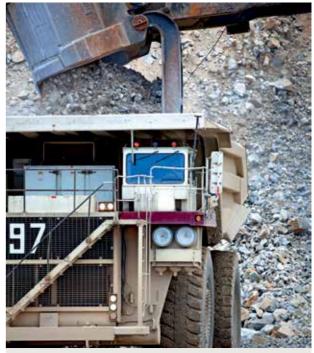




## Metso understands your aims and challenges

#### Your aims





#### Your challenges

**Reliability** - To ensure maximum availability of your trucks and finding ways to keep downtime to a minimum. Trucks need to be in operation and not in a repair center.

**Performance** - To reduce your operating costs by hauling as much material, in the available time and with as few trucks as possible. In other words, increasing your average payload.

**Responsibility** - To improve your working environment and reduce risks by ensuring safe handling during installation and while trucks are in operation.

**Ease** - To improve your lining change-out process and keep downtime to a minimum. Find ways to avoid long shutdowns mainly due to hard welding work or time consuming shipments of truck boxes to sub-suppliers for box refurbishment and lining change-outs.

The repeated impact and stress of loading and dumping heavy, abrasive material can cause expensive damage to the box and truck as a whole

# We care about your haul truck operations

It's tough enough to squeeze maximum profitability out of a mining or aggregate operation. Unproductive trucks make it even tougher. Metso Haul Truck Solution is designed with one thing in mind - to maximize the availability and performance of your trucks, while reducing your costs for service and maintenance. We look beyond the lining product and care for your truck operation.

#### **Lining solution**

- Modular lining system
- Solutions to reduce impact, wear, carry-back and noise
- Solutions applicable for heated box, cold and hot climate or any other type of box

#### **Monitor systems**

- Health monitoring system to measure vibration, noise and others to identify weaknesses and opportunities for a healthier truck fleet
- Tire monitoring system to measure tire pressure and temperature to prevent unexpected tire failures.
  Result is savings in tires and fuel consumption when used together with Metso Haul Truck Solution



#### Service

- Engineering of customized solutions
- Repair of used boxes
- Installation of complete lining
- Wear monitoring and analysis
- Performance follow-up and reporting

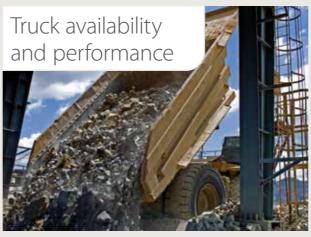
#### **Financial solutions**

- Cost per ton agreements
- Life-Cycle Service contracts as an option to split investment over time

#### How we deliver results:

Developed from years of on-site experience in the toughest conditions, our haul truck rubber lining offers you an increased average payload. With several times more service life compared to steel lining you keep downtime to a minimum. And in addition, the high-performance Metso rubber lining absorbs impact better than steel. Ultimately, it benefits your entire fleet.

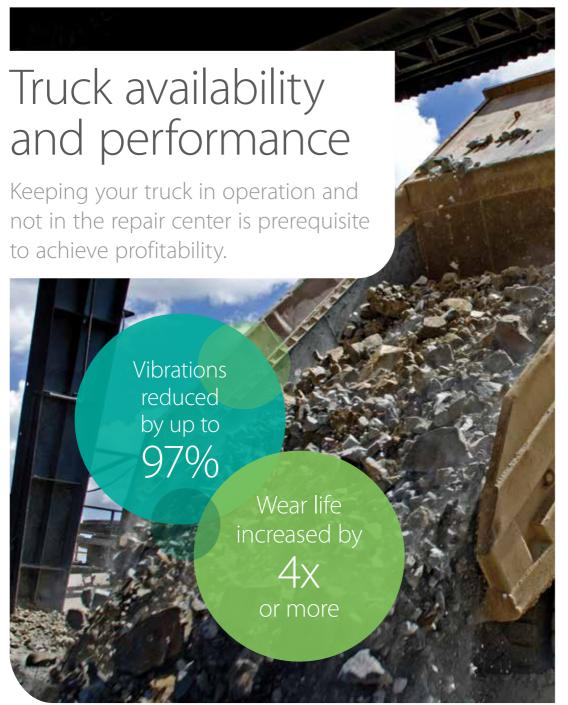












#### Tougher than steel

Metso rubber lining, developed from years of on-site experience in the toughest conditions, is highly resistant to wear and impact. The optimized rubber lining offers four or more times service life compared to traditional steel lining. In addition, once it is time to make any change-out, only a few individual lining modules need to be replaced.

