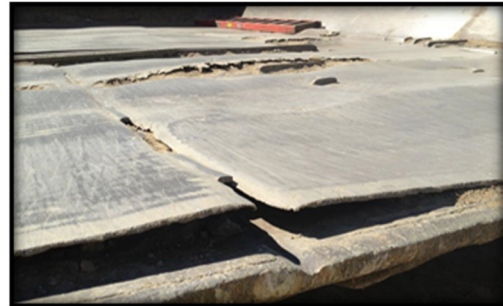


Rubber-Lined Haul Trucks Have Zero Box Maintenance After 5 Years!

The Problem

A fleet of Haul Trucks owned by a Peruvian mine operation had high maintenance due to steel lining fractures, which in turn decreased the availability of their equipment. The truck beds had a lower life expectancy due to the issues caused by the steel, and site personnel experienced poor working conditions.



Common fractures and liner damage in truck boxes with steel liners.

After five years, the following is true considering steel liners:

- Steel lining will be installed and changed more than 3 times.
- The truck box will be repaired completely more than 3.5 times.
- There will be ongoing maintenance on both the liners in the box and the chassis of the truck due to impact and wear.

Valley Rubber's Solution

Starting in 2012, Valley Rubber began to install 6" thick rubber liners in Komatsu 830 and 930 Haul Trucks with the intention of extending the useful life of the truck box to five years without performing maintenance or repairs, except the monthly routine inspections and the rotation of the central pieces of the lining every three years. The addition of the rubber liners did not affect the load factor.

Benefits from the Solution

The rubber liners improved the Haul Truck's run-time due to:

- Increased reliability of the equipment.
- Decreased cost truck box maintenance.
- Increased productivity.
- Increased useful life of the asset.
- Control safety risk.
- No plate stress and steel fracture.



Komatsu 930 Haul Truck, five years of using rubber liners and still in service.

Because rubber has the ability to absorb 400% more impact force than steel, the whip effect on the operator's body was considerably reduced, as well as the noise inside of the main cabin. More productive work hours resulted from these positive benefits.

Below is a comparative table of a truck lined in steel and rubber.

930E	Steel 1 "	Valley Rubber 5" Rubber	Valley Rubber 6 " Rubber
Duration	10,000 - 13,000 Hours	35,000+ Hours	50,000+ Hours
Impact absorption	Structural damage in truck box, transmission, and chassis	Minimal damage to truck box and components	Minimal damage to truck box and components
Liner Installation	336 - 672 Hours	24 - 36 Hours	24 - 36 Hours
Maintenance	Bed overhaul every 20,000 hours	5 years with no maintenance	5 years with no maintenance
Warranty	N/A	3 years	3 years
Equipment availability	2,700 Hours loss in 4 years	99%	99%
Effect on Health	Whiplash Effect on the operator	Minimal Risk	Minimal Risk

It is evident that rubber-lined trucks in this operation had superior performance when compared to steel-lined trucks. The trucks that were first lined in 2012 have hauled as many as 10,898,400 tons...all with zero box maintenance!