



Structural Concrete Repair

Wolverhampton University Fire Damaged Column Repair

Client
Wolverhampton University

Principle Contractor
Freyssinet Limited

Value
£10,000

Contract Duration
8 days

Works Completed
September 2011

A fire within the Arts Department of Wolverhampton University caused damage in the form of structural spalling and cracking to a reinforced concrete support column. Freyssinet Limited were appointed by Wolverhampton University to carry out structural repair to the column, which included setting up a support system, breaking out the fire damaged concrete and repairing. Freyssinet offered the University a quick mobilisation to attend site, complete the works with minimal disruption, and demobilise prior to the Arts Department being functional again.



Freyssinet had to coordinate their work around other maintenance contractors based in the same vicinity, and there was added pressure to complete the repairs prior to students returning to the University for the new academic year. Access into the building would have taken the operatives through the University with both equipment and materials, which required prolonged durations of manual handling and interface with University staff and potential damage to the internal surfaces of the building. A sequence was agreed with the Safety Department for access to be from the main carriageway using an existing vehicle crossing, using a banksman to control vehicle movements taking into account the busy pedestrian footpath adjacent to the University.

A designed support system from RMD was utilised to act as temporary support to the roof structure whilst the column was being broken out and repaired. This transferred the entire load that the column was carrying down through the concrete floor slab to the existing ground beam.

Once the support system was in place operatives commenced breaking out and saw cutting to form a neat edge. However, once the initial repair was broken out further damage was apparent and the repair doubled in size up to 2.8m which required shuttering and pouring in two operations. 5 star repair concrete was used for the repair, and the newly formed column could not have any imposed loading applied until it gained 30N/mm².

Works commenced on September 7th 2011 and the programme was completely finished by September 16th, with all support works removed, and handed over to the satisfaction of the University Facilities Manager.

- 1 The load on the column was transferred to a temporary support system
- 2 The damaged concrete was broken out
- 3 Shuttering was used to form the new column
- 4 The repaired column

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