SCRAPETEC

CASE STUDY

EFFECTIVE DUST CONTROL IN PERU

Leading copper mine in Southern Peru made investment in ScrapeTecs' highly-effective dust suppression and material spill solutions.

PROJECT DETAILS

Product Category
Conveyor Skirting & Sealing

Material
Copper

Belt Width / Belt Speed
1200 mm / 3,5 m/s

Installation Date
April 2022

CHALLENGE

- eliminate excessive dust and spill
- Reduction of high maintenance and servicing costs
- Decrease wear and tear on equipment
- Reduction in energy costs
- Improving health and safety in the work area

SOLUTION

16 m AirScrape
1 m Tailscrape
10 m² DustScrape filter surface
6 h Installation time

RESULT

- zero dust and material spillage
- no downtime for 2,5 years
- ongoing maintenance free operation
- 40% higher performance of the dust collectors, less energy costs

EFFECTIVE DUST CONTROL IN MINING MEANS SUBSTANTIAL COST SAVINGS

A leading copper mine in Southern Peru has made an investment in ScrapeTec's highly-effective dust suppression and material spill solutions, that are setting a new trend in conveyor systems and dust collectors used in the global mining sector.

The innovative management team of the mine has successfully solved the long-standing challenges of dust control and material spills, resulting in significant cost savings. In addition, the mine has seen improvements in operational efficiency, environmental sustainability and safer working conditions.

"After visiting the ScrapeTec stand at the Perumin Mining Show in 2019, the mine conducted a trial installation of 10 metres of AirScrape on one of the mine's critical conveyors," explains Thorsten Koth, Sales and Distribution for ScrapeTec "The immediate results surpassed expectations – dust levels around transfer points were significantly reduced, ensuring a safer and healthier working environment. Material spillage has been completely eliminated, reducing downtime and minimising maintenance requirements, with no need for costly clean-up operations. This system has also been designed to minimise the risk of explosions at critical sections along the conveyor route and transfer points."

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Mining company in Peru has equipped seven conveyors with AirScrape and plans to expand the installation to other conveyors.

Four years after installation and with continuous use in harsh conditions, ScrapeTec's dust suppression systems hardly show any signs of wear. The success of this trial prompted the mine to install an additional 24 metres of AirScrape in 2020 and since then, management has equipped six more conveyors with AirScrape, with plans to extend the installation to additional conveyors.

An important feature of this system is that DustScrape and AirScrape operate without energy consumption. In addition to substantial operational cost-savings, our customer has been able to eliminate the need for conventional dust collectors that demand high energy cosumption.

To enhance efficiencies of AirScrape, the company has also integrated TailScrape and DustScrape systems into its bulk conveying operations, further enhancing dust control effectiveness and materials spills, without requiring additional energy consumption equipment.

The team, which is committed to sustainable and innovative mining practices, is extremely proud to be the pioneers of AirScrape installations in South America, setting a fine example to the region's mining industry. Through collaboration with ScrapeTec, the mine has solved challenging dust issues and costly material spillage in the transfer chutes of conveyor belts.

The correct installation of the system ensures optimum performance.

The contact-free AirScrape conveyor belt skirting system is a highly-effective side seal that lies over the conveyor belt, without contact, and creates negative pressure on the belt, due to its specially-designed blade structure. Because this system hovers freely above the conveyor belt, skirt friction and belt damage are eliminated and service life of every component of the conveyor is extended.

Conventional skirting is pressed against a conveyor belt to keep dust and material in the middle of the belt, but after a period, wear of the skirting and belt can be so severe, that material and dust escapes. Material spillage at transfer points needs to be removed and regular maintenance of belt skirting and transfer points is necessary.

This durable system is also available with non-flammable and anti-static polyurethane materials and blades made from Stainless Steel. FDA-approved materials are also available for specific conveyor handling applications.

DustScrape consists of a durable filtering cloth that is installed above the conveyor belt, to retain dust particles created by conveyed materials, while remaining permeable to circulating air. This long-lasting filter cloth, with cleaning and dust-releasing properties, is available with different qualities,

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The DustScrape dust emission prevention system consists of a filter cloth, support arches and skirts, arms to hold the system above the belt and a rubber curtain to eliminate further dust development.

including anti-static features, for specific applications – for example, in surface or underground mining. The dust retaining filter cloth, which is manufactured in rolls, can be extended to any required length and is suitable for any conveyor belt width.

The DustScrape dust emission prevention system comprises a filter cloth, support arches and skirts, arms to hold the system above the belt and a rubber curtain to eliminate further dust development – all sized to specific requirements. This system is easy to install and can be retrofitted to existing conveyors, for continuous operation and for extended periods. After installing the DustScrape Mines and Plants had the chance to decrease the capacity of the dust collectors by at least 80% or they shut it off totally. What a "Game Changer" the DustScrape is!

ScrapeTec's DustScrape-System in Peru. The TailScrape system enhances performance of the AirScrape, by sealing the transfer tail in the rear area and also works according to the Venturi concept, to prevent dust generation and material spills. The intelligent blade structure on the underside of the system, creates negative pressure in the conveying area, preventing the escape of materials. Dust is kept in the material flow by air intake.

Correct installation of suitable equipment ensures cost efficiency, optimum performance and safety, reduced risk of breakdown and extended service life of the conveyor system.

By successfully mitigating dust-related issues and preventing material spillage, the copper mine has not only achieved significant cost savings, but also shows a commitment to the health and safety of its workforce.

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