



21174 Innovative and affordable conveyor guarding solution

Hanson Aggregates > Chipping Sodbury Quarry

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View of guarding on conveyor system

DESCRIPTION

At Hanson's Chipping Sodbury Quarry it was decided that the conveyor systems should be fully enclosed to achieve the best protection for employees and contractors on-site and to minimise the environmental impact of dust and noise. However, the cost of using traditional steel-based systems was perceived to be prohibitive both in terms of the initial investment and subsequent running costs.

The solution used was designed to be the safest, lightest, simplest mechanism that could be adjusted with standard tools, was robust, long lasting, and economical. It can be fitted anywhere, and it will help the industry to keep people safe.

The team considered that it was necessary to maintain traditional heavy-duty steel-built guards to protect people from drums, gravity tensioning units or return rollers.

For all other areas in between, a modular tensional system with 900gsm heavy duty Poly Vinyl Chloride sheets has been used. These panels are rolled up at both ends to achieve the desirable tension. In addition, they are bolted on the top and bottom every 600mm to a Unistrut (pre-galvanised slotted channel) profile sections. The system can be applied even when there are changes in direction. A total side enclosure is achieved offering the highest level of protection.

It is adaptable to any size, shape or form. The modular system has been built to fit every conveyor. Some sections of the conveyors are fully enclosed, other sections have clear windows or meshes with lids to allow for inspection.

The system offers better protection than the traditional guarding, especially with regards to noise pollution, dust emission and completely stops the possibility of coming in contact with moving parts.

The design has been developed based on feedback from employees.

BENEFITS

- Significant reduction in investment required (75% lower cost) with installed cost of £120 per metre
- More robust and longer lasting system
- Removed the possibility of individuals on-site coming in contact with any moving parts
- Eliminates possibility of entrapment or entanglement
- Eliminates spillage on walkways removing potential slips and trips hazards on walkways
- Reduced employees and contractors exposure to dust and noise
- Reduced manual handling when replacing sheets 6 metres in length weighing 10Kg
- Environmental benefits of reduced dust and noise
- Improved community relations
- Panels can be chosen in different colours to match the landscape or to meet planning requirements
- The system is light, and it can be replaced by one fitter without assistance
- No need for lifting equipment
- Significant reduction in time and cost of maintaining the system
- Eliminates problem associated with corrosion with steel guarding
- The site is cleaner and looks better – enhancing the site culture of safety and
- A safer working environment for all.

TRANSFERABILITY AND DEVELOPMENT

- The solution is in constant development
- This solution can be transferred to other sites and other industries
- The solution has been shared across the business
- Currently working on the process of further enhancing standardization.