



# Epoxy Resin Repairs

## For structural timber



Epoxy resin-bonded repair systems have been used successfully for over 20 years both for the upgrading of structural timber and for the repair of timbers which have been degraded by fungal decay, insect attack or mechanical / structural failure. They have also proved successful in cosmetic repairs.

Resins are well recognised for their excellent adhesive properties, the ease with which they cure, their high mechanical strength and their resistance to chemical attack.

In addition they are waterproof and do not rot.

### Applications

- Beam end repairs
- Repair of bowed, cracked or sagging joists or beams
- Upgrading floors for increased design loading
- Bonding timbers
- Repairing local areas of fungal decay and insect attack
- Filling fissures, cracks, splits and shakes

### Benefits

#### Economic

The use of epoxy resins can speed up repairs and so cut costs – for example in beam end replacements where the reinforcement is typically 5 - 10% of the weight of traditional bolt-on steel flitch plates with consequent reduction in handling costs.

#### Mechanical

Structural repairs should be subject to proper analysis by a qualified engineer but beam end replacement with epoxy resins has the benefit of retaining the original bearing configuration.

#### Aesthetic

Generally the use of resin repairs avoids altering the external appearance of the timber.

In churches or historic buildings, for instance, the original lines of hammer beams, arched braces and posts can be maintained while the surfaces of repaired sections can be made to match the original.

#### Low Disturbance

Repairs can be made with minimal disturbance reducing the amount of adjacent building works.



# Typical Applications

## Structural Timber Repair

Beam ends bedded in masonry walls but degraded by fungal decay and/or insect infestation can be repaired using a timber splice resin bonded with reinforcement rods. The new timber splice can be either created in situ or pre-fabricated with factory fitted shear connector rods.

This design retains the original load distribution as well as restricting any further water penetration into the timber.



## Cosmetic Repairs

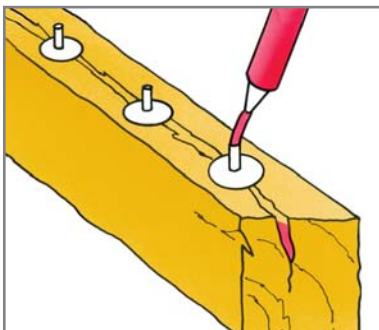
For localised areas of repair, moulding putty resin mortar can be shaped, sanded, grained and then stained to create a high grade cosmetic finish to match the original. This is a particular benefit with historic property such as old timber framed buildings.



Repairing fractured roof truss tie beam

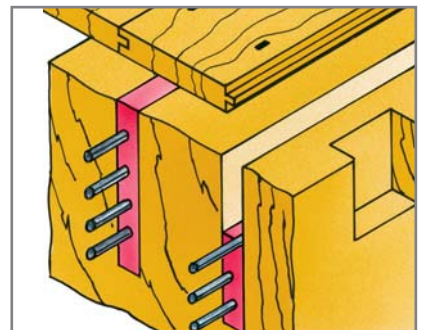
## Repair of Cracks and Fissures

Various formulations of resin grout adhesive are available including low viscosity versions for fine crack filling and thixotropic grades for pumping overhead.



## Floor Upgrading

This unobtrusive, low disturbance method bonds reinforcement bars into the floor beam without affecting the ceiling below or altering the floor level above.



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