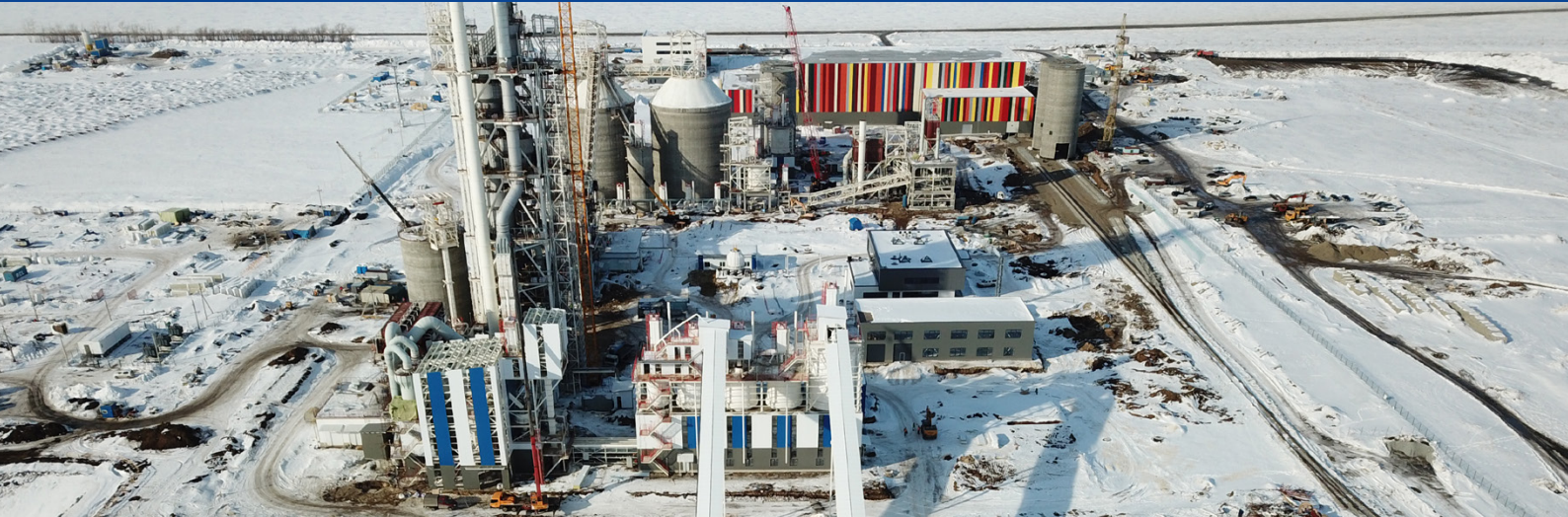


Minebea Intec enables **reliable metal detection** under harsh and changing conditions



In production environments, immunity to external interference is an important parameter for metal detection. However, extreme or changing weather conditions can make detection a real challenge.

Key facts

TCDRI helps its customers to build cement factories all over the world. The company relies on the Secus metal detector for their customers to prevent metallic foreign bodies from damaging the production equipment.

Application

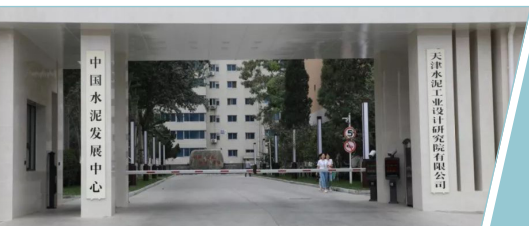
The metal detector detects metal contaminants in raw materials for cement before these are ground for further processing. It thus protects the downstream equipment.

Products

- Metal Detector Secus® D

Customer benefits

- Robust design combined with optimum detection sensitivity
- Learning mode allows compensation of product effect
- Protecting downstream equipment while improving the efficiency



The customer

Tianjin Cement Industry Design & Research Institute Co., Ltd. (TCDRI) was established in 1953 and is one of the earliest large scale industrial design institutes in China. By now, TCDRI has developed into one powerful international engineering company. As such, it builds up the cement factory for its customers all over the world. Its main customers include companies such as Eurocement, HeidelbergCement and PPC Ltd.

Project goal and implementation

The main raw materials for making cement are limestone, clay and marl. These materials are delivered to roller grinder mills or ball mills, to be ground into a fine powder for further process. Metals in these raw materials have to be removed before they reach the mills as they may cause the mill to be excessively worn out.

The Secus D metal detector is set up on the conveyor and detects all raw materials materials passing on the belt. The divisible coil can be installed around the conveyor belts without having to separate them, the removal of the metal detector is also possible without cutting the belt.

Cement factories are commonly located outdoors, and thus have to cope with harsh weather conditions. TCDRI builds cement factories in different countries, facing a variety of challenges. A cement factory pf TCDRI in Caucasus, Russia has to cope with ambient temperatures in winter from down -45 to 20° Celsius in the summer. The Secus metal detector can easily

“The Secus metal detector not only protects equipment and decreases our maintenance cost: Thanks to the reliable detection and elimination of unnecessary downtimes, it also increases our efficiency.”

*Zhaoning Luo,
Project manager TCDRI*

cope with different temperatures because of a learning function, which allows the system to adapt to changing ambient conditions by compensating for the product effect. The varied water content in different raw material batches does therefore not interfere the detection either. Even under low temperatures, strong winds, or nearby vibration, Secus detects metals reliably and avoids false alarms. The reliance in Secus pays off on multiple levels for TCDRI:

Since the company equips most of their customers cement plants with Secus, it has received high praise for the product. According to TCDRI's statistics, after implementing the Secus metal detector, the life of downstream grinders have increased by over 110%. It thus prolongs the product life-cycle and minimises unnecessary process

shutdowns due to machine defects or false alarms. The direct and indirect costs from customers have significantly decreased, since the inspection.



The divisible coil ensures easy integration into existing product lines.



Metal parts in the raw materials can damage the grinding mills and impair production.



Are you interested in finding out more?
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sales.ac@minebea-intec.com

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