

Bristol royal infirmary – void filling



SUMMARY

Bristol Royal Infirmary is a large teaching hospital based in south west England. The structure was undergoing some redevelopment work in 2015 which, following a specialist radar survey, revealed a void under an area of slab. The redevelopment necessitated an additional load to be placed on the existing slab but following load tests the void would compromise the slab integrity to withstand additional loads.

Geobear was contacted to propose a solution which required filling the void with specialist geopolymer material with the compressive strength to withstand additional forces.

SOLUTION

The void was identified as a 280m³ area beneath one of the main concrete slabs. The project was made particularly complicated by the presence of asbestos in the original construction.

Geobear proposed the use of a specialist high expansive geopolymer that could be injected into the area, which subsequently solidifies and fills the void whilst creating additional load bearing strength.

In order to inject the geo-polymer over 70 16mm holes drilled through a timber subfloor of 50mm over a reinforced concrete slab, Geobear could then phase the geopolymer injections across the site working from the furthest point back to entry.