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the materials bulk handling specialist

Removal of Dust & Fine Materials from Conveyor Return Belts

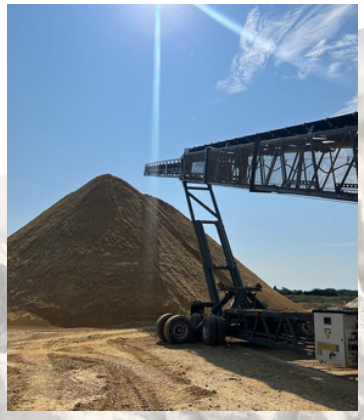
The Problem

Many quarrying clients struggle with fine material carryback and build-up on conveyor return belts. This can fluctuate due to moisture conditions as many of the lines are outside and exposed to the elements. Other factors include the varying size of material and dust content being processed.

Typically standard belt scrapers are used to prevent the material from sticking to the return belt with some degree of success, however, as the scraper blades wear and belts become worn, the carryback of the fine materials increases.

Issues Caused by Material Carryback

- Fugitive dust: usually high in silica content in the atmosphere, exposing operators to the risk of health damage and potential silicosis of the lungs
- Loss of valuable material
- Piles of material under conveyors that require physical cleaning resources to clear. Most of the time, access is a manual operation which increases the operating costs and affects the morale of the site teams
- Belly pans packed full of material from the return, if left unchecked, pushes on the underside of the belts causing premature belt wear and drive drum amperage overloads
- Return rollers collect material from the return belt and become overwhelmed, causing belt tracking issues resulting in premature belt wear and sidewall damage
- The tail drum becomes inundated with material requiring regular digging out
- Frequent blockages especially when conditions change and moisture content increases
- Surrounding plant, including safety e-stops, get covered in dust and material, making them harder to identify and use in emergencies.



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The Hoverdale Solution

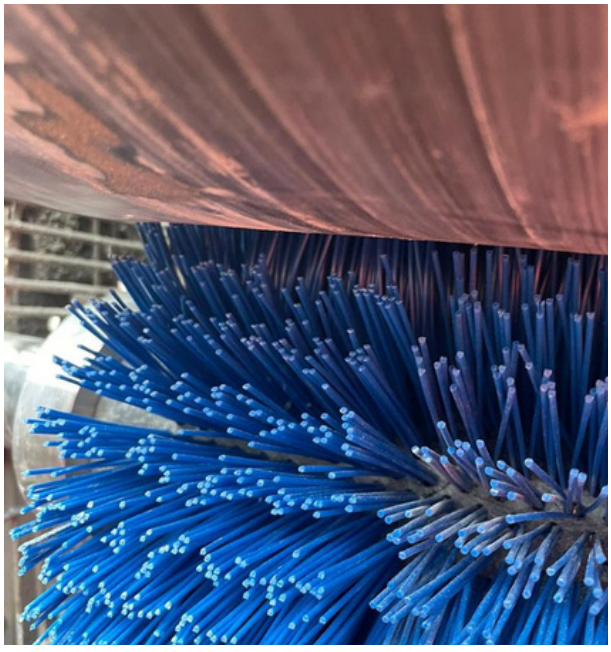
The Hoverdale Motorised Brush System is the ideal solution to tackle these challenges.

The Motorised Brush specification includes;

- A stainless-steel construction that auto-adjusts as the brush wears to always maintain effective cleaning contact with the belt.
- IP67-rated motors and gearboxes designed for harsh environments
- Solid stainless-steel key-way shaft for the longevity of service
- Available from 300mm to 4000mm wide belt widths
- A range of cleaning brush diameters from 200mm O/D to 600mm O/D means that cleated belts up to 150mm in height can still be cleaned effectively
- Segmental brush segments for quick and easy changes with hard-wearing compositions unique to Hoverdale
- Very low maintenance between brush changes
- Ability to work effectively on damaged and pitted belts
- Compatibility with Hoverdale Primary belt scraper systems.

The Results and Benefits

- Carryback was eliminated, and the system avoided blockages.
- The return belt and rollers are kept clean and free of material
- No cleaning resource is required to remove material from the facility and kept clean and free of material
- Reduced time and increased uptime
- The clients are able to better maintain stable production
- Reduce premature wear of conveyor belts and rollers, lowering ongoing costs
- Minimal maintenance is required
- Reduction in consumable costs as the system was positioned in secondary position out of the flow of material
- Very quick ROI.



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"The Hoverdale motorised brush systems fitted to our material feed lines have made a significant impact in reducing the fine material carryback we were experiencing previously.

This has removed the cleaning resource required around these lines and increased the morale of the plant team. It's impressive that the systems work effectively in wet and dry conditions, which has historically been the challenge.

