

# 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 insertion (below).



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	<b>CINTEC</b>	Test Date:
2	2 Mins.	2				<b>TEST CERTIFICATE</b>
4	2 Mins.	3.75			Install date: 06/08/97	
6	2 Mins.	6			Type of Test: Tensile loading	
8	2 Mins.	8			Anchor Type 20 x 20 x 4000mm	
10	2 Mins.	10			Embedment Depth 1000mm	
12	5 Mins.	12			Bore Hole Diameter 40mm	
14	2 Mins.	14			Site Address Malmesbury Malmesbury Town Wall	Base Material Clay/Rubble
Company Name: Quicksons			Engineers Name: John Avent		Anchor Location Top Right Section	Required Load 12 Kn
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	Grout Type Presstec standard
Persons Present		Company		Position		Anchor Material Stainless Steel
Dennis Lee		Cavity Lock Systems Limited		Technical Advisor		
John Brooks		Cavity Lock Systems Limited		Area Sales Manager		
Andy		Minerva Stone Conservation		Foreman		