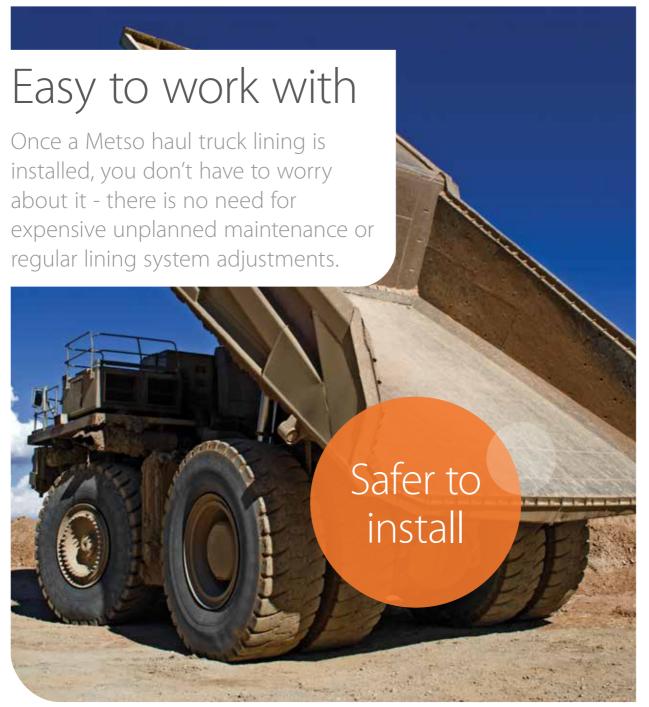
#### **Absorbs vibrations**

Metso haul truck rubber lining absorbs vibrations and reduces stress at every point in the truck work cycle - during loading, transport and dumping. Its low weight and high wear resistance design not only reduces damages to the truck box, but to the truck as a whole. Bearings, transmission, tires and chassis are protected and the cost for service and damaged equipment are minimized.

Major impact and vibrations from loading and carrying heavy rocks result in strain, but with a Metso rubber lined truck box, strain is minimized. This means your trucks last longer and there will be less need for maintenance.

#### Keeping up performance

To increase your performance, even in difficult applications with significant carry-back problems, we offer a solution of flexible lining, low friction material or combinations of these. The unique functionality keeps your truck productive so you can haul more material.



#### **Modular lining system**

The modular design makes the lining easier to install and maintain than steel options, with the possibility to only replace individual modules instead of the entire lining. You can easily arrange for the quick change-outs when the truck is in the repair center for regular engine maintenance. The result is shorter replacement and installation time compared to steel lining.



#### Lifting device

Metso has developed a lifting device (CE-certified) to ensure safe, reliable, fast and easy installations and maintenance.



#### **Fastening system**

A guaranteed and standardized stud welding process for easy handling but also to ensure that the lining is firmly installed to increase safety during operation.

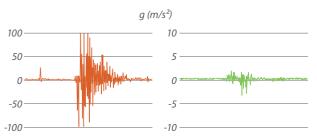


#### **Reduced noise**

Managing noise pollution is more important than ever, both for the health and safety of co-workers and to satisfy regional legislative demands. Metso rubber lining absorbs impact better than steel ever can, reducing noise by average 10-15 decibels - the effect of cutting noise in half or more. You can feel and hear the difference when sitting in the operator cabinet during loading and dumping.

#### Less vibrations

When comparing a steel lined truck box and a Metso rubber lined truck box, measurements show that up to 95% of the energy from the impact during loading is absorbed in the rubber lined truck box. Consequently, the vibration is dissipated before reaching other parts of the truck structure, including the operator cabinet.



Vibrations measured in tray bottom during loading in a truck box lined with steel lining (left) compared with Metso rubber lining (right). The result shows 97% less vibrations in the box lined with Metso rubber lining. Please note the different scales.



#### **Reduced maintenance**

We keep your trucks in operation and not in the repair center which will increase your average payload and save costs over time. And the bigger the lump size, the more savings you will get.

Thanks to longer service life compared to a steel lined truck box, there is a reduced need for maintenance which keeps your trucks hauling more material. Once it's time for change-outs of lining - downtime is kept to a minimum.

#### Less carry-back

Less or no carry-back makes the trucks more productive so you can haul more material.

#### **Fewer spare boxes**

Limited and quick change-outs of lining modules result in less need for spare boxes on site.

#### Lower fuel consumption

Lower lining weight over time and less or no carry-back reduce fuel consumption.

#### Savings in tires

Monitoring tire pressure and temperature prevents unexpected tire failures or premature wear. Result is savings in tires, fuel and costly unplanned repairs when using Metso Haul Truck Solution bundled with Metso tire monitoring system.

#### **Metso differentiators**

## We ensure that your truck is in operation

With Metso Haul Truck Solution, everything is reduced - downtime, spare boxes, maintenance costs and more - the only thing that increases is your profitability. Metso haul truck lining is the best choice to keep your trucks moving.



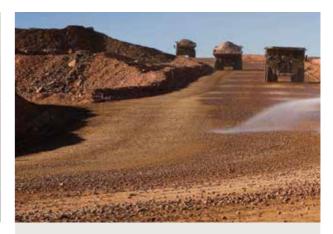
#### Our knowledge

We match your needs and guarantee that your trucks are moving by combining our knowledge of haul truck operations with our extensive experience in engineered rubber solutions.



#### Our people

Committed people around the world who take care of your truck operation and are dedicated to serve you.



#### **Our solutions**

We offer a unique rubber based lining solution that will improve your overall hauling profitability. Our supporting tools help identify possible weaknesses and opportunities for improvements.

Case: Boliden Aitik, Sweden

# Metso keeps trucks moving at Aitik mine

### Improved availability and working environment

"During the past two years, we have evaluated Metso's truck bed lining through our existing life-cycle services contract for our truck models CAT 793 Flat, CAT 793 DS and CAT 795 Flat. We have appreciated the increased availability of our trucks. We also value the benefits from a health and safety perspective as our truck drivers prefer to drive the trucks equipped with Metso's lining due to their reduced noise level and vibration during operation."

#### Magnus Fjellström,

Maintenance Superintendent at Boliden Aitik

Boliden's Aitik mine in Northern Sweden has signed a three-year contract with Metso to deliver truck bed linings for a total of 15 haul trucks in their existing fleet of 30 trucks



# The Metso Way –

## Making the big difference to our customers

Everything we do is based on deep industry knowledge and expertise that makes the big difference to our customers. Decades of close customer collaboration and adapting to our customers' ever changing needs have transformed us into a knowledge company.

