

Sharing good practice 2024

WAYS TO MAKE YOUR WORKPLACE HEALTHIER
AND SAFER - ELIMINATING 'THE FATAL 6'



Topic 3

Safer handling of inbound and outbound materials



This award covers the unloading/delivery of materials and their storage to a site such as:

- Bitumen, fuel, aggregates or cement.
- The storage of finished products and their loading for transit such as precast products.
- Product testing on-site.



WINNER	
ProSpare Ltd	Starclean belt cleaner improves safety on asphalt plant
FINALISTS	
Heidelberg Materials UK	Retractable bay covers – concrete plant
Smith and Sons (Bletchington)	Safe access and egress into tipper bodies – Light vehicle workshop
HIGHLY COMMENDED	
Breedon GB Materials	Focus on the safety, health, and wellbeing of mobile plant maintenance workers
Brett Group	Safe access to fill colour pods
Tarmac Holdings Ltd	Out of hours cement deliveries
CERTIFICATE OF MERIT	
Cemex UK	Safe delivery of inbound liquid admixtures
Cemex UK	Steel fibre adding platform
Heidelberg Materials UK	Safe work means for bulk filler tanker hatch access
Tarmac Holdings Ltd	Vacuum excavation for removing rail wagon contamination
Tarmac Holdings Ltd	COSHH QR Codes

'The Fatal 6'

1

Contact with moving machinery and isolation

2

Workplace transport and pedestrian interface

3

Work at height

4

Workplace Respirable Crystalline Silica

5

Struck by moving or falling object

6

Road Traffic Accidents

Mitigating potential high consequence hazards



**WINNER
PROSPARE LTD**

Belt cleaners in place

Starclean belt cleaner improves safety on asphalt plant 1 3 4 5

ProSpare Ltd



DESCRIPTION

Although a comparatively small part of the overall asphalt plant, belt conveyors are critical for efficient operation. Problems with conveyors severely affect the production process, maintenance and safety. The maintenance and housekeeping associated with solving these problems expose plant operatives and maintenance staff to a variety of hazards, many of which are directly related to 'The Fatal 6' including:

- Manual handling of waste product.
- Slips, trips and falls.
- Airbourne dust.
- Moving machinery/isolation of equipment.
- Working at height.
- Confined spaces.
- Entrapment.

Express Asphalt was having issues at one of their plants with excessive maintenance required on the main incline belt conveyor. The scraper installed on the conveyor couldn't clean the belt effectively, which led to fine material adhering to the belt in the form of carryback. This accumulated under the conveyor, in piles measuring up to 1.5m high, and required 30 minutes of clean-up daily. When the material became damp, it

would build up faster than it could be cleaned, a loading shovel was then required to assist with the clean-up.

Mechanism for easily adjusting blades



The team had to maintain the scraper on a weekly basis, taking around 30 minutes to back-off, clean and reset, whilst working in a confined space.

ProSpare were requested to find a solution to this carryback issue. They installed a Starclean primary belt cleaner with quick release tensioner and 85n tungsten carbide blades. The overlapping blades were mounted directly onto the head drum.

Visit www.safequarry.com for more details or email: info@safequarry.com

**Key features of this scraper system are:**

Every blade is independently tensioned. This is a critical development, as it means that each blade is not constrained by the others and can move separately to maintain optimum contact with the belt. This prevents the typical 'smiley-face' wear pattern which prevents effective cleaning.

No tool blade change. Each scraper blade slots securely into the blade base without the need for bolts or clamps. This makes installation, maintenance and cleaning far more user friendly and safer.

The system is completely modular. A range of standard components can be simply configured to suit any application challenges.

The quick release ratchet tensioning device. This allows disengagement and re-tensioning in seconds, minimising downtime and making maintenance and cleaning quick, simple and safe.

Extended blade life. Independently tensioned blades last longer, therefore reducing the need to carry out maintenance.

Effective at removing fines and moisture. More effective at maintaining a clean belt.

BENEFITS

- Significant reduction in operatives' exposure to risks associated with these tasks.
- Clean-up on this belt is now a bare minimum.
- The loading shovel is no longer required.
- Circa 10 minutes needed per week on housekeeping, saving circa 350 hours over three years.
- Maintenance of the scraper saving a further 72 hours over three years.
- Improved efficiency of entire operation.
- System is simple to adjust and maintain.
- Significant reduction in spillage.
- Extended life of the scraper blades.
- Elimination of unpopular task improves operatives' wellbeing.

DEVELOPMENT & TRANSFERABILITY

Holcim UK shared the innovative design features and safety improvements with its National Best Practice Team, to raise awareness across the group and facilitate rollout of a proven safety improvement.

Any development which makes operating, managing and maintaining conveyors safer will have a huge impact on safety across the whole industry. The Starclean technology is now being successfully applied to all sectors, including quarries, sand and gravel, asphalt, mineral processing, marine wharves, glass, concrete, recycling and many more.

Modularity is the key to versatility, which underpins the potential for rollout wherever belt cleaning is posing problems. The modularity of the Starclean design means that it can simply be configured to suit any application in any industry.

Prospare's CEO, James Bullock, presented a paper at the UK Concrete Show 2024 addressing the impact on the health and wellbeing this belt cleaning and spillage removal causes for site staff and how this can be significantly reduced with this system.



Before: Typical spillage collected under conveyor



VISION ZERO

SAFE & WELL EVERY DAY



SAFER BY SHARING

Please review the content of this guide and implement or adapt the ideas presented to make your workplace healthier and safer.



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