



Sustainable hospital construction

10 | 20

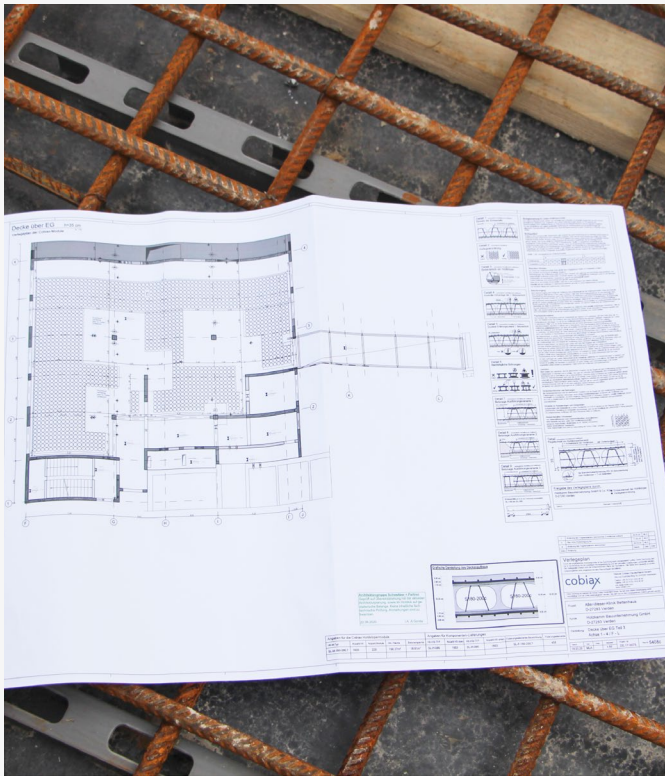
The Aller-Weser-Klinik relies on void former technology for concrete and CO₂ savings on its new extension.

On the site of the Aller-Weser-Klinik gGmbH (AWK) in Verden, construction work on a new ward block has been underway since November 2019, to plans by Architektengruppe Schweitzer. The investment scale for this extension, which will connect to the existing building, is around 38 million euros. A modern four-storey clinical block with room for 120 patients and four operating theatres is to be built on the hospital site by the time it is finished in 2022. The concept of sustainability is also becoming increasingly important in hospital buildings. Relevant standards for sustainability in the construction and operation of hospitals are set out in VDI Guideline 5800 Part 1 (Association of German Engineers), and also play an important role at Verden. In order to contribute to a sustainable life cycle for the new building, right from the design phase, the structural engineers at WTM Engineers GmbH recommended using void former modules from Heinze Cobiax Deutschland GmbH, to reduce the amount of concrete and thereby achieve a CO₂ saving of 66 tons.

The new clinical block has been under construction since November 2019, over a floor area of around 10,500 m². With a total usable area of around 9,200 m², it will mean state-of-the-art running for this hospital. Since the new block connects directly to the existing building, its foundations had to be secured beforehand from slipping into the excavations, and an existing staircase had to be demolished. The hospital's facilities are only marginally affected by the new block, this being located on the side of the building facing away from patient rooms.

Concrete savings from void former technology

Comprehensively sustainable design is of great importance for the financial operation of hospitals. The new VDI Guideline 5800 Part 1 offers a summary of the sustainability of hospital operation over the entire life cycle, from planning



Cobiax experts prepare detailed installation plans for each project, taking into account the structural engineering design calculations.
Source: Aller-Weser-Klinik gGmbH

and construction, to use and maintenance, to demolition and disposal. Possible savings potentials were identified for the construction phase of the new block at Verden, too, and options sought for delivering them. In order to reduce the amount of concrete, it was decided to use our patented void former technology in the form of Cobiax modules type SL-M-180-200. In the new block at Verden, around 310 m³ of concrete is being saved by using around 3,715 modules, consisting of up to 26,000 individual void formers.

“At the Aller-Weser-Klinik project, using our technology and the resulting reduction in the amount of concrete meant that around 39 concrete mixer journeys were avoided,” says Volkmar Wanninger, Managing Director of Heinze Cobiax Deutschland GmbH. „When you add up the savings from cement production, transport and delivery journeys, we were able to avoid the emission of around 66 tons of CO₂ at Verden.“ Apart from the ecological benefit, Cobiax modules have a positive impact on the total weight of the building. The resulting reduction in weight of the clinic by 775 tonnes had a beneficial structural effect.

Cobiax modules can also be used by beginners

Shell construction for the hospital block was entrusted to the company Dipl.-Ing. -Ing. Albert Holzkamm Bauunternehmung GmbH + Co.KG from Verden. Since this building contractor did not yet have any experience working with void former technology, we delivered training on-site to all construction workers. “Cobiax modules are easy to work with and, especially after the training at the construction site, using them posed no problems for us,” explains Markus Janßen, construction manager at Dipl.-Ing. -Ing. Albert Holzkamm Bauunternehmung GmbH + Co.KG. „Training in handling and the explanations behind planning the layout went perfectly, so we had no problems with the installation during the construction process“.

