



#### PRESS RELEASE

## Almost 90,000 Cobiax void formers provide load and work relief for 2 Munich construction projects

Approximately 90,000 Slim-Line void formers have reduced the volume of concrete used by 1,000 m<sup>3</sup> for two building construction projects in Munich.

The two Munich business premises projects are to act as precedents for over 200 projects in Bavaria, 43 of these in the Munich area. They all have the successful deployment of Cobiax voided flat plate slab technology in common.

## 2 structural engineering projects, 1 construction company and 1 structural engineer

Both the project Zielstattstraße 27, and the project on the Flößergasse 6 construction field have been created by the construction company M. Haseitl Baugesellschaft mbH & Co. Betriebs KG. The overall planning was undertaken by Seidl & Partner Gesamtplanung GmbH.

#### A convincing Cobiax presentation

The advantages of the Cobiax slab technology were presented to the engineers at Seidl & Partner Gesamtplanung GmbH within the scope of a system presentation. As a result, the structural engineers were able to familiarise themselves with Cobiax and its extensive benefits, which is why Cobiax void formers were incorporated into the design of the four-storey hotel and retail trade project in the Flößergasse.

# Dead load reduction through the use of approx. 17,0000 Cobiax void formers enables the implementation of architectural specifications two times over

From a constructional point of view, architectural specifications and the complex load transfer associated with them led to in part extremely high reinforcement concentrations in various building elements. In order to ensure significant relief in the form of reduced slab dead loads, and therefore a reduction of the reinforcements in the entire building, 17,000 S160-180c2 void formers from the Slim-Line product group were installed with 2,000 m² void former area over 5,300 m² slab area by M. Haseitl



Baugesellschaft mbH & Co. Betriebs KG in the retail and hotel project in the Flößergasse.

As a result, the dead load could be reduced by 450 t and also large slab span widths with few supports could be realised, which led to a positive side-effect for the building owner in the form of greater flexibility for the room layout. And the construction company was spared the installation of approx. 175 m³ of concrete.

#### Challenges regarding the load-bearing system

As a result of the varying usages across the 4 upper storeys, the ground floor use and the underground garage in the basement, the load-bearing system could not be executed continuously up to the foundations in all areas, meaning that supports were required.

On the one hand, the ground floor slab serves as a support for the upper storeys; on the other hand, the underground garage slab serves in partial areas as a support for the load-bearing elements of the ground floor.

Here the Cobiax system was able to assist in the form of slab dead weight reductions which, in total, reduced the building dead weight by around 20 %. As a result, it was possible to make the dimensions of the necessary supports smaller and more efficient in terms of material.



Building cross-section for the supporting structure concept in Munich's Flößergasse 6.

File name: Flößergasse 6 Section

Source: Seidl & Partner | The Engineering Company

## Use in the Zielstattstraße 27 project based on excellent experience of our products

Due to the excellent experience gathered with the use of Cobiax voided flat plate slab technology on the construction field at Flößergasse 6, the Cobiax void formers of the Slim-Line product series were also planned and implemented for the second current project at the construction field at Zielstattstraße 27.



#### Sophisticated utilisation concept

This commercial property is divided into 4 upper storeys and the ground floor, with a single-level underground garage. On the roof, technology rooms, a sun terrace and an elevated, circumferential running track have been planned.

The 4 upper storeys are to feature a continuous inner atrium, which is intended as a recreation area on the 1st floor. On the 3rd and 4th floors, a fitness centre with a swimming pool has been planned on the 3rd floor.



Visualisation of the project, Zielstattstraße 27, Munich.

File name: Zielstattstraße 27 Source LSA Source: LSA Lampadius Schmidt Architekten und Partner mbB, Munich

#### Slim-Line load-bearing system

In order to realise the utilisation concept with as few building element dimensions, large support spans and few columns as possible, the load-bearing system using Cobiax voided flat plate slabs was designed so that maximum flexibility was achieved for the office rooms, the fitness centre and the "equipment world" on the ground floor, and that supports could be almost completely waived.

For realisation of the project, the S180-200c2 Slim-Line void formers were calculated into all the storey slabs statics across approx. 7,000 m² slab area, and the Slim-Line S220-240c2 void formers across a further 1,400 m² slab area.

The structural engineer at Seidl & Partner Gesamtplanung GmbH also views the advantages of the Cobiax-System as being expedient also for the project in the Zielstattstraße 27. This is because as few columns as possible should be used for the underground garage to prevent narrowing of the parking spaces and the traffic areas. For the storeys above ground, the investor placed great value on having as few columns as possible and the extremely flexible utilisation of areas. The respective dead load reduction of the storey slabs using Cobi-



ax void formers provided the structural engineers with the necessary freedom to be able to safely implement the requirements. The stress analyst estimates the total dead load reduction to be around 20% for this project, too.



Building cross-section for the supporting structure visualisation Zielstattstraße 27, Munich.

File name: Zielstattstraße 27 Section Source: Seidl & Partner | The Engineering Company



The Slim-Line void formers on the ground floor slab of the project "Zielstattstraße 27" being concreted.

File name: 854 Heinze Cobiax Zielstattstraße Source: Heinze Cobiax Deutschland GmbH



In the project in the Zielstattstraße 27, approx. 68,500 Slim-Line void formers were installed and concreted over a total of 13,200 m² slab area, in order to achieve larger slab span widths and column grids.

Slab above basement approx. 2500m²

Slab above ground floor approx. 2500m<sup>2</sup>

Slab above 1st storey approx. 1900 m<sup>2</sup>

Slab above 2nd storey approx. 1900 m<sup>2</sup>

Slab above 3rd storey approx. 1900 m<sup>2</sup>

Slab above 4th storey approx. 2500 m<sup>2</sup>



Heinze Cobiax created a separate installation plan for each storey slab. The installation plan displayed here as an example is for the slab above the ground floor.

File name: 520 Heinze Cobiax Zielstattstraße Source: Heinze Cobiax Deutschland GmbH

#### **Support**

Within the scope of support, Heinze Cobiax Deutschland GmbH also provides a useful service for the executing construction companies. The construction manager and the polishers received instruction on the system in advance. Mr Domin, construction manager at the construction company, was immediately able to master the entire Cobiax system. Both the scheduling and the entire void former installation progressed without any problems. Despite the logistical challenges due to the innercity Munich construction site location, and the time framework conditions from the strict construction schedule, the Cobiax voided flat plate slab technology was mastered without any problems, and integrated into the construction procedure without any restrictions.

Following completion of the construction shell measures, those involved in the construction were able to say that the information flow, the planning process and the use of the Cobiax voided flat plate slab technology expediently relieved the construction process.

## Companies involved in the project Zielstattstraße 27:

Construction company: M. Haseitl Baugesellschaft mbH & Co. Betriebs KG, Schongau

Architect: LSA Lampadius Schmidt Architekten and Partner mbB, Munich

Structural engineer: Seidl & Partner Gesamtplanung GmbH

## Companies involved in the Flößergasse 6 project:

Construction company: M. Haseitl Baugesellschaft mbH & Co. Betriebs KG, Schongau

Architect: Kirschner & Partner Architekten Munich

Structural engineer: Seidl & Partner Gesamtplanung GmbH

#### Key words:

Heinze Cobiax Deutschland, Cobiax void formers, Cobiax slab technology, Slim-Line, load and work relief, Munich, Zielstattstraße 27, Flößergasse 6, dead load reduc-



tion, slab span widths, supports.

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