



SIMPLE
FAST
FLEXIBLE
ECONOMICAL
INNOVATIVE
PROVEN

BAMAG

Neugasse 43
CH-9000 St. Gallen

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

 **BAMTEC**[®]
Reinforcement Technology



www.bamtec.com

**READY TO
ROLL?**



First BAMTEC® construction site – Oy-Mittelberg in the Allgäu region, Germany

BAMTEC® – Added value for you on the construction site

BAMTEC® is a highly efficient and particularly economical system for the planning, production and installation of rolled reinforcement elements. The extraordinary cost-effectiveness results from the consistent use of electronic data in reinforcement planning and production, maximum material efficiency and resource optimisation at every step of the process.

The innovative reinforcement technology is used across the world and is the most economical method for reinforcing steel reinforced concrete ceilings, floor slabs and walls.

In addition, consistent prefabrication leads to exceptional results on the construction site. A combination of welded reinforcement cages and **BAMTEC®** makes it possible to build twice as fast with the same personnel and improved quality.

Quality criteria such as the maximum weight of an element and the verification of roll-out capability are pre-set and taken into account in the **BAMTEC®** planning software **BAMCAD**.

The earlier the decision to use **BAMTEC®** is made, the greater the potential savings. However, it is generally possible to switch to **BAMTEC®** reinforcement profitably during the entire planning phase.

Each bar of an element can have a different diameter, a different length and a different distance to the bar next to it. All diameters from 8 mm to (20) 32 mm can be integrated into the planning, likewise all bar lengths from 1.65 m to 15 m.

Scan the QR code now to find out more about the **BAMTEC®** system!





What is **BAMTEC®**?



SIMPLE

Automated planning and production with standardised processes guarantee high-quality reinforcement. The installation of only a limited number of elements is possible without any problems



FAST

Assembling instead of tying – for a reduction in installation time of up to 70% per component with half the manpower.



FLEXIBLE

BAMTEC® guarantees total flexibility. Bars with diameters from 8 to (20) 32mm and lengths between 1.65m and 15m can be processed. The bar spacing is freely selectable and virtually all floor plans are possible.



ECONOMICAL

Reduced shell construction time and material savings result in cost savings. For an increase in competitiveness and more effective recruitment of personnel.



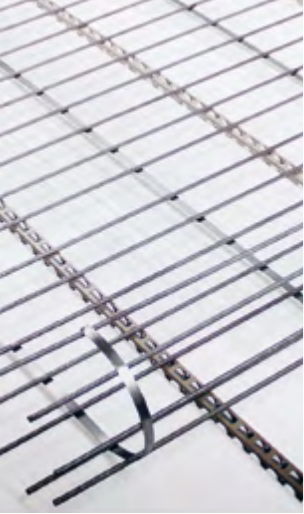
INNOVATIVE

Innovations such as **BAMTEC® RED** or **BAMTEC® WALL** offer new possibilities. We are continually developing our planning software to increase efficiency.



PROVEN

BAMTEC® has been used all over the world for many years. You therefore benefit from a wealth of experience and extensive expertise.



BAMTEC® Installation

Time is Money

Simply put, the **BAMTEC®** system is a much faster and more efficient method of installing reinforcement steel. Due to the significantly lower number of reinforcement positions and the simple and fast rolling out of the **BAMTEC®** elements, which weigh up to 1.5 tonnes, installation is massively accelerated. Compared to the installation of individual bars, time savings of up to 90% are possible, which generally leads to a reduction in the overall shell construction time.

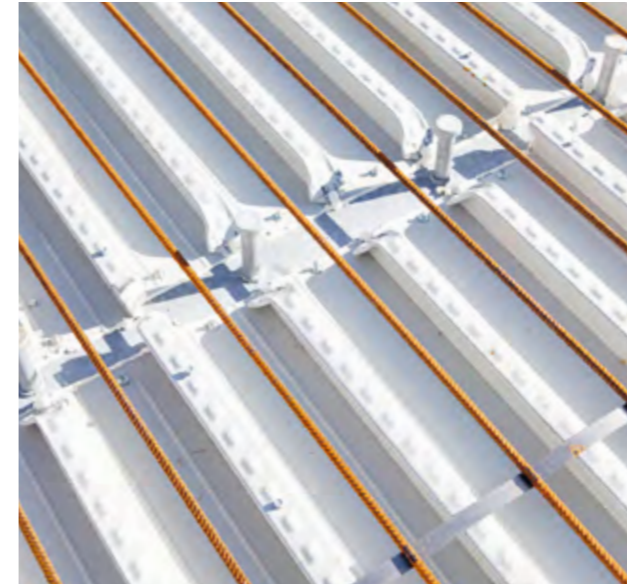
In addition, significantly lower installation costs can be calculated for the installation of the reinforcement. Less labour is required for installation and work safety on site is increased.

