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**Multotec Rubber Helps Zambia Copperbelt Customer Reduce  
Downtime Dramatically With Installation Of Hd Multomet Liners**

Multotec Rubber, in conjunction with Multotec Zambia, has successfully relined two mills with its heavy duty (HD) MultoMet liners for a customer in the Zambia Copperbelt. “There has been a substantial saving on downtime as a result,” Spike Taylor, managing director of Multotec Rubber, says. This is due to the significant improvement in the liner life, especially compared to the manganese grid liners used previously.

The HD MultoMet liners can withstand the harsh operating environment in a grinding mill. This is due to the fact that the proprietary chromium-molybdenum (CrMo) alloy cast steel insert absorbs greater impact.

It also offers superior abrasion resistance. The castings for the lifter bars can be designed to accommodate a range of milling process specifications, which gives Multotec Rubber the necessary flexibility to be able to cater for diverse customer requirements.

The Zambia customer’s mill circuit required five relines a year, which equated to a total loss in production time of 25 to 30 days. In addition, the manganese grid liners were only lasting two months, mainly due to the fact that steel castings from the local foundry had cracks and uneven moulding. This not only made the liners difficult to install, but they failed to fit properly as well.

Major gaps between the liners resulted in excessive wash behind the liners, which damaged the shell severely. The poor fit led to even more downtime, as the rubber backing had to be removed and renewed with every reline. The relining process itself was very slow due to the dimensions and weight of the individual grid liners plus manganese peens and flows so that the worn liners often had to be cut out with a cutting torch. As a result, it took five to six days to reline the Semi Autogeneous Grinding (SAG) and ball mills simultaneously.

“We embarked on a multi-faceted approach to supplying,” Taylor says. Multotec Rubber’s comminution product manager visited the site twice in order to assess the grinding circuit and to carry out mass balance measurements. The customer was advised on feed-size change

recommendations, best practice for the addition of grinding media and the granulometry of the ore if the SAG and ball mills ran in parallel, and sump-level control.

Once the measurements had been taken and the necessary quotes supplied, the installation of the HD MultoMet liners was carried out jointly by Multotec Rubber and Multotec Zambia. Such was the success of the project that both mills were relined simultaneously in a record 60 hours, as opposed to five days for the manganese grid liners.

“The HD MultoMet liners are easier to manhandle, and can be fitted with far less effort and manpower,” Taylor says. In addition, the quality and fit of the liners means that no difficulty is encountered during the relining process itself.

“Another major benefit, of course, is that the HD MultoMet liners last seven to nine months, compared to the two months being achieved with the traditional manganese grid liners. Thus not only has the downtime incurred during the relining process itself been halved, but it is a much more cost-effective solution that also improves the final product quality. This is due to the fact that the HD MultoMet lifter bars provide a designed trajectory. This ensures correct impact of the grinding media on the toe of the charge whilst the grid liners simply drag the charge across the surface due to the protruding grinding balls. The rubber grate plates are far more effective in eliminating blinding, which guarantees a good mill throughput,” Taylor says.

In addition to carrying out mill relines, Multotec Zambia is also able to conduct regular inspections and thereby advise its customers of any potential problems. For this customer in particular, it was able to improve the liner fixing arrangements by simply increasing the bolt specifications. It was also able to increase the grate life from four to seven months by adding a Hardox insert as an integral lifter bar in the centre of the grates.

“Our next step is to record the profile measurements and data on our Hawkeye predictive maintenance software,” Taylor concludes. This will allow the customer to conduct long-term proactive maintenance on the HD MultoMet liners.

MULTOTEC LINERS IN ZAMBIA PIC 01 : Spike Taylor, managing director of Multotec Rubber, says the company has successfully relined two mills with its heavy duty (HD) MultoMet liners for a customer in the Zambian Copperbelt.

MULTOTEC LINERS IN ZAMBIA PIC 02 : Heavy duty MultoMet liners can withstand the harsh operating environment in a grinding mill.

MULTOTEC LINERS IN ZAMBIA PIC 03 : Multomet lifter bars can be design to accommodate a range of milling process specifications.

MULTOTEC LINERS IN ZAMBIA PIC 04 : Heavy duty MultoMet liners can withstand the harsh operating environment in a grinding mill.

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