

How to Replace Wall Ties

Wall Tie Replacement – Selection & Spacing of Wall Ties

Take a look at [Animated Wall Tie Replacement Guide](#).

Why is wall tie replacement required?

There are two reasons why one might need replacement *wall ties*. The first is when the walls of a cavity wall structure have been built defectively. For example where the original built-in tie installation system has been incorrectly fitted, fitted with ties that are too short or fitted with ties at incorrect spacings. The second is where the original cavity tie system comprises metal connectors that exhibit corrosion.

In both cases installation of a cavity wall tie replacement system will ensure that the outer brick facade wall is firmly anchored to the buildings inner and main structural masonry wall, allowing applied loads to be transferred and shared.

How many ties do I need & what wall tie spacing is recommended?

Provided that your walls are of a typical masonry cavity wall make-up, with each leaf being at least 90mm in thickness, you will need to install the remedial tying system at the rate of 2.5 wall ties per m².

Wall tie spacing should be at 900mm centres vertically by 450mm centres horizontally, in a staggered 'domino 5' pattern. An additional vertical row of wall ties should be inserted at open reveals (gable apices, windows, door openings, etc.) so that there is 1 wall tie per 300mm (height) of wall.

In the unlikely event that either wall is less than 90mm thick, wall tie spacing should increase from 2.5 ties / sq. metre to 5 ties per m² (450 x 450mm). For wall tie replacement in brick clad timber frame construction wall tie installation should be spaced at 4.4 wall ties / m².

Which is the correct type of wall tie for my property?

This will require a little DIY investigation by you. You should first check to see whether you have cavity wall insulation. If you have, you should avoid using chemically reactive resins and choose a wall tie system that uses the smallest installation bore in order to minimise any effect on thermal efficiencies. You will need to drill at least one investigation hole to each elevation and determine whether the bricks or blocks are solid (drilling rate will be constant) or whether they have perforations (drilling rate will be inconsistent).

- For tying solid brick and masonry walls select a *Mechanical Tie*, *Resin Grouted Tie* or *Helical Screw-in Tie*.
- For tying walls with perforated bricks or blocks choose from a *Resin Grouted Tie* in a sleeve or a *Helical Screw Tie*.
- For cavity insulated walls choose from a *Mechanical Tie* or a *Hammer-fix Screw-in Tie*.
- For buildings requiring greater than half hour fire performance use a *Helical Screw in Wall Tie*.

What length of wall tie will I need to buy?

You should ascertain the cavity width (the spacing between inner and outer walls of the cavity) by measuring the length of penetration of the drill bit when touching the surface of the inner (far)

leaf and subtracting the thickness of the outer (near) wall. Refer to our Product Pages for your chosen wall tie replacement system to find out the length of the tie that you need.

Which is the most cost effective replacement wall tie system?

As brick tying systems, they all work out about the same. The system with the lowest component costs is usually the one where installation process is the most time consuming and complex. The wall tie system that appears to cost the most is typically the easiest and quickest to install, with minimal prospect for operator error.

When should wall tie replacement be done by a specialist and can it be done by a professional builder or a competent DIY handyman?

All our wall tie installation systems are simple to install and can be installed by a competent DIY enthusiast or a builder or a specialist contractor.

One note of caution - if a wall exhibits prominent cracks running horizontally at a spacing of 4-8 course intervals, the chances are that the existing ties are, or have been, corroding and the build-up of iron oxide layers has resulted in an increase in the mass of the tie. Seek the advice of a Qualified Engineer to establish whether the corroding wall ties are likely to cause further distress to the wall and to ascertain whether additional works are needed to address or monitor the rusting tie irons.