



**BROCHURE**

# **MINING SOLUTIONS**

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English Edition



**MTG**

No limits innovation



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## MTG IN NUMBERS

With more than 65 years' experience, we help mines, quarries and earth-moving companies bringing safety and productivity of their digging operations to maximum levels. Our dedicated and aligned team collaborates hand in hand with our global partner network of 400+ dealers to provide our customers expert and unique advice to make the journey together the best in 60+ countries all over the world.

**65+**

**YEARS**

experience in the design and manufacture of high quality ground engaging solutions for earth-moving machinery.

**400+**

**DISTRIBUTORS**

comprise our distribution network worldwide, based on long-term relationships.

**60+**

**COUNTRIES**

are operated by our distributors, allowing us to be a global company, providing local services to our end-users.

## MTG IN THE WORLD

An international projection, with a regional commitment.





## SOLUTIONS WE PROVIDE

MTG gained a solid reputation in the Mining, Construction and Dredging industries by constantly challenging market standards and answering customer demands. Our deep knowledge in wear solutions has positioned us as a GET specialist, for our MTG branded products and for leading OEMs, providing custom-built solutions to satisfy their needs.



### CONSTRUCTION & QUARRY SOLUTIONS



### MINING SOLUTIONS

MTG provides full bucket solutions for a wide range of mining equipment. Find the best GET for your specific machine and mining requirements.



### DREDGING SOLUTIONS



EXCAVATOR  
CAST LIP



EXCAVATOR  
PLATE LIP



WHEEL LOADER



DOZER



ROPE SHOVEL



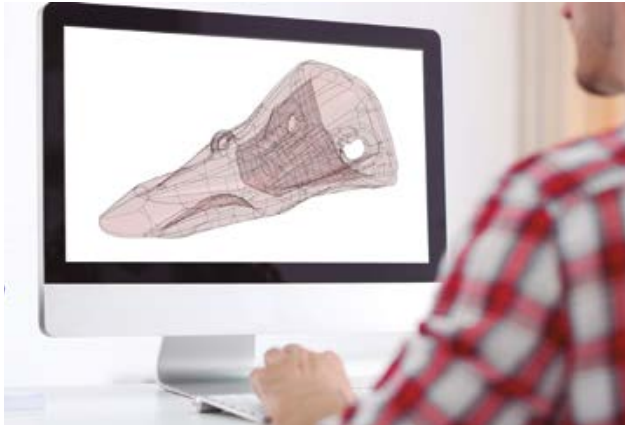
DRAGLINE



LHD

# SPECIALISTS IN GET

Each application and site conditions require specific GET solutions to ensure safety, reliability, durability and the utmost performance in operating efficiency. From design and prototyping to field testing, quality control, and customization, all is meticulously handled in Europe's most advanced foundry to ensure stability and consistency.



## Product Engineering

Our premium positioning is the result of decades of experience and deep engineering investigations. All products created by MTG have been ideated and developed with a customer-centric mindset and through a very strict process leveraging its engineering expertise with state-of-the-art tools.



## Product Manufacturing

Our own production plant, inaugurated in 2012, is one of the key pieces in MTG's commitment to quality and competitiveness in the GET market. The foundry, which is one of the most modern in Europe, is equipped with the most innovative technological facilities.



## Technical Service

MTG's Technical Services Team is responsible for technical trainings, on-site visits, product recommendations, bucket layouts, GET inspections, welding & rebuilding instructions, GET performance assessments, productivity and efficiency field comparisons, among other duties.



## Digging Insights

We are entering an era in which wear materials are not just steel parts but intelligent components which help our customers make data-driven decisions while ensuring maximum safety.



## OUR STEELS

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Specially designed to resist the highest mechanical stresses in service, MTG steels maximise the hardness-toughness binomial thanks to their low level of impurities and the transformation achieved in our specific heat treatments.

# OUR STRENGTHS, YOUR BENEFITS!

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To meet our end users needs, MTG has established a holistic approach consisting of various product and service-oriented strengths.

It is not what we say, but what our customers say about us.



**HIGHER  
PRODUCTIVITY**



**MAXIMUM  
RELIABILITY**



**SAFE & QUICK  
MAINTENANCE**



**EFFICIENCY &  
COST REDUCTION**

## A Tooth for Each Application



We provide a wide range of products, making your machine more efficient as a result. The reason for this is that each tooth is specifically designed for each application, depending on the level of penetration, abrasion and impact required.

The optimal wear material ratio of each of our teeth designs make them last longer, improving your machine's performance and reducing the operating costs.



## Designs



The self-sharpening designs allow our GET a high degree of penetration during all their wear life.

Teeth are designed to increase the adapters' protection, minimising the need for repairs.



## Specialised Technical Support



Our Technical Support Engineers will assist you to better configure your full bucket protection for minimum blade exposure to impacts and abrasions.



## MTG Steels



Our steels are designed to withstand the highest levels of mechanical stress and have proved robustness and resistance, even in the most demanding applications.

The low level of impurities and the structure developed using specific heat treatments, optimise hardness/toughness ratio, avoiding breakages.



## Locking System



















Our hammerless locking systems provide excellent retention, avoiding tooth loss.








The assembly and disassembly of teeth is quick and safe thanks to our hammerless locking system, which provides the utmost in safety and efficiency while performing our product's routine change-outs.



# MINING SOLUTIONS

MTG provides full bucket GET solutions for almost all earth-moving mining machines.

PRODUCT CATEGORY	PRODUCT FAMILY		
<b>MTG CAST LIPS</b> Cast lip solutions for mining excavators.		 <b>TWINMET</b> The most advanced and versatile cast lip option for standard to high performance applications.	<a href="#">➔ p.20</a>
		 <b>TWINMET</b> The 3-part tooth system for hydraulic excavators and draglines offers maximum durability even for the toughest mining conditions.	<a href="#">➔ p.22</a>
		 <b>VEEMET</b> The new generation of tooth system with improved stability, optimized locking, and enhanced penetration.	<a href="#">➔ p.26</a>
		<b>STARMET</b>	<a href="#">➔ p.28</a>
		 <b>VEEMET ROPE SHOVELS</b> New generation of tooth system especially for Rope Shovels with improved stability, optimized locking, and enhanced penetration.	<a href="#">➔ p.30</a>
		<b>STARMET ROPE SHOVELS</b>	<a href="#">➔ p.32</a>
		 <b>PROMET</b> Reliable bucket protection system for mining machinery.	<a href="#">➔ p.34</a>
<b>MTG SYSTEMS</b> Our most advanced tooth and shroud systems with intelligent lockings that provide a substantial added value to your mining operations.		<b>RIPMET</b> Optimum penetration and longer service life for your dozer in the most demanding ripping applications.	<a href="#">➔ p.38</a>
		<b>Rope Shovel Shrouds</b>	<a href="#">➔ p.40</a>
		<b>LHD Lip Shrouds</b>	<a href="#">➔ p.41</a>
		<b>Bolt-on Loader Shrouds</b>	<a href="#">➔ p.42</a>
		<b>Complementary Shrouds</b> Weld-on Lip, Wing and Heel Shrouds.	<a href="#">➔ p.43</a>
		<b>DRP Teeth / Ripper</b>	<a href="#">➔ p.43</a>
<b>MTG PLUS</b> Complementary and direct replacement products made of our high-quality steels.			

	 EXCAVATOR CAST LIP	 EXCAVATOR PLATE LIP	 WHEEL LOADER	 DOZER	 ROPE SHOVEL	 DRAGLINE	 LHD
	●						
	●	●				●	
		●	●			●	
					●		
	●	●	●		●	●	
				●			
					●		
							●
			●				
	●	●	●				●
		●	●	●			

# CAST LIP EXCAVATOR

## MACHINE EXAMPLES\*

CAT6030 / 6040  
PC4000 / 5000 / 8000  
EX3600 / 5600



## TWINMET + PROMET + PLUS

Most advanced and versatile cast lip option, from standard to high performance applications, in combination with a robust tooth and easy to assemble shroud systems.



## TWINMET Retrofit

Try our robust 3-part tooth system as a retrofit option and the results will convince you to shift to MTG cast lips.

**MTG CAST LIPS**  
TWINMET ↗ p.20

**MTG SYSTEMS**  
TWINMET ↗ p.22

VEEMET ↗ p.26

STARMET ↗ p.28

PROMET ↗ p.34

**MTG PLUS**  
↗ p.40

## PLATE LIP EXCAVATOR

### MACHINE EXAMPLES\*

CAT6015 / 6018  
PC1250 / PC2000  
EX1200 / 1900 / 2600



## VEEMET + PROMET + PLUS

Your best hammerless option for high performance excavator applications with the new generation tooth system and easy to assemble shrouds.



## VEEMET + PROMET + PLUS

Your choice if you like to combine our new generation tooth system with flexible, weld-on lip shrouds.



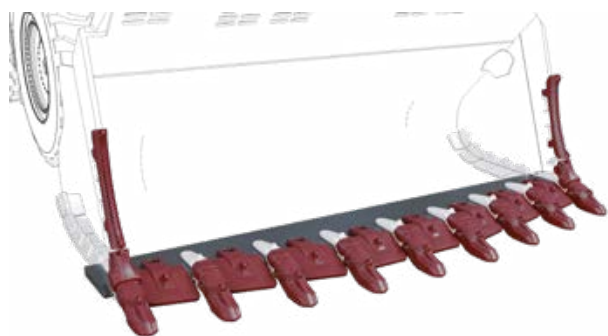
## TWINMET + PROMET + PLUS

For your bigger excavators with more BOF we recommend our robust 3-part tooth system in combination with easy to assemble shrouds.

