Bay Window Restraint Scheme in Solid or Cavity Wall using Thor Heliforce Bar & Thor CD Drive Restraint Ties

Method Statement

1. Use a twin bladed, diamond tipped wall chasing unit to cut out horizontal slots in a mortar bed as required by the specification. For clean, dust free cutting use a vacuum attachment on the chasing unit.

   Note. When installing bar in a mortar bed joint ensure all the mortar is removed from the joint. Failure to do so will result in reduced effectiveness of the repair.

1A. Where required cut a slot through the thickness of the wall to connect the internal and external slots.

2. Remove all dust and debris from the slot and thoroughly soak with clean water.

3. Cut the required number of Thor Heliforce bars to the appropriate lengths, ensuring they fit into the prepared slots.

4. Mix the Thor W60 Grout constituents together, as directed, in the bucket provided using a powered mixing paddle. Additional liquid should not be added.

5. Load the Thor W60 Grout into the Thor Crack Stitch Gun.

6. Inject a 10-15mm thick bead of grout into the back of the prepared slot. Insert the Thor Heliforce bar pushing the bar to the back of the slot to ensure full embedment in the grout.

7. Inject a further 10mm thick bead of grout.

8. Insert the second Thor Heliforce bar and cover with a third 10mm thick bead of grout and compress the grout and bar composite into the slot using a suitable finger trowel.

9. The grout should be finished approx. 10mm below the surface of the brickwork to allow the application of a colour matched mortar pointing to finish the repair.

10. Note. Re-pointing can be commenced when grout has begun to set. Note. Thor W60 Grout has an accelerated geling time. Should the grout become too stiff to inject, empty the contents of the grout gun back into the mixing bucket and re-mix using the powered mixing paddle without adding additional liquid. Reload the injection gun and proceed as before.

11. Mark the positions of the ends of the floor joists on the external brickwork and drill 12mm dia. clearance holes through the brickwork and remove all dust.

12. Insert the Thor CD Drive Tie into the tie support tool attached to an SDS hammer drill. Fire the tie home into the end of the joist to a depth of approx. 75mm.

13. Tensile load testing can be carried out at this stage if required.

14. Load the Thor EA Resin into the applicator gun and attach the mixer nozzle and extension tube.

15. Inject the Thor EA Resin over the end of the tie to completely fill the hole. If required, finish resin back from face of brickwork to allow application of a colour matched mortar.

Specification Notes

The following criteria are to be used unless specified otherwise:

A. Finished depth of slot: Cavity walls 35-45mm. Solid walls 45-70mm. (plus thickness of plaster on internal face, where appropriate).

B. The top and bottom chords of each masonry beam should be spaced vertically as far apart as possible upto a maximum spacing of 900mm.

C. Overlaps in Thor Heliforce bars should be a minimum of 500mm at staggered centres.

D. Heliforce bars are to extend a minimum of 500mm to each side of the bay.

E. Masonry fractures within the "beam zone" must be stabilised as appropriate (e.g. backfilling with Thor Epoxy resin, deep repointing etc.)

F. Masonry is to be secured to every joist end.

G. The integrity of the connection of the window bay joists to bressummer beam should be checked.

H. In poor ground conditions it may be necessary for the installation of Thor Helical mini piles to supplement the foundation support.

I. Climatic Conditions. In hot conditions Thor W60 grout should be stored and mixed in the shade to maximize the working life of the mixed product. As Thor W60 grout is a cementitious product it should not be used when the temperature is +4°C and falling.

General Notes

This information is for general guidance only. If they do not apply to your specific project, please contact the Thor Helical Remedial Technical Support Team on 0845 400 6666. Thor Helical Remedial are able to offer a full project design service either in-house or through our National Network of Registered Installers. In most instances, this service is provided free of charge.