

Quarry Combats Carryback and Slippage with Flexco Cleaners and Pulley Lagging

Industry

Quarrying

Application

Crushing

Product

HV Precleaner

Flex-Lag® Ceramic Pulley Lagging

Objective

Reduce carryback and slippage, especially in cold and wet weather.

Conveyor Detail

Slow belt speeds and limited space between the head pulley and loading point forced the positioning of the existing cleaners directly in the material path. This accelerated wear rates on cleaner tips, forcing weekly replacements.

Problem

The Poplar Lane quarry in New Zealand had been performing well, but with obvious capacity to be doing better. Several issues had kept Poplar Lane from its full development. Problems developed following the commissioning of a modified plant.

Significant amounts of material were being carried back along the underside of the conveyors. This would accumulate and foul the conveyors return rollers, structure, and the ground underneath. In turn, this meant costly and time-consuming clean-ups for the plant's operators.

Added to the problems were the conditions coming into play when the weather was cold and wet. The main belts were prone to regular slippage, because of inadequate drum lagging materials. The result was predictable; less production capacity and spillage at transfer points.



Solution:

The proposal was to implement a trial Flexco HV precleaner mounted directly onto the conveyor's head drum on the feed conveyor system. These cleaners have a robust and compact construction and the low profile keeps them positioned below the flow of material. This increases tip life, improves cleaning efficiency, reduces downtime, and trimmed the additional costs attributed to tip change outs. It was also clear the existing rubber lagging needed to be replaced. Flex-Lag ceramic pulley lagging, also from Flexco, was installed to provide an increased coefficient of friction and eliminate the previous problems with belt slippage.

Result:

Material carryback was dramatically reduced, with between 85-90% reduction in material carryback. The days of having to throw sand and gravel on the pulley surface to provide an increased coefficient of friction and eliminate previous problems with belt slippage have gone. Flex-Lag's high-friction coefficient has eliminated this, delivering a performance close to double that of standard rubber lagging. Operators now spend less time on maintenance, leaving them clear to focus on the prime business, producing large quantities of quality product.