# WHEEL LOADER

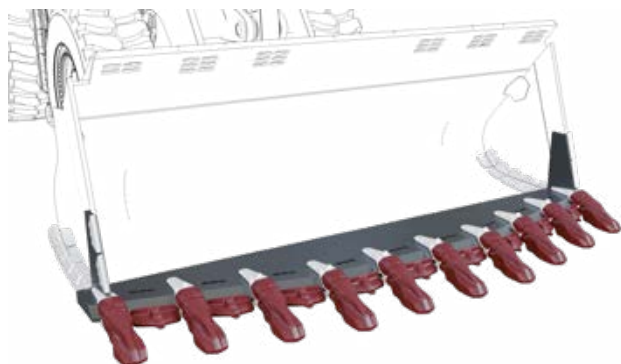
## MACHINE EXAMPLES\*

CAT992 / 993 / 994  
WA800 / 900 / 12000  
L-950 / L-1150 / L-1350  
L-1850 / L-2350



## VEEMET + PROMET + PLUS

Your best option for high performance loader applications with the new generation of tooth system and easy to assemble shrouds.



## VEEMET + PLUS

Your choice if you like to combine our new generation tooth system with flexible, bolt-on and weld-on shrouds.

### MTG SYSTEMS

VEEMET ↗ p.26    STARMET ↗ p.28    PROMET ↗ p.34

### MTG PLUS

↗ p.40



## DOZER

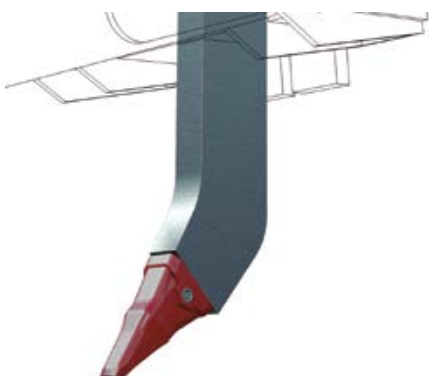
### MACHINE EXAMPLES\*

D8T / D9T  
D10T2 / D11T  
D155AX-8 / D375-8  
D475A-5



## RIPMET

The advanced ripper solution with hammerless locking system for reduced downtimes and more safety.



## PLUS

Our alternative ripper solution adapted for standard Caterpillar\* and Komatsu\* ripper shanks.

**MTG SYSTEMS**  
RIPMET ↗ p.38

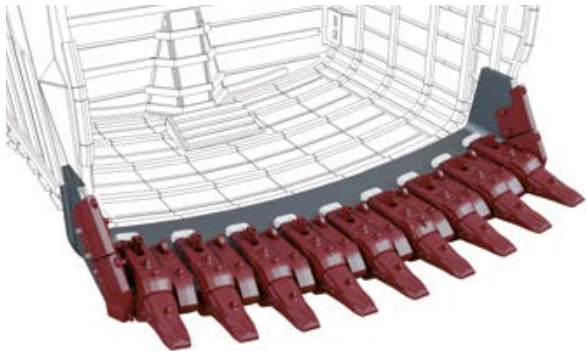
**MTG PLUS**  
↗ p.40

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## ROPE SHOVEL

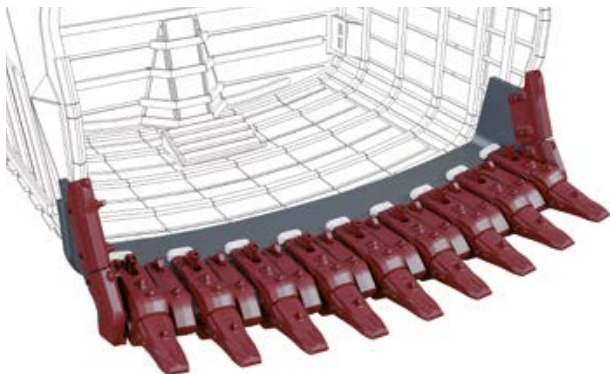
### MACHINE EXAMPLES\*

P&H2300 / 2800 / 4100  
CAT7395 / 7495  
TZ W-55



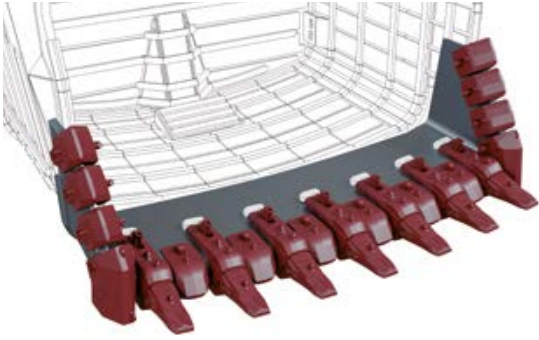
## VEEMET ROPE SHOVELS + PLUS

For Rope Shovels like the CAT7495\* with HR dipper design.



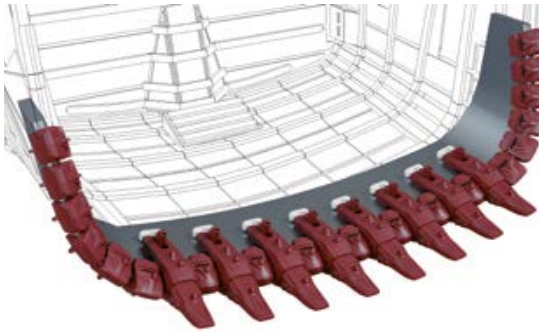
## VEEMET ROPE SHOVELS + PLUS

For Rope Shovels like the CAT7495\* or CAT7395\* with BI and BII dipper designs.



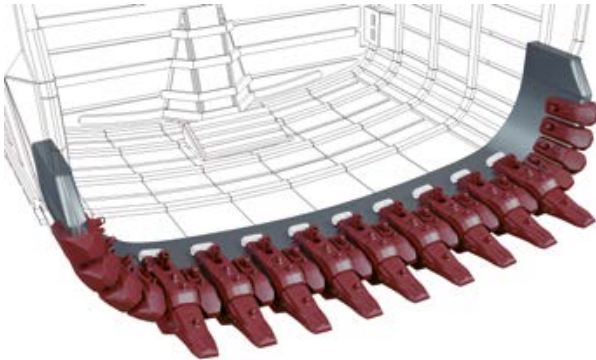
## VEEMET ROPE SHOVELS + PLUS

For Rope Shovels like the P&H4100\* or TZ WK-55\* with HR dipper design.



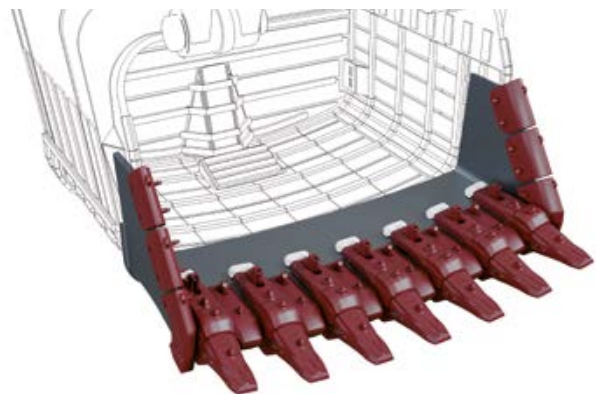
## VEEMET ROPE SHOVELS + PROMET

For Rope Shovels like the P&H4100\* with BK\* wide radius dipper design.



## VEEMET ROPE SHOVELS + PLUS

For Rope Shovels like the P&H4100\* with WH12\* wide radius dipper design.



## VEEMET ROPE SHOVELS + PLUS

For Rope Shovels like the P&H2800\* or P&H2300\* with HR dipper design.

### MTG SYSTEMS

VEEMET ROPE SHOVELS → p.30

STARMET ROPE SHOVELS → p.32

PROMET → p.34

### MTG PLUS

→ p.40

# DRAGLINE

## MACHINE EXAMPLES\*

Marion 7900 / 8400 / 195M  
BE 650 / BE1370W  
CAT 8200

## TWINMET

Our robust 3-part tooth system with weld-on noses for your Dragline bucket.

## TWINMET Retrofit

Try our robust 3-part tooth system as a retrofit option and the result will convince you to shift to more MTG products.

## VEEMET + PROMET

The solution for middle and small size Draglines based on our new generation tooth system and easy to assemble shrouds.

