



A safe system for unloading, conveying and storing Hydrated Lime (Calcium Hydroxide)



Customer Requirements

A skid mounted lime dosing system is an excellent example of Spiroflow's capabilities. The customer was so pleased with a system originally provided in 2008, that they recently ordered a second system.

The customer needed a safe, efficient, reliable and accurate bag unloading, conveying, storage and dosing of Hydrated Lime (Calcium Hydroxide) into a liquid stream in preparation for an upstream process.

The dosing system operates outside in a Class 2 Division 1 hazardous area with temperatures ranging from -13°F to +99°F/ 25°C to 38°C and humidity ranging from 54% to 83%.

Spiroflow Solution

We installed:

- A Bag Dump Station connected to a reverse-jet filtration system
- A sifter below the bag dump station to remove any lumps or tramp material
- A Tubular Drag Conveyor to transfer product into a silo
- An aluminum silo mounted on load cells
- The system controls the release of material based on when the silo is full and when it needs to be refilled
- A level probe is installed to shut down the filling sequence in the event that the 'silo full' indication is ignored
- A metering feeder with loss-in-weight capability controls the discharge of Calcium Hydroxide from the silo and an inverter regulates the speed of the metering feeder.

System features:

- Discharge rates of 9 - 38 ft³/hr/ 3 - 12m³/hr are manually set at the control panel based on process requirements.
- It will not start unless there is adequate material in the silo to treat the volume of liquid to be conditioned.
- Calcium Hydroxide from the metering screw is introduced into the liquid through an educator and it is re-circulated by heavy duty pumps from a large capacity tank next to the Spiroflow dosing system.
- The controls won't allow the dosing of any material until the liquid pumps are in operation.
- The silo is also fitted with bridge breakers to promote the flow of material that might have become compacted from storage.
- The bridge breakers automatically function whenever insufficient flow is detected.
- The control panels, their enclosures and the vibratory motors on the sifter are all fitted with internal heating and are brought up to temperature before the system is operated in temperatures below -3°F/ 19.4 °C.

How Can Spiroflow Help Your Business?

Contact us today to discuss your specific applications and needs.