SPECIAL TRAINING COURSE ON CONCRETE INDUSTRIAL FLOORS

Cement & Concrete SA's School of Concrete Technology will on August 21 present an online training course on industrial concrete floors – surfaces that are essential for South Africa's industrial growth but often pose major problems for the construction industry, says John Roxburgh, senior lecturer at the School of Concrete Technology.
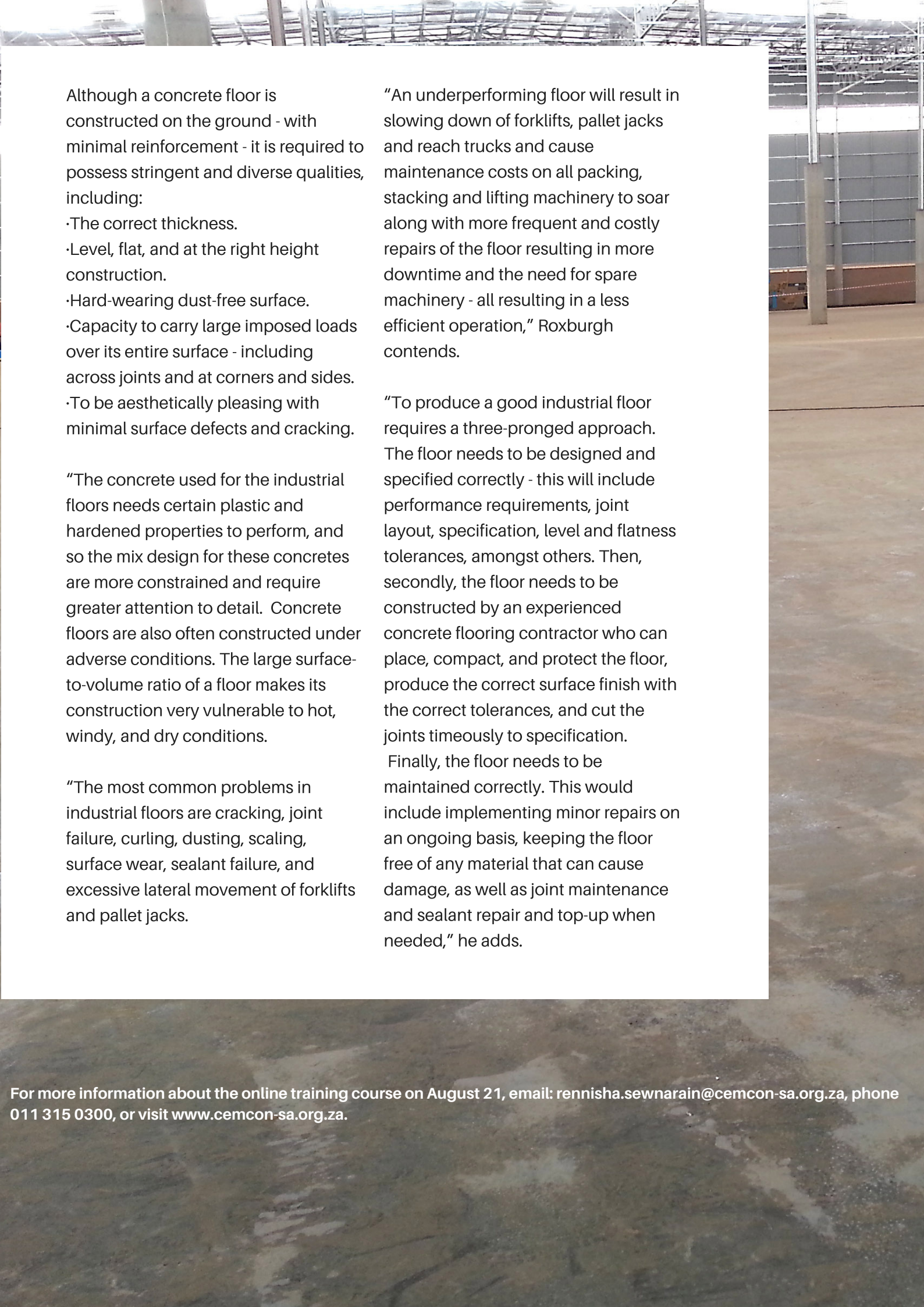
To help educate those involved with concrete floors in all corners of SA, the School will present the one-day online Zoom course, 'Industrial floors on the ground' lectured by CCSA CEO Bryan Perrie, an internationally recognized expert on concrete floors, in which all the design principles and concrete practice needed to produce a quality floor are covered. The course – which includes floor repair and maintenance – is aimed at engineers, contractors, concrete specialists, floor coating applicators, managers of warehouses, and all others involved with industrial floors.

Roxburgh says without well-designed, fit-for-purpose and low maintenance concrete industrial floors, factories, warehouses, storage and retail areas and other hard-standing areas cannot operate at optimum efficiency.

"The importance of a sound concrete industrial floor should be the main priority for minimising long-term operational costs. Industrial floors on the ground typically appear simple in design and construction but can become nightmares for the unskilled. Cement & Concrete SA can testify to that because when it comes to the various concrete elements in a building, the industrial floor is by far the most problematic in meeting specifications and performance requirements, and attracts the highest volumes of calls for advice and help to CCSA."

Most inquiries at the CCSA are about industrial flooring.

Although a concrete floor is constructed on the ground - with minimal reinforcement - it is required to possess stringent and diverse qualities, including:
·The correct thickness.
·Level, flat, and at the right height construction.
·Hard-wearing dust-free surface.
·Capacity to carry large imposed loads over its entire surface - including across joints and at corners and sides.
·To be aesthetically pleasing with minimal surface defects and cracking.

"The concrete used for the industrial floors needs certain plastic and hardened properties to perform, and so the mix design for these concretes are more constrained and require greater attention to detail. Concrete floors are also often constructed under adverse conditions. The large surface-to-volume ratio of a floor makes its construction very vulnerable to hot, windy, and dry conditions.

"The most common problems in industrial floors are cracking, joint failure, curling, dusting, scaling, surface wear, sealant failure, and excessive lateral movement of forklifts and pallet jacks.

"An underperforming floor will result in slowing down of forklifts, pallet jacks and reach trucks and cause maintenance costs on all packing, stacking and lifting machinery to soar along with more frequent and costly repairs of the floor resulting in more downtime and the need for spare machinery - all resulting in a less efficient operation," Roxburgh contends.

"To produce a good industrial floor requires a three-pronged approach. The floor needs to be designed and specified correctly - this will include performance requirements, joint layout, specification, level and flatness tolerances, amongst others. Then, secondly, the floor needs to be constructed by an experienced concrete flooring contractor who can place, compact, and protect the floor, produce the correct surface finish with the correct tolerances, and cut the joints timeously to specification.
 Finally, the floor needs to be maintained correctly. This would include implementing minor repairs on an ongoing basis, keeping the floor free of any material that can cause damage, as well as joint maintenance and sealant repair and top-up when needed," he adds.