

## LIFTUBE® enables plants to meet safety and environmental standards

Plants, subject to regulatory pressures, are looking for solutions to minimize their impact on the environment and increase the safety of their employees. They can find an answer with LIFTUBE®. Indeed, this system, developed by STANDARD INDUSTRIE International, is placed on belt conveyors to optimize sealing. The system thus ensures a reduction in dust emissions, loss of materials, maintenance time and guarantees the safety of operators.

The LIFTUBE® replaces stations equipped with three rollers on conventional conveyors. In concrete terms, standard one-metre modules and upgradeable modules can be easily installed on all or part of a new or existing conveyor, while retaining the original belt, chassis and motorization. The system is installed between the loading and unloading points. Available in widths from 500 to 1,600mm — in high temperature, explosive, food grade or self-extinguishing versions — it prevents any contamination of the

transported product with the outside. This watertight system allows for, by tilting the glideboards and the central roller, easy and minimal maintenance.

### REDUCE MATERIAL SPILLAGE AND DUST EMISSIONS

#### HOW TO CONTROL DUST WITHIN THE OPERATION OR PRODUCTION SITE?

Dusting is the presence of suspended or settled dust related to the operation and transformation processes in the plants. These dusts are likely to have consequences on the environment, on the operators within the plant and on the neighbourhood.

Preventing the formation of pollutants at source is the most rational attitude to adopt, whether it be during the design and implementation of industrial processes or the construction of equipment.

For example, in quarries, the main dust emissions are diffuse and come from material extraction operated with

machinery, or when those machineries drive on tracks. Fugitive dust can also originate from material storage, blasting or material conveying.

Covering rubber belts is necessary: it is a containment method adapted for some specific points, for example the protection of sand chutes, or to protect a conveyor when it is exposed to the wind.

Therefore the LIFTUBE® is real solution to contain dust in the industry.

### CASE STUDIES

One interesting case study is the HOLCIM Theodore plant (USA), which started using an alternative fuel mix of shredded plastics, paper, and wax to supplement its energy input. Spillage around the transfer area, combined with the low-density material being blown off the belt, caused an environmental headache. On windy days, the plastics and paper would be blown all over the site and end up in waterways next to the plant. The nature of the material also makes it very difficult to contain and recover once it is spilled.

The installation of 140m/460ft of LIFTUBE® on both alternative fuel conveyors contained the material on the belt and eliminated spillage. It has stopped any material being blown off the conveyor into the nearby waterways and eliminated the need for costly efforts to recover small pieces of plastic and paper from all over the site.

Another example is the HOLCIM plant in the north east of the USA.

❖ **BEFORE LIFTUBE®:** In one of the cement loading areas, large quantities of material were spilled over (350tph [tonnes per hour]), which caused a financial loss and the need for heavy labour-intensive cleaning .

❖ **WITH LIFTUBE®:** Due to the belt width, LIFTUBE 1000 was chosen over a length of 44 metres and installed on the conveyor belt that transports cement (finished product) to the truck loading area. It is important to note that this conveyor recovers cement from eight chutes. This LIFTUBE® installation allowed the customer to avoid a loss of material of finished product, further increasing the payback of the investment by also reducing the cleaning costs.

Photo

Geocycle in Belgium specializes in the preparation of alternative fuels. The company has conveyor belts for solvent-



Image 1: LIFTUBE® on alternative fuels' conveyor belt at Lafarge Holcim.



Image 2: LIFTUBE® below material chute.

impregnated sawdust.

The main issues were:

- ❖ the need to comply with existing and future regulations;
- ❖ address complaints from nearby neighbours about noise and dust emissions; and
- ❖ to benefit from the advantages offered by non-carbonated fuels.

To meet these requirements, Standard Industrie installed the solution LIFTUBE® ATEX zone 21, with self-extinguishing boards to avoid the risk of fire, on three conveyors: BT1 12 M; BT2 50 M; and BT3 26 M.

To further enhance safety, Geocycle has also installed sprinklers to water the belt in case of fire.

This example highlights the advantages of LIFTUBE®, which include:

- ❖ **containment:** transported material is thoroughly confined;
- ❖ **comfort:** no odours emitted;
- ❖ **environment:** no material spillage;
- ❖ **productivity:** constant flow of the material on the belt;
- ❖ **safety:** protection of the incoming points; and
- ❖ **economy:** maintenance requirements are significantly reduced.

### CONTROLLING HEALTH AND SAFETY CONSTRAINTS

In a quarry, the installation of the LIFTUBE® allows customers handling silica to comply with the new regulations on dust emissions from this material.

The LIFTUBE® device has enabled the plant to drastically reduce dust emissions and material losses and, as a result, its cleaning and maintenance costs have decreased considerably.

Thanks to the belt containment provided by the LIFTUBE® design, the product circulates as if it were in a sealed envelope, thus reducing the outward flow of material as well as the loss of material



Image 3: without LIFTUBE®.



Image 4: with LIFTUBE®. Plant operators and local residents are no longer bothered by the odours that were emitted from the conveyor.

from the belt. Because the cover can be clipped on, it snaps perfectly into the upper grooves of the Glideboards Supports (see Image 5) and therefore provides a perfect seal to the system. This sealing is also achieved by the foam-laminated hoops which, installed at each end, enclose the strip.

It is these advantages that can create a healthy interest when the transported product presents a danger to the operators. The latest measures against silica can be included in these conditions.

Thus, the enclosed belt, controlled material overflows, reduced cleaning requirements and reduced exposure to a product considered hazardous, mean that

the LIFTUBE® system has all the advantages when searching for a healthy solution for industrial equipment for the transport of low or high toxicity powders.

### CONCLUSION

Standard Industrie International's range of solutions can meet the majority of customer requirements, regardless of the volume of cleaning required or the optimization of existing conveyors that are failing.

It can help plants with handling and storage problems optimize the performance of their production tools while reducing their operating and maintenance costs.

Image 5.

