

Removal or Isolation of Original Ties

Removal or isolation of the original ties must not be done until the replacement PAM ties are installed.

Butterfly wire ties in wide soft mortar joints need not be isolated or removed. Fishtail ties, heavy duty wire ties and all ties in thin joints must be isolated or removed.

1. Removal of ties from the outer bed joint only

- This method avoids the removal of bricks and the resulting aesthetic problems resulting from their replacement, but can prove difficult if the mortar joints are thin.
- Mortar should be removed to expose the original wall tie using a rex chisel or a plugging chisel. A steel drift may then be used to drive the original tie sideways into the cavity where expansion caused by rust lamination cannot damage the structure.
- Extreme care should be taken not to drive the tie inwards, which will damage internal plasterwork and decorations.
- If the mortar joint is thin, a disc cutter may be used to remove the original tie cleanly. Full protective equipment must be worn.

2. Complete Removal

- The brick above the original tie should be removed carefully for subsequent replacement.
- The complete tie should then be removed carefully to avoid damage to the internal plaster work and decoration. Drilling a hole either side of the tie will normally assist in its removal.

3. Removal from the Outer Leaf of the Wall

- This method is acceptable, providing there is no sign of red rust of the tie in the inner leaf of the wall, and there is a sound, complete galvanizing layer with sufficient thickness to ensure the required further life.
- The brick above the original tie should be removed carefully for subsequent replacement.
- The tie should then be bent back or cropped off.
- Complete removal is necessary if there is evidence of expansion damage to the inner leaf.

4. Isolation Technique

In this method the existing wall tie is left in place, but structurally isolated from the wall so that any further expansion will not damage the wall. It is not recommended for walls with thin mortar joints (a normal mortar joint is 10mm).

- Cut out all mortar to the front, above and below the existing, corroded wall tie so that it is completely isolated from the brickwork. The clearance should be 25mm either side of the extremes of the wall tie.
- Introduce ready to use one-component polyurethane expanding foam to encapsulate the exposed wall tie. Remember the exit volume expand 2-3 times.
- This material may be used from a self-contained canister or from a specially designed gun. The gun must be cleared with the correct cleaning material before the foam cures.

The advantages of this method are less disturbance, the possibility to re-inspect the tie, should it ever become necessary, and it is low cost.