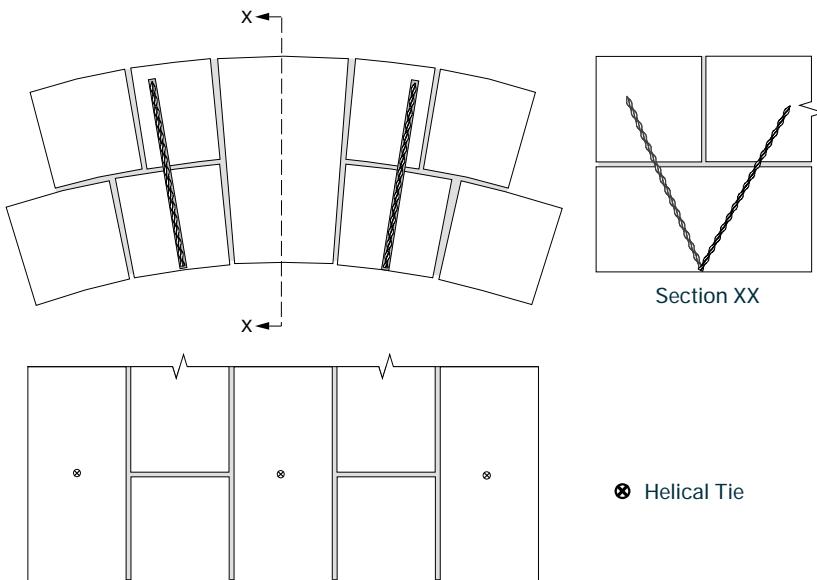




## Repairing Stone Arch Structures

## Barrel Pinning



## METHOD STATEMENT

1. Mark lines for pins onto underside of arch at required spacing.
2. Drill clearance holes (13 mm-16 mm diameter depending upon material and length of tie to be used) to required depth and at required spacing along the lines already marked on the underside of the arch. The holes to be angled at approximately 60° to the left or right of the marked lines. Alternate holes to go in opposite directions.
3. Vacuum out holes and thoroughly flush with water. Mix cementitious grout and load into gun with required length of correct size extension nozzle already attached.
4. Pump cementitious grout to outlet of nozzle. Insert nozzle to the full depth of drilled hole and pump grout to fill hole. Keep light pressure on gun to ensure that all voids are filled with grout.
5. Wind correct length helical tie into the hole using the insertion tool. Make good at surface of all holes and leave ready for any decoration.
6. If there is a lot of movement in the arch then the ties will have to be installed in phases. After each phase the ties should be left for 24 hours for the grout to achieve an initial set. After 24 hours continue with the next phase.

GUIDANCE NOTES *Unless otherwise specified, the following criteria are to be used:*

- a. Nominal grid spacing of helical tie to be 450 mm.
- b. Where arch rings are badly delaminated and/or masonry is very loose the helical tie will have to be installed in phases. In this case consideration should be given to using extra ties to help to stabilise the masonry prior to installing the first phase of helical tie. Depending upon the condition of the masonry it may be possible to use mechanically fixed ties for this purpose.

*To find out more and to see how we could help you, please contact us*

[info@quadrabuild.com](mailto:info@quadrabuild.com) | 02086 445 434 | [www.quadrabuild.com](http://www.quadrabuild.com)