It's vitally important for us as a business to keep our team safe; therefore, the reduction in fugitive airborne material and dust containing silica brings huge risk reduction to our site.

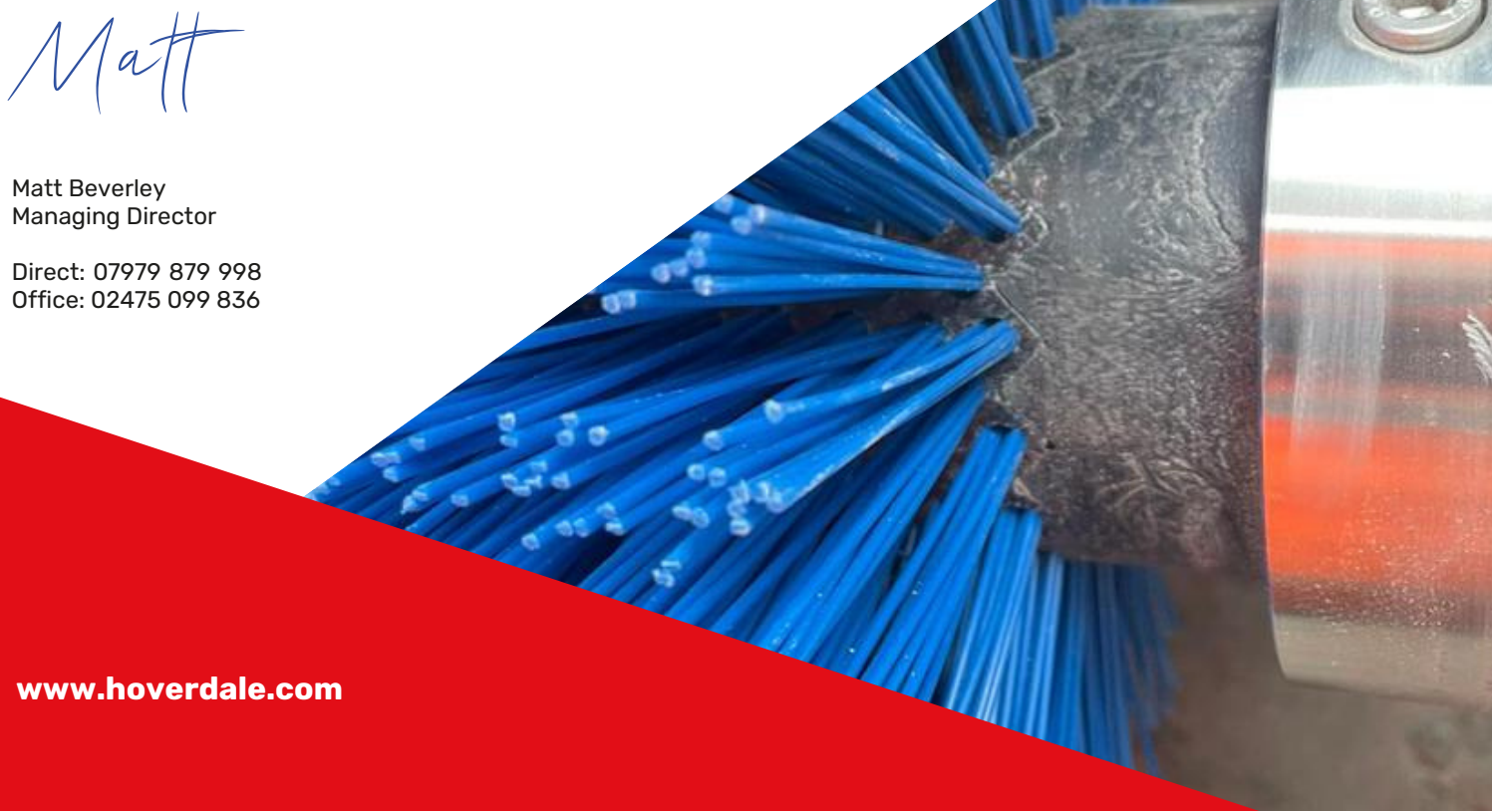
We expect to implement the Hoverdale system to many more lines and different site locations."

Keep materials flowing out and money flowing in.

Hoverdale is a world-class provider of hard metals and wear-resistant products, conveyor belt products and equipment. We keep waste recycling, biofuel, power generation, wastewater treatment, sea aggregates, vinyl, food, mining, tunnelling and glass plants moving, maximising the total cost of ownership of any bulk handling environment.

By reducing spillage and carryback, we typically reduce customers' cleaning costs by 80-90% - What would that equate to for you?

Book a site visit now! The savings will more than pay for your time or your money back.



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