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STARCLEAN® helps Sibelco glass recycling facility reduce carryback under main feed belt

The challenge

The UK government website states over 18 million tonnes of glass packaging was recycled in 2021. Additionally, glass was second only to metal in terms of recycling rates at 73.6% [1].

Sibelco is a global material solutions business and leader in glass recycling. Each year they transform over 3 million tonnes of glass waste into high-purity cullet across 24 glass recycling facilities all around Europe.

The facility in Scotland recycles glass waste using a network of 20+ conveyors. Materials handled on site include mixed bottle and mrph (glass mixed with contamination). These materials are notoriously abrasive and often adhere to the belt making it difficult to effectively maintain conveyor operation.

Notably, the main feed belt on site is subject to high throughput of mixed bottle and mrph. Together with an ineffective belt scraper, the belt suffered from extremely high levels of carryback. Carryback would pile up under the conveyor and cause major operational and maintenance issues as well as health & safety concerns. Moreover, site staff were required to clean-up these piles daily, a largely avoidable task.

Staff spent hours cleaning under the main feed belt, culminating in 6 wheelbarrows worth of material waste per day. Furthermore, the scraper installed required frequent maintenance and would take 2 hours to back off, clean and reset per week.

Looking for a way to optimise staff time, the Maintenance Supervisor contacted ProSpare to see how we could help.

+1000 wheelbarrows
of carryback eliminated p/a under one conveyor

18 conveyors
now use STARCLEAN® belt cleaners

Raw material under the belt from excessive carryback

Visit - www.prospare.co.uk | Call +44 (0)1773 814008 | Email - sales@prospare.co.uk

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[1] https://www.gov.uk/government/statistics/uk-waste-data/uk-statistics-on-waste
Data correct as of April 2024 v08.04.2024

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The solution and improvement

We work closely with each plant to ensure installations are tailored to the application. A ProSpare service engineer visited site to assess the facility and scope the problem conveyor. A STARCLEAN® primary and secondary belt cleaner were chosen to combat the abrasive material and high throughput on this belt.

STARCLEAN® primary cleaners provide the benchmark for efficient carryback removal. Abrasion resistant, 85n, modular tungsten carbide blades were selected to provide extra durability.

The secondary cleaner from STARCLEAN®'s 500 series also uses tungsten carbide blades. Theses are bolted to a reinforced base which is perfect for heavy duty applications. It captures remaining fines of sticky, abrasive mrph and mixed bottle material waste.

Previously, staff would clean up 30 wheelbarrows of material carryback per week. STARCLEAN® has cut carryback by 80%. This equates to a reduction of approximately 1100 wheelbarrows of waste per year. The effectiveness of the scrapers has transformed a once labour intensive daily task into a routine job undertaken as part of regular housekeeping, once a week.

Consequently, minimising waste under this conveyor means that health and safety risks around the main feed belt have been reduced, leading to improved working conditions for staff on site.

Similarly, the 2 hours a week it used to take to back off, clean and reset the old scraper has been reduced to just 15 minutes with STARCLEAN®. This saves staff over 80 hours each year.

Following the success of STARCLEAN® on the main feed belt, the client installed an additional 18 scrapers throughout the facility.

The Maintenance Supervisor stated:

At Sibelco we have a culture of continuous improvement and I'm always looking to enhance preventative maintenance efforts.

STARCLEAN® is simple to maintain and has reduced our cleaning time significantly, allowing the team to instead focus on other value adding tasks and uphold that Sibelco standard.

STARCLEAN® primary cleaner on the main feed belt conveyor

STARCLEAN® secondary cleaner under the main feed belt conveyor

STARCLEAN
Sustainability by Innovation

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