BAMTEC®

Reinforcement Technology

REPORT

04/2025

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THE ORIEL PROJECT

Pioneering Excellence in Healthcare Infrastructure

SCAN ME

The Oriel project is set to redefine the boundaries of modern healthcare, combining clinical care, research, and education under one roof to create a centre of international excellence. This transformative development prioritises patients, ensuring their evolving and diverse needs shape the programme. With its innovative design and groundbreaking construction, Oriel represents a landmark in healthcare infrastructure.

Building with Precision: The Role of BAMTEC® Technology

The Oriel Project features a state-of-the-art 42,000m² reinforced concrete frame, constructed using the BAMTEC® system in collaboration with Hy-Ten. This technology exemplifies modern engineering by streamlining installation and enhancing efficiency. Bouygues UK, the primary contractor, has harnessed the benefits of BAMTEC®, ensuring the project remains on target while enabling the swift commencement of subsequent phases, including façade work, internal trades, and mechanical and electrical installations.

Katherine Round, Civil Works Engineer for the Oriel Project, remarked on the success of this collaboration: “Our collaborative approach allowed us to achieve our financial target. Bouygues UK will definitely be looking to collaborate again with Hy-Ten on appropriate projects in the future, as the positive outcomes are evident in cases where the system has been used.”

One of the project’s key successes has been the speed and efficiency of the BAMTEC® system. The prefabricated carpets, manufactured off-site, ensured precision and eliminated on-site quality issues. The system’s design reduced reliance on labour-intensive steel fixing, addressing challenges in sourcing skilled manpower and allowing faster in-

stallation without compromising quality. Hy-Ten's adaptability to the project's construction cycle facilitated seamless integration with Bouygues UK's schedules, keeping the programme on track.

Quality assurance has been another standout feature. The **BAM**TEC® system's prefabricated carpets maintained impeccable standards throughout the project's lifecycle. With all design elements tailored to suit installation requirements, potential delays were minimised, ensuring that every component met the exacting standards of the project.

The project also reflects a deep commitment to sustainability. It is targeting an "Excellent" BREEAM rating and incorporates innovative strategies to reduce embodied carbon. These include using recycled aggregates and a high proportion of cement replacement, showcasing how cutting-edge construction techniques can align with environmental responsibility.

Collaboration as the Cornerstone

Bouygues UK and Hy-Ten's partnership exemplifies the power of collaboration. Having worked together on the Tower Hamlets Town Hall project, their relationship set the foundation for success on the Oriel project. Early engagement during the tender process and ongoing workshops fostered efficient communication and problem-solving, ensuring that challenges were addressed proactively.

The Terrell Group, contributing their expertise to the reinforced concrete frame's vibration strategy, ensured that the building met the exacting standards required for end-users and their sensitive equipment. This meticulous approach underlines the commitment to delivering a structure that is both robust and purpose-driven.

Bouygues UK, Hy-Ten, and all partners involved have demonstrated that a shared vision and collaboration are the keys to transforming ambitious ideas into reality.

Project Owner:	Moorfields Eye Hospital NHS Foundation Trust / UCL Institute of Ophthalmology and Moorfields Eye Charity
Project Engineer:	Terrell Group
Contractor:	Bouygues UK
Floor Area:	42.000 m²
Quantity BAMTEC®:	906 t von insgesamt 1.315 t für die Deckenbewehrung
Build Costs:	£300 M+

BAMTEC® DYNAMIC:
First projects in the USA and Finland

Around a year ago, the first BAMTEC® Dynamic was installed for Foundation Construction Automation in Archbold, Ohio. This was followed shortly afterwards by the first system in Europe, for Celsa Steelservice in Finland. In the meantime, several promising projects have already been carried out with the bonded BAMTEC® carpets.

In the Midwest of the USA, for example, parts of a Google data center were built with BAMTEC®. Wall elements for an Intel chip factory are currently being reinforced. Various test projects for bridge decks, in which epoxy-coated steel was used were highly interesting. The feedback from the general contractor, Kokosing was extremely positive. Time savings of over 50 % were achieved during installation. This leads to faster construction time without additional costs.

