

Optimised Cleaners Save Time and Money at Iron Ore Mine

Industry

Mining

Application

Conveying iron ore

Product

25mm Tungsten Carbide Belt Cleaner Tips

Objective

- Increase throughput
- Reduced carryback

Conveyor Detail

1500-1800mm Belt Width



Problem:

With throughput being the primary goal of leading iron ore mines, comes the sequential goal of decreasing downtime for conveyor belt systems. Time and again, it has been proven that conveyor belt systems are the most efficient way of transporting material in the mining industry. However, when your conveyor belt system has issues such as carryback, mistracking, slippage or spillage – you'll see why it's important to constantly invest in optimising your system. High throughput coupled with abrasive material means that belt cleaners are the piece of equipment on the belt line that sees the worst of the belt and the worst of the material. So optimising your cleaners for a longer shutdown cycle should always be a primary focus. A large mining conglomerate in Western Australia found itself purchasing 15mm cleaner tips every 12 weeks, equating to approximately four sets per year, per conveyor.

Solution:

The average tungsten carbide cleaner tip is 10-15mm long. This is an optimal length when mining resources such as metallurgical and thermal coal – but not for iron ore. Knowing this information and the need for an extended tip length in the market, Flexco set to work on creating a new tungsten tip to test in collaboration with this customer. Using the highest possible grade of tungsten carbide, Flexco created, manufactured, and began to test a 25mm secondary cleaner tip to complement its existing 25mm primary cleaner tip – which would eventually prove to last a full 20+ week shutdown period.

Result:

The particular site had moved from a standard shutdown cycle of 12 weeks to a 10/20 week cycle. The idea behind this was to carry out major work during the 10 week shutdown, and leave other general works such as cleaner tip change out for a 20 week shutdown. With the help of Flexco's improved tungsten tip length, the site was able to successfully last a full 20 week cycle without conducting general work. This equates to a 20% cost reduction per annum in the amount of downtime and labour the site paid for on just one conveyor.