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Rib Beam & Block Strengthening in the Maternity Ward of Barnsley Hospital, Barnsley, UK

Refurbishment of the maternity ward at Barnsley General Hospital included the allowance for 3 brand new birthing pools. Built in the 1970's this concrete framed building had a beam and block floor construction and analysis showed they were not strong enough to carry the point load of the new birthing pools. Our design analysis results showed that these beams could be strengthened for additional flexure using our own unique Carbon Fibre Strengthening system, however due to the limited width of the beams our wet lay-up system was not feasible. The chosen solution was to use our Tyfo Fibrwrap pre-cured laminate strips of 100 x 1.4mm secured with Tyfo TC resin to the top and bottom of the beams to strengthen them. For shear strengthening we carried out deep embedment of Carbon Fibre Reinforcing Bars inserted vertically into the top of the beams secured with Tyfo S resin. The works were carried out in 2 phases of 2 weeks each in a fully operational hospital.

Project: Rib Beam & Block Strengthening in the Maternity Ward of Barnsley Hospital

Location: Barnsley, South Yorkshire, UK

Client: Barnsley NHS Trust

Contract Duration: 4 Weeks

Scope of Works:

- Rib Beam Strengthening for additional flexure using Tyfo Fibrwrap Systems
- Shear Strengthening using Carbon Fibre Reinforcing Bars inserted vertically into the top of the beams



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