

# HELP FOR HOMEOWNERS: QUICK REFERENCE GUIDE



## UNDERSTANDING WALL TIE REPLACEMENT

Does your property's external brickwork display cracks or bulging? Do you suspect or have you been advised that wall ties need replacing?

This *Help for homeowners: quick reference guide* provides a brief look at how tie replacement can be carried out.

### COMMON QUESTIONS AND CONCERNS

#### What are wall ties?

Wall ties are a crucial part of cavity wall construction, spanning the cavity between a building's outer skin of brick or blockwork and its inner load-bearing skin,

to link the two together and ensure stability.

Cracks or bulging of external masonry can take place should wall ties fail, along with movement of lintels and internal cracking. At worst, panels of the outer cavity wall can become detached and pose considerable danger.

#### Why do wall ties fail?

Generally through corrosion taking place over time. Poor installation at the time of construction can be another cause.

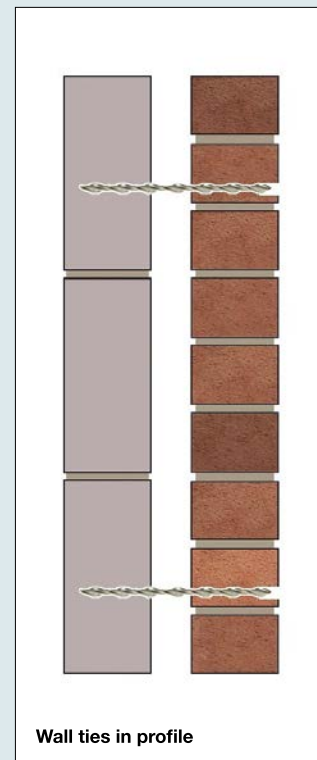
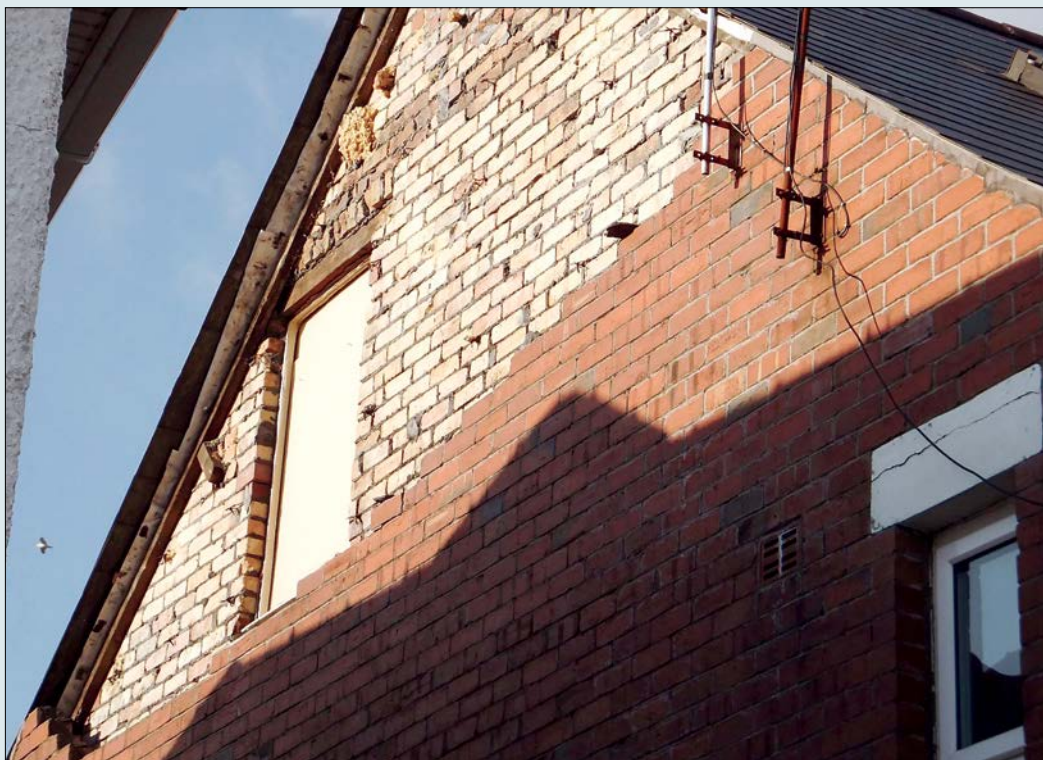
#### How is the problem fixed?

By replacing the wall ties after first determining:

- the type of materials used in the affected wall's original construction
- the kind of replacement ties needed to best suit these materials
- the full extent of remedial work

There are three types of replacement wall ties: mechanical expander, resin/grouted and helical.





Wall ties in profile

## MAKING MODIFICATIONS

### Failed tie replacement

This is generally not a job for an amateur: if cracking is visible, it's best to appoint a qualified structural engineer for guidance and a specialist remedial company to do the work. And remember, it may not be a case of just installing remedial ties but of physically removing or isolating the failed ones as well, where their continuing presence could otherwise cause more damage.

Information must be gathered on the materials used to form the walls (generally brick or blockwork), their general condition, the type of wall ties originally used, the width of the cavity and whether cavity wall insulation has been installed. From this, decisions can be made as to the type of remedial ties to install and their appropriate spacing.

Mechanical expander remedial ties are threaded bars with sleeves, pushed through pre-drilled holes. Once turned, the bars expand their sleeves, ensuring fixity. Best used when the masonry is in good condition. Resin or grouted ties are anchored into place when their resin (or grout) sets – not suitable when



A corroded wall tie

cavity wall insulation has been installed. Helical ties are highly effective for use in most circumstances, gaining fixity by cutting into the substrate when driven.

### Summary

Wall tie replacement is not normally a task for DIY-ers – professional installation is generally necessary but...

...when remedial work is competently carried out, both the inner and outer walls should be stable and safe.

### Look out for...

The possibility of further brick or blockwork deterioration if you have taken the decision to leave original wall ties in place. Expansive corrosion may continue in redundant ties.

If you feel your home may require replacement wall ties, the Institution of Structural Engineers recommends that you seek advice from a suitably qualified professional; ideally a Chartered Structural Engineer.

A list of qualified engineers working near you can be found at: [www.findanengineer.com](http://www.findanengineer.com)

The publication of this quick reference guide is supported by:



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disruptive installation techniques.

Designed schematic repairs are covered by Helifix's Professional Indemnity Insurance and 25 year warranties are available where work is carried out by a Helifix Approved Installer. For additional peace of mind, Helifix warranties are also bonded by the Consumer Protection Association.

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