



Ripper applications MTG Systems RipMet (Spain).



MTG PLUS LHD LIP SYSTEM

Welded lip shroud system for low-profile Underground Mining Load-Haul-Dump Loaders that maximize bucket penetration and machine productivity.



Low profile loader in underground mine jobs.



▶ MTG LHD LIP SHROUD TABLE - AVAILABLE REFERENCES

Reference	Description
4MLHD38LC189-7A	Left corner shroud
4MLHD38L696-7A	Left intermediate shroud
4MLHD38C1050-7A	Central shroud
4MLHD38R696-7A	Right intermediate shroud
4MLHD38RC189-7A	Right corner shroud
4MLHD38LCHD	Left HD corner shroud
4MLHD38RCHD	Right HD corner shroud

Lip thickness for all references: 38mm / 1.5". Blade angle for all references: 7,5°.

▶ LHD LIP SYSTEM ADVANTAGES

Maximum penetration and productivity

Streamlined design that optimizes bucket penetration and reliability

 The new "Ultra slim" streamlined design has been specifically optimized for LHD loaders, maximizing penetration in underground mines and avoiding the accumulation of materials typical to other wide designs.

Produced with the new steel alloy MTG Steels

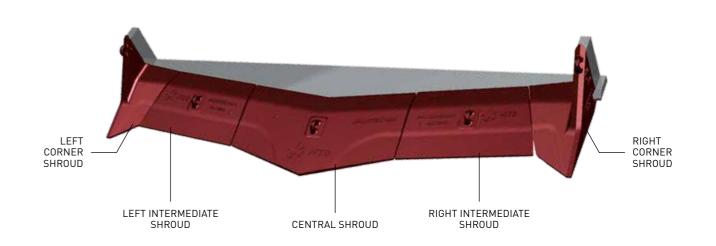
 The new steel alloy, MET73W, developed to the stricted quality controls (including AOD process control) to maximize the hardness and protection of the bucket without loosing the weldability of steel.

Self-sharpening of the shroud that increases wear life

 The design of the weldable LHD blade shrouds has been specifically optimized to stay sharp throughout the progressive loss of wear material, maintaining penetration capacity for longer.

Reduction of fuel and tire consumption

 The "ultra slim" shroud design considerably increases bucket penetration, reducing fuel consumption and tire wear.



MTG PLUS SYSTEM WELDABLE LHD LIP SHROUD RANGE





MTG SYSTEMS STARMET TEETH IN HIGH-IMPACT APPLICATIONS



G.E.T. detail MTG Systems StarMet in Australia.



5 position excavator bucket working in a gold mine in Australia.

STARMET

RESULTS: MTG SYSTEMS STARMET TEETH PROVIDE A SET THAT IS EASIER AND SAFER TO REPLACE. INCREASE THE SERVICE LIFE BY 41% AND REDUCE TEETH REPLACEMENT COSTS BY 50%. ^[2]



Machine: HITACHI⁽¹⁾ EX3600 System: MTG Systems StarMet Terrain: Gold mine in Australia. Hard rock with a medium level of abrasion

Location: Australia

MTG SYSTEMS STARMET CAST CORNER ADAPTERS IN ABRASIVE APPLICATIONS



MTG Systems StarMet Cast Corner adapter in abrasive applications.



Face shovel working on granite in Russia.

STARMET

RESULTS: INCREASED G.E.T. WEAR LIFE AND PENETRATION EFFECTIVENESS. SIGNIFICANT REDUCTION IN MACHINE DOWNTIMES. ⁽²⁾



Machine: KOMATSU^[1] PC 3000 System: MTG Systems StarMet Terrain: compact and abrasive (granite or silicate rock) Location: Arkhangelsk, Rusia

10122 See the Notes section on the back cover.



MTG SYSTEMS STARMET IN HIGH-IMPACT APPLICATIONS



MTG Systems StarMet G.E.T. working in a mine in West Virginia.



Mining Excavator in high impact applications in West Virginia.

STARMET

RESULTS: MAXIMUM EFFICIENCE AND DURATION IN HIGH-IMPACT APPLICATIONS. ⁽²⁾



Machine: HITACHI^[1] EX1900 System: MTG Systems StarMet Terrain: Board. Low abrasion and

high impact application **Location:** West Virginia

G.E.T. SOLUTIONS IN HIGHLY ABRASIVE APPLICATIONS



Teeth, adapters and shrouds specific for high levels of abrasion and impact.



 $\ensuremath{\mathsf{MTG}}$'s comprehensive solutions for bucket protection in Scotland.

STARMET PROMET

RESULTS: CHOOSING MTG FOR SUCH A DELICATE JOB IS A GUARANTEE THAT WE WON'T HAVE ANY PROBLEMS, AS WE'VE NEVER HAD THEM BEFORE. [2]



Machine: KOMATSU^[1] PC 3000 System: MTG Systems StarMet and MTG Systems ProMet Terrain: Boulder clay, limestone and shile. Impact level: high. Abrasion level: high Location: Scotland

10122 See the Notes section on the back cover.



MTG SYSTEMS PROMET SHROUDS IN HIGH-IMPACT APPLICATIONS



Hydraulic excavator bucket with MTG Systems ProMet wing shrouds.



Hydraulic Excavator in copper mine in Brazil.

PROMET

RESULTS: SINCE USING MTG'S SHROUDS, THE WEAR LIFE OF THE G.E.T. ON HYDRAULIC EXCAVATORS HAS SUBSTANTIALLY IMPROVED COMPARED TO PREVIOUS SYSTEMS. [2]



Machine: KOMATSU⁽¹⁾ PC 2000 **System:** MTG Systems ProMet

Terrain: Copper Mine.

Abrasion level: high. Impact level: high **Location:** Sossego mine, Brazil

MTG SYSTEMS STARMET ROPE SHOVELS IN HIGH ABRASION



Front view of a Rope Shovel bucket in Sweden.



Close-up of a MTG Systems StarMet Rope Shovel adapter with a conventional locking system.

STARMET ROPE SHOVELS

RESULTS: OPTIMUM OPERATION DURING THE TEST PERIOD. ^[2]



Machine: BUCYRUS⁽¹⁾ 495 BII **System:** MTG Systems StarMet Rope Shovels

Terrain: Copper mine with mediumhigh level of impact and a high level of abrasion

Location: Gällivare, Sweden

10122 See the Notes section on the back cover.



SPECIFIC MTG SYSTEMS RIPMET APPLICATIONS IN BULLDOZERS



MTG Systems RipMet in Silica applications.



MTG Systems tooth for bulldozers working in Spain.

RIPMET

RESULTS: THANKS TO THE HAMMERLESS LOCKING SYSTEM, WE HAVE REDUCED MACHINE DOWNTIMES THUS INCREASING MACHINE EFFICIENCY. [2]



Machine: KOMATSU^[1] 475 **System:** MTG Systems RipMet

Terrain: Silica gel **Location:** Spain

MTG PLUS LHD LIP SYSTEM IN COPPER MINE



Bucket with LHD Lip System in underground copper mine.



Lip for Underground loaders working in Portugal.

PLUS LHD LIP SYSTEM

RESULTS: MTG'S LHD LIP SYSTEM LASTS LONGER, INCREASING PRODUCTIVITY AND REDUCING MACHINE'S DOWNTIME. [2]



Machine: ATLAS^[1] ST14

System: MTG Plus LHD Lip System

Terrain: Underground copper mine
Location: Aljustrel, Portugal

10122 See the Notes section on the back cover.



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