

Customer: BHP Billiton Worsley Alumina
Location: Collie, W.A.
Product: Alumina
Date: December 2009
Page: 1 of 2

Requirements:

Worsley Alumina were using a dense phase system to carry Alumina to the two storage silos from the ground level to heights in excess of 45 metres. The energy cost was extremely high, and the Aerobelt conveyors selected had to:

- Reduce the overall power consumption to supply the Alumina to the same storage silos.
- Resist the abrasive characteristics of the product.
- Cater for the high product temperature ranging from 100 to 200 °C



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Technical Information

Conveyors:	3
Belt width:	1000mm
Length:	458m
Inclination:	To 14°
Capacity:	600 tph
Belt speed:	2.4 m/s
Drive Power:	110 / 45 kW
Fan Power:	5.5 kW
Prod. Density:	1.0 t/m ³

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Page: 2 of 2

Solution:

Aerobelt designed and constructed 1000mm wide conveyors that incorporated a stainless steel trough skin to resist the abrasiveness of the Alumina, and used a Heatmaster Nitrile belt to combat the high product temperature.

The lower power demand of the new Aerobelt system saved Worsley Alumina significant power (which is generated on site) and was a key driver in selecting Aerobelt conveyors for this application.

Two identical conveyors were installed side by side to create redundancy in this critical stage of the refining process.



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