

The Multi Service Group.

## Jet Grouted Slab ROKIN I

Amsterdam, Netherlands



The North/South section line of the Amsterdam underground runs from the northern side of the main station to the station WTC in the south. The station Rokin is situated at about 800 m to the south of the main station in one of the busiest streets of the town. At the present location of the Rokin the river Amstel used to flow and up to about sixty years ago the Amstel canal. In order to maintain the road and rail traffic flow, the approx. 200 m long and 28 m wide building site had to be divided into two temporally separated sections. The respective building sites were divided into two sections by a crossing for delivery provisions.

Within the already completed, enclosing diaphragm wall on site a 2.00 m strong blast pipe bottom slab (DSV slab) was constructed of approx. 28.00 m up to 30.00 m under top ground surface. The purpose of the DSV bottom slab is the bracing of the diaphragm wall underneath the later building pit bottom slab, at which the bottom slab has a pure static, but no watertight function.

The available planning at the initial building period provided a contiguous frame geometry of the bracing slab. The client had preset the location, the diameter (2.20) and the cement percentage of the DSV columns. The construction parameters were monitored continuously and the cross section dimensions were regularly controlled by means of hydrophon measurements.

Additionally core samples had to be pulled from 5 % of the constructed DSV columns in order to define their solidness and cement percentage. Together with the hydrophon dimensioning control system several parameter combinations were examined, which led to an optimization of the cement and backflow quantities.

### Main quantities:

Section I: 855 Nos. DSV columns (planned 870 pcs.)  
Section II: planned 616 Nos. DSV columns

### Contract Value (net):

6.75 Mio. EURO

### Construction Period:

07/2005 - 02/2006 (part I)

04/2007 - 09/2007 (expected part II)

### Client:

Max Bögl Noord/Zuidlijn Amsterdam  
v.o.f.

### Owner:

The municipality of Amsterdam

### Services:

Construction of a bracing Jet Grouted Slab

### Contact:

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