

Springer Quartier minus 1240 tons

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Cobiax SL modules save more than a thousand tons at a new construction in Hamburg and therefore allow a sophisticated architecture.

The MOMENI Group acquired the Hamburg headquarters of the Axel Springer publishing house in 2015, in order to create a premium property with offices, retail, dining and living space in the SPRINGER QUARTIER. Internationally renowned architects Gerkan, Marg and Partner (gmp) took on the challenge of energetically renovating the Springer high-rise office block, which has been listed since 1997, and of expanding it into a modern, new, urban building. To achieve prospective certification to LEED Gold and to be able to cope with the particular structural design demands, using our Cobiax SL void formers was planned in at the structural design phase by WTM Engineers Hamburg. As a result, it was possible for the main construction contractors Ed. Züblin AG, as general contractors, to reduce the amount of concrete needed for the new wing by 496 m³, and to achieve weight savings of 12,400 kN.

The new building's inner city location and the various uses for the ground and basement levels, compared to the uniformly designed upper floors, presented a challenge for the architect and structural engineer. In order to include all suggestions, the structural design experts at WTM Engineers Hamburg proposed using our Cobiax SL modules, which had already met with success on other projects. The positive influence on the building's structural design provides unimagined opportunities in the design of further rooms: on the one hand through shallower slab depths and on the other through spans of up to 20 m.

These advantages could be fully exploited in the SPRINGER QUARTIER, as various areas of the building could not have direct foundations, complicated foundation issues arose at the property boundaries and the different uses on some

Decke über 4.OG h=30 cm
Verlegeplan der Cobiax-Module M.180



Cobiax experts will prepare detailed installation plans for each project, taking into account the structural designer's structural design calculations, to avoid any structural design faults with the slabs.

floors made it necessary to use different retaining wall designs. The weight savings resulting from using our void former systems made many of the retaining walls possible in the first place, as well as constructing some parts of the building overhanging by up to 8 m. Our „Quick and Light“ software, which we supply free of charge, was also used for the SPRINGER QUARTIER project. It helped calculate values necessary when planning to use the void former systems. These structural design specifications were subsequently incorporated into the structural and reinforcement plans by the Ed. Züblin AG Hamburg Technical Office, and so could be implemented on the construction site.

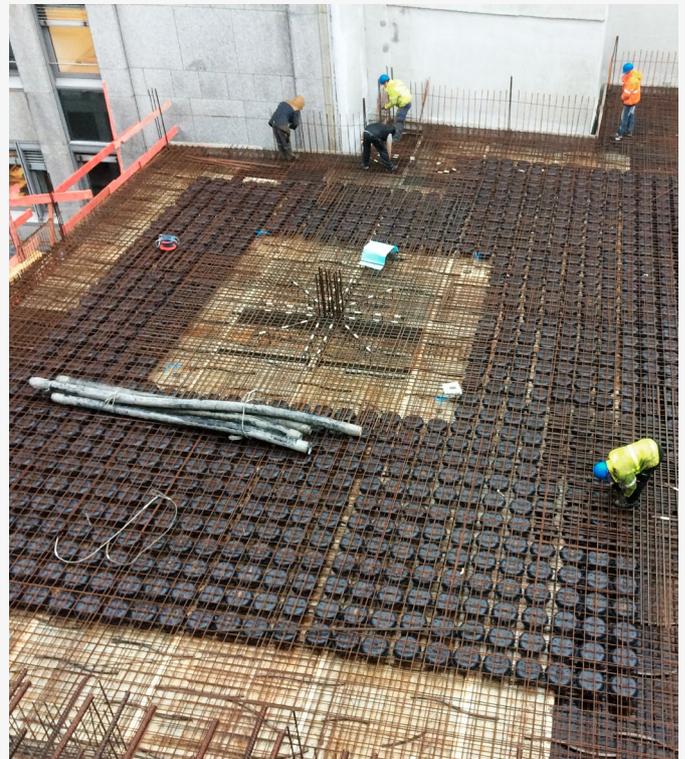
Inner city location demands complex logistics

A particular challenge for large-scale construction sites in inner-city locations was the limited space available and the requirement to minimise the impact on normal city traffic. Due to the SPRINGER QUARTIER's central location, the time windows in which materials could be delivered to the construction site were very tight. Since a total of 5,500 tonnes of steel and about 34,000 m³ of concrete were needed for shell construction, all deliveries had to be precisely coordinated to avoid traffic jams in the surrounding streets. Our Cobiax SL void former modules, which we delivered to the construction site over a total of seven loads, were also included

in the time planning. We pre-assembled the systems in the first delivery ourselves at the factory, so the concreting work could start straight away. For the remaining six, the individual components were assembled and processed on site instead. On the first day using the SL modules, we trained all the workers on site to ensure quick and easy assembly. For the laying itself, plans were made where the slab surfaces were covered in void formers. We created these, taking into account the structural design calculations from the structural engineers, in order to avoid any structural faults in the slabs.

Potential savings through using void former modules

The cost of the entire supporting structure of the building also reduced for the SPRINGER QUARTIER project, thanks to the smaller amount of concrete and reinforcing steel used. An additional benefit from the smaller amount of concrete was lower emissions of environmentally toxic pollutants, so that savings of 496 m³ of concrete also meant a CO₂



The patented Cobiax system, consisting of 250 cm long reinforcing steel modules, where the void formers are installed after the half-parts have been assembled, replaces up to 35 percent of the concrete in areas where no concrete is required for the (bending) load-bearing ability of the slab.



About 50 percent of the relevant slab area was designed using the Cobiax void former system, in order to achieve the desired weight saving.

reduction of 105 tons. Among other things, this results from eliminating 80 concrete mixer journeys to the construction site. Within the next 5 years, this project will again let us get a little closer to our goal of reducing CO₂ emissions by a total of 1 million tonnes through using our products in reinforced concrete construction, thus promoting the rethink towards sustainable building.

We are pleased to be part of this interesting and challenging project and to be able to contribute to achieving LEED Gold targets.



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Further information. The Cobiax-Experts like to help.

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