## Case History



## Malmesbury Town Wall



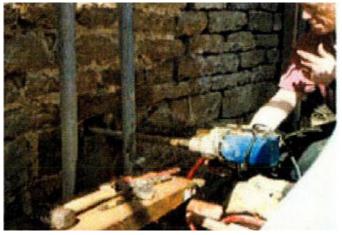
In order to maintain the structural integrity of the wall, English Heritage advised the specification of Cintec ground anchors for a number of phases for the work. Stability was returned to the wall by inserting Cintec ground anchors through the thickness of the wall and into the clay and limestone behind.

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



The 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.



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 jpints 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	Losd - End	Extension	Extension	CINTEC	Test Date: 20/08/97
2	2 Mins.	2				Install date: 06/08/97
4	2 Mins.	3.75				Type of Test: Tensile loading
6	2 Mins.	6			TEST CERTIFICATE	Anchor Type
8	2 Mns.	8				20 x 20 x 4000mm
10	2 Mins	10			Site Address	Embedment Depth 1000mm Bore Hole Diameter 40mm
12	5 Mins	12			Malmesbury	
14	2 Mins.	14			Malmesbury Town Wall	
Company Name:			Engineers Name:		Anchor Location	Base Material
Dukksons			John Avent		Top Right Section	Clay/Rubble
						Required Load
Company Address:			Engineers Address:		Comments	12 Kn
Unit 1			Mann Williams		Initial drop in load due to	Grout Type
Mhiteway Court			4 Palace Yard Mews		bedding in' against a clay	Presatec standard
Direncester Gloucesterhire			Bath BA1 2N11		embankment	Anchor Material Stairless Steel
Persons Present Company				Position		
Dennis Lee Cinter		Cintec Inter	c International Limited		Technical Advisor	
John Brooks Cintee		Cintec Inte	ec International Limited		Area Sales Manager	
Andy Minerva Sto		Minerva Ston	ne Conservation		Foreman	

