

PRESS RELEASE

DemcoTECH supplies feed and discharge materials handling system for new mill at Idwala Carbonates

Materials handling and niche process plant specialist, DemcoTECH Engineering, has recently successfully completed and handed over a feed and discharge materials handling system for the newly installed Loesche Mill Plant at Idwala Carbonates in Port Shepstone in KwaZulu-Natal, South Africa. Idwala Carbonates is part of Idwala Industrial Holdings, a leading South African company focused on the industrial minerals and lime niche markets.

Idwala Carbonates mines a deposit of scarce white calcitic and dolomitic limestone, which is then processed on site to produce the end product.

The turnkey contract awarded to DemcoTECH Engineering covered design, engineering and supply, erection and commissioning of the materials handling systems. As a brownfields project, it presented a number of difficulties associated with designing and erecting the systems around the existing plant without interrupting plant operations. In particular, integrating the new plant with the existing plant resulted in challenging design and plant interface issues.

The contract brief called for a system to convey a raw limestone feed of 90 mm maximum particle size at 130 tph, from an existing concrete silo, modified to provide a controlled discharge of the feed. A vibratory feeder beneath the concrete silo feeds the material onto a 750 mm wide belt conveyor, which discharges onto a 40° inline pocket conveyor. This in turn feeds a 200 ton capacity feed bin. A belt magnet has been incorporated to remove metal and a metal detector included to detect metal in the mill limestone feed stream. Should metal be detected, it is automatically rejected via a pneumatically operated diverter gate to a reject chute, which in turn feeds into a reject bin.

The design of the milled materials handling system had to accommodate the two milled products of different size fractions, i.e. 40 µm and 15 µm respectively. The finely milled powders are distributed into one of four existing bins, according to the particle size fraction and further processing requirements. The system makes use of multiple air slides combined with a dust filter extraction system, in line with the client's and DemcoTECH's commitment to a clean environment.

DemcoTECH has a well-established track record in Southern Africa and internationally in working across a wide range of mining, metallurgical and general industries, in addition to the industrial minerals sector. The company's extensive references in Southern Africa range from a concept study for a new limestone handling and processing project at the Durban works of Natal Portland Cement (NPC) to designing and commissioning the material feed and extraction system for a 40,000 ton clinker silo for NPC Cimpor's Simuma Plant, adjacent to Idwala Carbonates. DemcoTECH provided the materials handling expertise for the project, which included the mechanical and electrical design, engineering and project execution of the system. Both the study and project were for operations located close to Idwala Carbonates and were carried out in conjunction with Kantey & Templer.

A recent contract for a sulphur handling system in Malaysia followed the successful completion of other offshore work, which included a large contract for the multimillion-dollar iron-ore import/export facility in Lumut, Perak, Malaysia. Taking a number of years to complete, this giant complex for Brazilian major mining group Vale included an ore storage yard and a marine terminal with a 60 Mtpa capability.

About DemcoTECH

DemcoTECH Engineering is a specialist bulk materials handling and niche process plant company, offering services from concept design through to project completion to the power generation, cement, mining, metallurgical, manufacturing and port handling industries. Services include conceptual design, feasibility studies, design, engineering, procurement, expediting, construction and commissioning. Plant supplied by DemcoTECH includes troughed conveyors, air-supported conveyors, pipe conveyors, rail-mounted slewing boom stackers, pivot boom conveyors and mobile conveyors. After-sales services include spares, maintenance, refurbishments and operational readiness packages covering procedures, systems and

workplace tools required to successfully operate and maintain a new or upgraded plant.



Existing bin modification with rod gate and vibratory feeder - part of the DemcoTECH-designed feed materials handling system for the newly installed Loesche Mill Plant at Idwala Carbonates.



Air slide on gantry – part of the DemcoTECH-designed discharge materials handling system for the newly installed Loesche Mill Plant at Idwala Carbonates.



Pocket conveyor 40 degree incline gantries - part of the DemcoTECH-designed feed materials handling system for the newly installed Loesche Mill Plant at Idwala Carbonates.



750 mm wide belt conveyor - part of the DemcoTECH-designed feed materials handling system for the newly installed Loesche Mill Plant at Idwala Carbonates.