Remedial Wall Tie Testing & Spacing

Pre-specification testing should be included as a routine part of the survey of the building.

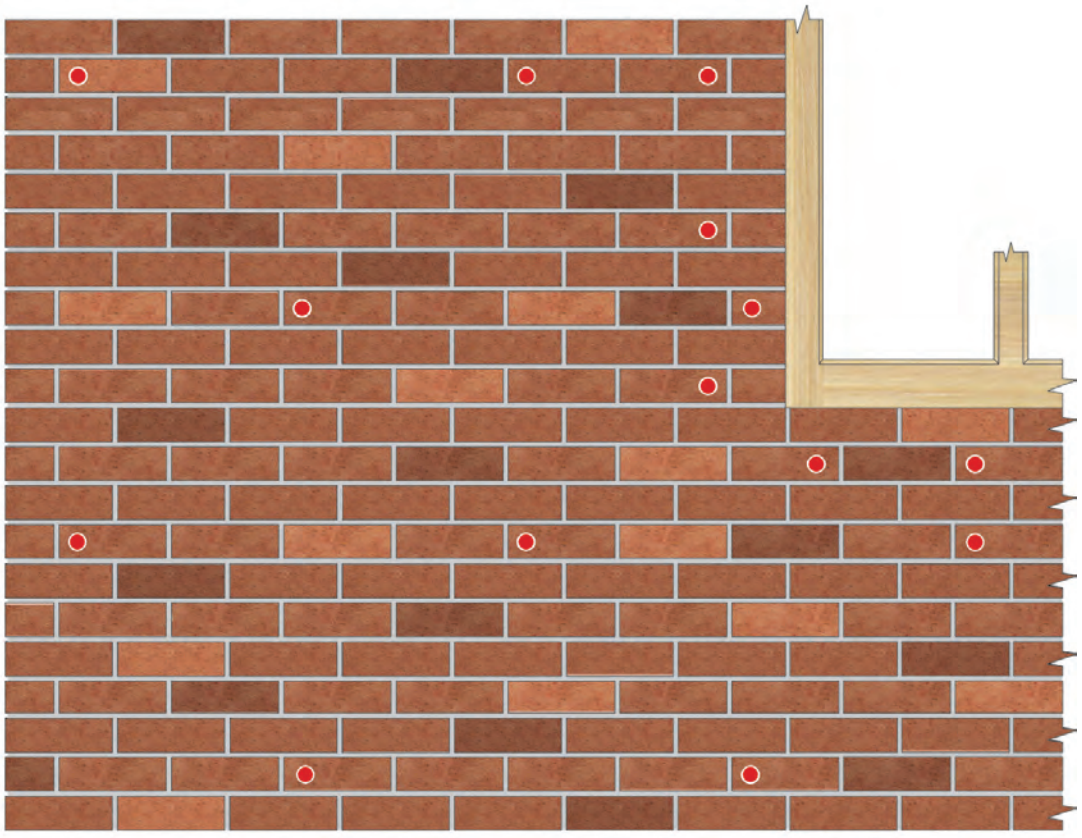
At least one, and preferably two, ties should be inserted into each elevation and at different levels to determine the minimum pull out load obtainable separately from both the 'near' and 'far' leaves. This minimum load should be used as the basis for deciding the density of ties to be fitted.

Proof testing may be required during the course of the repair work and BRE Digest 401, January 1995, makes the recommendations shown in the table to the right.

EQUIPMENT REQUIRED

1. Correct types and lengths of Wall Ties
2. PolyPlus or CrackBond TE resin (When DryFix is not suitable).
3. Appropriate RetroTie Power Support Tool
4. Selection of drill bits: SDS and Rotary Percussion
5. Load Test Unit

NB Higher wind loadings will require increased fixing densities.



TIE SPACING

The spacing of wall ties is determined by the wind conditions acting on the wall in question and the tested performance of an installed wall tie. The factors involved in assessing the wind conditions are the geographical location, the height of the building and the local wind exposure.

The minimum spacing for wall ties is 2.5 per m^2. This is normally achieved by installing at 450mm centre spacing vertically x 900mm horizontally (6 courses x 4 bricks). These are staggered each row to produce a diamond pattern.

Next to openings and roof verges ties should be at no more than 300mm vertical spacing or 225mm from reveals (4 courses x 1 brick).

PROOF TESTING

REMEDIAL WALL TIE TESTING & SPACING

Number of Ties	Minimum proof test rate %	Maximum failure rate of those tested %
First 20	100	10*
21 to 250	10	5
251 to 1,000	5	5
Over 1,000	2.5	5

*If there is a failure rate of more than 10% of the initial sample, take a further sample. If the combined failure rate exceeds 10%, carry out a design check or specify an alternative system.

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