

Biffa reduces conveyor maintenance and cleaning time at MRF with Starclean

The challenge

An estimated 230 Materials Recovery Facilities (MRF's) are in operation throughout the UK. These recycling facilities rely on a vast network of belt conveyors to transport materials throughout the plant.

National waste management experts, Biffa, have MRF's throughout the UK. Their plant in Leicester uses 20+ belt conveyors as part of their black bin waste recycling operation.

The handling of general household waste is difficult due to the variety of materials, which includes plastics, metals, wood, paper, and also large amounts of sticky organic materials. This material builds up on conveyor structures and also drops onto the floor, causing both significant maintenance and housekeeping issues.

On one conveyor in particular, the shredded and organic waste would build up on-and-around the head drum in significant quantities. The rudimentary belt cleaner installed couldn't effectively clean the belt and became overwhelmed with the waste. The engineering team would then have to spend ~15 minutes per day cleaning this one area alone, and regularly removed 4 wheelbarrows of waste.

Always in search of ways to modernise the operation, the Engineering Supervisor started evaluating options in which the business could upgrade the conveyors. ProSpare was contacted to see how we could help.

1 hour per week

saved cleaning on-and-around single conveyor

16 wheelbarrows per week

of waste eliminated on the trial belt



Daily cleaning on-and-around head drum on single conveyor

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The solution and improvement

A service engineer from ProSpare's Bulk Materials Handling Department visited the site to assess the facility as a whole and scope the conveyor in question.

The installation of a Starclean belt cleaner was recommended and a trial agreed. The Starclean pre-cleaner was installed on the head drum of the conveyor and was specified with polyurethane blades. This would ensure that the scraper was able to efficiently combat the wide variety of materials handled on the conveyor.

During a visit from ProSpare, Daniel Simms, Engineering Supervisor at Biffa, provided an update on performance:

Following the install of Starclean, the amount of waste building up on-and-around the head drum has significantly reduced.

Previously, the engineering team spent 15 minutes per day cleaning the head drum, this has now been reduced to 5-10 minutes twice per week, saving up to an hour per week.

Waste cleaned from the area has also reduced from 4 wheelbarrows per day to just 2 per week, saving approximately 16 wheelbarrows per week.

The time saved on cleaning this single conveyor can now be reinvested to maintain other areas of the plant. As the area is cleaner, exposure to risk has also reduced.

Following the success of the trial installation, the team on site are now installing a number of Starclean belt cleaners across the network of conveyors.

Daniel Simms, Engineering Supervisor, stated:

"Here at Biffa Waste Services, we are proud to be working with ProSpare Ltd.

Our equipment was built in 2002 and is showing its age while technology has advanced over the years. However, we are devoted to keeping our recycling plant efficient and effective using more and more modern designs throughout."



Starclean pre-cleaner installed on troublesome conveyor



Up to 1 hour per week cleaning saved on single conveyor

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