The made-to-measure **BAMTEC®** carpets are placed and rolled out at the defined position according to the rollout plan. This guarantees high positional accuracy of the reinforcement and quality of execution.

When **BAMTEC®** is used in the wall, there is an intermediate step described in the rollout plan for pre-assembly of the elements. The prefabricated **BAMTEC®** wall mats can be safely installed using the specially developed lifting hooks from Pfeifer Seil- und Hebetchnik.

Of course, the reinforcement carpets can also be used economically in conjunction with semi-precast slabs or hollow-core slabs. The combination with concrete core activation is also possible with **BAMTEC®**.

The elements are transported to the construction site using conventional trucks with full loading capacity.



up to 90% time saving



up to 20% material saving





Quick and Easy – 1:1 **BAMTEC**[®] Redesign

Redesigning in **BAMTEC**[®] makes sense and is simple for a large number of projects. In doing so, you benefit from the potential time and cost savings.

The standardised replanning and automated production make it possible to carry out projects at short notice with **BAMTEC**[®]. The conventional reinforcement is redrawn without further optimisation. Bent bars are not changed. The existing steel cross-section in the component remains unchanged.

In any case, it is worth redesigning standard reinforcement meshes in **BAMTEC**[®]. Steel savings of up to 15% are the rule.

BAMTEC[®] partners are trained and qualified to provide you with the best possible advice on the use of **BAMTEC**[®] for your construction project. Do not hesitate to send us your project enquiry at any time!

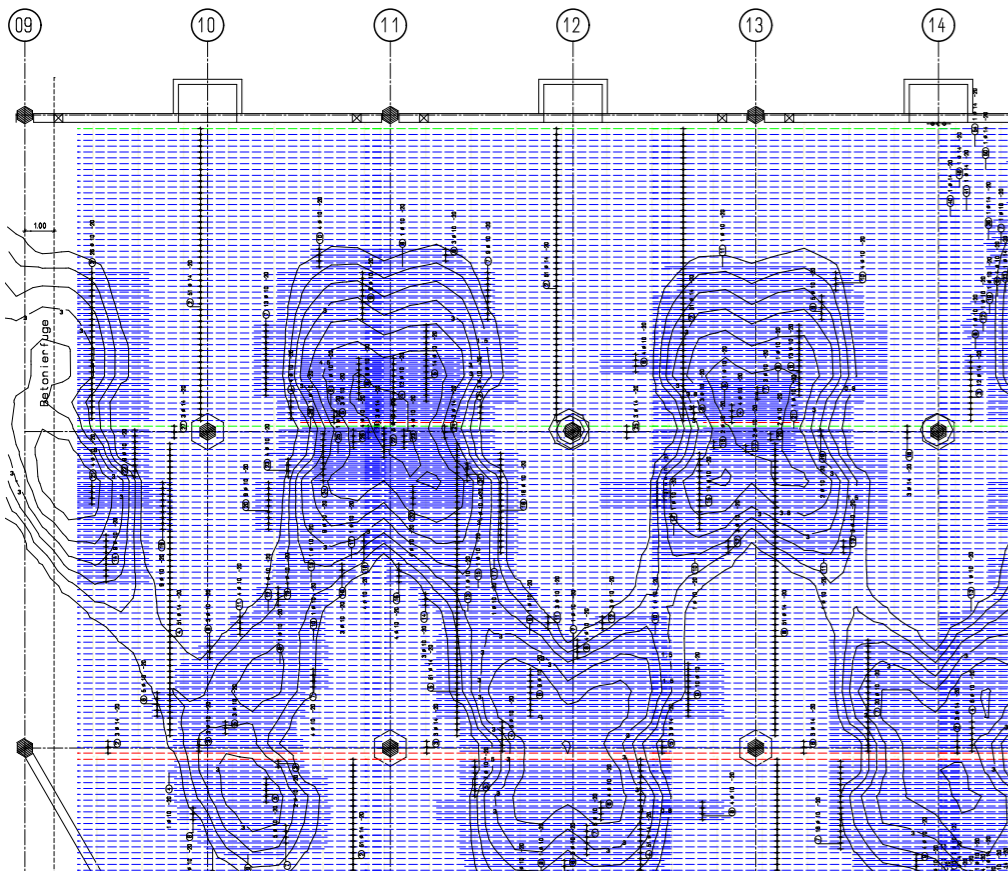
Getting the best out of it – with optimised **BAMTEC**[®] design

In co-operation with the structural engineer, the amount of reinforcement can be further reduced with the help of **BAMTEC**[®].

