Decking system speeds up construction of major malls

Contractors working on a slew of giant new shopping malls across Africa are opting to make use of an advanced new decking system that radically improves construction time while allowing easy and safe access to tradesmen working beneath deck supports.

The Kwik-Deck system, developed by Form-Scaff, is an evolution of the decades-old coffer system used to produce concrete slabs with a waffled soffit finish. The new system however takes less time to erect and can be stripped in just three to four days after pouring of concrete and, as a result, significantly reducing investment in additional falsework and also labour.

Having been designed from the outset to facilitate the use of either coffers or flat slabs, Kwik-Deck uses props to facilitate quick erection of the falsework. While this is not unique in the industry, the addition of quick-release beam supports is, and it allows the decking falsework to be removed after just three or four days (depending on curing requirements) while the props remain in position until the concrete slab has achieved sufficient design strength.

This is in contrast with other prop-based systems that require at least 21 days before coffers and falsework can be removed. Traditional stage-type systems, by comparison, also allow the removal of falsework within three to four days in most cases, but are comparatively labour intensive, take much longer to erect and limit thoroughfare underneath the deck. Breakdown and re-erection of staging is also time-consuming.

Need for speed

"Contractors working on modern construction projects strive to achieve the fastest possible pour cycles and, in doing so, still have access to wet and dry trades underneath deck pouring areas where possible.

Until recently, prop-based systems provided a reasonable solution for easy erection and access underneath, but due to the 21-day period before stripping could take place they needed an enormous amount of falsework to be employed on each site.

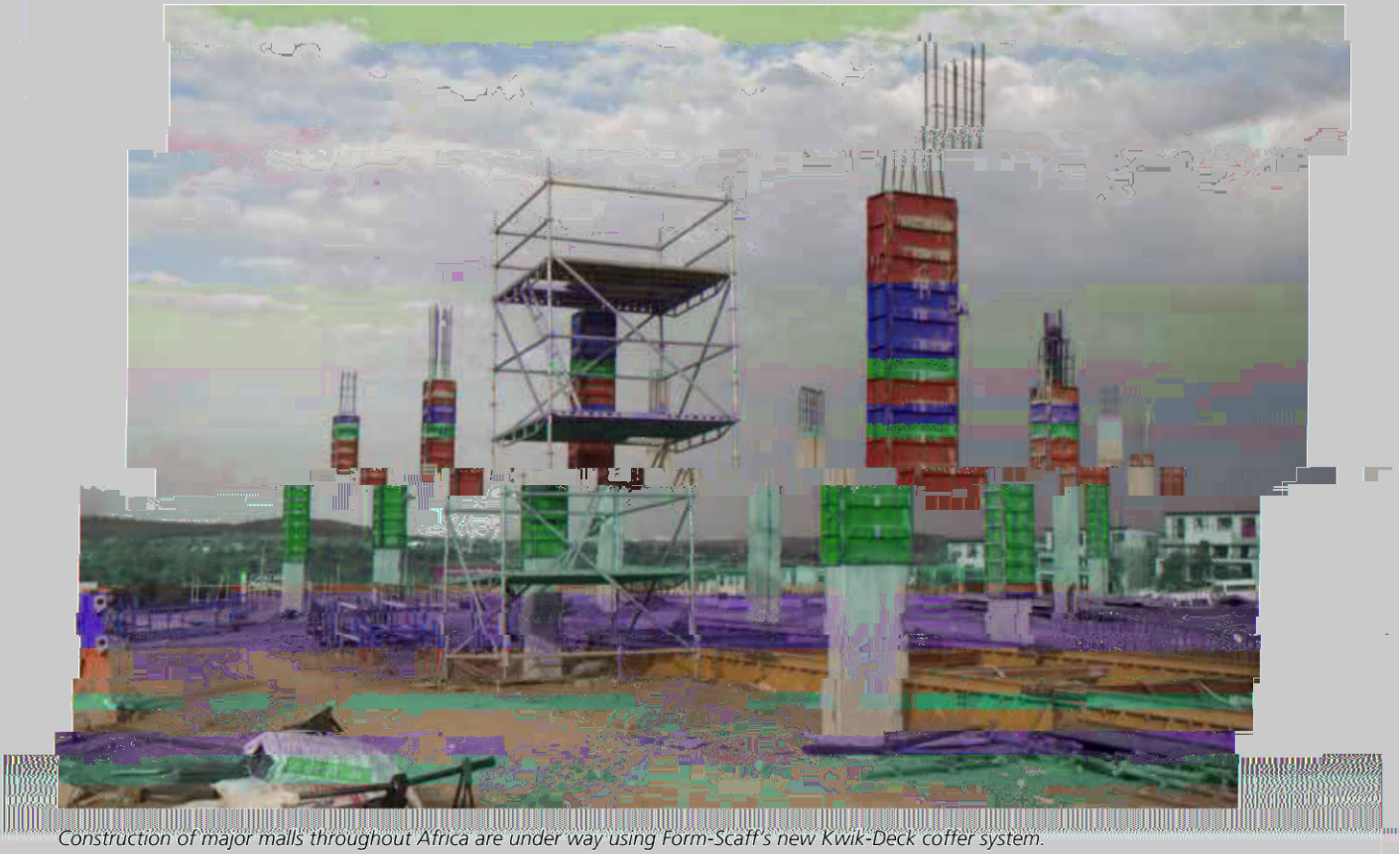
"This was costly and time consuming. In addition, the reduced stability of props compared with traditional staging was a concern and the benefits were, in the opinion of some, not sufficient to outweigh the drawbacks."

