



Bulk bags of hexamine are ready for transport.



An outdoor dryer delivers hexamine powder into the Dynaflow chain drag conveyor.

Requirements

Hexion Inc. is the global leader in thermoset resins and a leading global producer of epoxy specialty resins, modifiers and curing agents. They required a more reliable, safer, dust-free conveying solution with no metal-to-metal contacts because they were conveying hexamine.

HEXAMINE

- A resin additive made from a reaction of ammonia and formaldehyde
- Primarily used as a hardener to create heat-resistant thermoset resins
- The white crystalline powder is highly combustible.
- It can cause respiratory, eye and skin irritation as well as allergic reactions.
- The product is manufactured and shipped in bulk bags from Hexion's plant in Acme, NC.

Spiroflow Solution

After material testing Spiroflow recommended the company's T2 Universal Bulk Bag Unloader and their Dynaflow® 3"/75mm Tubular Chain Drag Conveyor.

1. The bulk bag unloader feeds material into the enclosed chain drag conveyor as does an existing dryer located outside of the building.
2. The bulk bag unloader has a bag dump/neck access door and mesh working grid, a hopper agitator, a rubber dust membrane, 304 stainless steel contact surfaces, and a flexible hose that connects to the inlet of the chain drag conveyor.
3. The Dynaflow 3"/75mm Chain Drag Conveyor has 304 SS contact surfaces, a chain vibrator, an inspection port, two inlets, one outlet, and NEMA 4 (IP66) electrics.
4. The conveyor is configured in a bulb-shaped loop and the sealed pin chain has high temperature UHMWPE discs. It delivers material from the bulk bag discharger and the outdoor dryer to downstream processing.



Acme Engineering Leader, David Swart, P.E. and Hexamine Production Leader, Joel Johnson, observing the back side of the Dynaflow chain drag conveyor installed through the building's exterior wall.



Spiroflow's Bulk Bag Discharger delivers hexamine powder into the Dynaflow chain drag conveyor at Hexion's Acme, NC plant.

The Results

SAFER & CLEANER

1. Because hexamine is an explosive solid, the system is designed without metal-to-metal contact points to eliminate the possibility of sparks.
2. The system handles material flow surges without issue.
3. All the material stays within the pipe keeping the work environment and employees safe from explosive dust. "Product stays in the pipe. Now we simply don't worry about material dusting - which is extremely important," reports Joel Johnson.
4. The new system has reduced housekeeping which contributes to increased productivity and also increased employee morale.

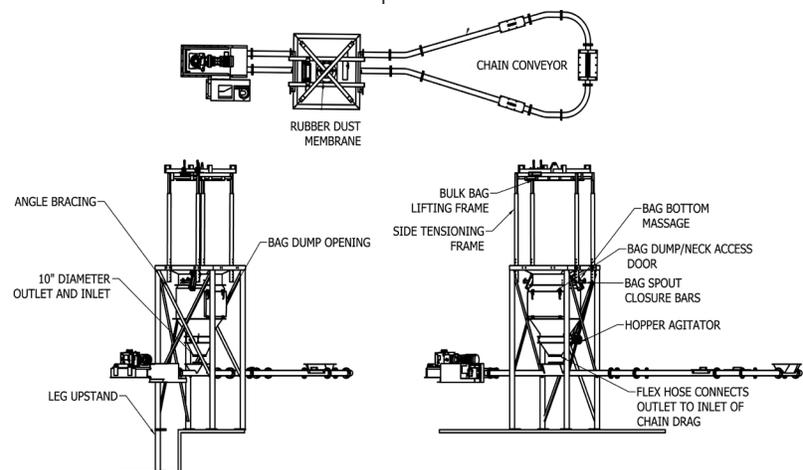
PRODUCTIVITY INCREASES & LESS MAINTENANCE

5. Reduced dust and material spillage has reduced housekeeping and maintenance requirements yielding a big boost in productivity. Johnson explains, "Operators had to carefully watch the old screw conveyors. Our new Spiroflow system just runs. They don't have to watch it or worry about it."
6. "Spiroflow delivered on all of our requirements and we drastically reduced our maintenance time." - Joel Johnson.

Next Steps

The Dynaflow chain drag conveyor has been such a big success that Hexion is in the process of replacing another screw conveyor on another line in the plant.

"Spiroflow's chain drag conveyor has lived up to our expectations and we are now trying to replace older designs to meet our process safety requirements," says Johnson. "Employee morale is improved when operators see us working hard to ensure the safest work environment possible."



Top down and side views of the Spiroflow Bulk Bag Unloader and Dynaflow chain drag conveyor.

How Can Spiroflow Help Your Business?

Contact us today to discuss your specific applications and needs.