### MTG SYSTEMS

TWINMET ↗ p.22   VEEMET ↗ p.26   STARMET ↗ p.28   PROMET ↗ p.34



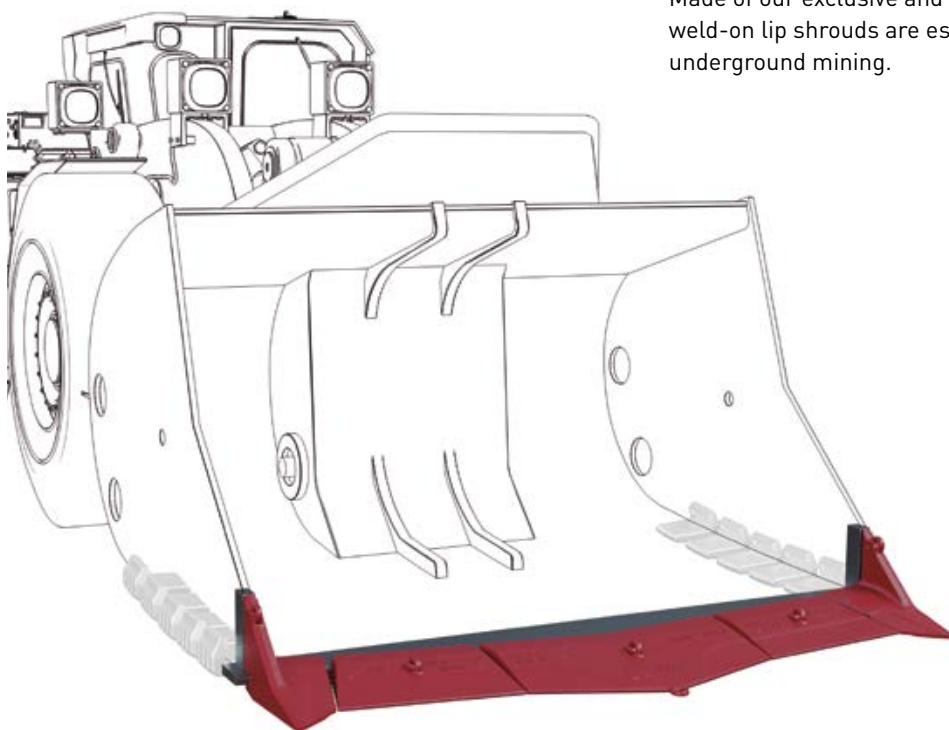
## UNDERGROUND LHD

### MACHINE EXAMPLES\*

Atlas Copco ST14  
Sandvik LH410  
CAT R1600H

## PLUS LHD + PLUS

Made of our exclusive and extra resistant steel, LHD weld-on lip shrouds are especially designed for underground mining.



**MTG PLUS**  
LHD ↗ p.41

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# CAST LIP SOLUTIONS

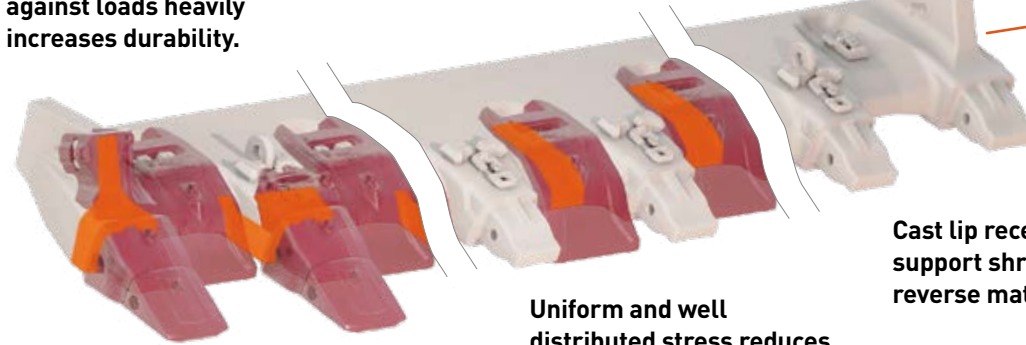
Compatible  
with



**19% higher resistance\***  
against loads heavily  
increases durability.

Flat surface for  
optional wear plates.

**4% slimmer and  
5% lighter design\***  
without compromising  
robustness.



Cast lip recess areas  
support shrouds from  
reverse material flow.

Uniform and well  
distributed stress reduces  
plastic deformation and  
need of maintenance.

Cast lip specific GET wear  
packages for optimal protection  
and digging efficiency.

\*Benchmark data of CAST LIPS / TWINMET vs. main competitors.



Watch our 3D Video Animation!  
**TWINMET + PROMET**

## Benefits and Features



### HIGHER PRODUCTIVITY

The **slim cast lip design** along with the cast lip specific and self-sharpening GET equipment, guarantees a steady penetration throughout their wear life.



### REDUCED OPERATIONAL COSTS

The **optimized design** allows better distribution of the wear material. As a result, the **weight reduction** provides proven fuel and cost savings.



### LONGER OPERATIONAL TIME

**Large contact areas** and **smooth transitions** for lip shrouds reduce plastic deformation at critical areas, preventing the generation of cracks.



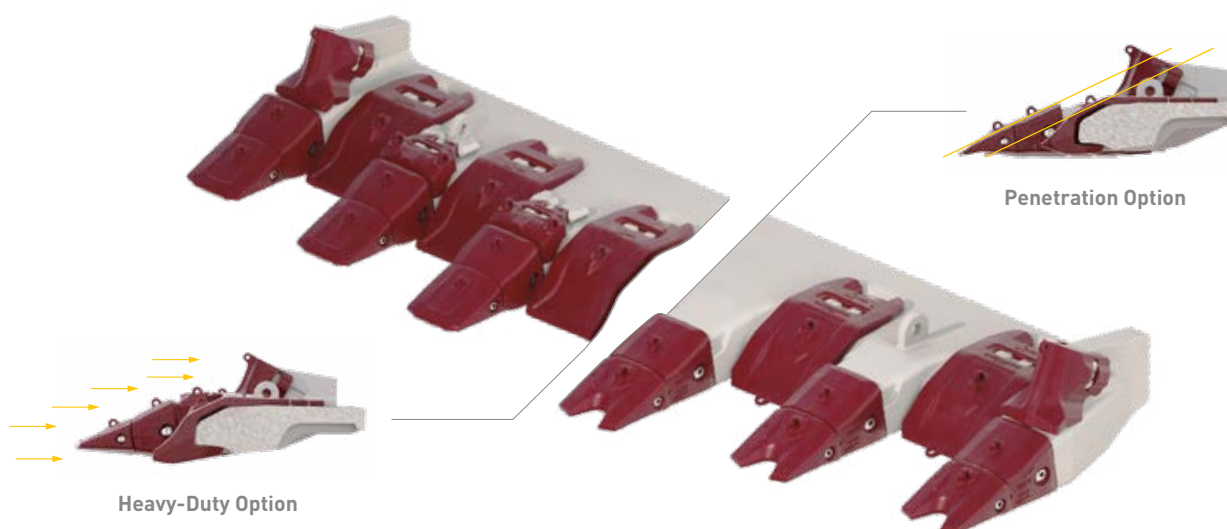
### SHORT DOWNTIMES

Critical cast lip areas are optimally protected by **MTG's specific GET** to increase the cast lip's wear life thus reducing rebuild needs.



# Cast Lip Wear Packages

## TWINMET Tooth System + PROMET Shrouds



With the TWINMET tooth system and PROMET shroud options, MTG offers cast lip specific GET wear packages that provide the most efficient bucket protection contributing to your productivity goals and saving costs.

Depending on your digging conditions, the cast lip wear package can be optimized for penetration or heavy-duty applications. Customize the cast lip choosing between various tooth, intermediate and lip shroud designs.

## TWINMET Cast Lip Range Overview

SIZE	INSIDE BUCKET WIDTH	REFERENCE	NUMBER OF POSITIONS	MACHINE CATEGORY	MACHINE EXAMPLES
TM1	116" / 2.950 mm	1MT1CL116	5	250-400 t	HITACHI' EX3600 (FS) CATERPILLAR' 6040 (BH/FS)
TM1	122" / 3.100 mm	1MT1CL122	5	250-400 t	
TM1	136" / 3.450 mm	1MT1CL136	5	250-400 t	
TM1	140" / 3.560 mm	1MT1CL140	6	250-400 t	
TM1	144" / 3.650 mm	1MT1CL144	6	250-400 t	
TM3	148" / 3.760 mm	1MT3CL148	5	350 - 500 t	KOMATSU' PC4000 (BH/FS) CATERPILLAR' 6050 (BH)
TM5/4 TM5/6	148" / 3.760 mm	1MT5CL148	5	450-700 t	HITACHI' EX5600-6 (BH) KOMATSU' PC5500-6 (BH) CATERPILLAR' 6050 / 6060 (FS) KOMATSU' PC7000 (FS)
TM5/4 TM5/6	163" / 4.150 mm	1MT5CL163	5	450-700 t	
TM5/4 TM5/6	169" / 4.300 mm	1MT5CL169	6	450-700 t	
TM5/4 TM5/6	185" / 4.700 mm	1MT5CL185	6	450-700 t	
TM5/4 TM5/6	201" / 5.100 mm	1MT5CL201	6	450-700 t	
TM7/4 TM7/6	169" / 4.300 mm	1MT7CL169	5	650-1.000 t	HITACHI' EX8000-6 (BH/FS) KOMATSU' PC8000 (BH/FS) CATERPILAR' 6090 (FS)
TM7/4 TM7/6	201" / 5.100 mm	1MT7CL201	6	650-1.000 t	

# TWINMET TOOTH SYSTEM FOR CAST LIPS

Compatible  
with



## TWINMET 1 for excavators of 250 – 400 t

The 2-part tooth system is especially designed for smaller TWINMET cast lips of 116" to 144" that operate in terrains with low to medium level of abrasion and impact.

