

BRT02

Replacing wall ties using RetroTies

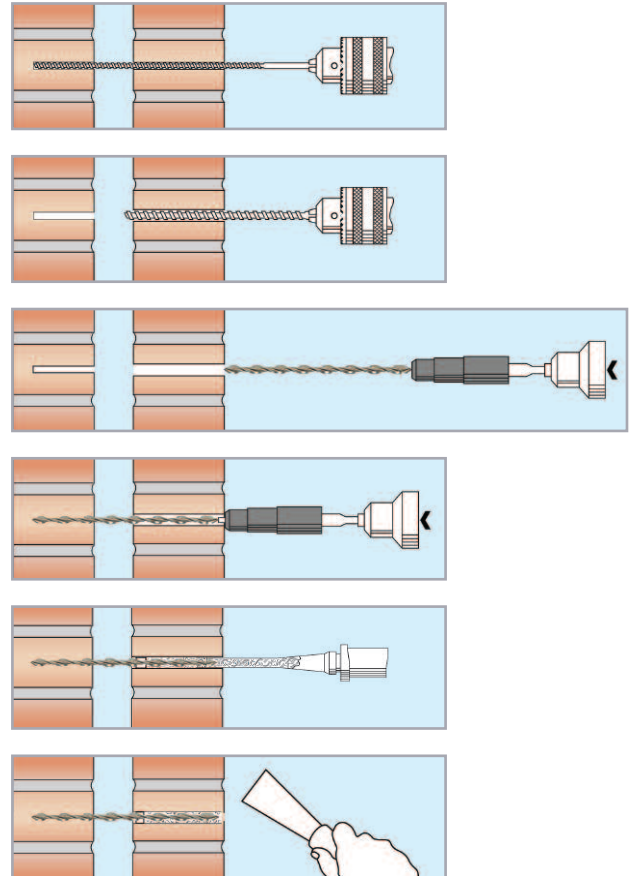
Product	Description	Code
RetroTie	Grade 316 stainless steel remedial wall tie	HRT
EpoxyPlus	High performance pure epoxy resin	HTE

METHOD STATEMENT

1. Mark the positions for the RetroTie pilot/clearance holes on the outer face of the wall.* Wherever possible, the holes should be drilled directly into the masonry, but they may also be driven into the existing mortar provided that this is strong and in good condition.
2. Drill a 5mm Ø pilot hole through the near leaf and into the remote leaf to the specified depth using a light-weight electric drill.* A rotary percussion drill, 3-jaw-chuck type, should be used as standard. An SDS-type hammer drill set to a slow speed and light hammer may be preferred if the masonry is sufficiently dense to withstand the heavier SDS hammer action. A 6mm or 6.5mm Ø pilot hole size may be preferred if the masonry is particularly hard.
3. Following the same path as the pilot hole, drill a 10mm Ø clearance hole (subject to confirmation on site) through the near skin only.
4. Attach the Helifix Power Driver Attachment or RetroTie support tool to an SDS hammer drill set to a slow speed and light hammer only. (RetroTies are self-tapping and will work themselves into the remote wall following the hammer action of the drill.)
5. Load the RetroTie into the Power Driver or support tool.
6. Push the RetroTie through the near skin to align the end of the tie with the opening to the pilot hole on the face of the remote leaf.
7. If using a Power Driver Attachment, support the attachment with one hand, while using the other to work the drill, and drive the RetroTie into the pre-drilled pilot hole in the remote leaf to the specified depth. If using the RetroTie support tool, simply drive the tie into the pilot hole to the specified depth. (The RetroTie support tool does not require hand-held support during operation.)
8. Place the end of the nozzle of the resin applicator over the exposed end of the RetroTie in the near leaf. Masking tape may be placed around the hole to protect the surface of the wall from resin spillage. Cloth may also be wrapped around the nozzle to help seal the opening during injection and protect the wall face from spillage.
9. Pump the resin applicator to inject Helifix EpoxyPlus resin into the hole. The resin will track down the tie, following its helical profile. Inject resin until the hole in the near leaf is filled completely.
10. Allow the resin to gel (normally 15 to 20 minutes).
11. Make good the hole using either a mixture of sand, cement and oxide colouring to match the original surrounding brick surfaces or a silicone sealant coated with brick dust/drillings.

NOTE. Avoid leaning or pushing heavily on the drill during operation to ensure the accuracy of the hole's diameter and to limit spalling of the near leaf as the drill breaks into the cavity.

CAUTION. Always locate, identify and isolate any electrical, water or gas services which may be present in the wall or the wall cavities and can pose a safety risk before drilling or cutting. Always take the necessary safety precautions. Use electrical safety gloves and wear appropriate footwear and eyewear.



RECOMMENDED TOOLING

- For drilling**Rotary percussion or SDS rotary hammer drill 650/850w
- For installation of RetroTie**SDS rotary hammer drill and DryFix Power Driver Attachment or RetroTie support tool
- For injection of Helifix EpoxyPlus resin**Applicator gun with nozzle

* Specification Notes

The following criteria are to be used unless specified otherwise:

- A. RetroTies are to be installed at 600mm vertical and horizontal centres into continuous brickwork. Ties are to be installed at 300mm centres around openings and articulation joints.
- B. Depth of pilot hole to be RetroTie length + 10mm.
- C. RetroTie length to equal:
Minimum 3/4 of near leaf thickness + cavity width + far leaf penetration
Typically, ties should be sufficiently long to penetrate 35-95mm into the remote leaf depending on its hardness, with harder materials requiring less penetration. By example, 35mm penetration will be sufficient when driving into reinforced concrete. Typically, 60-70mm penetration is to be achieved when installing into common, dry-pressed brickwork.
- D. Ties may be installed from either side of the wall.

The above specification notes are for general guidance only and Helifix reserves the right to amend details/notes as necessary.

GENERAL NOTES

- Helifix product details available at www.helifix.com.au.
- If your application differs from this repair detail or you require specific technical information, call Helifix on 1300 66 70 71.