Case History

CINTEC™ REINFORCEMENT SYSTEMS

Deansgate Viaduct, Manchester, U.K

The busy Deansgate rail viaduct is situated in the heart of Manchester spaning numerous buildings, roads and canals. In 1997 the normal daily flow of railtraffic was disrupted by a destructive fire which took hold in a workshop located directly underneath. The subsequent heat generated by the blaze caused extensive damage and a weakening of the seven rings of masonry that form the arch barrels. The surface ring of brickwork completely delaminated and collapsed to the ground below.

A team of consulting engineers assessed the damage and recommended a Cintec reinforcement solution. Any remnants of the outer ring were completely removed and the remaining six rings were hammer tested to locate the extent and area of internal delamination. Two arches were found to be in need of repair. In total approximately 500, 24 inch long RAC Cintec anchors were installed, perpendicular to the arch and at spacings of 20 inches. The anchors were staggered to avoid the formation of sheer lines and because of their vertical aspect, each anchor was fitted with an air-vent tube to ensure full grout inflation without risk of air pockets being formed at their remote end. All anchors went no further than half way through the sixth ring so as not to puncture the original waterproof membrane that protects the arch barrel from the arch infill.

Finally the original appearance of the arches was restored by grouting an original piece from the drilled cores back into the mouth of each anchor hole. The completed work was rendered invisible to the naked eye and the viaduct was once again in operation servicing Deansgate station and the G-Mex conference centre.

Tried & Tested

"Key hole Surgery for Bridges"

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