Ideally, the structural analysis of the reinforced concrete ceilings should be carried out using a finite element programme. With the FEM calculation, the required reinforcement in the x and y directions is known respectively for the top and bottom layers.

The slab area is divided up into as few elements as possible. The reinforcement in the element, that is the position, length and bar diameter of the bars, is selected so that the required reinforcement is covered as precisely as possible. All recesses and additional reinforcement bars can be taken into account. This saves on reinforcement steel in addition to the installation time.

An optimised **BAMTEC**[®] design creates added value along the entire value chain: from the building owner to the contractor installing the reinforcement.



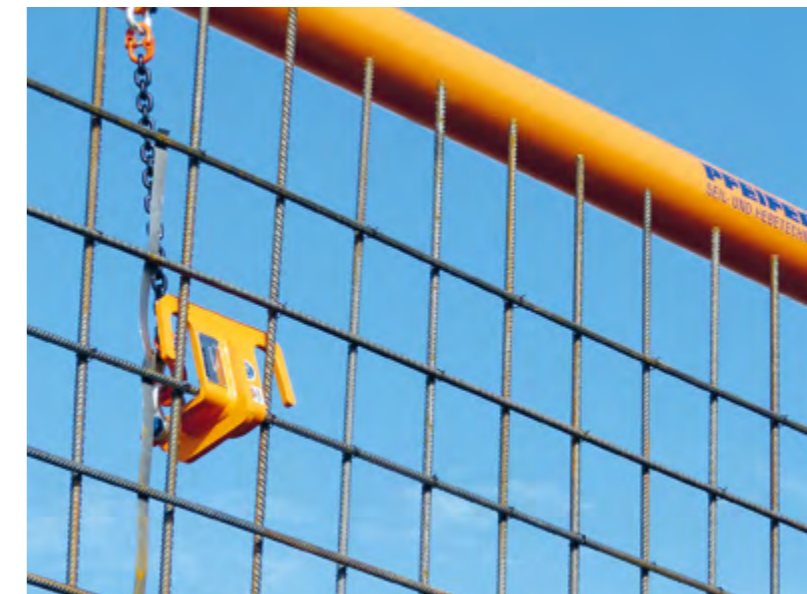
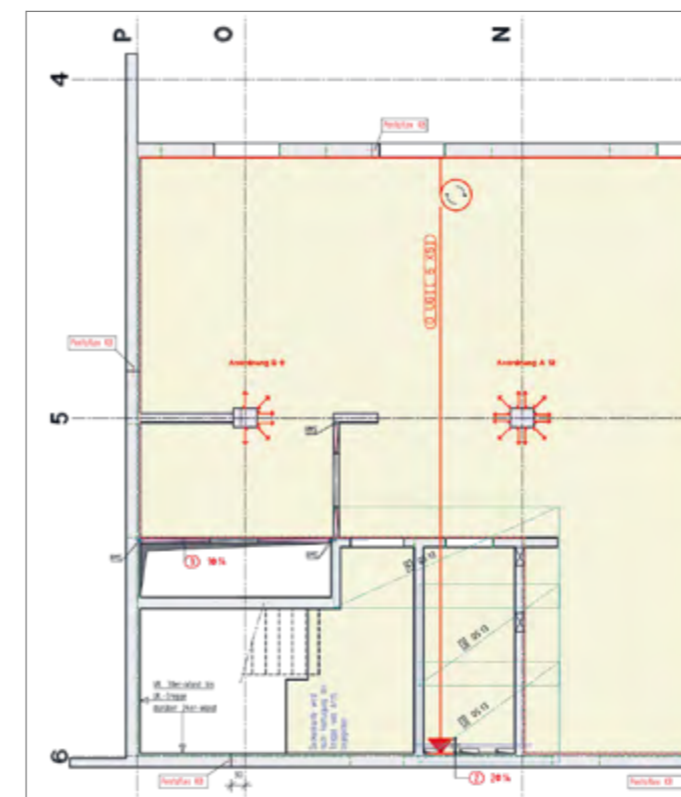
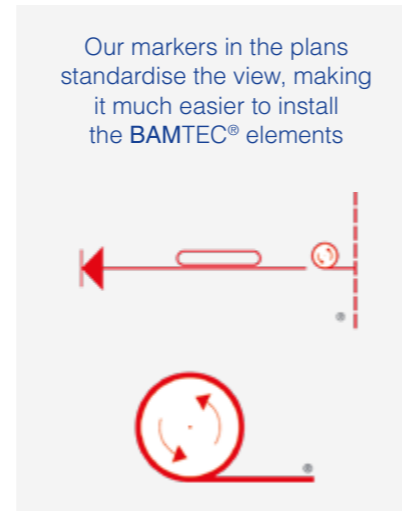


