

Growth potential for kerb-making

Concrete manufacturers looking to take advantage of the proposed multi-billion rand road infrastructure upgrade, can benefit from a range of machinery supplied by Pan Mixers South Africa (PMSA).

The future outlook for South Africa's road infrastructure seems positive, following the announcement of a four-year, R22-billion national roads investment project by the Department of Transport, and PMSA Director Walter Ebeling, points out that local manufacturers can benefit from the proposed capital injection into the industry, by manufacturing kerbs for the new roads.

While Ebeling admits that the positive effects of the investment will not be felt by the industry in the short-term, he notes that there is potential for growth in the kerb-making sector of the local construction industry. "As more roads are built, the demand for kerbs will increase, and PMSA stocks a comprehensive range of kerb-making equipment, in order to ensure that clients are provided with the correct product for the correct project."

Walter points out that kerbs are manufactured in South Africa through three industry-standard methods, namely; wet-cast manufacturing, precast manufacturing and by pressing. "PMSA offers a comprehensive range of equipment in all three methods of manufacture, and the company's dedicated team of technical experts can assist clients in selecting the option that is best-suited to their needs."

For hermetic pressing, he says that PMSA represents the British-manufactured Wil-El-Mil rotary press. "Wil-El-Mil is experienced in providing engineering solutions to concrete pre-cast customers using the wet pressing process," he continues.

The Wil-El-Mil press hydraulic power pack is mounted next to the press, as opposed to the top; thereby, improving ease-of-maintenance while minimising the risk of any oil leaks

that may contaminate the process. The product off-packing system on the rotary press is electro-pneumatically operated, and lifts the freshly-pressed product from the mould with a vacuum plate, before placing it onto a transfer carrier which places the product onto a curing pallet. Presses can be used for the manufacture of paving slabs as well as kerbs.

The Wil-El-Mil press densely compacts concrete without vibration. "When using a press, the wet concrete is batched into a mould, which is lined with a filtering material on the top and the bottom. The mould is indexed to the next position and a 400-ton hydraulic cylinder then squeezes all the water from the mix through the filter material above and under the mould, and the concrete product is formed within a 15-22 second cycle time," he explains.

"The process is faster, uses less cement in the concrete mix and is less labour-intensive than the traditional method, where the concrete would be poured into moulds, vibrated and removed only once it is cured."

PMSA also supplies a comprehensive range of mixing and batching plants and moulds for wet cast product manufacture as a lower capital investment alternative to a press or pre-cast method with a block-making machine.

The third method is by manufacturing kerbs using a block-making machine. "Dry concrete is fed into the mould in the block-making machine, and is extensively vibrated and compacted into shape. Using this application, the product is usually manufactured with a topping feed attachment, ensuring that the coarse concrete remains in the base and body of the kerb, while a thinner and smoother layer is placed on the top surface."

He notes however, that the challenge with this application is that standard kerbs are generally 300mm in height and, as a result, the manufacturer would require a large block machine, such as the RE1400, which has a high stripping area. "The major advantage of the RE1400 block machine is that it is powerful and robust, and is capable of producing up to 3 600 figure-7 concrete kerbs per 10-hour shift, using relatively drier concrete."

As concrete quality becomes increasingly-important in the South African construction sector, Walter stresses, "Properly mixed, compacted and cured concrete allows for increased-strength, lower permeability and less cement usage. The curing process is influenced by the heat and moisture of the environment in which the concrete is being stored, and it is vitally-important to ensure that the product is cured for the correct amount of time, as improper curing can cause inferior strength and cracking.

PMSA offers an in-depth after-sales service and technical support package to all its clients, and with more than 35 years of experience, PMSA has gained a valuable insight into the local market, and the company stocks more than R17-million worth of spare parts. ♦

Wil-El-Mil press.

