AIRSWEEP®
MATERIAL ACTIVATION SYSTEMS

AIRSWEEP SYSTEM FIXES SEVERAL FLOW ISSUES ALONG TITANIUM DIOXIDE PROCESSING NETWORK

THE PROBLEM

In an effort to produce a better quality product, a major international paint and coatings manufacturer needed to use a new grade of **Titanium Dioxide (TiO_2)**. A test of the material showed that the new grade of TiO_2 presented flow problems not previously encountered with the existing grade. The new material consisted of **finer, lighter particles**, and tended to **bridge above the vibrating feeder system** already installed on the storage silo.

THE SOLUTION

To correct the problem, the company replaced the feeder with a live bin bottom (multiple screw feeder) and installed a ring of four Model VA-12 (1-1/2") AirSweep units about 2 feet above the live bottom. When a flow detector sensed bridging above the live bottom, the AirSweeps were automatically activated and a steady material flow was achieved.

The flow of TiO_2 from the live bottom system was now feeding beyond the capacity of the system's screw conveyor. A collection hopper was put into service as a buffer hopper to feed the screw but the material would immediately bridge above the 10" diameter outlet. By installing an additional four VA-12 AirSweeps on the buffer hopper, the bridging was eliminated and steady feed rates to the screw were ensured.

VA-12 AirSweep System mounted to the bottom of TiO2 hopper

The new grade of TiO_2 also caused flow problems in the pneumatic transport vessel. The material proved difficult to aerate and the vessel would not completely empty

during the batch cycle. In order to completely empty the vessel, the transport cycle needed to be activated two or three more times, taking up to 50 minutes to transport the entire batch over a distance of 325 feet. After installing four VA-12 AirSweeps, the pneumatic transport vessel completely empties in only one cycle, cutting the batch time to only 15 minutes.

THE RESULTS

By solving the problems in the process with AirSweep systems, this manufacturer produces a higher quality product, while achieving a greater output capacity than expected.

MORE INFORMATION

- AirSweep VA-12 webpage
- AirSweep VA-12 Product Sheet (PDF)

Control Concepts, Inc. provides a 7-year warranty on the AirSweep® unit.

AIRSWEEP IS USED IN COMPANIES SUCH AS

GLM GREAT LAKES MINERALS, LLC · IMERYS · RioTinto · ALCOA · General Chemical · DUPONT · Nestlé PURINA · DUKE ENERGY · Cargill

AIRSWEEP® IS USED BY MORE THAN HALF OF S&P 500 COMPANIES

Contact us for a custom engineered AirSweep solution

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