

“The design had to remain flexible enough to incorporate many late changes required by Rolls-Royce.”



Figure 3: A high-performance floor was produced in the minimum allotted time.

This specialised design system eliminated the requirement for enlarged pile-heads to combat the effects of punching shear. It allowed the concrete slab to ‘float’ on the pile heads without tie-bars between the pilehead and concrete slab. The design aspects enabled the use of the large pour laser-screed technique. Stress induced joints at short intervals were avoided in the steel-fibre jointless concrete floor slab system by using a high

dosage of steel fibres, similar to that of the suspended floor design, which effectively controlled the crack widths.

Laser-screed installation

During installation of the suspended floor, operatives worked immediately in advance of the laser-screed, installing the slip membrane and reinforcement. This provided clear access for the concrete truck mixers and the laser-screed.

High flow concrete was discharged directly from the truck mixer into the localised area. The laser screed was used to level and compact the concrete, followed by the automated dry-shake applicator. This operation was repeated along the panel length, operating from left to right, until the line was complete. The laser-screed then returned to the far left panel edge, before starting the next section.

Daily output

Following installation and testing of piles, followed by sub-base preparation, A.J. Clark was able to install approximately 1250m² of pile-supported slab per day at a thickness of 280mm. Altogether, 1800m² of jointless ground-bearing slab was laid each day. This enabled fast-track floor slab installation, so that the follow-on trades could begin work.

Concluding remarks

This project demonstrates, by the early involvement of a specialist flooring contractor, there is much potential to achieve significant time and commercial savings. On this project, a high-performance, low-maintenance floor was produced, accommodating the complex and demanding requirements of Rolls Royce (see Figure 3). ■

You’ve just proved that advertising in

CONCRETE For the Construction Industry

really works!

Call the Advertisement Department now for cost-effective advertising to industry buyers and decision-makers worldwide:

Tel: +44 (0) 1939 251 502 Fax: +44 (0) 1939 251 503

e-mail: sales@concrete.org.uk