"That is why we developed a system that effectively draws on the best of both types.

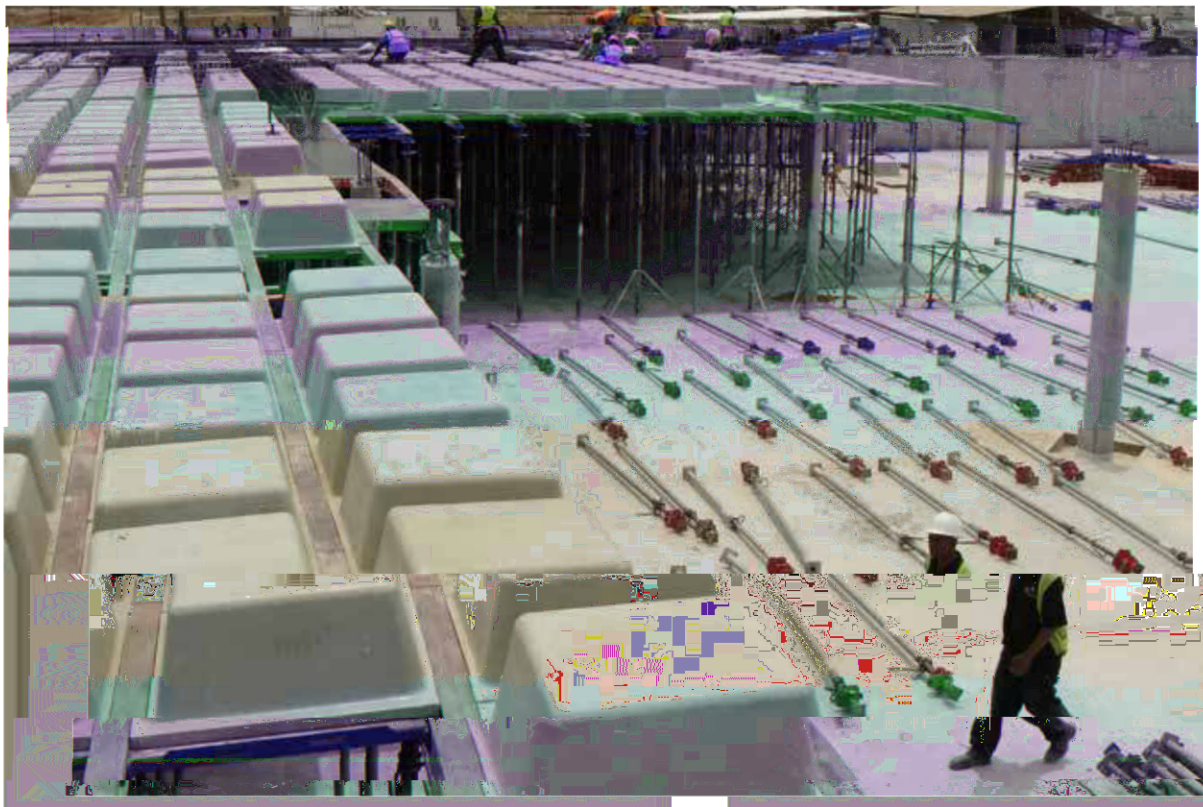
"Our system is also designed to be seamlessly interchangeable with either system and for stability sake many of our contractors now choose to combine props with braced staging systems.