## TWINMET 3, 5 & 7 for excavators of >350 t

The original 3-part system in size 3, 5 and 7 is made for TWINMET cast lips and provides maximum productivity and reliability in highly abrasive terrains with high impacts.

## TWINMET Retrofit for first TWINMET experiences

Try our TWINMET system with our square and octagonal shaped intermediate adapters to convince yourself and to shift to MTG cast lips.

## Benefits and Features



### MAXIMUM RELIABILITY

A reinforced nose and fitting design as well as large stabilization surfaces provide maximum **robustness and resistance** to heaviest loads and impacts.



### REDUCED OPERATIONAL COSTS

The **symmetrical design** allows to reverse intermediate adapters and teeth. Flipping them extends their wear life.



### SHORT AND SAFE DOWNTIMES

A **hammerless dual pin locking system** joins all three parts to one high performance tooth system and allows a quick and safe maintenance in any working conditions.



### HIGHER PRODUCTIVITY

The **self-sharpening designs** allow our GET a high degree of penetration during all their wear life, keeping your machine's high performance and reducing the operating costs.



## Find Your Tooth Design

SIZE	TWINMET 1				TWINMET 5 & 7				
TOOTH DESIGN									
EXTRA (E)									
EXTRA X (EX)									
PENETRATION-ROCK (PR)									
VECTOR (V)									
EXTRA X (EX)									
IMPACT (I)									
PENETRATION (P)									
UNIVERSAL (U)									
DOUBLE VECTOR (W)									
PENETRATION	● ● ○	● ● ○	● ● ●	● ● ●	● ● ○	● ● ●	● ● ●	● ● ○	● ● ●
ABRASION	● ● ●	● ● ●	● ● ○	● ○ ○	● ● ●	● ● ○	● ● ○	● ● ○	● ○ ○
IMPACT	● ● ○ ○	● ● ● ○	● ● ● ●	● ○ ○ ○	● ● ● ○	● ● ● ●	● ● ○ ○	● ● ○ ○	● ● ○ ○

## Choose Your Intermediate Adapter

MTG offers two variants of intermediate adapters: Standard (STD) and Heavy-duty (HD). While the Standard version is more suitable for terrains that require high penetration, the heavy-duty option provides more resistance in terrains with high level of abrasion and impacts.



STANDARD  
(HD)



HEAVY-DUTY  
(HD)

## Tooth Range for CAST LIPS / TWINMET

TWINMET SIZES		TEETH	TOOTH LOCKING		INTERMEDIATE ADAPTER	INTERMEDIATE LOCKING		WELD-ON NOSE	REMOVAL TOOL
			PIN	RETAINER <sup>4</sup>		PIN	RETAINER <sup>4</sup>		
TM1	TM1	MT1E MT1EX MT1PR MT1V	2MT1P 2MT1PSE	2MJ1 STR	-	-	-	1MT1WN	3MT34-1
TM3/2	TM2	MT2EX MT2U MT2W	2MT2PSE	2MJ2 STR	5MT32 5MT32FS	-	-	1MT3WN	
	TM3	-	-	-		2MT3P 2MT3PSE	2MJ3 STR	1MT3WN	
TM 5/4	TM4	MT4EX MT4I MT4P MT4U MT4W	2MT4P 2MT4PSE	2MJ4 STR	5MT54 5MT54X 5MT56 <sup>1</sup>	-	-	-	3MT1
	TM5	MT5U <sup>3</sup>	-	-		2MT5P 2MT5PSE	2MJ5 STR	1MT5WN 1MT5WN-H	
TM 7/6	TM6	MT6EX MT6P MT6U MT6W	2MT4P 2MT4PSE	2MJ4 STR	5MT74 <sup>2</sup> 5MT76 5MT76X	-	-	-	3MT1
	TM7	-	-	-		2MT5P 2MT5PSE	2MJ5 STR	1MT7WN	

<sup>1</sup> TWINMET 5/6 consists of an intermediate adapter that combines tooth size 6 with nose size 5.

<sup>2</sup> TWINMET 7/4 consists of an intermediate adapter that combines tooth size 4 with nose size 7.

<sup>3</sup> MT5U is a solid tooth that does not require an intermediate adapter.

<sup>4</sup> Retainer included in tooth and intermediate adapter but can also be ordered separately.

# TWINMET TOOTH SYSTEM FOR PLATE LIPS

Compatible  
with



## TWINMET 1 for excavators of 250 – 400 t

The 2-part tooth-adapter system is especially designed for smaller mining excavators with a plate lip thickness of 140 mm.



## TWINMET 3/2 for excavators of 350 – 500 t

The 3-part tooth-adapter system offers robustness and long wear life for excavators with a plate lip thickness of 140 or 160 mm.

## Benefits and Features



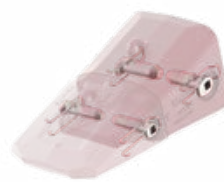
### MAXIMUM RELIABILITY

A reinforced nose and fitting design as well as large stabilization surfaces provide maximum **robustness and resistance** to heaviest loads and impacts.



### REDUCED OPERATIONAL COSTS

The **symmetrical design** allows to reverse intermediate adapters and teeth. Flipping them extends their wear life.



### SHORT AND SAFE DOWNTIMES

A **hammerless dual pin locking system** joins all three parts to one high performance tooth system and allows a quick and safe maintenance in any working conditions.










### HIGHER PRODUCTIVITY

The **self-sharpening designs** allow our GET a high degree of penetration during all their wear life, keeping your machine's high performance and reducing the operating costs.



## Find Your Tooth Design

SIZE	TWINMET 1				TWINMET 5 & 7		
TOOTH DESIGN							
	EXTRA (E)	EXTRA X (EX)	PENETRATION-ROCK (PR)	VECTOR (V)	EXTRA X (EX)	UNIVERSAL (U)	DOUBLE VECTOR (W)
PENETRATION	● ● ○	● ● ○	● ● ●	● ● ●	● ● ○	● ● ○	● ● ●
ABRASION	● ● ●	● ● ●	● ● ○	● ○ ○	● ● ●	● ● ○	● ○ ○
IMPACT	● ● ○ ○	● ● ● ○	● ● ● ●	● ○ ○ ○	● ● ● ○	● ● ○ ○	● ● ○ ○

## Choose Your Adapter Option

With the central (WC) and corner weld-on adapters (WL / WR) of size 1 and 3/2, TWINMET also becomes a solution for excavators of 250 to 500 t equipped with plate lip. It is the perfect option for those who prefer a plate lip solution for excavators with more break-out-force.



CENTRAL (WC)

CORNER (WL / WR)

## Additional Wear Protection



CENTRAL & CORNER WEAR CAP (M / ML)



BOTTOM WEAR PLATE FOR CENTRAL ADAPTER (HD)



BOTTOM & LATERAL WEAR PLATE FOR CORNER ADAPTER (HD-B / HD-L)

## TWINMET Range for Plate Lips

TWINMET SIZES		TEETH	TOOTH LOCKING		INTERMEDIATE ADAPTER	INTERMEDIATE LOCKING		PLATE LIP ADAPTERS	WELD-ON NOSE	REMOVAL TOOL
			PIN	RETAINER <sup>1</sup>		PIN	RETAINER <sup>1</sup>			
TM1	TM1	MT1E MT1EX MT1PR MT1V	2MT1P 2MT1PSE	2MJ1 STR	-	-	-	1MT1WC140 1MT1WL140 1MT1WR140	1MT1WN	3MT34-1
TM 3/2	TM2	MT2EX MT2U MT2W	2MT2P 2MT2PSE	2MJ2 STR	5MT32 5MT32FS	-	-	-	-	3MT34-1
	TM3	-	-	-		2MT3P 2MT3PSE	2MJ3 STR	1MT3WC140 1MT3WC160 1MT3WL160 1MT3WR160	1MT3WN	

<sup>1</sup> Retainer included in tooth and intermediate adapter but can also be ordered separately.

# NEW VEEMET TOOTH SYSTEM

Compatible  
with



The new generation of tooth system with improved stability, optimized locking, and enhanced penetration.



Watch our 3D Video Animation!  
**NEW VEEMET SYSTEM**



## Benefits and Features



### SHORT AND SAFE DOWNTIMES

An **optimized locking with reduced parts** allows a hammerless tooth **assembly in only 2 steps** providing an incomparable ease and safety to GET maintenance.



### HIGHER PRODUCTIVITY

**Longer grooves and slimmer teeth** further improve the penetration capabilities of our **self-sharpening tooth designs** optimizing your digging efficiency and reducing costs.



### LONGER MACHINE AVAILABILITY

The **V-shaped fitting** and the **optimized locking with reinforced pin** provide a better stability that reduces plastic deformation and maximizes wear life.









### OPTIMAL PERFORMANCE

**New and improved tooth designs** have been added to the **wide product range** providing a suitable GET solution for all sorts of excavator and loader applications.



