Wembley Stadium, UK

Client: Football Association
Contractor: PC Harrington
Location: London, UK
Products: Alshor Plus

Case Study

RMD Kwikform’s lightweight aluminium Alshor Plus shoring system was used for the construction of the new Wembley National Stadium in London, supporting all of the 250mm to 2400mm thick in-situ reinforced concrete slabs.

The high-load-capacity shoring system is being used by PC Harrington to provide around 40,000 square metres of support and back propping for the floors, which take up approximately one third of the Stadium’s one kilometre circumference. The equipment is being used to produce a series of mobile tables that – despite the awkward shape of the building – is dramatically increasing productivity, reducing site labour costs and hence minimising the amount of equipment required. According to PC Harrington, this has resulted in substantial savings in construction time and a reduction of the company’s site labour by around 20%.

By the completion of the project, around 30 different sizes and configurations of tables will have been used. The largest Alshor Plus table measures 7.2 metres by 6.0 metres and weighs approximately two tonnes, while the smallest table is 3.6 metres by 3.2 metres and weighs one tonne. All are around seven metres high.

Infill areas between the tables and adjoining stairwells, columns and beams are being completed using site-assembled “static” sections of the shoring system. Each floor, which has around 300 table positions, supporting approximately 75 percent of the total slab area, is being completed in up to 32 pours – the largest of which is approximately 1,200 square metres.

The primary bearers at soffit level are 225mm deep RMD Kwikform Albeams, chosen for their high bending, low deflection and concentrated load capacity. These are bolted to U-heads at the top of each Alshor Plus leg. RMD Kwikform’s 150mm deep Alform and Alsec beams are incorporated as the secondary bearers, fixed to the Albeams using wedge action clamps.

Alshor Plus components are stored and tables are assembled in a secure area adjacent to the slabs under construction. Once assembled, the tables are craned into approximate position and are then manually and efficiently manoeuvred into their precise required location by a team of just two men using the innovative and smooth acting Alshor Plus Castor Units.