"For example, they can use our staging for perimeters or on a corner of the deck for initial stability and edge protection, then use props for the rest of the floor.

This interchangeability of our system is unique and is a major advantage for clients to simplify their falsework requirements on site. It will even work seamlessly with contractors' own staging systems," says Klaas Pouwels, Form-Scaff business development director.



Construction of major malls throughout Africa are under way using Form-Scaff's new Kwik-Deck coffer system.



Erection of the Kwik-Deck system is quicker and requires less falsework on site

Showcase developments

Operations director, Darryl Voysey says these benefits have quickly been recognised and is the reason why contractors currently building the five biggest malls of their type in Africa are using Kwik-Deck to complete their projects.

WBHO and Group 5 (in a joint venture) have opted for the system on the giant Mall of Africa in Midrand, which is soon to be the largest mall in South Africa to be constructed in a single phase. WBHO is also using Kwik-Deck to construct the Westhills Mall in Ghana, while Murray and Roberts is using the system on a further three regional malls, namely Baywest Shopping Centre in Port Elizabeth, Dainfern Square in Fourways and Matlosana Mall in Klerksdorp.

"These are flagship developments and the contractors are using our Kwik-Deck coffer systems because of the speed of erecting, stripping, and re-erection, as well as the ability to grant access to tradesmen to complete work underneath the supports."

"Contractors also have access to a range of props for different roof heights, or to suit weight and strength requirements and can supplement requirements with their own staging equipment if needed. An additional benefit is that Form-Scaff has the unique ability to maintain sufficient stock-holdings to support the sheer scale of all these projects without delay. Our engineers, technical staff and crews are also readily available to assist with requirements on each of these sites, if and when there is a requirement," adds Voysey.

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Rich in benefits

Looking at some of the technical issues and advantages of the new system, Chris Erasmus Form-Scaff technical director, says the new Kwik-Deck system can be supported on any of the company's support-work systems. A Kwik-Deck drop-head is attached to the upper end of each prop which allows t coffers and Kwik-Deck Beams to be easily stripped for re-u One of notable technical differences on the system is the chan from the standard 900 X 900 mm grid to 925 X 900mm. Th additional 25 mm is to accommodate the Kwik-Deck Bear required to hold the coffers in place and translates in beams in one direction being 25 mm wider and using sligh more concrete.

"We initially viewed this as a potential stumbling block, b our customers (contractors) on all of the projects where the ne system is being used easily managed to convince their clien that the advantages of speed, space, transport and lower labo requirements of the new system far outweigh the need to resi drawings etc. In future architects and engineers wanting to u the system will simply take the new grid size into account an design accordingly. In addition, a slightly wider rib adds ext strength to the floor and may even increase the loading capac of floors in certain circumstances," concludes Chris. ■

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