## Excavator & Dragline Tooth Designs

VEEMET						
TOOTH DESIGN	 EXTRA (E)	 EXTRA VECTOR (EV)	 EXTRA X (EX)	 PENETRATION ROCK (PR)	 VECTOR (V)	 DOUBLE VECTOR (W)
PENETRATION	● ● ○	● ● ●	● ● ○	● ● ●	● ● ●	● ● ●
ABRASION	● ● ●	● ● ○	● ● ●	● ○ ○	● ○ ○	● ○ ○
IMPACT	● ● ○ ○	● ● ○ ○	● ● ● ○	● ● ● ●	● ○ ○ ○	● ● ○ ○

## Wheel Loader Tooth Designs

VEEMET				
TOOTH DESIGN	 ABRASION (A)	 ABRASION VECTOR (AV)	 ABRASION X (AX)	 PENETRATION ROCK (PR)
PENETRATION	● ● ○	● ● ●	● ● ○	● ● ●
ABRASION	● ● ○	● ● ○	● ● ●	● ○ ○
IMPACT	● ● ○ ○	● ○ ○ ○	● ● ○ ○	● ● ● ●

## Choose Your Adapter Option



CENTRAL  
(WC / WLD / WRD)



STRADDLE  
(WS)



CORNER  
(WL / WR)

## Additional Wear Protection



CENTRAL WEAR CAP  
(M)



STRADDLE & CORNER  
WEAR CAP  
(MS / ML)



BOTTOM WEAR PLATE  
FOR CENTRAL ADAPTER  
(HD)



BOTTOM & LATERAL WEAR  
PLATE FOR CORNER ADAPTER  
(HD-B / HD-L)

# STARMET TOOTH SYSTEM



Our proven hammerless tooth-adapter system guarantees increased productivity and maximum reliability for excavators, wheel loaders and draglines even in the roughest and toughest mining conditions.

## Benefits and Features



### SHORT AND SAFE DOWNTIMES

Changeout of our teeth is fast and safe thanks to our **hammerless locking**. It is intuitive and easy to use and offers excellent retention thus preventing tooth loss.



### HIGHER PRODUCTIVITY

Our **self-sharpening designs** offer a high level of penetration throughout their wear life, improving your machine's performance.



### LONGER OPERATIONAL TIME

Due to the **optimal wear material ratio and wear distribution**, our GET last longer, reducing your operating costs.












### OPTIMAL PERFORMANCE






Thanks to our **wide product range**, we are able to fit almost every machine in the market and to offer specific tooth designs for each application.



## Excavator & Dragline Tooth Designs

STARMET									
TOOTH DESIGN									
PENETRATION	●●●	●●●	●●○	●○○	●○○	●●●	●●○	●●●	●●●
ABRASION	●○○	●●●	●●●	●●●	●○○	●○○	●●○	●○○	●●○
IMPACT	●○○○	●●○○	●●○○	●●○○	●●●●	●●●○	●●○○	●○○○	●●○○

## Wheel Loader Tooth Designs

STARMET					
TOOTH DESIGN					
PENETRATION	●●○	●●○	●●●	●○○	●●●
ABRASION	●●○	●●○	●●○	●●●	●○○
IMPACT	●●○○	●○○○	●○○○	●○○○	●●●●

## Choose Your Adapter



**CENTRAL**  
(WC / WLD / WRD)



**STRADDLE**  
(WS)



**CORNER**  
(WL / WR)

## Additional Wear Protection

All the adapters can optionally be equipped with a mechanical wear cap. Three different designs are available to protect efficiently the weld-on adapter against higher wear.



**CENTRAL WEAR CAPS**  
(M / M-A)



**STRADDLE & CORNER WEAR CAP**  
(MS / ML)




**BOTTOM WEAR PLATE FOR CENTRAL ADAPTER**  
(HD)



**BOTTOM & LATERAL WEAR PLATE FOR CORNER ADAPTER**  
(HD-B / HD-L)

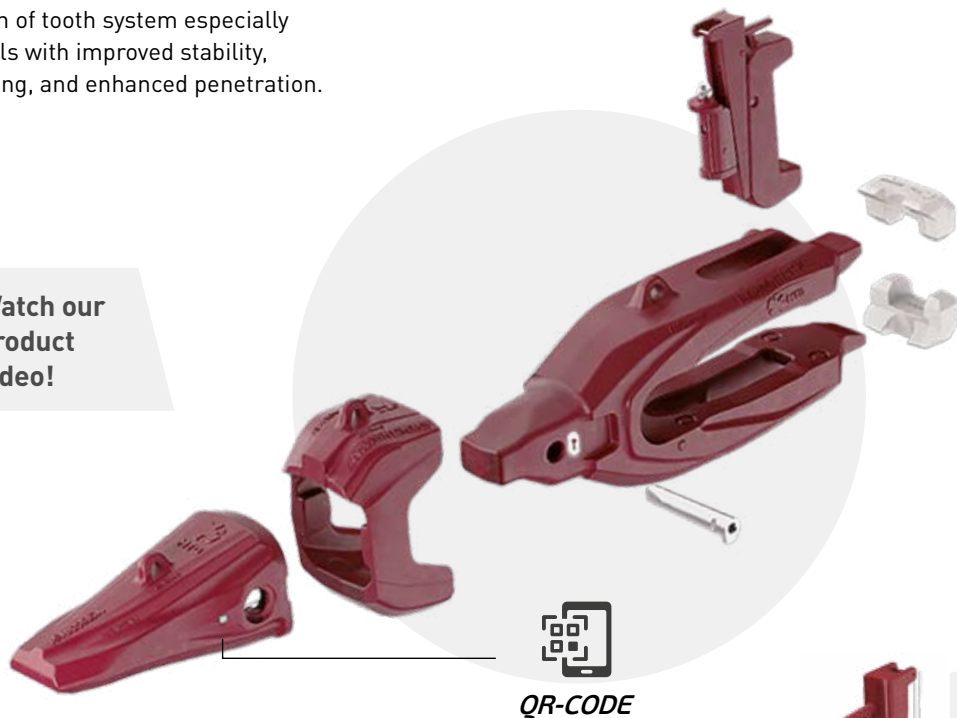
# NEW VEEMET ROPE SHOVELS SYSTEM

Compatible with 

New generation of tooth system especially for Rope Shovels with improved stability, optimized locking, and enhanced penetration.



Watch our product video!



Watch our 3D Technology Video!  
Ratchet Hammerless Locking



100% hammerless  
RH



CR

## Benefits and Features



### HIGHER PRODUCTIVITY

Slimmer, self-sharpening teeth with longer grooves along with a **streamline wear cap and adapter design** further improve the penetration capabilities optimizing your digging efficiency and reducing costs.



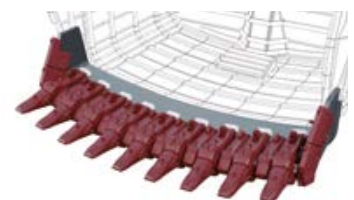
### MAXIMUM RELIABILITY

The **V-shaped fitting, an optimized locking, and reinforced adapter legs with weld-on bridges** provide maximum stability and utmost resistance reducing plastic deformation and maximizing wear life.



### SHORT AND SAFE DOWNTIME

**Hammerless tooth and adapter lockings** allow safe, quick and easy change-outs always from the top. An additional **auto-tightening effect of the adapter locking** reduces the need for maintenance and increases reliability.








### WIDE RANGE

The **modular and comprehensive product range** offers versatile solutions that cover 90% of all possible rope shovel dipper configurations. The adapter variants are **compatible with WH10\*, WH12\*, and wide radius lips**.



## Find Your Tooth Design

VEEMET ROPE SHOVELS					
TOOTH DESIGN	 STANDARD (RS)	 SHORT (RSS)	 PENETRATION (RSP)	 EXTRA (RSX)	 EXTRA X (RSXX)
PENETRATION	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●
ABRASION	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●
IMPACT	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●

## Choose Your Adapter

Both adapter options are compatible with standard WH10, WH12, and wide radius lips!



### PENETRATION ADAPTER (P)

- Versatile adapter option with an optimal balance between penetration and resistance.
- Compatible with conventional (CR) or hammerless ratchet (RH) adapter locking.
- It can be equipped with various wear caps (MP / MX or M360X) to also increase its resistance against high levels of abrasion.

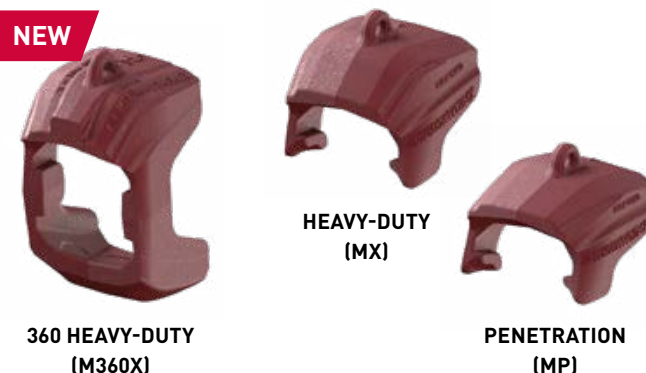


### HEAVY-DUTY ADAPTER (X)

- Especially designed for tough digging conditions with a high level of abrasion. A reinforced bottom leg provides additional wear material for longer wear life.
- Compatible with conventional (CR) or hammerless ratchet (RH) adapter locking.
- Can be equipped with the regular wear caps MP (Penetration) or MX (Heavy-duty).

