



Project News

Dos Santos International: DSI Sandwich Belt High Angle Conveyors minimize Environmental Impact

Edited by on 30. Jan. 2020

Marietta (GA), United States -

In June 2015, U.S. based Dos Santos International commissioned its DSI Sandwich belt high angle conveyor with Zanella Engenharia e Industria de Maquinas of Curitiba, Parana, Brazil. To accommodate protected areas and reduce the plant's environmental impact, Brennand Group requested a conveyor system with a small footprint.



The DSI Sandwich belt high angle conveyor offers a small footprint elevating 720 t/h of limestone, iron ore, sand and clay at a 60 degree angle.

The conveyor is part of the Ricardo Brennand Group's new cement factory in the municipality of Pitimbu, on the coast line of Paraíba, Brazil. Brennand Group is a

part of the Cimentos Nacional Company. The plant has a capacity of 3000 tpd of clinker and 1 Mtpa of cement. The DSI Sandwich belt at Paraiba features an extended loading zone which is fed by five separate conveyors and chutes and includes a material analyzer and magnetic separator to ensure the correct cement mixture. To accommodate protected areas and reduce the plant's environmental impact, Brennand Group requested a conveyor system with a small footprint. As a result, they chose the DSI Sandwich belt high angle conveyor because of its ability to convey material at higher angles. The DSI Sandwich belt conveyor for Brennand is designed to elevate 720 tph of limestone, iron ore, sand and clay at a 60° angle. While the sandwiching feature of the DSI Sandwich belt high angle conveyor is sufficient to hug and contain most materials, there is the occasional, very runny material or dusty material that tends to move laterally toward the belt edge resulting in minor leakage. Many years ago, Dos Santos discovered that a light moistening of the belt's surface was sufficient to arrest any lateral movement of such materials. This moistening, at each of the belt's edges also has the added benefit of reducing any dust expulsion at the sandwich entrance, where the sandwich is formed. This is the origin of the DSI Wet Brush, now a featured product of the DSI Sandwich Shop.



The unit in Brazil is the first commercial system to incorporate the DSI Wet Brush.

Because of the widely varied materials that are part of the cement plant raw feed, the first commercial wet brush was incorporated preemptively into the Dos Santos Sandwich belt high angle conveyor at Paraiba. The DSI Wet Brush uses exact water flow control and measurement that reacts to precise monitoring of the bulk material flow rate. A sonic, broad level sensor at the bulk material feed

point, along with a belt speed monitor provide all of the information required to control the wet brush system. System interlocking maintains a perfect dry system when there is no bulk material or the feed belt speed is zero. Material flow is measured continuously, and the wet brush automatically adjusts moisture for optimal response. The Pitimbu project provided DSI with the opportunity to supply their flagship conveyor systems that offers not only a smaller footprint, but also improved raw material handling and improved containment of materials.