GROUPNEWS AUMUND No. 2 // 2016
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Reversible Conveyor creates potential for a second truck loading station

New solution for clinker conveying optimises production at CEMEX in Rugby, UK

The area around Rugby in the Midlands has been well known for cement production for over 150 years. It began in 1865 in Newbold as a small lime production plant and has developed over the years into one of the most modern cement plants in the world. CEMEX has invested around £200 million in the plant. Not only does it have the largest kiln in Great Britain but produces a record breaking 1.8 million tonnes of cement p.a. In close cooperation with AUMUND Fördertechnik GmbH and the Ely, UK member of the AUMUND Group, SAMSON Materials Handling, CEMEX has put in place a new solution for clinker conveying.

AUMUND Sales Manager Peter Müller is delighted with the success of the project. He says, “We have achieved a significant reduction in dust, and increased the availability of the plant. In so doing we have worked together with CEMEX to raise productivity”.

First contacts to the CEMEX plant in Rugby go back to 2005 when an existing bucket elevator with round link chain was remodel-

Advantages

- Reduced dust
- Reduced downtime
- Improved productivity
- Opportunity for second truck loading station through installation of reversible pan conveyor

Photo 1: Supervisor J.-H. Haas (left) and Maintenance Manager B. Southam (CEMEX)

led into an AUMUND central chain bucket elevator.

Three conveyors underneath the clinker silo

Just under ten years later the project engineers on site recalled the success of the bucket elevator project, and got together with AUMUND again to develop a solution for the clinker conveying section, whose performance had until then been less than satisfactory. The production managers had identified significant issues with the three extraction conveyors which had been installed underneath the clinker silo by a competitor. High incidences of wear, dustiness and down time led to a first step of remodelling the middle one of the three conveyors into an AUMUND pan conveyor. This AUMUND deep drawn pan conveyor, KZB 600/350/4, transporting 150 t of clinker per hour was commissioned at the end of 2014 along with its new, dust-free silo discharge gates.

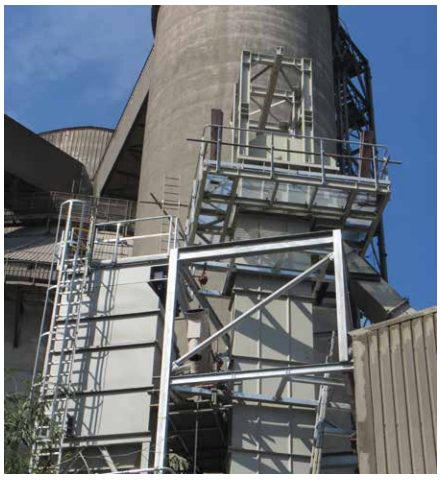

Photo 2: Redesign of the clinker transport

As soon as the new AUMUND machine started work in this part of the process, it stood out from its two neighbouring conveyors so much that the order for these soon followed, and their modification was finalised in February 2016.

What had started out as a modification project quickly became a complete redesign of the customer's clinker conveying section thanks to the degree of concept planning and attention to detail invested. A new solution was implemented replacing the existing method of sending the clinker onto a belt conveyor from the three extractors. A perpendicular conveyor has now replaced the old belt conveyor, and the material is transported onto a reversible pan conveyor by a chain bucket elevator.

New solution creates potential for a second truck loading station

Not only was an existing belt conveyor used for truck loading exchanged, but by replacing it with a reversible pan conveyor the option was opened for the creation of an additional truck loading station in the future.

To minimise the dust nuisance, new 15.000 m3/h filters were installed, which dedust not only the drive station of the pan conveyor and the bucket elevator, but also the feed and drive stations of the reversible conveyors.

Separately from the modification and redesign of the clinker conveying, SAMSON Materials Handling and AUMUND won a further order in Rugby. Since 2007 CEMEX had been reducing the use of fossil fuels at this plant and increasingly using alternative fuels, replacing for example part of the coal burned in the kiln with tyre chips. These tyre chips are now being transported by a 12 t/h, 51m AUMUND belt bucket elevator, installed in July 2015.

Facts

- Serious wear and tear, large amounts of dust and frequent downtimes are things of the past
- Conversion of three non-Aumund conveyors
- Perpendicular conveyor replaces the existing belt conveyor

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