

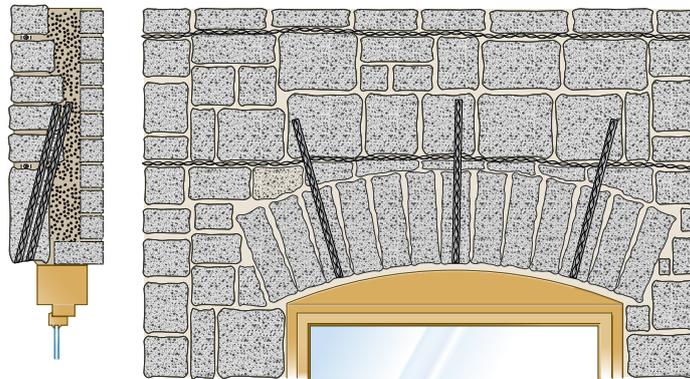
# Repair of Failed Arch Lintels using Thor Heliforce Bars and Grout Ties

## Method Statement

1. Use an appropriate chasing tool to cut out horizontal slots in the masonry face 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.
2. Mark the positions of the Grout Ties and drill 14mm clearance holes from the underside of the masonry. The drilled holes should pass behind the lower chord of the masonry beam and penetrate at least 50mm into the course of masonry above the reinforcing.
3. Remove all dust and debris from the slot and thoroughly soak with clean water. Use Thor Primer to seal faces of slot where substrate is very porous or water can't be used.
4. Clean out all dust from the holes and thoroughly flush with water. Use Thor Primer to seal the faces of the hole where substrate is very porous or water can't be used.
5. Cut the required number of Thor Heliforce bars to the appropriate lengths, ensuring they fit into the prepared slots.
6. Mix the Thor WHO Grout constituents together, as directed, in the bucket provided using a powered mixing paddle. Additional liquid should not be added.
7. Load the Thor WHO Grout into the Thor Crack Stitch Gun.
8. 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.
9. Inject a further 10mm thick bead of grout.
10. 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.
11. The grout should be finished approx. 10mm below the surface of the finished masonry level to allow the application of a colour matched mortar pointing to finish the repair.
12. Attach the appropriate length of Grout Tie pinning nozzle to the grout gun.
13. Load the grout into the grout gun and pump grout to fill the nozzle.
14. Screw the Grout Tie into the pinning nozzle and ensure it is fully encapsulated in grout.

## Method Statement Cont.

15. Insert the nozzle to the full depth of the hole and pump the grout gun to expel the grout and Grout Tie. Finish the grout back from the face of the masonry to allow application of a colour matched mortar.
16. **Note.** Re-pointing can be commenced when grout has begun to set.  
**Note.** Thor WHO Grout has an accelerated gelling 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.



## SPECIFICATION NOTES

The following criteria are to be used unless specified otherwise:

- A. Finished depth of slot: 40-55mm.
- 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 opening.
- E. Masonry fractures within the "beam zone" must be stabilised as appropriate (e.g. backfilling with Thor Epoxy resin, deep repointing etc.)
- F. Depth of the clearance hole to be Grout Tie length +25mm.
- G. **Climatic Conditions.** In hot conditions Thor WHO 60 grout should be stored and mixed in the shade to maximize the working life of the mixed product. As Thor WHO 60 grout is a cementitious product it should not be used when the temperature is +4°C and falling

## RECOMMENDED TOOLING

- A. Appropriate chasing tool.
- B. 14mm dia. drill bit of appropriate length.
- C. Thor Grouting gun and injection nozzle
- D. Power mixing paddle.
- E. Suitable finger trowel for mortar finishing.
- F. Grout Tie pinning nozzle of appropriate length.

## General Notes

These notes are for general use only. Should these notes not apply to your specific project, please consult the Thor Helical Remedial Technical Support Team on 0870 6006164. Thor Helical Remedial are able to offer a full project design service by either our in house design team or our National network of Approved installers. In most instances this service is provided free of charge. Projects completed by our network of approved installers offer the benefit of a fully underwritten insurance backed guarantee.