In Finland, BAMTEC® Dyn was used on the Espoo Cityrail, a section of the Espoo Rail Line. A high-speed line for trains. It was not permitted to use welded reinforcing steel in the foundation slabs, and there were specifications to close the existing train line as briefly as necessary for the conversion.

This meant that 300 tons of steel had to be installed within six days. Such projects are, of course, ideal for BAMTEC®.

The conclusion after the first year of BAMTEC® Dynamic is positive. Danny Dymarkowski, Vice President of Foundation Construction Automation, comments:

> „I am proud to say that, for the first time in the world rolled epoxy-coated reinforcing has been installed on a bridge deck. We are solving workforce shortages and adding more value to the labor hour. We place the same rebar in the same place, but more accurately and much faster.“

FCA Construction Automation

celsa steelservice

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Espoo City Rail, Finlandia

First BAMTEC® Bridge Deck, Ohio, USA

BAMTEC® NEWS:
BAMTEC® continues to grow

3 new BAMTEC® partners in Germany, Spain and Switzerland

The company SCR Stahlcenter in Riesa, located between the two metropolises of Leipzig and Dresden, has been operating a BAMTEC® Evolution Twin MMR with 8 coils and single bar feed for bars up to 32 mm since spring 2024. This means that BAMTEC® is now also available in this important region of eastern Germany.

In May 2025, the family business Hierros Paco Reyes from near Seville in Spain will commission a new BAMTEC® Evolution with single bar feed. The young team led by CEO Manuel Reyes Tejero, son of company founder Paco Reyes, is consistently pursuing the strategy of offering the Spanish construction industry innovative solutions that offer real added value. Hierros Paco Reyes will be the first company in Spain to operate a fully automated BAMTEC® system.

The Debrunner Koenig Group, Switzerland's leading supplier of reinforcement technology, has opted for BAMTEC®. Thanks to its in-house engineering power and nationwide coverage with their companies Debrunner Acifer Bewehrungen AG und Bewetec AG, we are convinced that BAMTEC® perfectly complements Debrunner Koenig Group's innovative range of services. BAMTEC® is already available in Switzerland.

Debrunner Acifer Bewehrungen
kloeckner metals Your partner for a sustainable tomorrow

Franz Häussler with representatives of Hierros Paco Reyes and the Debrunner Koenig Group.

BAMTEC® at the World of Concrete, USA and at Wire, Germany

Two key events in 2024 were the joint participation with Progress Group at the World of Concrete trade fair in Las Vegas and the leading trade fair for the wire processing industry, the biennial Wire in Düsseldorf, Germany.

It comes as no surprise that topics such as automation, productivity, digitalization and efficiency are becoming more important every year. In order to remain competitive, it is essential to rely on solutions which, like BAMTEC®, have proven to be leaders in precisely these areas. Whether in the bending shop or on the construction site.

SCAN ME

From left to right: Miles Johnson, Danny Dymarkowski of Foundation Construction Automation and Franz Häussler at the World of Concrete.

INTERNATIONAL BAMTEC® MEETING IN MUNICH

Franz Häussler at the BAMTEC® Meeting

Under the motto “Success through innovation”, around 60 participants from 16 nations met in October in Munich.

The active exchange between the BAMTEC® partners complemented by interesting news from the BAMTEC® network, makes the event valuable every year.

The Progress Group highlights the possibilities of digitizing a rebar fabrication shop. oculai GmbH shows how the use of AI contributes to the recording and optimization of construction processes. The UNIDOME hollow core solution for sustainable building can also be used perfectly with BAMTEC®.

BAMTEC® Partner Network

An important element is the introduction of new partners, who thus have the opportunity from the start to exchange ideas with the other partners and take home new suggestions and ideas with them.