## Wear Caps for Additional Protection

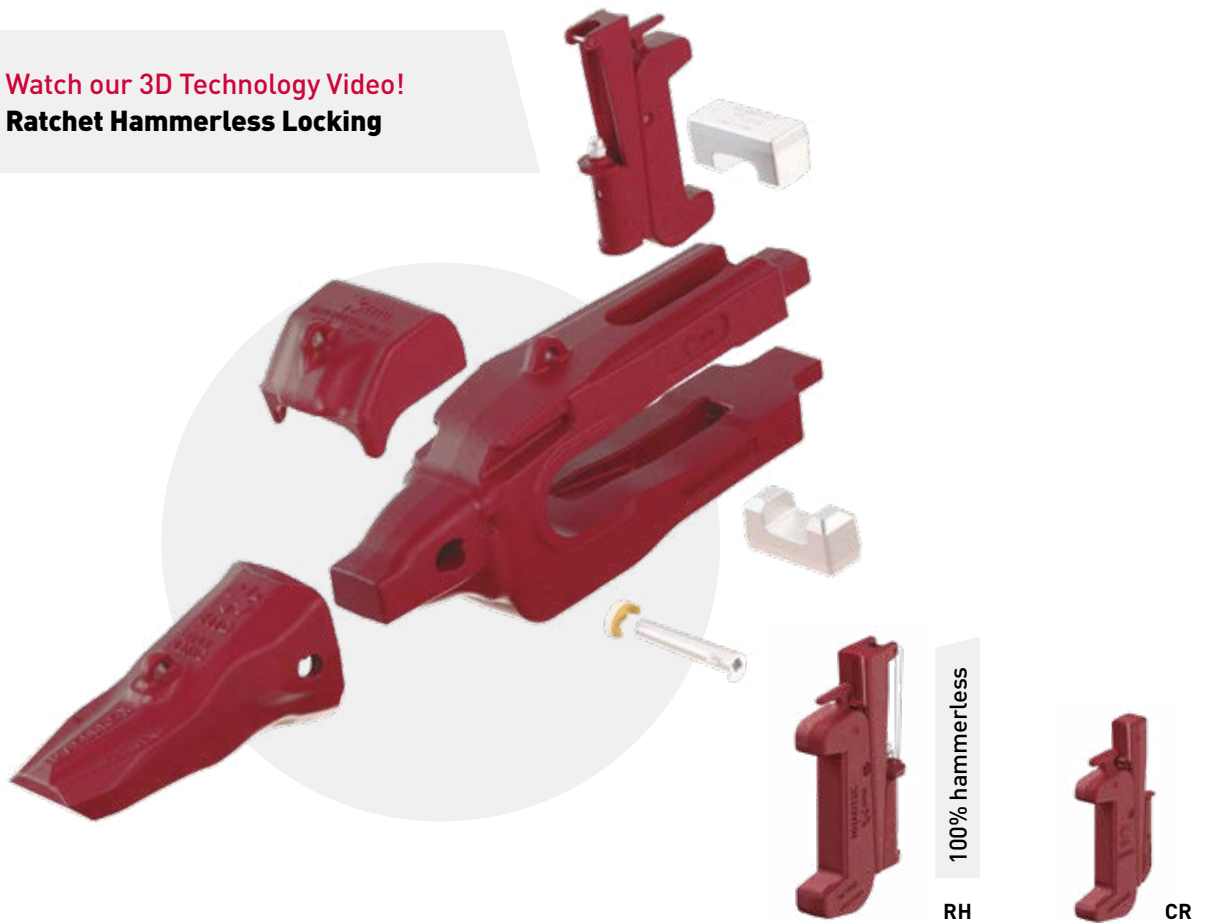
- Regular wear cap options MP (penetration) and heavy-duty (MX) are available for both adapter options providing protection to the upper leg.
- Brand new 360 wear cap available for penetration adapter that provides protection to the upper and lower leg.



# STARMET ROPE SHOVELS SYSTEM



Watch our 3D Technology Video!  
Ratchet Hammerless Locking



RH

CR

## Benefits and Features



### SHORT AND SAFE DOWNTIMES

Changeout of our teeth is fast and safe thanks to our **hammerless locking**. It is intuitive and easy to use and offers excellent retention thus preventing tooth loss.



### HIGHER PRODUCTIVITY

Our **self-sharpening designs** offer a high level of penetration throughout their wear life, improving your machine's performance.



### LONGER OPERATIONAL TIME

Due to the **optimal wear material ratio** and wear distribution, our GET last longer, reducing your operating costs.








WH10'  
WH12'  
WR6'

### OPTIMAL PERFORMANCE

Thanks to our **wide product range**, we are able to fit almost every machine in the market and to offer specific tooth designs for each application.



## Find Your Tooth Design

STARMET ROPE SHOVELS							
TOOTH DESIGN							
PENETRATION	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●
ABRASION	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●
IMPACT	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●

## Choose Your Adapter

MTG offers two adapter versions to answer the demand for different Rope Shovel applications which are both available for WHISLER10\*, WHISLER12\* and Wide Radius (WR6\*) lip designs and that can be used either with conventional or hammerless locking.



### HEAVY-DUTY ADAPTER (HD)

- Specially designed for hard digging conditions.
- Reinforced bottom leg and two bridges increase the adapter's reliability.
- Additional wear material at the lower part of the bottom leg increases wear life.
- Weldable bridges at the end of both legs prevent the adapter legs from opening under very high mechanical stress.



### STANDARD ADAPTER (STD)

- For applications in low to medium abrasive terrains.
- Optimal wear-ratio to reduce weight and costs while increasing performance.
- Optionally with mechanical wear caps to protect against higher impacts.

## Wear Caps for Additional Protection

The adapters can optionally be equipped with a mechanical wear cap. Two different wear cap designs are available to protect efficiently depending on the terrain's abrasion level and type of application.



STANDARD  
(M)



HEAVY-DUTY  
(MX)

# PROMET LIP SHROUDS

Lip protection solutions for different mining applications with a reliable hammerless locking.

## Benefits and Features



### MAXIMUM RELIABILITY

Our premium steels made in Europe have proved **robustness and resistance**, even in the most demanding applications.



### LONGER OPERATIONAL TIME

Due to the **optimal wear material ratio and wear distribution** of our protectors' designs, they last longer, reducing the operating costs.



### SHORT AND SAFE DOWNTIMES

Our innovative and easy-to-use **hammerless lockings** enhance the safety and efficiency of your operations, with shorter downtimes.



### INCREASED PRODUCTIVITY

The range of **self-sharpening** lip and wing shrouds boosts the bucket efficiency while the **optimal protection** increases its capacity volume.

## Lip Shrouds for Plate Lips

Compatible with



PROMET shrouds for plate lips are especially designed for excavator and wheel loader applications and are available in central or left / right delta designs.





## Lip Shrouds for Cast Lips

Compatible  
with

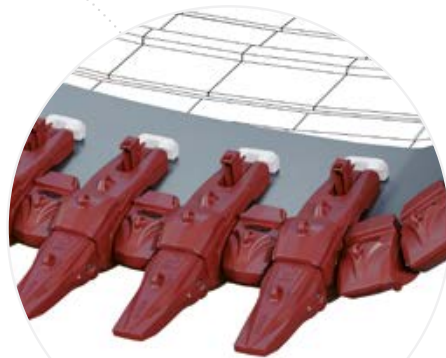


Especially designed for the TWINMET cast lip range, the PROMET lip shrouds optimally protect the cast lip to increase wear life thus reducing rebuild needs. Different lip shroud designs are available that either contribute to a better penetration or are especially designed for heavy-duty applications that provide more resistance against impacts and abrasion.



## Lip Shrouds for Rope Shovels

The PROMET shroud solution for Rope Shovels is especially designed for BK600\* wide radius lip designs.



# PROMET WING SHROUDS

Wing protection solutions for different mining applications with a reliable hammerless locking.

## Benefits and Features



### MAXIMUM RELIABILITY

Our premium steels made in Europe have proved **robustness and resistance**, even in the most demanding applications.



### LONGER OPERATIONAL TIME

Due to the **optimal wear material ratio and wear distribution** of our protectors' designs, they last longer, reducing the operating costs.



### SHORT AND SAFE DOWNTIMES

Our innovative and easy-to-use **hammerless lockings** enhance the safety and efficiency of your operations, with shorter downtimes.



### INCREASED PRODUCTIVITY

The range of **self-sharpening** lip and wing shrouds boosts the bucket efficiency while the **optimal protection** increases its capacity volume.

## U Wing Shroud (≤60 mm)

Reversible wing shroud design with 70% wear material ratio for standard application and for side wall thicknesses up to 60 mm. The PROMET II locking based on pin and retainer provides maximum reliability and offers quick and safe change-outs.





## UX Wing Shroud (60-140 mm)

Compatible  
with



The extremely robust design with 70% wear material ratio is ideal for heavy-duty mining applications and especially resistant in very abrasive soils. The PROMET II locking based on pin and retainer provides maximum reliability and offers quick and safe change-outs.



