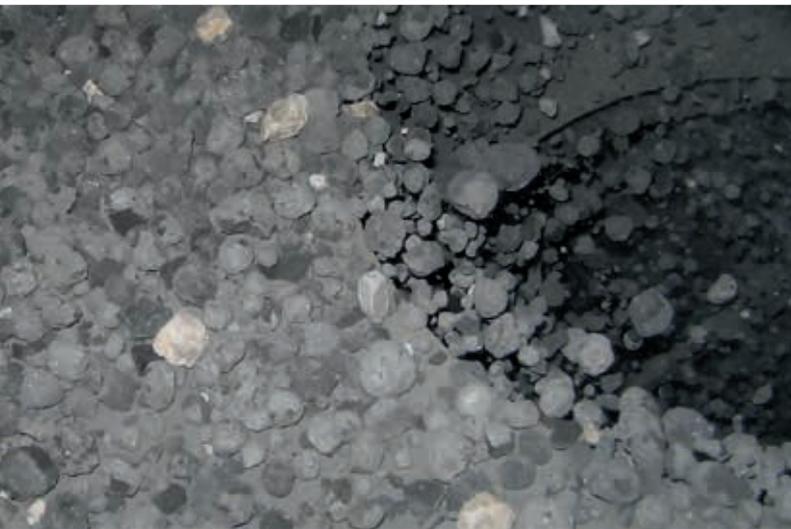


HAYER & BOECKER



SCREENING CAPABILITIES IN CEMENT



SCALPING IN LIMESTONE PRIMARY CRUSHING

Limestone feed material from the quarry may cause unnecessary costs and troubles to the downstream cement production line when it contains too much moisture, too much silica or too much fines. A HAVER & BOECKER scalping screen may offer a number of benefits as it removes the undesired fines already before primary crushing. Some worthwhile considerations when planning a new primary crusher. The basis to plan a new primary crushing system with HAVER & BOECKER.

REDUCED ENERGY COSTS

By using a scalping screen the energy consumption of a primary crushing system can be reduced by approximately the same percentage as the share of feed material by-passed directly to the downstream belt conveyor.

CAPACITY INCREASE

By using a scalping screen the capacity of the primary crushing system can be increased by approximately the same percentage as the share of feed material by-passed directly to the downstream belt conveyor.

REDUCED WEAR AND MAINTENANCE DOWNTIMES

By using a scalping screen the wear material costs and the downtimes for maintenance of a primary crushing system can be reduced by approximately the same percentage as the share of feed material by-passed directly to the downstream belt conveyor. With an increased content of moisture or silica in the feed material the savings increase progressively.

REGAIN "UNECONOMIC" DEPOSITS

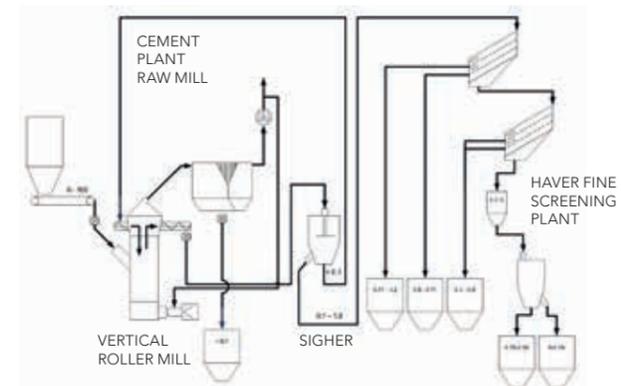
Considering the benefits mentioned before a scalping screen may be the key to regain a limestone deposit that has been evaluated before to be unsuitable for economic use. With reduced costs for energy, wear and maintenance, an increased capacity and an improved composition an idle deposit may come back as a new rawmaterial source.



RAW MILL GRIT TO DRY MORTAR SANDS

The successful cement plant of the future will produce a variety of intermediate and final products in addition to the classic cement qualities. It creates new profits from further products that can achieve significantly higher prices per ton compared to pure cement. At the same time this can raise the efficiency of the existing cement lines. One key to access these benefits is to extract limestone grit from the limestone raw mill system as it is an optimum raw material for further processing.

A HAVER & BOECKER SAND PROCESSING SYSTEM with HAVER FINE SCREENING MACHINES converts this limestone grit into typical fine-sand fractions that are needed for the production of blended cements, dry mortars or similar building products. HAVER FINE SCREENING MACHINES produce several fine sand fractions at high throughput rates and with precise cut sizes. A HAVER SAND PROCESSING SYSTEM combines screening with the corresponding crushing, drying, mixing and associated material handling systems to create the optimum process.

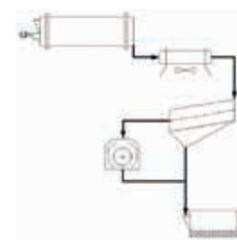


**FURTHER PRODUCTS WITH FURTHER PROFITS
IMPROVED EFFICIENCY OF CEMENT LINES
INTEGRATED SYSTEMS**



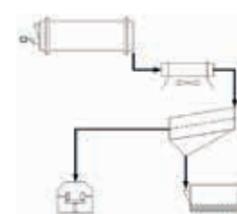
CLINKER SCREENING FOR SELECTIVE GRINDING

The ball mill grinding process has always been subject to optimization efforts. A selective clinker grinding concept may offer a number of benefits.



ADDING A PRE-CRUSHER TO THE BALL MILL

Oversize feed material causes long residence time and consequently high energy costs. Sometimes big lumps may blog the mill diaphragm. A HAVER SCREEN sets the course to crush oversize clinker in a crusher and to feed the ball mill with the optimum size.



COMBINING BALL MILL AND VERTICAL MILL

Modern vertical mills have proven their advantages in energy costs and capacity. Therefore they are becoming state of the art in grinding standard cements with a steep particle size distribution. Their best performance is achieved with a coarse feed material without too much fines content.

Ball mills remain first choice when special cements with a wider particle size distribution are required. As coarse feed material leads to extensive energy costs and it may cause troubles and downtimes the feed size of the ball mill should be limited. In case ball mill and vertical mill have a peaceful coexistence a HAVER SCREEN sets the course to feed the optimum clinker size to the tailored grinding machine.

**REDUCED ENERGY COSTS
OPTIMUM PRODUCT FLEXIBILITY
OPTIMUM ENERGY COSTS
CAPACITY INCREASE
REDUCED TROUBLES AND DOWNTIMES**



CEMENT QUALITY SCREENING

Customer's quality demands are continuously increasing. Sometimes they change all of a sudden. Where today e.g. a 5 mm reject screening may be sufficient, tomorrow not one single grain of 1 mm size may be accepted. With such a new request the existing screening area is not sufficient to keep the loading capacity.

A HAVER quality screen may help to keep a customer or to gain a new order. It prepares the final product storage and loading system to adapt to new requirements.

The HAVER REJECT SCREEN today is a classic component in hundreds of cement plants. Situated between final product silo and bag packaging or bulk loading system it removes foreign particles from the product that are much bigger than the cement particles. Lost screws, machine pieces and gloves are typically screened out. The other typical source of reject material is agglomerated cement of different sizes.

A HAVER QUALITY SCREEN is safeguarding the top-size limit of the accepted grain size.

**100 PERCENT QUALITY
100 PERCENT CAPACITY**

HAYER & BOECKER OHG

HAYER NIAGARA - A HAYER & BOECKER Company

Robert-Bosch-StraÙe 6, 48153 M¼nster

Phone: +49 251 9793 0, Fax: +49 251 9793-156

E-Mail: info@haverniagara.com

www.haverniagara.com
