

## CAVITY WALL TIE FAILURE



Cavity wall tie failure is a relatively common defect within our local area and the tell-tale signs of the polka-dot repairs, where walls ties have been replaced, are often seen in properties within the Hastings, St Leonards and Bexhill areas. Research suggests that that out of approximately nine million dwellings constructed with cavity walls, two million will suffer corrosion and need special remedial replacement. Cavity wall tie corrosion is the result of many years of building cavity walls with mild steel wall ties.

### What is a wall tie

The wall tie is essential to cavity construction and is used to connect the inner load-bearing wall to the outer weather protective elevation. Cavity wall ties effectively transfer the stability of the inner skin of a wall to the outer skin. Wall ties are now mainly manufactured from stainless steel or similar materials due to their corrosion resistant properties. Earlier ties were mainly constructed in mild or galvanised steel, the fish-tail tie being the most common. Galvanised steel wire ties were used from the mid-nineteenth century although these have also been found to be very prone to corrosion.



### What are the causes of wall tie failure

- Inadequate protection against corrosion and poor initial quality of galvanising.
- Poor workmanship and installation during the construction phase
- Chemical reaction to some types of mortar such as black ash.

Locations, such as exposed seaside areas with driving rain and a salt laden atmosphere, is one of the main contributing factors. This can lead to corrosion of wall tie built into the outer brickwork. The build-up of rust causes the tie to expand in size, often resulting in horizontal cracking of the mortar joint at regular intervals. Stepped cracking can also be a symptom and in extreme cases, outward bulging of an external wall can occur. Cracks in internal walls and lifting of structural elements such as roof members can also be an indicator.

### What are the Remedies

Cavity wall ties failure can be repaired, most commonly by replacing the affected ties. This will require plotting the existing ties so that they can be isolated or removed. An endoscope or metal detector can be used to locate the ties. Often isolated bricks will need to be physically removed to take out the original ties. The choice of replacement remedial wall tie is extremely important and is dependent upon several factors such as the type, strength and condition of the wall. Advice should be sought from a specialist contractor in this respect ideally registered with Wall Tie Installers Federation or Property Care Association.

If you have any type of cracking or defect within your property, however minor, that is causing you concern Meridian Surveyors can inspect, diagnose and advice you on the possible causes and any appropriate further action. Please feel free to contact us...

## Meridian Surveyors

3 Alexandra Parade  
Park Avenue  
Hastings  
East Sussex  
TN34 2PQ

**01424 863303**

[www.meridiansurveyors.co.uk](http://www.meridiansurveyors.co.uk)

