



# SPECIAL CRUSHING SOLUTIONS FOR FINE MATERIALS

QUARRY MINING LLC (QM) design, manufacture and install Crushing & Screening plants in compliance with European standards, while adhering to the same safety standards and features that you would expect of equipment produced in Europe. QM is certified for quality management by ISO Certificate 9001:2008, for environmental management by ISO Certificate 14001:2004 and for safety & health by BS OHSAS 18001:2007 from the German Technical Inspection Association TÜV Rheinland/Germany, and include the continuous integration of all upgrades. QM is founded and managed by German Nationals but located in the United Arab Emirates. QM can supply high-quality plants with very competitive prices.

Crushing and screening of limestone to produce aggregates is a very common application in the bulk materials industries. Many of these products are used as mineral aggregates for the building industry to produce e.x. concrete or bricks, as well as for building of roads, bridges or as substructure for various applications. Most important is a high-quality product with clean separating cut, in order to meet the requirements of the different applications. But there are also some niche applications, such as very fine materials for production of mortar or tile adhesive. While the capacities of the screening and crushing for aggregates are mostly follow the rule "The bigger the better, the lower the costs per ton", it is different for such niche applications. First the quality is significant, second the quality is significant and third the quality is significant. Quarry Mining LLC provides you tailor made solutions for such applications, from the first request, through development and design of the plant, fabrication, installation and commissioning.

Quarry Mining just finished a plant for such a niche application. The request was to use raw material up to 22mm to produce aggregates between 0-4mm and at the same time to produce fines from 0 – 75 micron, but keeping the investment within the budget. Beside the technical requirements of the products, one of the major issues was the very restricted available space due to integration of the new plant to an existing factory. For sure you might think about a mill to produce such fine material. But a mill is a very costly machine and producing aggregates at the same time would be only possible by using an additional crusher. The solution from Quarry Mining was the use of a vertical impact crusher (VSI) and 2-deck screen in combination with a cascade sifter system connected to the dedust plant. Like this the third critical issue could be solved.



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The production should have minimum dust emission due to environmental restrictions. The solution provided by Quarry Mining LLC could accomplish all these requirements. With the VSI crusher the required aggregate size and at the same time enough fines could be produced. After screening the material, a sifter system ensures correct particle size distribution of the final products. Due to many possibilities to adjust the particle size distribution, like control of material cycle, adjustment of sifter cut, as well as gap and speed adjustment of the VSI the client was empowered to adjust and configure the different products at a very fine grading.

A fully automated PLC system ensures a high availability of the plant as well low operation costs. The complete plant is fully encapsulated and dedusted at all transfer points. This ensures a nearly dust free operation. In addition, the complete plant was installed on an area of 110m<sup>2</sup> only, which shows the capability of Quarry Mining to deliver tailor made and individual plant solutions.

Christian Drewes, Technical Manager of Quarry Mining and leader of project: "This case shows that especially niche applications require a high engineering and design effort. But keeping the requirements of client in mind, it is possible to provide solutions at a very cost effective basis by looking to the big picture and think out of the box."