

Underpinning

Micropiles

FORMER COLLÈGE DES BERNARDINS

PARIS - FRANCE



Underpinning by micropiles of a building dating from the XIIIth century



Pillars underpinned by a metal collar resting on micropiles

Bernardines College in Paris is a building which was built in the XIIIth century and modelled on the Cistercian abbeys, and is now a classified Historical Monument. The building was built on recent alluvium from the Seine, and has been subject to settlement since it was built. The building has become increasingly fragile over the years, to the point of having serious safety problems, which led to the cellar (lower room) being partially filled from the floor up. As part of an operation to consolidate and moder-

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STRUCTURAL DESIGN OFFICE:	MICHEL BANCON
MICROPILES WORK PACKAGE:	SOLETANCHE BACHY
CONSTRUCTION PERIOD:	NOVEMBER 2003 - MARCH 2004

MAIN QUANTITIES:

322 x 15m micropiles



View of the cellar before excavation

nise the building, Soletanche Bachy was awarded the work to underpin the foundations enabling the cellar to be cleared.

The chosen solution consists in underpinning:

- each pillar of the cellar (two rows of 16 pillars), by two micropiles sealed in a block created under each pier (100% of the load is transferred by these micropiles),
- the building's peripheral walls, by inclined micropiles sealed directly into the brickwork (only a proportion of the load is transferred by these micropiles, and the existing foundations continue to play their role).

The work was accomplished from the building's cellar, with a low ceiling

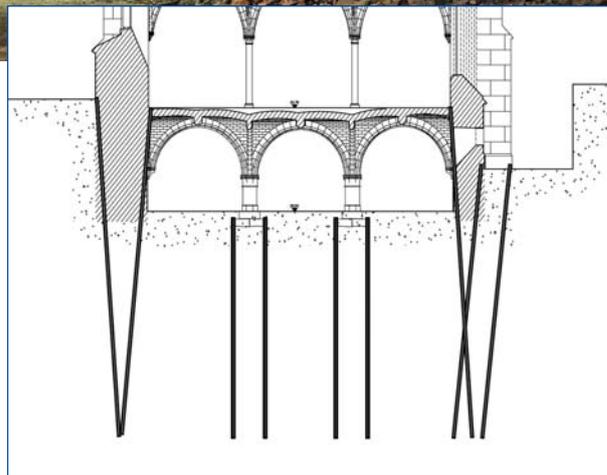


Illustration of underpinning

height and in a fragile and narrow setting.

The cellar pillars

Micropiles (64) were firstly constructed around each column base. A metal collar, supported by the new micropiles, was then installed to clear the bases of the columns. This system enables the existing foundation stones to be removed, and a foundation block to

be built under each pillar. The heads of the micropiles are then connected to the block by metal plates.

The walls

The micropiles (258) were bored from the ground floor or, in certain cases, from recesses, whether existing ones or ones which were created specially, and also from the outside through the buttresses.



Micropile rigs

