



Aero Mechanical Conveyor for minor ingredients

Customer Requirements

Preformas S.L. located in Madrid, Spain were installing new production lines for manufacturing brake shoe linings for commercial road vehicles.

1. The manufacture of friction materials is a specialist science involving physics, chemistry and manufacturing expertise.
2. Brake shoes are constituted from many individual components but there are many specific types.
3. The weight of the conveyor is tared so that the precise amount of acrylic powder can be loaded into the conveyor feed hopper.
4. The combination of ingredients is changed frequently according to the 'recipe' for the type of brake shoe being manufactured.
5. They needed a material handling system to transfer the brake shoe ingredients from bag dump stations to a mixer and then from the mixer to two presses.

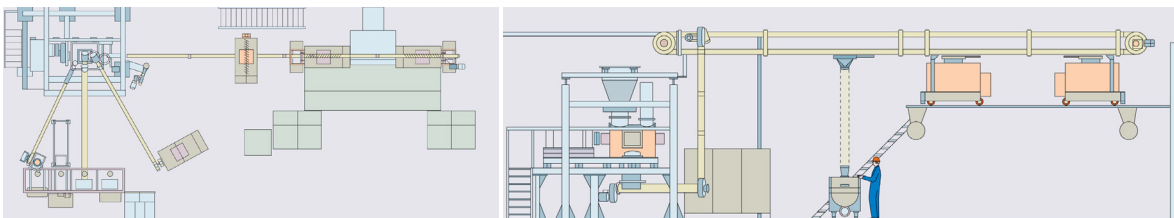
Spiroflow Solution

- Given the nature and volume of the main friction material, a traditional rigid screw conveyor was installed between the first bag dump station and the mixer.
- Another rigid screw is used from the second bag dump station for the reintroduction of excess material from previous batches.
- A Spiroflow Aero Mechanical Conveyor was chosen as the best option for the third bag dump station – which is the point where all minor ingredients are introduced.
- This conveyor has 4"/ 100mm conveying tubes, is 20'/ 6m long, inclined 50° to the horizontal and is responsible for delivering accurate batches of all minor ingredients to the mixer.
- Another Spiroflow Aero Mechanical Conveyor, also with 4"/ 100mm conveying tubes, collects the mixed batches from the hopper below the outlet of the mixer and raises them vertically some 13'/ 4m up into a yet another horizontal Spiroflow Aero Mechanical conveyor 43'/ 13m long.
- This conveyor has 5"/ 125mm conveying tubes and has three outlet points; one above each of the two presses and a third where any excess mixed material is evacuated for re-use at a later time.

The Results

The Spiroflow Aero Mechanical Conveyor has no problem conveying any of the materials, which range from calcium carbonate, graphite, brass shavings, steel wool, iron powder, etc. Additionally, and very critically, 100% of each ingredient tipped into the bag dump station is delivered to the mixer.

Recently, with an extension of their production line they had no hesitation in purchasing an additional conveyor from Spiroflow to carry product from the existing horizontal conveyor through a wall to a new brake pad press.



Extracts from Preformas Layout Drawings