Group picture BAMTEC® Meeting 2024

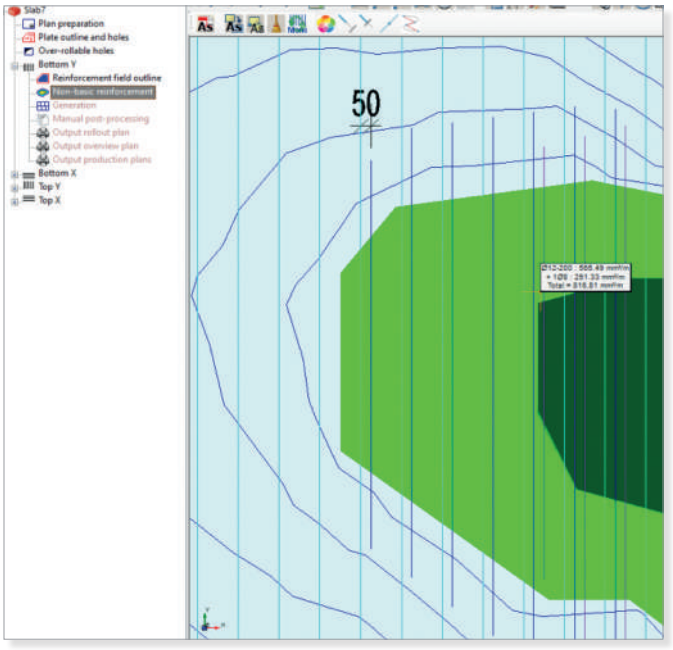
NEW BAMTEC®
PLANNING WORKFLOW

BamCAD 6 enables construction with the building model and includes decisive improvements to professionalize planning.

BAMTEC® – planning and building with BIM models

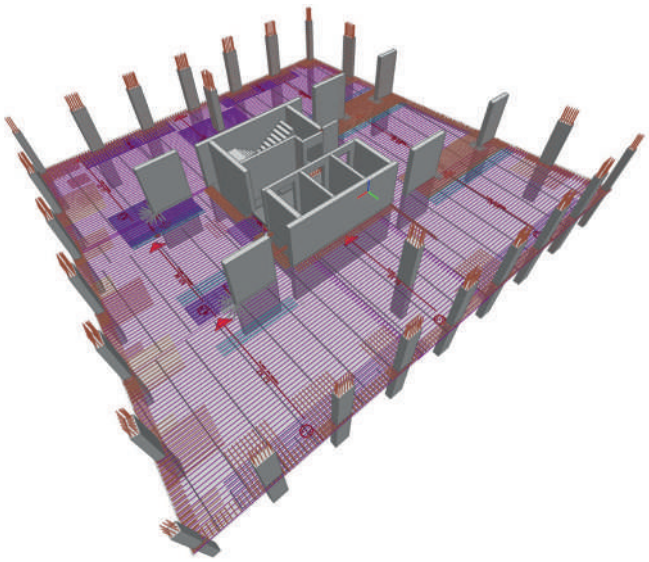
The use of IFC data (BIM data) opens up a whole new way of BAMTEC® planning. The designer can create his model and reinforcement in CAD as usual. BamCAD 6 is compatible with Revit, Allplan and Tekla.

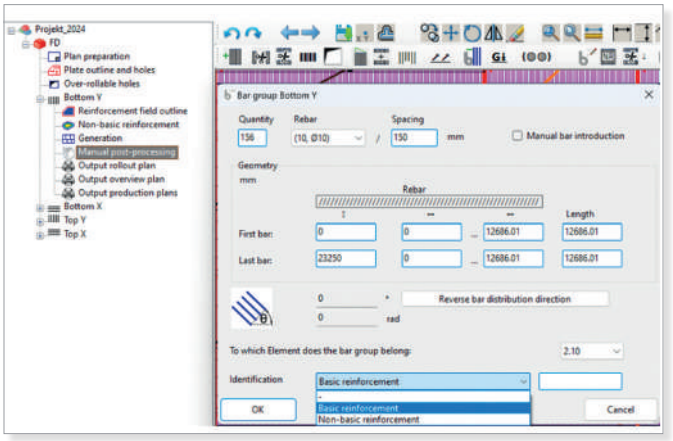
The geometry, including the 3D reinforcement, is imported into BamCAD as an IFC file and then converted into a BAMTEC® reinforcement solution. The automatically generated BAMTEC® plans can then be used for construction as usual.



