

# Bermondsey Dive Under – Void Filling

## SUMMARY

Geobear was contacted by Skanska to design a solution to fill a void between a new railway box structure and existing railway viaduct near Bermondsey.

The box structure, known as the Bermondsey Dive Under, was designed and introduced to provide grade separation between the Kent and Thameslink lines, which would enable the continual operation of the two lines without signalling interruptions.

Once the box structure and adjoining line were constructed a narrow gap (0.6m) was left between the new structure and the adjacent viaduct. The void needed to be filled as it was an unprotected drop and could capture litter debris forming a potential fire hazard. Geobear was contacted to fill the void using their lightweight geopolymer resin, a material that rapidly expands to fill voids.

## ALTERNATIVES

There were no feasible alternatives for the client to consider on this project as a cementitious fill was not viable primarily due to the weight but also because of the physical access restrictions for plant.

## GEOBEAR SOLUTION

In order to fill the void a glass reinforced plastic former was inserted first to act as a soffit for the subsequent fill material. This base required a lightweight fill material which is where Geobear's geopolymer material is ideally suited.

One of Geobear's mobile units was able to access the site from below as our material is pumped via an 80 metre long hose to the void opening. The void was filled in a layering pattern to ensure that no gaps were left open. The void once topped off was then covered with a preformed flashing to prevent any further water ingress.

This project inclusive of an additional task to void fill 'brick barrels' that were built into the original viaduct was completed in three days to the clients complete satisfaction.

