

Lateral Restraint Plymouth Road, Penarth, South Wales

Client: Private Owner

Completed: 2015

Case Study No: 248

- Helifix Repairs
- Lateral Restraint
- SockFix Anchors
- HD BowTies

The Project:

To arrest further movement and bowing of the right hand elevation of this Blue Lias Limestone property in Penarth.



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Plymouth Road, Penarth - The Problem

Protectahome were asked to inspect this three storey, semi-detached stone property in South Wales. The property is over 100 years old, constructed from Blue Lias Limestone and was suffering from bowing of the right hand side elevation wall.

This was the result of a loss of bond between the inner and outer skins stonework and settlement of the rubble fill coupled with inadequate Lateral Restraint of the wall.

*See Case Study 249 for additional Crack Stitching & Consolidation works undertaken by Protectahome at this property.



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Plymouth Road, Penarth - The Solution



Protectahome's surveyor completed a detailed inspection of the problem areas and concluded that an economical, non-disruptive means was required to stabilise the 500mm thick wall and to fully secure it to the main property.

A repair scheme was devised that utilised Helifix SockFix Anchors and HD BowTies to restore lateral restraint to the wall.

HD BowTies were installed at the first and second floor levels. Clearance holes were drilled through the wall and BowTies were then inserted and driven through the first two parallel floor joists before the outer ends were resin bonded into the stone work.

Following the core drilling of clearance holes, 3m long SockFix anchors were inserted through the wall and the floor joists around the landing areas. Once the SockFix anchors had been inflated with grout, they expanded between the joists to secure the wall to the floor structure.

Original cores were kept and later replaced following the installation, leaving very little or no sign of the structural repair work undertaken.

On completion of the work, a long term Protectahome Guarantee was issued to provide added piece of mind and security for our client.



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