BW02

Typical Bay Window Repair in Cavity or Solid Wall, External and Internal Repair, using HeliBars and BowTies

Method Statement

1. Using a twin-bladed, diamond-tipped wall chaser and vacuum attachment, cut slots into the horizontal mortar joints, to the specified depth and at the required vertical spacing. Use power/hand chisel to continue slots up to any internal corners. Ensure that **NO** mortar is left attached to the exposed brick surfaces in order to provide a good masonry/grout bond.
2. Drill clearance hole (normally 10mm by 16mm) through the masonry to join the internal and external slots.
3. Remove ALL dust and mortar from the slots and thoroughly flush with water. Where the substrate is very porous or flushing with water is inappropriate, use Helifix WB Primer. Ensure the slot is damp or primed prior to commencing step 6.
4. Lay the HeliBars into the external slot, pass them through the masonry and bend them to fit the internal slot.
5. Mix HeliBond cementitious grout using a power mixer and load into the Helifix Pointing Gun Kit CS.
6. Ease the HeliBars out of the slot and inject a bead of HeliBond grout, approx. 15mm deep, into the back of the slot.
7. Push the first HeliBar into the grout to obtain good coverage and inject a second bead of HeliBond grout over the exposed HeliBar.
8. Push the second HeliBar into the grout to obtain good coverage.
9. Inject a third bead of HeliBond grout over the exposed HeliBar and iron it into the slot using a finger trowel. Inject additional HeliBond as necessary, leaving 10-15mm for new pointing.
10. Mark the positions of the joists on the external wall.
11. Drill clearance holes for the BowTies (normally 12mm) through the masonry in line with the centre of the joists. Clean out the hole to clear any dust or debris.
12. Fit the BowTie power support tool into an SDS rotary hammer drill and insert the BowTie into the support tool. Drive the BowTie into the timber to the required depth.
13. Place the sleeve over the tie and push it to the back of the hole (use the power support tool).
14. Inject Helifix PolyPlus Resin to fill the hole completely. Allow the resin to gel (normally 15 to 20 minutes).
15. Point up the slots, make good all surface holes with matching mortar or leave ready for any redecoration.

N.B. Pointing may be carried out as soon as is convenient after the HeliBond has started to gel.

This repair is to be undertaken by a Helifix Approved Installer only.

Recommended Tooling

For cutting slots greater than 40mm deep: Twin bladed cutter with vacuum attachment.

For drilling: SDS rotary hammer drill 650/700w.

For mixing HeliBond: 3-jaw-chuck drill with mixing paddle.

For injection of HeliBond into slots: Helifix Pointing Gun Kit CS with mortar nozzle.

For installation of BowTies: BowTie support tool.

For injection of PolyPlus resin: Applicator gun with nozzle.

For smoothing pointing: Standard finger trowel.

General Notes

If your application differs from this repair detail or you require specific advice on your particular project, call the Helifix Technical Sales Team on 020 8735 5222. Our Technical Department can provide you with a full support service including:

- Advice, assistance and recommendations on all structural repair matters
- Devising and preparing complete repair proposals for specific situations
- An insurance-backed warranty via our Approved Installers scheme

SPECIFICATION NOTES

The following criteria are to be used unless specified otherwise:

A *Depth of slot:- Cavity wall: 40 to 55mm **plus any plaster** etc. Solid wall: 55 to 70mm **plus any plaster etc**.*

B *Height of slot:- Full mortar joint height with a minimum of 8mm.*

C *If HeliBars are to be joined in a straight run, overlap the bars a minimum of 500mm.*

D *Top and bottom reinforcements should be positioned as far apart as practicable, up to a maximum distance equivalent to 12 brick courses (approximately 900mm).*

E *HeliBars are to extend a minimum of 500mm on each side of the bay.*

F *Any fractures in the masonry within the 'beam zone' MUST be stabilised by Crack Stitching, CrackBond TE or replacement of the masonry.*

G *Any missing or very poor quality masonry MUST be replaced.*

H *Minimum BowTie penetration into the end grain of timber is 75mm.*

I *Each joist in the area of concern is to be secured with a BowTie (i.e. spacing of BowTies is to correspond with the original joist spacing).*

J *If joists run parallel to the front of the bay, refer to Helifix Repair Detail BW03 for the BowTie installation.*

K *In hot conditions ensure the masonry is well wetted or primed to prevent premature curing of the HeliBond due to rapid de-watering. Ideally additional wetting of the slot, or priming with Helifix WB primer, should be carried out just prior to injecting the HeliBond.*

L *Do not use HeliBond when the air temperature is +4°C and falling or apply over ice. In all instances the slot must be thoroughly damp or primed prior to injection of the HeliBond grout.*

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

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