

COMMON CHALLENGES IN WOOD CHIP HANDLING

The first Sandwich Belt high-angle conveyor addressed two major challenges in wood chip handling. High power costs and energy consumption, along with degradation of wood chips and reduced pulp yield.

However, additional challenges remain that can easily be remedied by the use of the Sandwich Belt conveyor.

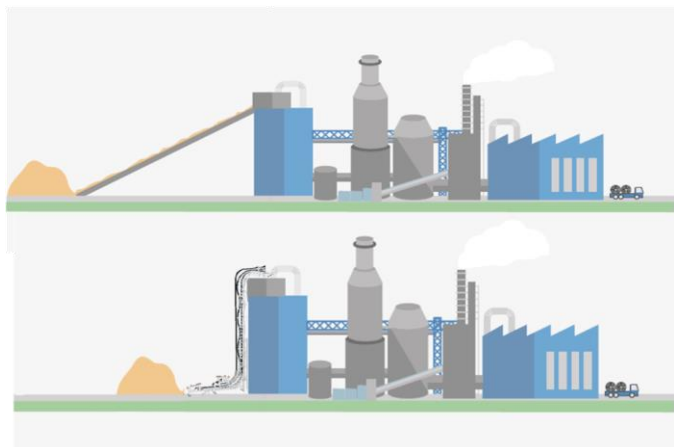
EXTREME COLD

Wood chip products are often stored in open piles that can be covered in snow much of the year in cold climates. This can cause the chips to be frozen. On a conventional troughed conveyor, frozen wood chips have the tendency to slide back on the frosted belt surface. Experts in the field recommend reducing the conveyor slope, reducing load size, and reducing the belt speed. While these are logical solutions, these recommendations equate to reducing productivity. These recommendations are made without the consideration of the Sandwich Belt high-angle conveyor which does not suffer any slide-back tendencies.



REDUCED ENVIRONMENTAL FOOTPRINT

A conventional conveyor not only occupies more real estate, but it may require covers around a low-angled system, or even a large building enclosure depending on how extreme the temperatures get. With the Sandwich Belt high-angle conveyor, the ability to convey at a higher angle not only saves on real estate but creates a more cost-effective means of housing the conveyor system within a smaller, heated building.



HIGH WEAR AND MAINTENANCE

Even mills that have eliminated pneumatic means of transport still have their issues with maintenance on typical conveying methods. Premature wear can occur when the limited design of conventional conveyors can't withstand high rates of material to keep up with production. With other methods of high-angle conveying, like bucket elevators and pocket belt systems, there is substantial downtime to order specialized parts, expensive conveyor belting, and repairs.

DUST AND SPILLING

While the Sandwich Belt high-angle conveyor does not claim dust suppression, by virtue of the material being hugged between the two belts, with a generous belt edge distance, dust can be greatly reduced. This also retains the materials creating a spillage-free system.



DEGRADATION OF WOOD CHIPS AND REDUCED PULP YIELD

The first Sandwich Belt high-angle conveyor installation for wood chips replaced a 500 HP blowline that was being used to elevate screened wood chips to the digester. The problem was the blowline badly damaged the chips en route, reducing them to pins and fines, lowering the pulp yield and the digester's uptime when pins bridged at the transfers.

The customer was drawn to the claim that the Sandwich Belt high-angle conveyors were very gentle on conveyed material. Indeed, the documented test demonstrated that conveying the most sensitive grains and wood chips along the Sandwich Belt conveyor resulted in no damage of any kind.

A Sandwich Belt high-angle conveyor of only 60HP was installed in place of the 500 HP blowline. The savings that resulted exceeded the customers' expectations. The \$93,000 USD (1989) annual



savings in power were minor compared to the increased pulp yield and plant uptime. This resulted in increased revenues that were estimated at \$240,000 USD and \$480,000 annually.

The Sandwich Belt conveyor paid for itself in six months to a year. Beyond the payback period, the customer "cashed in their chips" to the tune of \$340,000 to \$570,000 USD annually in 1989. Today, this would be a savings of \$764,000 to \$1.2 million USD.