

A new look at slag

Recycling slag into construction material has been achieved at an old quarry in Pretoria.



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BUSINESS SOLUTION

Even if industry is not eager to accept recycled products, such as recycled building material, pressure to consider the environment is increasing.

Slag is being recycled into saleable material in Pretoria West.

Instead of opening new quarries, two companies in Pretoria have turned to recycling slag.

Econoslag has acquired the rights from ArcelorMittal SA to process and recycle the slag on the site. Quicksand has been given the distribution rights to market, distribute and sell Econoslag's products to the wider market. As part of the deal between Econoslag and ArcelorMittal SA, Econoslag pays a royalty to ArcelorMittal SA for every tonne of slag processed.

CRUSHING REVAMP

When Econoslag took over the operations, a processing plant was already available. However, this plant was deemed inadequate and in serious need of an upgrade so it was decided that an entirely new plant would be required to produce quality products. According to Craig Boy, MD of Contract Opencast Mining Services, which is the contract miner, the efficiencies of the old plant were very low. "The old plant was at least 30 years old and, historically, had not been well looked after. It was suffering from wear and tear." In addition, the configuration of the old plant was also considered inefficient, particularly in the case of the electrical system. "The process flow was not conducive to good business practices," says Boy.

Econoslag decided to invest heavily in the slag operation. Gekko Systems was contracted by Econoslag to build a new slag-processing plant and to upgrade the existing plant.

LONG-TERM OUTLOOK

These investments ensure the longevity of the Econoslag and Quicksand business operation at the Iscor slag dump. According to Boy, the return on investment is definitely long-term. Stef Botha, managing director of Quicksand, cites various reasons. First and foremost, according to Botha, demand for aggregate is down and there is only low to medium demand for the slag products. Both operators also believe that they are hampered by prejudices in the building and civil-engineering industries. According to Botha, when potential customers hear of an available supply of recycled products, they are immediately prejudiced and often want to obtain the product for free or pay an unrealistic price. Another issue, according to Botha, is that contractors are always looking at the absolute cheapest way to dispose of building waste. Due to lack of regulations which could encourage entrepreneurs and contractors to recycle or send the building waste for recycling, high-quality excavated material and building waste is simply dumped. Botha believes there should be incentives or laws which force contractors to recycle reusable materials.

MARKET MATTERS

Despite these grievances, there are logistical problems in the slow uptake of recycling slag and mine-waste rock. The challenge for companies wanting to rehabilitate mine-waste rock and slag is transport. Most sources of

mine-waste rock and slag are not strategically positioned in relation to the source of demand. As a result, transport of the recycled materials can be quite expensive and challenging to deliver to site. Some companies have overcome this challenge by opting for mobile crushing-and-screening equipment or semi-mobile gear to enable them to move freely to landfill sites or mine-waste and slag dumps where demand for materials is high. The downfall of this approach, of course, is limited output as the equipment could never compete against large static gear. Econoslag has adopted the same approach as a traditional quarrying operation which is also limited when it comes to transporting product.

DEPRESSED STATE

The market for building and civil-construction material remains depressed. As a result, Econoslag's quarry at the old Iscor slag dump is operating under capacity. According to Boy, the Econoslag operation is producing an average of 15 000 t/month of aggregate and this is purely on demand. In contrast, the operational capacity is 50 000 t/month of aggregate.

Econoslag and Quicksand claim that their product is still 20% to 30% cheaper than aggregates from traditional quarries which has helped to maintain a healthy client base. When the building and civil-engineering sectors recover, Econoslag and Quicksand will be well positioned to advance the "green" agenda and make the most of operations. ■