AUMUND completes Modernisation of the Handling and Storage Systems at OAO Mordovcement

AUMUND have good reasons to be proud of the opportunity provided by OAO Mordovcement to take part in the large-scale modernisation of the existing facilities and the construction of new process lines.

Photo Gallery

Fig. 1 SCHADE Cantilever Scraper Reclaimer  Fig. 2 Clinker transportation system at the dry-processing line of OAO Mordovcement

Fig. 3 AUMUND Bucket Elevator with central chain type BWZ  Fig. 4 AUMUND Clinker Conveyor type KZB
Interview with Dr. Nikolai Velten
AUMUND Förderotechnik GmbH. Rheinberg, Germany

Photo Gallery

Fig. 5 AUMUND Samson® Material Feeder

Fig. 6 AUMUND Pivoting Pan Conveyor type SPB

Fig. 7 AUMUND Armoured Chain Conveyor type PKF

Fig. 8 AUMUND Rotary Discharge Machine type BEW-K
We spoke to Dr. Nikolai Velten, General Sales Manager Europe of AUMUND, about the lasting cooperation between OAO Mordovcement and AUMUND.

*When did the cooperation between OAO Mordovcement and AUMUND start?*

**N.V.:** The first AUMUND conveyor was supplied to OAO Mordovcement in 2005.

*What kind of a conveyor was it?*

**N.V.:** It was a clinker pan conveyor type KZB-Q with a 300 t/h capacity. It collects material from the semi-dry-process line and four wet-process kilns of the Staroalexeyevsky plant. The commissioning of this conveyor and its successful operation became the starting point for long-standing beneficial cooperation. Since then, OAO Mordovcement have purchased and installed over 100 AUMUND machines.

*Does OAO Mordovcement always order directly from AUMUND?*

**N.V.:** Yes, AUMUND receives orders directly from OAO Mordovcement as well as via general contractors such as KHD/ZAB, Polysius, FCB, Christian Pfeiffer or Scheuch.

*Could you describe the range of equipment ordered related to a certain installation?*

**N.V.:** A range of equipment was supplied by AUMUND to OAO Mordovcement for the construction of a new dry-process line. Following the order of ZAB Industrietechnik, SCHADE, a member of the AUMUND Group, delivered a storage system for additives designed as a covered rectangular stockyard. The scope of supply included a travelling tripper car for material feeding to the stockpile, a cantilevered boom reclamer for material reclaim as well as feeding and discharging conveyors.

ZAB Industrietechnik’s order also included deep-drawn pan conveyors for clinker transport from beneath the cooler to the off-spec clinker silo, onwards to the main clinker silo and finally to the open stockyard.

The clinker is reclaimed from beneath the silo by four AUMUND deep-drawn pan conveyors of the KZB type via silo discharge gates with motorised and manual control.

The off-spec clinker silo, which will also be operated as a clinker export silo, is fitted with telescopic loading spouts including integral dust control to feed clinker into railcars and trucks.

A total of 11 chain conveyors were supplied by AUMUND to OAO Mordovcement to transport filter dust and raw meal.
Thanks to the enclosed design these machines ensure a dust-tight transport of fine grained materials over a distance up to 50 metres, the number of discharge openings are selected according to the plant requirements.

Which type of equipment has been ordered directly from AUMUND by this partner in the past?

N.V.: OAO Mordovcement placed a direct order for clinker transport equipment from the main silo of the dry product line to the new and existing cement mills. Two AUMUND KZB deep-drawn pan conveyors collect clinker from the reclaim conveyors under the silo and deliver it for further grinding. The project also provides for clinker feed to those conveyors directly from the open stockyard.

A single SPB pivoting pan conveyor with 1600 mm wide pans, seven automatic and two forced discharge stations will feed the hoppers of three cement mills. The conveyor transport capacity will be 450 tons per hour clinker and 140 tons per hour additives. Clinker delivered by the collecting conveyors is distributed on the upper run, while additives are fed alternately from the collecting conveyors and distributed on the lower run.

The clinker transport from the off-spec clinker silo to the existing cement mills is equipped with three AUMUND KZB type deep-drawn pan conveyors with a total length of more than 600 meters. Clinker transportation over long distances with AUMUND all-steel conveyors guarantees reliable operation even with high clinker temperatures and low ambient temperature.

