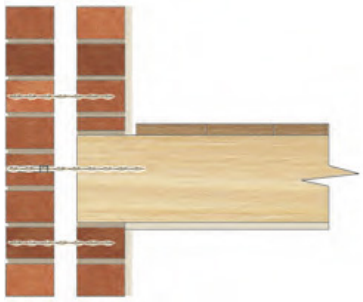
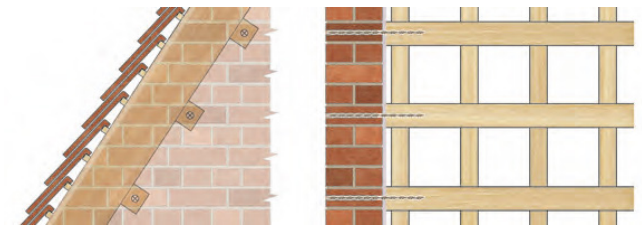
BowTie

Remedial ties for restraining bowed walls

BowTie into joist end through a solid wall



BowTie into joist end through a cavity wall



Restraining gable walls using mini retrofit purlins and BowTies

Over 100 standard repair specifications are available online, covering all common structural faults.

Relevant Repair Details: RDs RB01, RB03, RB04,RB06, RB07, RB09

APPLICATIONS

- For stabilising bowed external building walls by securing them to internal floor and ceiling joists
- Standard BowTies are recommended when installing into joist ends

FEATURES

- Quick, easy, non-disruptive external installation
- Self-tapping design – no splitting of timbers
- Effective in all common building materials
- Suitable for hardwood use
- Easily tested for security of fixing
- Fully concealed – no unsightly external plates

Drilling clearance hole for installing BowTie into joist end

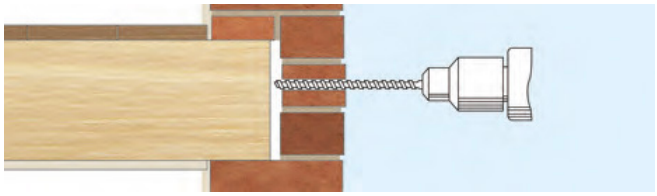
INSTALLATION PROCEDURES

1. Mark the positions of the joists on the external wall.
2. Drill clearance holes (normally 12mm), through the masonry only, in line with the centre of the joists.
3. Clean out the hole to clear any dust or debris.
4. Fit the power support tool into an SDS rotary hammer drill and insert the BowTie.
5. Drive the BowTie (roto stop) into the joist to the required depth (75mm minimum).
6. Fit the sleeve over the tie and push it to the back of the hole in the masonry (use the support tool).
7. Inject Helifix PolyPlus resin into the hole to fill it completely.
8. Make good all holes at the surface with brick dust or matching mortar or leave ready for any decoration.

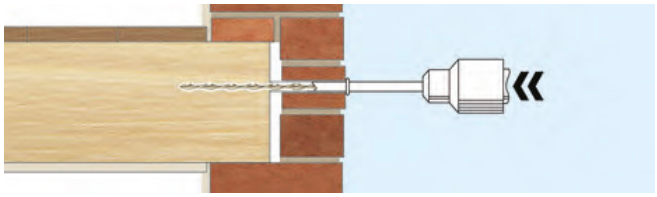
NB With a cavity wall, install 4 additional cavity wall ties in a 300mm square around the BowTie.

TECHNICAL SPECIFICATIONS

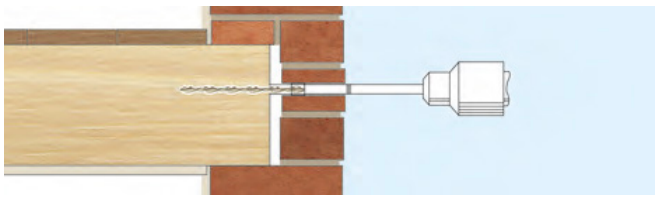
BOWTIE	
Material	Austenitic stainless steel Grade 304 (1.4301) or 316 (1.4401)
Diameter	8mm
Length	Thickness of the wall + any cavity + sufficient to drive 75mm minimum into the joist end
Standard Lengths	155mm, 170mm, 195mm, 220mm, 245mm, 270mm, 295mm,325mm and 350mm – in packs of 10
Diameter of masonry clearance hole	12mm
Fixing density	Every joist in the affected area is to be secured
Bonding agent (near leaf only)	PolyPlus polyester resin



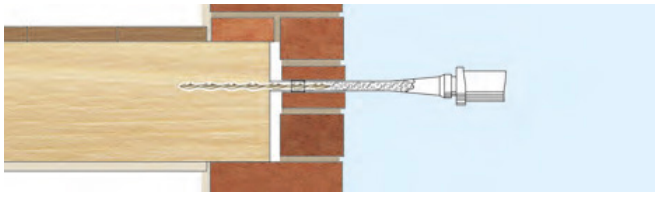
1. Mark the position of the joist centre on the external wall and then drill a clearance hole (normally 12mm) through the wall (and first joist if parallel to the wall). Clean out the hole.



2. Fit the BowTie Support Tool to an SDS rotary hammer drill, insert the BowTie and drive it into joist end to the required depth – at least 75mm (or through the second joist if parallel).



3. Fit the plastic sleeve over the BowTie and use the support tool to push it to the back of the hole in the masonry (in the outer leaf in a cavity wall).



4. Inject PolyPlus resin to fill the hole and bond the BowTie to the masonry and then make good.

RECOMMENDED TOOLING	
For drilling clearance holes and insertion of BowTies	SDS rotary hammer drill 650/700w with roto stop
For injection of PolyPlus resin	Applicator gun and injection sleeve