

R G SERVICES

On-Site Timber Engineering

Strengthening and repairing timber beams.

Major refurbishment work on historic buildings often leads to a conflict between engineering and conservation requirements.

One such problem often encountered is the strengthening or repair of timber beams and trimmers within the floor construction.

Although having stood for many generations, albeit with some deformation, modern design requirements often require that the members are strengthened or repaired and that this work to be done with due consideration to preserve both the fabric and character of the building and its elements.



Reinforcement of hearth trimmer using slot method without damage to joist joints

If it is necessary to work within the original floor depth then strengthening above or below the floor is not an option.

To strengthen a member by fixing steelwork to the vertical faces of a beam would mean destroying the original joints of any interconnecting members and invariably damaging the ceiling.

Reinforcing timber beams using the steel reinforced slot technique solves these problems and has been used with great success on many projects for more than thirty years.

Access to the member is only required from above which, in most cases, means no more than lifting floorboards.

The strengthening method involves forming a slot along the length of the top face of the beam and embedding into the slot steel bars bonded into position with epoxy resin.

The bar lengths, size and location are designed for each member and depend on clients design requirements.



Reinforcement bars inserted into slot and bonded into position with epoxy resin.

Any support that may be required during the operation can be provided by using soft pack across to the underside or should this not be possible, by using a truss and hanger arrangement from above.

The use of steel reinforcement bar and epoxy resin is not limited to the strengthening or repair of floor beams. It can be used in most situation where a structural member has failed, decayed or suffered some loss of strength and replacement of the member is not possible, desirable or economical.



Repair of fire damage to rafter of principle roof truss.



Repair of stringers on public footbridge.