

Rotafix Resin Timber Repair – Case Study

BACKGROUND

This case study outlines the products and methods used to repair a floor/ceiling joist using carbon fibre and Rotafix Structural Adhesive (RSA). The client requested to develop a repair methodology for a jettied 16th century property located in St Albans, Hertfordshire. The building has been extensively reworked throughout the centuries with many later phases of alteration.

THE PROPOSITION

The client requested a solution to reconnect the floor/ceiling joists between the ground and upper floors that had decayed and were now unsupported. It was imperative that every effort was made to ensure that the existing timbers were preserved where possible.

PLANNING THE REPAIRS

Rotafix developed a repair methodology using their Resiwood range of products that consisted of cutting narrow slots into the existing timber then butting up new species matched timber and connecting both parts together with Rotafix Structural Adhesive (RSA) and Carbon Fibre Reinforced Plate (CFRP).

The use of CFRP allowed Rotafix to achieve the structural strength required for the floor loading but also satisfied the requirements of English Heritage that any repair must ensure that the minimum amount of material only is removed from the historic timbers.

IMPLEMENTING THE REPAIRS

The damaged timber on each of the floor joists was removed. The length of damaged timber removed from each floor joist varied. Each joist was slotted prior to having the end carefully removed. New joists were prepared in species matched oak with a similar moisture content.

The slots in the existing timbers were aligned to the new timber ends then cut ensuring exact positioning and depth of the slots. Once the slots had been cut and thoroughly cleaned RSA was injected through a tube into the base of the slots.

The carbon fibre strip was then cut to length to match the length of the slot. The pictures show the carbon fibre strip in its protective green coating which was subsequently removed.



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Rotafix Resin Timber Repair – Case Study cont.

FINISHING & DETAILING

The carbon plate was inserted centrally into the previously injected RSA and then the slot was filled with a further layer of RSA as shown below. The props supporting the repair remained in place for 7 days. The new timber was contoured to match the distressed look of the original timbers.

As the flooring covered the repair there was no cosmetic or aesthetic requirement to hide the adhesive. When there is an aesthetic requirement a thin slip of matching wood can be inserted to give a colour match and to cover the repair.



CONTACT US

APP operatives are trained in Rotafix repair work. APP can work with Rotafix to provide design support and provide the materials required to complete these types of historic restoration.

For further information about the Rotafix system of repair, please contact Anglia Property Preservation Ltd on 01223 244515.

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