

Application Note - Cement

SC-KEN-17

Our Customer

Our client is a large African cement producer manufacturing a high quality product that is specially blended with good quality control monitoring systems. Their cement is engineered for use in all structural and building situations and is particularly useful in marine and hydraulic construction.

Site Location

The cement plant is located in Kenya.

The Product

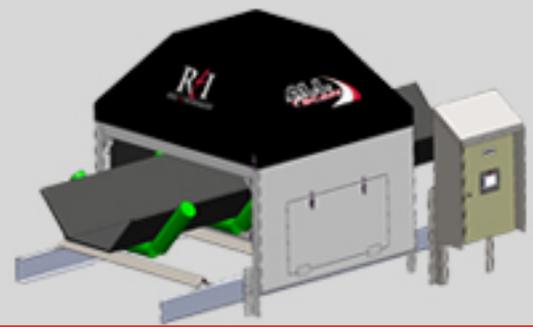
Two analysers are installed. One analyser is measuring good quality quarry material high in limestone. The quarry material is a mix of SiO_2 , Al_2O_3 , Fe_2O_3 , CaO , MgO , SO_3 , Na_2O , K_2O , Cl , P_2O_5 , TiO_2 and Mn_2O_3 .

The second analyser is measuring raw mill feed which is a combination of limestone, sand, clay and marlstone.

Installation

The first analyser is installed on a 1000mm conveyor belt with a troughing angle of 45 degrees. The analyser is located after a primary crusher on a belt which conveys quarry material from the quarry for stockpiling.





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The second analyser is installed on an 800mm wide belt with a troughing angle of 45%. The analyser is located after the Raw Material Silos leading to the Raw Mill.



Purpose of the Analyser

The purpose of the analyser on the conveyor belt from the quarry is to monitor the elemental composition of the material. Data from the analyser is used to direct quarry operations and also to manage pile build up. Of particular concern is the level of MnO in the quarry material. If the AllScan reports high levels of MnO pit operators are informed and mining is directed to another pre-surveyed part of the quarry to ensure that the target level of MnO in the stockpile is achieved. The analyser provides data to a FLSMidth Blend Expert QCX System that ensures that the overall blend of the material in the pile is on target.

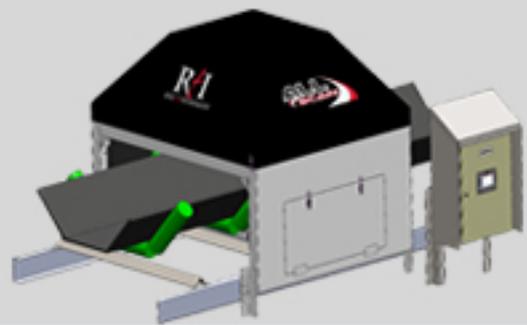
The purpose of the analyser on the raw mill line is to ultimately reduce the variability in the raw mix product. Elemental data from the AllScan is input to a FLSMidth Blend Expert QCX System which controls the addition of limestone, sand, clay and marlstone from the raw mill silos.

Benefit of the Customer

The ultimate benefit of the dual AllScan System integrated with the Blend Expert QCX System is to achieve consistent kiln feed chemistry which in turn leads to better quality clinker and lower fuel consumption per ton of clinker produced. The end-result – better quality cement produced at a lower cost.



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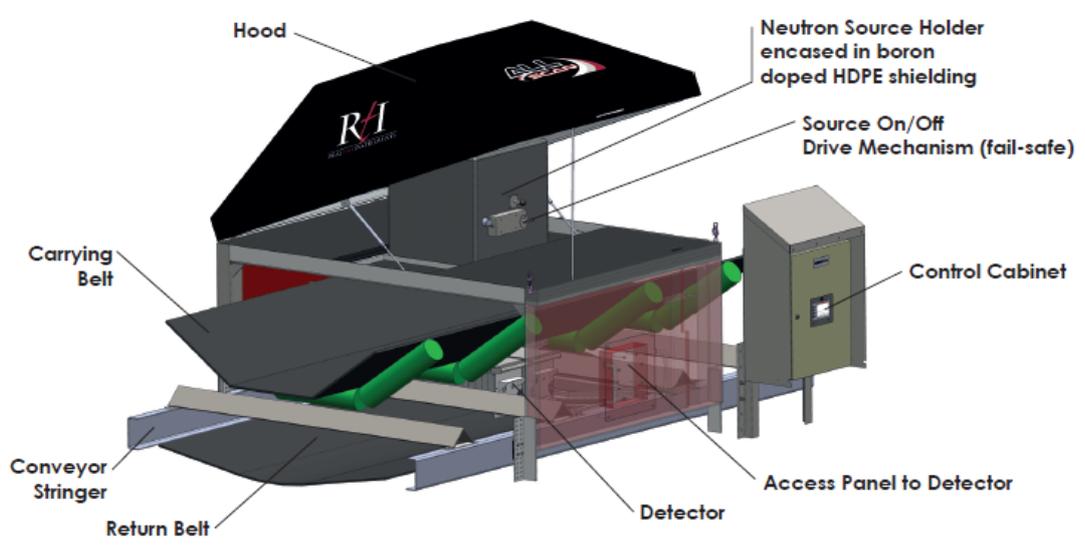
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The AllScan®

The AllScan is a new-generation online elemental analyser that uses PGNA (prompt gamma neutron activation analysis) technology to accurately measure the chemical composition of most bulk materials. The analyser combines practical operational features with sophisticated hardware and software resulting in an analyser that is easy to install, calibrate, and maintain, and above all, is extremely accurate.



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