KEEPING GROUNDED

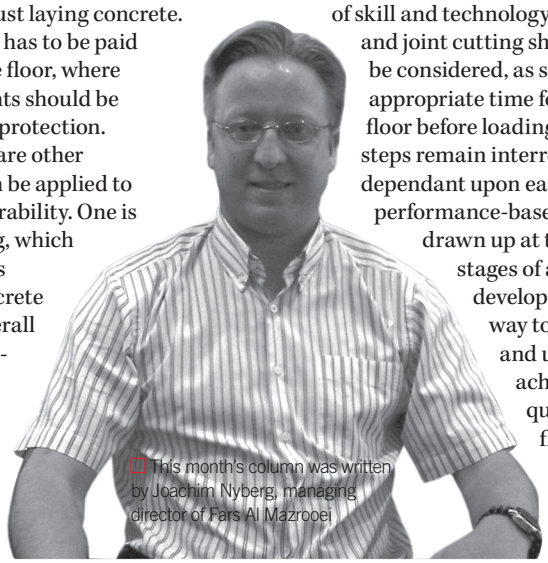
QUESTION: How can companies benefit from efficient industry flooring in their regional storage facilities?

WHY THE LOGISTICS SECTOR HAS INCREASED ITS FOCUS ON FLOORING

Following the growth of the Middle East logistics industry, and the corresponding increase in demand for warehouse space, companies are exploring a variety of different measures to ensure their supply chain operations are efficient. An area that has increased in importance over the years is flooring, especially with the installation of heavier and higher racking systems, which require concrete floors with greater tolerance standards. Damaged or unlevel floors can have dramatic implications on the transportation and storage of stock, including product damage, costly repairs and delayed deliveries.

MAKING THE RIGHT DECISIONS AT THE INITIAL PLANNING STAGES

When building a storage facility, the first thing that companies should consider is flooring, especially in terms of which treatments and materials to use for maximum durability and longevity. It is not as simple as just laying concrete. Adequate attention has to be paid to the surface of the floor, where coatings and sealants should be applied to increase protection. Additionally, there are other techniques that can be applied to further increase durability. One is vacuum dewatering, which removes the surplus water from the concrete and reduces the overall water content by 15-20%. Other benefits include a super flat surface, less crack formation, less maintenance and minimum dusting.



This month's column was written by Joachim Nyberg, managing director of Fars Al Mazrooei

THE POTENTIAL TO SAVE TIME AND MONEY WITH THE RIGHT CONCRETE

Successful concrete floors are the result of a detailed planning process, which focuses on the needs of the user to deliver the appropriate tolerances and quality required. Part of this process involves a design brief and establishing performance-based specifications. The finished concrete slab is then tested against this specification to ensure the final product will perform as designed. The basic steps of the process to reduce the hidden costs of remedial and maintenance repairs include the correct floor specification, well-prepared ground work, proper reinforcement, well-planned joints appropriately spaced and the correct concrete mix.

OTHER IMPORTANT CONSIDERATIONS TO ENSURE THE BEST END RESULT

Other steps in the process include a well-planned and managed site with an even flow of concrete, together with accurate placement and levelling using a combination of skill and technology. Good finishing and joint cutting should also be considered, as should the appropriate time for curing the floor before loading. Each of these steps remain interrelated and dependant upon each other. A performance-based specification drawn up at the very early stages of a project's development is the only way to ensure success and ultimately, the achievement of a quality concrete floor in your facility that is fit for the purpose intended.

HOW LASER LEVELLING CAN BOOST AUTOMATION AND EFFICIENCY

An unlevel storage facility floor will impact other handling systems in the facility, such as pallet racks, automated storage and retrieval systems, conveyors, horizontal carousels and narrow-aisle lift truck operations. Therefore, it is vital that all measures are taken to ensure a completely flat service. Traditional hand screed methods of construction, whether using a straight-edge or vibro-strike type tool, rely heavily on the skill of the team to set accurate wet pads and follow them precisely. Even amongst the most qualified team, errors between reference points will inevitably occur. A laser screed machine can be utilised to offer precise flatness and level maintenance, as the machine's laser control system ensures an accurate finished level through the use of electro-hydraulic controls and allows for easier and fast construction. Laser receivers mounted on the screed head receive a signal from a transmitter providing automatic control to finished floor level.

UNDERSTANDING THE PERILS OF POORLY CONSTRUCTED FLOORING

Excessive joints, unexpected cracks and uneven floors are at the very least unsightly and at the worst debilitating. Badly positioned joints or large open cracks in aisles or free movement areas can slow down materials handling equipment movement, cause unnecessary wear to tyres, wheels and bearings, and potentially cause instability with loads. Uneven floors can have the same negative effect, slowing production and adding cost. A poorly designed and improperly constructed floor may have problems such as cracking, inadequate joint performance and poor surface tolerance. Various repairs can often rectify many of these defects, but at a great cost of time and money.