Since there is plenty of space available at the construction site, the necessary reinforcing steel girders and SL-M modules were delivered as separate parts and only assembled on site. Once assembled, the construction workers position the 2.5 metre-long modules following the specifications of



Construction meeting: The installation plan is implemented exactly. Source: Aller-Weser-Klinik gGmbH.



Light-flooded entrance area of the clinic. Source: Aller-Weser-Klinik gGmbH.

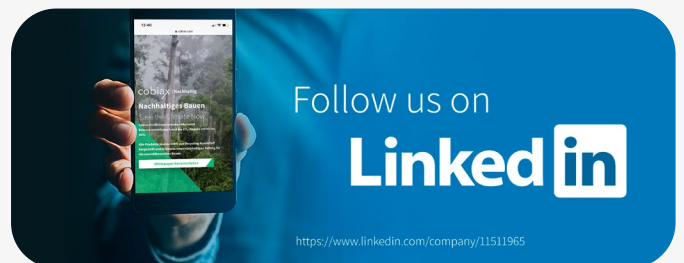
the layout plan and start concreting the slab. Across all four floors, having a total area of 7,360 m², our sustainable void former technology is used on around 3,200 m². „We are pleased to be meeting sustainability standards with the new ward block, and can make a contribution to climate protection in so doing,“ underlines AWK managing director, Marianne Baehr. “The fact that our technology was also so impressive in this project and that it is making such a real contribution to CO₂ savings is incentive enough for us to continue pursuing our goals. „Within the next 5 years, we want to reduce CO₂ emissions from construction using reinforced concrete, by a total of one million tonnes,“ added Wanninger.



Copyright title image: Aller-Weser-Klinik gGmbH



Fully installed Cobiax SL modules. Source: Heinze Cobiax Deutschland GmbH



Further information. The Cobiax-Experts like to help.

ALBANIA, KOSOVO, N. MACEDONIA



Heinze Consulting Sh.P.K.
Rr. Garibaldi Nr. 7/3
10000 Priština
Kosovo
Phone +383 44 743 174
mbinakaj@heinze-consulting-shpk.com

AUSTRIA



Cobiax-AT GmbH
Ufergasse 56
3500 Krems
Austria
Tel. +43 676 731 22 05
christian.ramel@ramel.co.at

BENELUX



LBC Benelux
Prins Bisschopssingel 36 B7
3500 Hasselt
Belgium
Phone +32 11 37 48 00
info@lbc-benelux.be

CYPRUS



EKA Group Ltd.
109, Eleftherias Street
3042 Limassol
Cyprus
Phone +357 25 854 444
charakis@ekagroup.com

GERMANY



Heinze Cobiax Deutschland GmbH
Otto-von-Guericke-Ring 10
65205 Wiesbaden
Germany
Phone +49 6122 918 45 00
info.de@cobiax.com

GREECE



ENKA Technologies
Leof. Dekeleias 1 & Chalkidos, Nea Filadelfia
14343 Athens
Greece
Phone +30 210 258 3120
mkarantzikis@enka.com.gr

INDIA



VH PT System
702-704, Rajhans Bonista , Behind Ram Chowk Temple,
Ghod Dod Road
Surat, Gujarat 395007
India
Phone +91 99247 33111
vhpt.cobiax@gmail.com

IRAN



Tasturk
3rd floor of Refah Bank No. 75
Valiasr District, Moallem Street, Daneshjou Square, Tabriz
Iran
Phone +98 41 35252013
tasturk.cobiax@gmail.com

Further information. The Cobiax-Experts like to help.

ITALY



Cobiax-AT GmbH
Ufergasse 56
3500 Krems, Austria
(Representative for Italy)
Tel. +39 349 829 9962
office@cobiax-it.com

KUWAIT



Jassim Mohammed Abdul Rahman Al-Bahar W.L.L.
Subhan Industrial Area-South, Block 8, Street 82, Plot 167
Kuwait
Kuwait
Phone +965 2471 701040
a.abuyasin@albahar-industries.com

RWANDA



Consultabilities Ltd.
KN 5 Rd., KBC Building, 7th floor
4358 Kigali
Rwanda
Phone +250 788 318 062
fraterne@consultabilities.com

SLOVAKIA, CZECH REPUBLIC



Stav Contact plus s.r.o.
Lesná 8
81104 Bratislava
Slovakia
Phone +421 903 781188
karol.hochschorner@stavcontact.sk

SWITZERLAND



Heinze Cobiax Schweiz GmbH
Schwertstrasse 4
8200 Schaffhausen
Switzerland
Phone +41 52 260 09 00
info.ch@cobiax.com

THAILAND



General Engineering Public Company Limited
44/2 Moo2 Tivanont Road
Bangkadi, Muang Pathumthani, Pathumthani, 12000
Thailand
Phone +662 501 2020
veerapat@gel.co.th