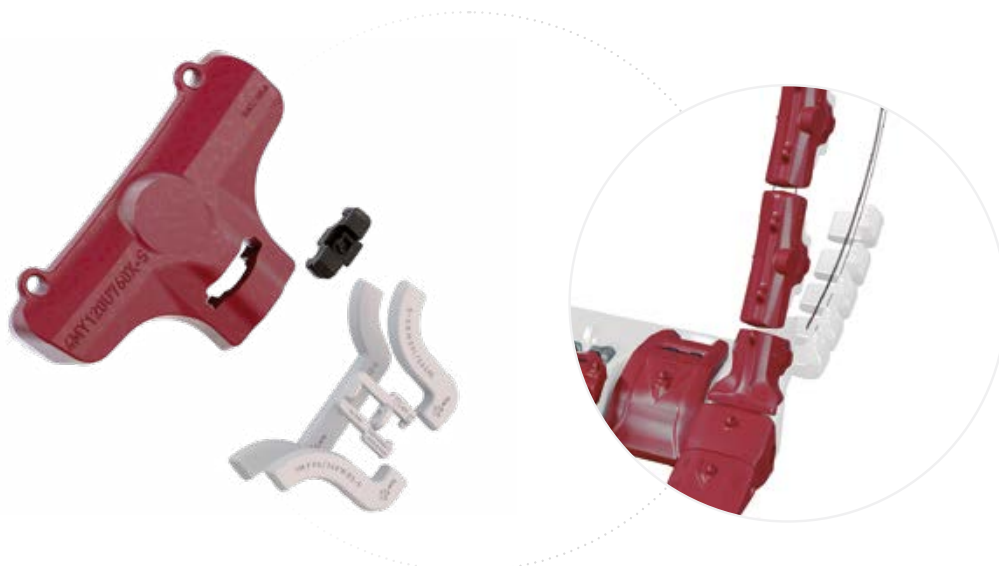
## UX-S Wing Shroud (40-140 mm)

Compatible  
with



The UX-S wing shrouds are especially designed for bigger buckets with a sidewall thickness of 80 to 140 mm. The robust and symmetrical design provides maximum resistance in heavy-duty applications and can be exchanged between both sides for longer wear life.

The innovative PROMET III locking system does not require sidewall holes. The weld-on base + locking in combination with weld-on stoppers provide maximum reliability while also allowing quick change-outs.



## OUR RIPPER SOLUTION



Optimum penetration and longer service life for your dozer in the most demanding ripping applications.

## Benefits and Features



### MAXIMUM RELIABILITY

Our steels are designed to withstand the highest level of mechanical stress. The low level of impurities and the specific heat treatment optimize the **hardness / toughness ratio**.



### HIGHER PRODUCTIVITY

Our tooth profiles are **designed to keep sharp** throughout their wear life, guaranteeing the highest level of penetration in order to optimize your machine's performance.



### LONGER OPERATIONAL TIME

Due to the **optimal wear material ratio** and its distribution, our ripper boots last longer, reducing downtimes and operating costs.









### SHORT AND SAFE DOWNTIMES

Changeout of our teeth and shank protectors is quick and safe thanks to their **hammerless locking system**. It is intuitive and easy to use and offers excellent retention, thus preventing their loss.



## Find Your Tooth Design

RIPMET						
TOOTH DESIGN	 ABRASION (AX)	 IMPACT (I)	 PENETRATION (P)	 PENETRATION (PX)	 STANDARD (S)	 VECTOR (V)
PENETRATION	● ○ ○	● ● ○	● ● ●	● ● ●	● ● ○	● ● ●
ABRASION	● ● ●	● ● ○	● ● ○	● ● ●	● ● ○	● ● ○
IMPACT	● ● ○ ○	● ● ● ●	● ● ○ ○	● ● ○ ○	● ○ ○ ○	● ○ ○ ○

## Choose Your Adapter Option

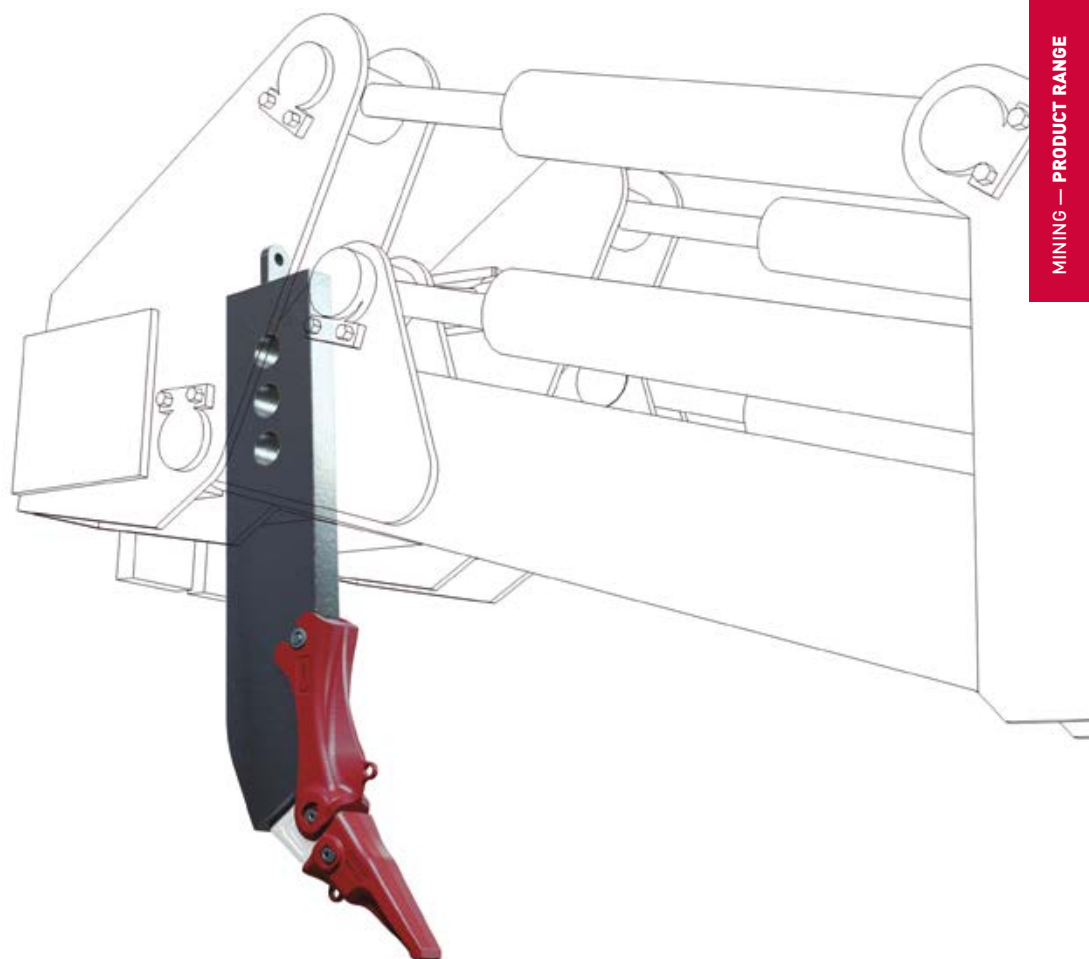
With the RIPMET adapter (WA) and the weld-on nose (WN), all sizes of dozer shanks can be equipped with MTG's ripper solutions either for first installment or maintenance purposes.



WA



WN





# ROPE SHOVEL SHROUDS

## For Hard Rock (HR) Dipper Designs



Lip shrouds available with hammerless locking.



Lower and upper wing shrouds available with hammerless locking.

## For Wide Radius (WR) Dipper Designs



WH12\* lip shrouds available with hammerless locking.



BK600\* lip shrouds available with conventional locking pin.

## For BI & BII Dipper Designs



Lip shrouds available with hammerless locking.

