Company News

Black Sand through Crushing Technology from BHS-Sonthofen

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Sonthofen, Germany –

Cement manufacturer Amreyah Cement relies on crushing technology from BHS-Sonthofen to produce slag sand in its plant in Egypt.

Sand is a sought-after raw material, the global deposits of which are declining while demand from the building materials industry is constantly rising. So-called ‘slag’ sand can replace some of the natural sands needed to produce cement. The advantage: composite concrete produced this way has a lower risk of concrete corrosion due to the high mineral content of the slag. This also increases the material's resistance to acids and weathering. In addition, producing composite concrete not only generates less CO_2 – using waste materials from the steel industry that would otherwise be disposed of also contributes to the sustainable use of resources.

The BHS rotor centrifugal crusher of type RSMX 1222 is equipped with an anvil ring to produce fine-grained slag sand.

Building materials producer Amreyah Cement Co is part of the Brazilian InterCement Group and is now manufacturing these additives, also known as “black sands,” at its plant in Alexandria (Borg El-Arab) in Egypt for the first time. The crushers previously used at the production site were not capable of producing slag sand of the required quality. For this reason, the operators commissioned the crushing experts from BHS-Sonthofen to plan and implement a suitable system.

Superior Crushing Capacity for 150 tons of Slag Sand

The high-performance crusher is particularly suitable for crushing abrasive input materials such as slag.

The customer opted for the BHS rotor centrifugal crusher of type RSMX 1222. The high-performance crusher with vertical shaft is particularly suitable for crushing and refining both mineral materials and highly abrasive materials with a very high hardness such as slag. The input material, which has a maximum particle size of 50 mm, is accelerated to a very high speed in the twin-chamber rotor and then hurled against a fixed anvil ring. This reduces the output material to the required particle size. The size of the rotor and the housing completely eliminate the risk of

clogging.

The RSMX produces high-quality slag sand with a particle size of 0 to 4 mm at a throughput of 150 t/h.

One particular advantage the BHS machine has is that a material bed of slag forms along the centrifugal chambers in the twin-chamber rotor that provides autogenous wear protection. This drastically reduces wear on the rotor, which is essential with the highly abrasive input material. As the input material leaves the rotor, it passes through centrifugal profiles made of particularly hard tungsten carbide, which withstand the highly abrasive properties of the slag and further reduce wear on the machine. The crushing result can be adjusted by selecting the appropriate speed to achieve Amreyah Cement’s target throughput rate of 150 t/h. The result is a high-quality slag sand with a particle size of 0 to 4 mm.

Experience from Abu Dhabi ensures Success

A similar project has already been realized with the BHS rotor centrifugal crusher of type RSMX 1222 in Abu Dhabi. In the past, BHS successfully carried out crushing tests at the Test Center in Sonthofen with EAF slag that was supplied. The expertise gained in the process paid off: At the plant in Egypt, BHS-Sonthofen was able to not only refer to the test values from Abu-Dhabi, but also draw on the experience gained in setting up the slag processing machine. “The RSMX has proven itself as a standard crusher for processing abrasive materials,” explains Hans Traut, the responsible project manager at BHS-Sonthofen. Amreyah Cement Co. is very satisfied with its decision to use crushing technology from BHS-Sonthofen. The company plans to work with BHS on other projects in the future.