

Significant conveyor uptime increase in a copper mine

SKF Three-barrier solution



A copper mine achieves major uptime success with contamination-resistant SKF Three-barrier solutions in the conveyor pulleys.

A copper mine in Peru underwent a major expansion of its concentrator plant to 360 000 metric tons-per-day (mtd) in 2015. 14 conveyors with 72 pulleys are used to transport crushed mineral up to the mill's high-pressure grinding roll.

Due to extreme contamination and abrasive wear, pulley bearings have to be replaced every 6 months to avoid breakdowns and excessive unplanned production stops.

To minimize downtime and production losses, the mine owners wanted to extend the service life of their conveyor pulleys. All open bearings were replaced with contamination-resistant SKF Three-barrier solutions including sealed

SKF spherical roller bearings, a grease barrier in the housings and custom-machined seals for maximum protection.

Nowadays, the mine's conveyor pulley bearing uptime is more than 26 months.

In addition, the SKF Three-barrier solution is virtually relubrication free.

Application	
Type of mine	Copper mine
Temperature	10–35 °C
Speed	< 100 r/min
Load	High
Contamination	Extremely high

Comparison	Before	After
Pulley bearing technology	Conventional pulley bearing – Open spherical bearing – Labyrinth seal	SKF Three-barrier solution – Sealed spherical bearing – Housing (grease barrier) – Custom-machined seal
Bearing service life	6 months	> 26 months
Lubrication intervals	Regular re-greasing	Virtually relubrication free

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