

Malmesbury Town Wall



The 12th Century Town Wall at Malmesbury in Wiltshire is being restored as part of an ongoing conservation project involving the Conservation Department of North Wiltshire District Council in conjunction with English Heritage.

The random rubble wall is constructed from locally quarried limestone up to 1.50 metres in thickness, however erosion of adjoining earth and the effects of time had taken their toll resulting in localised delamination and rotation.

In order to maintain the structural integrity of the wall, English Heritage advised the specification of Cintec ground anchors for a number of phases for the work. Stability was returned to the wall by inserting Cintec ground anchors through the thickness of the wall and into the clay and limestone behind.

Diamond drilling (right) and anchor insertions (left).



The anchors were installed through the joints of the stonework following the completion of gravity grouting of extensive voids within. To facilitate this process clay was used to seal the open joints between the stones in order to retain the original historic grouting. This was later removed and the wall pointed with lime mortar to match the original material. The Cintec ground anchors were tested to a working load of 15kN. Other, smaller Cintec anchors were also used for wall consolidation.

| Load - Start | Time Held | Load - End | Extension | Extension | CINTEC | Test Date: 20/08/97 |
|---|-----------|------------------------------|--|--------------------|--|---|
| 2 | 2 Mins. | 2 | | | | TEST CERTIFICATE |
| 4 | 2 Mins. | 3.75 | | | Type of Test: Tensile loading | |
| 6 | 2 Mins. | 6 | | | Anchor Type | 20 x 20 x 4000mm |
| 8 | 2 Mins. | 8 | | | Embedment Depth | 1000mm |
| 10 | 2 Mins. | 10 | | | Bore Hole Diameter | 40mm |
| 12 | 5 Mins. | 12 | | | Base Material | Clay/Rubble |
| 14 | 2 Mins. | 14 | | | Required Load | 12 Kn |
| Company Name: Quicksans | | | Engineers Name: John Avent | | Anchor Location Top Right Section | Grout Type Presstec standard |
| Company Address: Unit 1 Whiteway Court Cirencester Gloucestershire | | | Engineers Address: Mann Williams 4 Palace Yard Mews Bath BA1 2N11 | | Comments Initial drop in load due to bedding in' against a clay embankment | Anchor Material Stainless Steel |
| Persons Present | | Company | | Position | | |
| Dennis Lee | | Cintec International Limited | | Technical Advisor | | |
| John Brooks | | Cintec International Limited | | Area Sales Manager | | |
| Andy | | Minerva Stone Conservation | | Foreman | | |