Building with the model

The planning can also be read back into the building model as an IFC file. This enables a BIM working method up to the possibility of building with the model without plans.



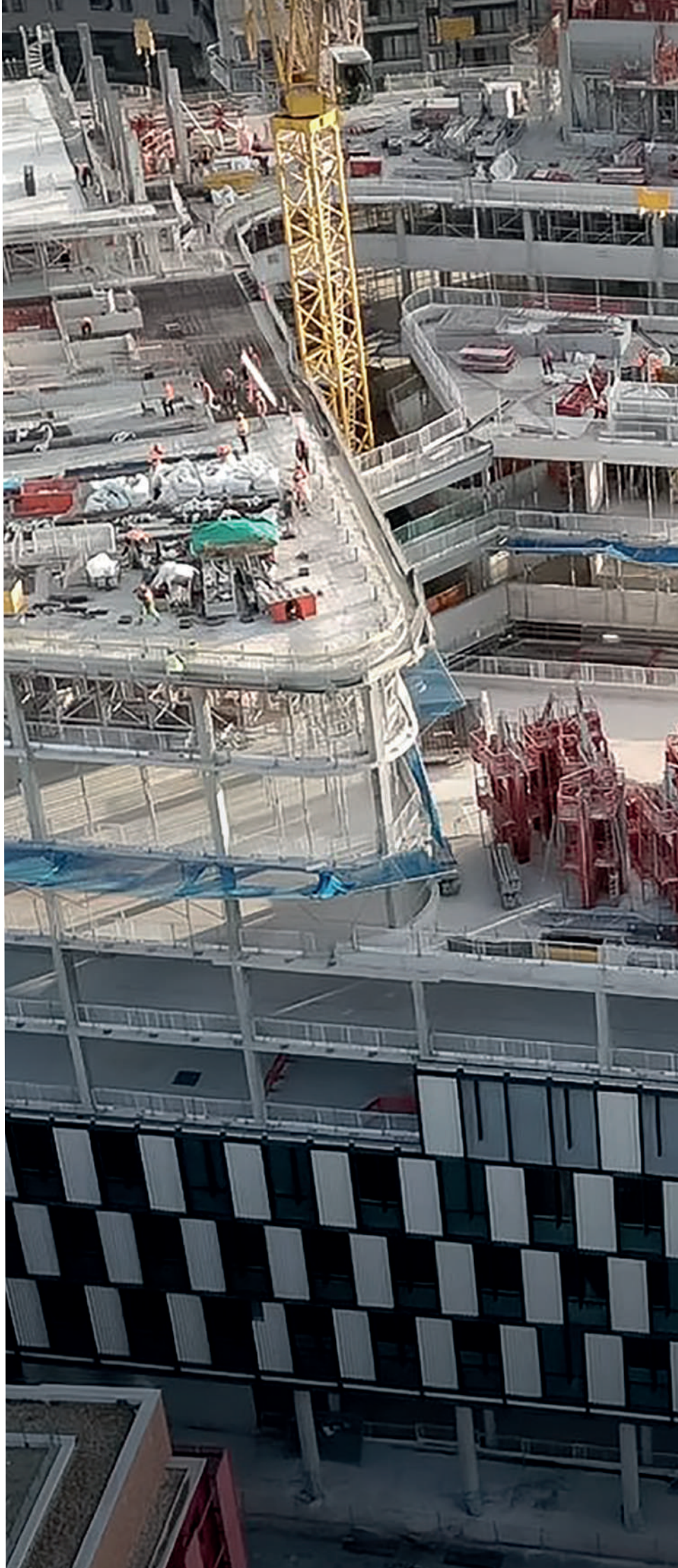


Improved capability to minimize the steel quantity

By layering several reinforcement arrangements, it is possible to adapt the reinforcement even more precisely to the calculated, necessary amount of reinforcement. The flexibility of the BAMTEC® system makes it possible to minimize the amount of steel.

Download BamCAD

BamCAD 6 can be easily downloaded from the website:
www.bamtec.com



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Neugasse 43
CH-9000 St. Gallen

+41 (0)71-222 2061
info@bamtec.com

www.bamtec.com