Due to the lower running speed of AUMUND conveyors, as compared with belt conveyors, dust generation is reduced considerably and in addition the increase time in transit naturally promotes further cooling of the clinker, which offers a reduction of the specific energy and air consumption for cooling purposes.

The bucket elevators with central chain type BWZ are used for feeding cement mills with closed grinding cycle at the new dry-process line and modernised existing mills. The first AUMUND bucket elevators were installed five years ago and are still running reliably.

So to sum it up: OAO Mordovcement has bought a broad range of equipment from AUMUND in the past, both directly and through project contractors.

Ecological production is becoming more and more of an issue worldwide. In how far is that a topic at OAO Mordovcement and in how far can the equipment provided by the AUMUND Group contribute?

N.V.: OAO Mordovcement has an outstanding position in the Russian cement industry as the company that started using alternative fuels to run its plants. In 2007, AUMUND supplied to Staroalexeeyevsky cement plant the first bucket elevator for the transportation of shredded tires. In 2009, the whole AUMUND system for receiving, conveying and proportional feeding of shredded tires into the pre-heater was installed at the dry-processing line.
Interview with Dr. Nikolai Velten  
AUMUND Fördertechnik GmbH. Rheinberg, Germany

This system consists of the Samson® Material Feeder with entry volume of 100 m³. The Samson® is used for intake of shredded tires direct from tipping trucks and as the buffer storage. With the special design the Samson® is installed above ground. Thus, no deep pits are required and it reduces not only capital costs substantially, but also allows avoiding problems with high ground water level.

The intake and discharge system for wood chips will be installed on all facilities at OAO Mordovcement. For this purpose AUMUND supplied three Samson® feeders and three bucket elevators with central chain.

What are the plans for future projects?
N.V.: The next large-scale project at OAO Mordovcement was the modernisation of the grinding department at Staroalexeyevsky cement plant. AUMUND will supply the equipment for transport and storing raw materials, additives, clinker and cement.

Can you describe which equipment will be needed in detail and how it will be used?
N.V.: A heavy-duty apron feeder receives raw opoka from the grab crane at the intake point and delivers it for further grinding. Then the material is fed to the dryer/crusher where it is transferred into the dried opoka silo. A Rotary Discharge Machine type BEW-K ensures the reliable discharge of opoka onto a conveyor feeding the cement mills.

At the gypsum intake the armoured chain conveyor type PKF is used for the discharge of trucks. This type of conveyor minimises the pit depth.

Gypsum is handled by the belt conveyor and the bucket elevator with central chain either to the temporary storage with a grab crane or to the flat plate conveyor for further transportation to the cement mills.

Clinker will be delivered from four existing wet process kilns and one dry process kiln to the clinker silo and the off-spec silo which will also be operated as a clinker discharge silo. The clinker from the silo as well import clinker is transported to the grinding plant.

A SPB deep-drawn pan conveyors will feed the cement mills with clinker and additives. Cement is handled mechanically from cement mills both to the old silos and to new compound silos. The belt conveyors and chain conveyors, type TKF, are used for transportation and the belt bucket elevators for lifting.

All transfer points; clinker silos (both the main and off-spec silos) as well as the dried opoka silo are equipped with integral dust control.

Thank you very much for the interview.
About the AUMUND Group

The AUMUND Group is active worldwide in the conveying and storage of raw materials and solid fuels. With technically sophisticated and innovative products the AUMUND Group today is recognized as a market leader in continuous process applications demanding absolute reliability and availability. The manufacturing companies AUMUND Fördertechnik GmbH (Rheinberg, Germany), SCHADE Lagertechnik GmbH (Gelsenkirchen, Germany), SAMSON Materials Handling Ltd. (Ely, England), as well as AUMUND Logistic GmbH (Rheinberg, Germany) are consolidated under the umbrella of the AUMUND Group. In conjunction with the headquarters of the manufacturing companies, the global business is effectively supported through a total of eight dedicated sales/support locations in Asia, Europe, North and South America plus representatives and agents in over 100 countries.

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