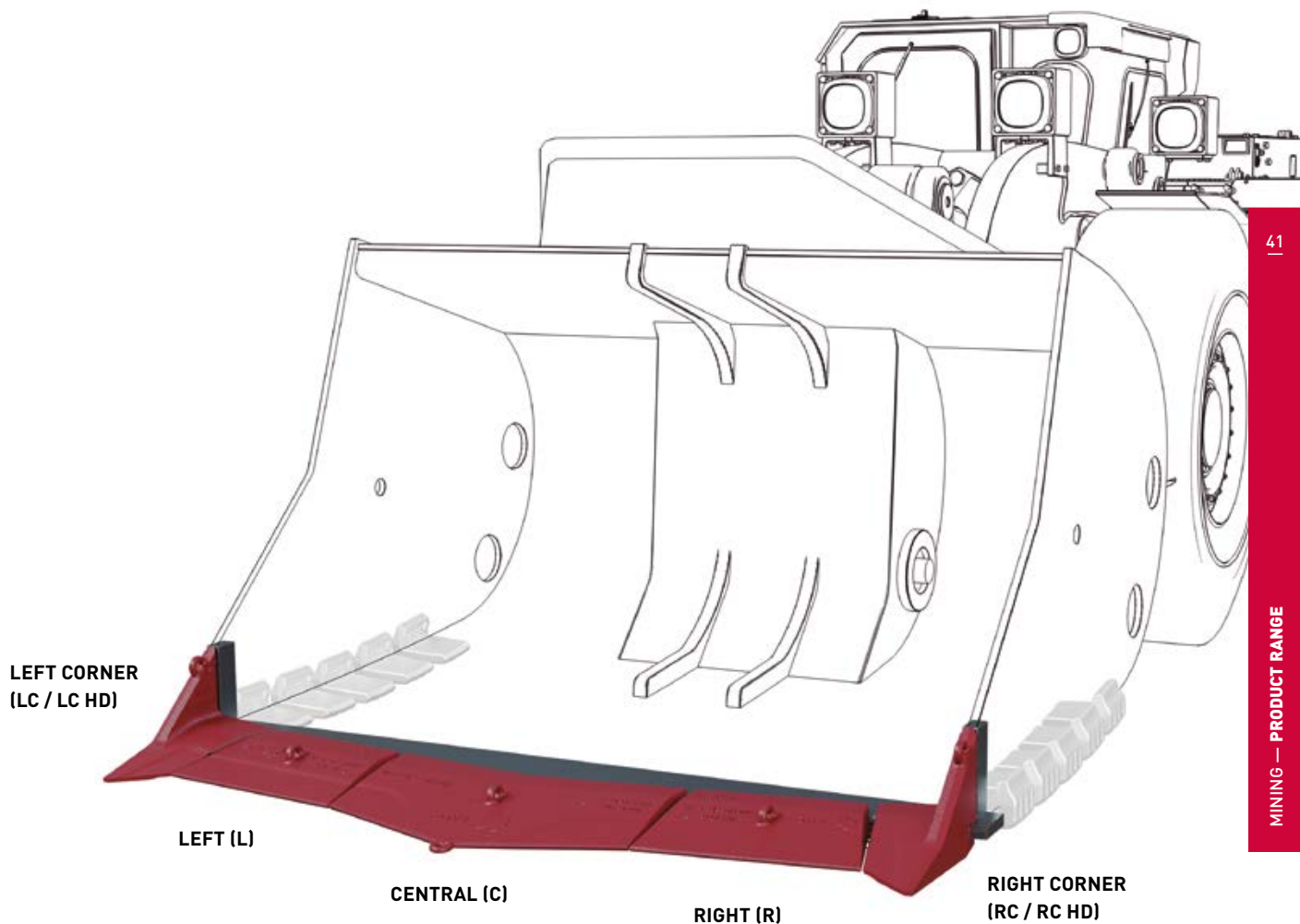


Lower and upper wing shrouds available with hammerless locking.



# LHD LIP SHROUDS

Made of our exclusive and extra resistant steel, LHD weld-on lip shrouds are especially designed for underground mining.



41

MINING — PRODUCT RANGE

## Choose Your Corner Lip Shroud

Depending on your underground mining applications and terrain, you can choose between a standard (LC / RC) or a heavy-duty (LC HD / RC HD) corner adapter for higher resistance and longer operation times.



RC



RC HD



## BOLT-ON LOADER SHROUDS

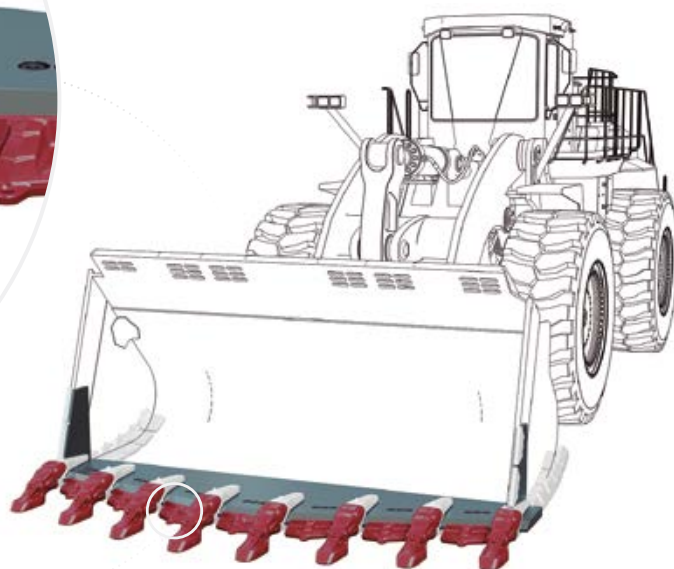
The bolt-on half-arrow lip shrouds are an alternative lip protection especially designed for mining loaders. Available as standard and heavy-duty version and suitable for central or delta left / right lip positions.



**BCX**



**BLDX / BLRX**





## COMPLEMENTARY SHROUDS



### WELD-ON LIP SHROUDS

Suitable for plate lip excavators with versions for central or delta left / right lip positions.



### WELD-ON WING SHROUDS

Lateral weld-on protectors as standard or heavy-duty option for plate lip excavators and wheel loaders.



### WELD-ON HEEL SHROUDS

Complementary bucket protection for excavators, loaders and LHDs as standard or heavy-duty version.



## DIRECT REPLACEMENT FOR DOZER



**CATERPILLAR® RIPPER**

Quick and safe replacements through an innovative locking system that provides excellent retention.



Country:  
**Australia, Jellinbah**

Abrasion level:  
**Low**

Terrain:  
**Coal Overburden**

Impact level:  
**Medium**

## Machine

Brand: **HITACHI\***  
Model: **EX5600 - Back Hoe**  
Machine type: **Excavator**  
Weight: **550 t**

## Bucket Configuration

TWINMET (Cast Lip): **1MT5CL169**  
TWINMET (Teeth): **MT4W / 5MT54**  
PROMET (Lip): **4MX5CL169T-P**  
PROMET (Wing): **4MY120U760X**





Country:  
**Australia, Coppabella**

Abrasion level:  
**Low**

Terrain:  
**Coal Overburden**

Impact level:  
**Medium**

## Machine

Brand: **CATERPILLAR®**  
Model: **CAT6060 - Back Hoe**  
Machine type: **Excavator**  
Weight: **599 t**

## Bucket Configuration

TWINMET (Cast Lip): **1MT5CL169**  
TWINMET (Teeth): **MT4P / 5MT54**  
PROMET (Lip): **4MX5CL169T**  
PROMET (Wing): **4MY140U800X**





Country:

**Mexico**

Terrain:

**Clay and Limestone**

Abrasion level:

**Low**

Impact level:

**High**

## Machine

Brand: **HITACHI®**  
 Model: **EX5600**  
 Machine type: **Excavator**  
 Weight: **550 t**

## Bucket Configuration

TWINMET (Cast Lip): **1MT5CL169**  
 TWINMET (Teeth): **MT4W**  
**5MT54**  
 PROMET (Lip): **4MX5CL169T-P**  
 PROMET (Wing): **4MY120U760X**





Country:  
**Brazil**

Terrain:  
**Iron Ore**

Abrasion level:  
**High**

Impact level:  
**High**

## Machine

Brand: **CATERPILLAR®**  
Model: **7495 HR**  
Machine type: **Rope Shovel**  
Weight: **1.390 t**

## Bucket Configuration

STARMET  
ROPE SHOVELS:  
PLUS (Lip): **MA500RSX  
1MA500WH12-0  
4MA500WH12M  
4MLWH12BC250**  
PLUS (Wing): **4MBWH12BLL230 / BLR230  
4MBWH12BUL230 / BUR230**





“

*As one of the first we tried the new VEEMET tooth system. We realized a very good penetration, and a high durability that helps us to keep productivity high.*

— Adrian, S.A.

”


**MTG SYSTEMS / VEEMET**

Country:  
**Spain**

Terrain:  
**Dolomite Limestone**

Abrasion level:  
**Medium**

Impact level:  
**High**

## Machine

Brand: **VOLVO®**  
 Model: **EC700CL**  
 Machine type: **Excavator**  
 Weight: **70 t**

## Bucket Configuration

VEEMET: **MV130V**  
**1MV130WC80**  
**4MV130M**





Country:

**Germany**

Terrain:

**Granite, Sand, Grit**

Abrasion level:

**High**

Impact level:

**High**

## Machine

Brand:

**KOMATSU\***

Model:

**PC700**

Machine type:

**Excavator**

Weight:

**70 t**

## Bucket Configuration

STARMET:

**MA120EX**

**1MA120WC90/M**

PROMET (Lip):

**4MX90L240-14A**

**4MX90R240-14A**

PROMET (Wing):

**4MY50U600**

PLUS (Heel):

**4MB300ULH**





Country:

**France**

Terrain:

**Gneiss Granite**

Abrasion level:

**High**

Impact level:

**Medium**

## Machine

Brand: **CATERPILLAR®**  
 Model: **992K**  
 Machine type: **Wheel Loader**  
 Weight: **100 t**

## Bucket Configuration

STARMET: **MA120A**  
**1MA120WC70/M**  
**4MA120HD-A**  
 PROMET (Lip): **4MB70BCX-A**  
**4MB70BRDX-A**  
**4MB70BLDX-A**  
 PROMET (Wing): **4MY50U600**





Country:  
**Portugal**

Terrain:  
**Copper**

Abrasion level:  
**Medium**

Impact level:  
**High**

## Machine

Brand: **EPIROC®**  
Model: **COPCO SCOOPTRAM**  
Machine type: **ST14 LHD**  
Weight: **38 t**

## Bucket Configuration

PLUS LHD  
Central: **4MLHD38C1050-7**  
Left: **4MLHD38L696-7**  
Right: **4MLHD38R696-7**  
Left Corner: **4MLHD38LC189-7**  
Right Corner: **4MLHD38RC189-7**





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