

## Working with one of the UK's largest Limestone Quarries to improve the performance of belt conveyors

### The challenge

Producing over 6 million tonnes of aggregate per year, one of the UK's largest limestone quarries relies heavily on the reliability and performance of its processing equipment.

The site includes a network of over 100 belt conveyors which are critical to the success of the entire plant. Conveyors are known to be a hotspot for maintenance teams, with frequent maintenance and daily housekeeping commonplace.

A change of personnel led to a reassessment of the operations at the quarry. The maintenance team recognised that further improving performance of the conveyors would provide significant payback, both in terms of improved efficiency and reduced maintenance spend.

Having heard about ProSpare's success improving conveyors elsewhere within the company, the maintenance manager invited the Bulk Materials Handling Department to see if we could help with two troublesome conveyors.

A conveyor carrying <100mm aggregate was suffering from excessive carryback. The build up of material overwhelmed the undertrays and required manual clean-up several times a week.

The second conveyor in question, carrying fines, experienced severe premature wear to the conveyor belt. Build-up in and around an under-performing sealing system would cut into the belt itself, resulting in replacement of the belt every 3 months.

**20 conveyors**  
undergone improvement projects so far



100+ conveyors are critical to operations on site

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# ProSpare

Make it better.

## The solution and improvement

The 1400mm wide belt with the carryback problem was fitted with Starclean PU pre-cleaner and tungsten secondary scraper. After 12 months operation the carryback problem has all but been eliminated, with little clean-up required from site operatives.

On the fines belt we upgraded the sealing system on the transfer point to Spill-Ex LPS and installed a Starclean secondary scraper. 9 months on from installation the belt is still in good working order, tripling the life of the belt so far.

The success of these projects convinced the maintenance team to work with ProSpare on a wider program of conveyor improvements. Senior engineer, Alan Bryan, initially devised an improvement program for conveyors in selected target areas, and we have installed Starclean belt cleaners, Centrax tracking rollers, and Spill-Ex sealing systems to solve specific conveyor issues.

As part of the program we have also trained the site maintenance team and site vulcanisers in best practice operation and maintenance procedures. This allows for simple maintenance and keeps all of the equipment in top working order.

We have worked on 20 conveyors in key target areas so far. In this period the client has seen a vast reduction in carryback and spillage in these areas, reducing clean-up requirements for site operatives and keeping more of the product within the process. Resources are now freed to allow the team to make improvements on further target areas. The client stated:

*"I've been in the industry a long time and I've worked with a lot of suppliers. It takes a lot to win me over, but I'm delighted with the work that ProSpare are completing."*

*"We have a really close working relationship with their on-site service engineer and we trust him to make the best improvement decisions for our kit. The aftercare is first class."*

*"Starclean and the other products really work and we're reaping the benefits across the plant."*



Starclean primary cleaner in operation



Starclean secondary cleaner in operation

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Data correct as of March 2022