Three BAMTEC® Plans

The **overview plan** shows the floor plan and all reinforcing bars of a ceiling. It is used for control during planning and execution.

The **rollout plan** contains the floor plan, the first bar of the BAMTEC® element as information for the set-down point and the roll-out direction with element designation. The elements are rolled out quickly and easily on site in accordance with the rollout plan..

The **production plan** contains the individual element, the steel list and the associated production file for the automated production of the elements



BAMTEC® Wall Solution

Thanks to the Pfeifer Seil- und Hebetchnik lifting hook, it is also possible to reinforce walls with BAMTEC® elements.

In WALL design mode, the rollout plan contains customised installation instructions and an additional illustration for pre-assembling two elements to form a BAMTEC® wall mat.

Order lifting hooks and lifting beams at: www.pfeifer.info

BIM to Field

The BAMTEC® workflow (IFC/DWG/DXF/PDF data) makes it possible to import reinforcements from common CAD systems into BAMCAD and convert them into a BAMTEC® design. You can then either build with plans from BAMCAD or the generated BAMTEC® reinforcements are read back into CAD using IFC files. With this, paperless construction with BAMTEC® is possible.



PROGRESS GROUP
PROGRESS MASCHINEN & AUTOMATION



The Manufacturing Process

The results of **BAMTEC**[®] design are the production files. These can be read directly into the **BAMTEC**[®] machine. The system welds or ties the bars in the calculated distances and positions onto the support strips and rolls them into a precisely fitting **BAMTEC**[®] reinforcement carpet. Each element is labelled with the corresponding element designation and delivered to the construction site.

BAMTEC[®] machines are high-performance systems. The automated production from coils of 8 - 20mm and the option of manually feeding bars up to 32mm makes **BAMTEC**[®] the most flexible reinforcement solution in the world and can be used for all areas of application. For projects with dynamic loads, such as in bridges, a system without welding the bars is also available.

Sustainability

The potential material savings when using **BAMTEC**[®] reinforcement technology save resources, energy and therefore CO₂. The high quality and ergonomic advantages when installing the reinforcement fulfil ESG criteria and contribute to the achievement of sustainability certificates.

Steel fixers do not have to carry heavy loads as often and work much less in a stooped posture. Steel is 100% recyclable.

Your Advantages at a Glance

Reduction of construction costs by shortening construction time

Savings on reinforcing steel by optimising the reinforcement and production directly from steel coils

High degree of design freedom thanks to customised production

Occupational health and safety in production and on the construction site

High quality thanks to simple and precise installation

Quality assurance through industrial prefabrication

Sustainable thanks to efficient use of resources





1



5



9



11



13



2



6



10



12



14

BAMTEC® is used in a wide variety of projects worldwide. Whether round or sloping surfaces, recesses or just a square floor slab.

Wherever construction time and costs play a role for you, BAMTEC® is the solution!



3



7



4



8

REFERENCES



1 HIGH-RISE BUILDINGS

Skylounge Towers

2 COMMERCIAL BUILDINGS

Office Building Vadianstrasse

3 SHOPPING CENTRES

Allgäu Tower / Zentralhaus

4 HOSPITAL BUILDINGS

Children's Hospital

5 INDUSTRIAL CONSTRUCTION

Kyocera Administration Building

6 LOGISTICS CENTRES

LIDL Central Warehouse

7 SCHOOLS & UNIVERSITIES

Turin University

8 AIRPORTS

Ferenc Liszt International Airport

9 TUNNELS & BRIDGES

Uetliberg Tunnel

10 MOTORWAYS

Ballina Bypass Road

11 WATER RESERVOIRS

Saggart Water Reservoir

12 CIRCULAR CONTAINERS

Biogas Tank

13 SOCIAL FACILITIES

Care facility Allgäu Stift

14 HOTELS

Hotel Castle Elmau