

# BIONTEC

BIONIC COMPOSITE TECHNOLOGIES



Composite serial production in a **new dimension**

## **MPT - Multi Parallel Technology®**

**Serial Production of High Performance  
Composite Components for the Measurement Industry**



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# Company Profile

BIONTEC combines the traditional expertise in composites and a new, in-house developed process technology with more than 100 years of tradition in textile manufacturing. Thanks to innovative, industrialized production processes and our experienced engineers, BIONTEC supplies high quality composite components with reproducible properties and outstanding performance – especially for medium and large series.



## Development

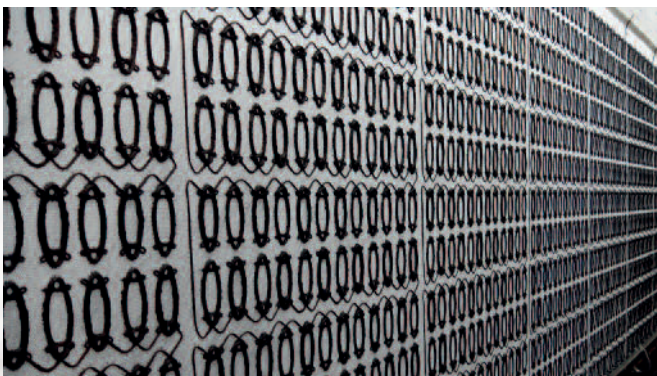
BIONTEC supports you as required partially or completely in the entire development and optimization of your product. Using the latest CAD and FEM software we tailor the exact properties already in an early development phase to your requirements. The close cooperation between customer, engineering and production guarantees an efficient development – from the first draft till introduction into serial production.



## Industrialized composite production

The textile preforms are produced net shape by our unique Multi Parallel Technology® and processed by resin transfer moulding (RTM). Our equipment and tools are developed in-house and specifically designed to allow a high level of automation. Every step of the production can directly be influenced and controlled with the ultimate goal to satisfy all your high quality expectations – constantly and also for large quantities.

## MPT - Multi Parallel Technology®



## Bionic fibre placement

Bionic fibre placement based on load transmissions is the technological basis for our success in producing high performance composite components and has its roots in nature copying the growth of plants. It allows us to specifically design local reinforcements in critical areas and to save fibres in less critical areas – no wastage, just as in nature.

- A large variety of fibres from high tenacity (HT) to ultra high modulus (UHM) carbon fibres, glass, aramid and natural fibres can be processed.
- Nearly unlimited and variable choice of fibre orientation
- Computer controlled processes for very high reproducibility and productivity
- Economical efficiency thanks to our unique Multi Parallel Technology®

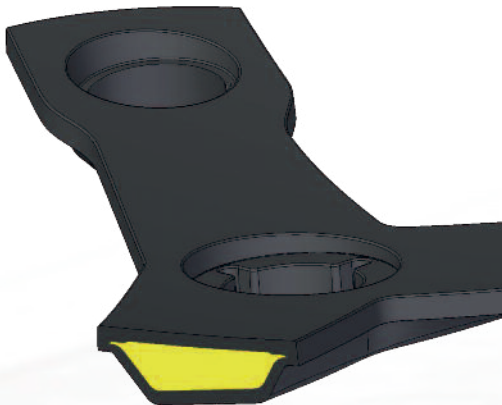




Our definition of lightweight design is the lightest possible construction without any compromise on material stiffness and thermostability. Our Multi Parallel Technology® meets the very high requirements regarding the dimensional stability reproducibly and cost-effectively. This would not be economically feasible using traditional composite manufacturing methods.



- Integrated foam cores and an optimized fibre architecture lead to a very good dimensional stability.
- A net shape, out of the mould geometry minimizes the processing and rework time significantly. This brings down the costs of the parts.
- Our technique allows an out of the mould and high quality surface finish which does not require an additional treatment.
- A large number of pieces can easily be realized.



**Lightweight design: An integrated foam core leads to the highest dimensional stability at a low weight.**

The very high requirements regarding the dimensional stability are achieved by implementing a lightweight design. The solution is a foam core manufactured in-house which increases the geometrical stiffness and keeps the weight low by enlarging the cross-section.



**Brilliant surface finish in serial production**

With our manufacturing process the extremely high quality surface of the parts in “carbon look” can be produced directly out of the mould. Neither an additional coating nor another time-consuming surface finishing is necessary. Needless to say that the processing time, the weight and the costs benefit from this circumstance.

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**Complex challenges – we will meet your requirements**

## Skills

- Design and industrialized production of net shaped, load optimized carbon fibre preforms
- Reproducible and efficient consolidation into high quality composite parts

## Location

- Head office in St. Gallen, Switzerland
- Less than one hour by car or train from Zurich airport
- Only 5 minutes from the motorway A1

## Company

Thanks to innovative and industrialized production processes Bionic Composite Technologies supplies components with outstanding properties and high reproducibility for medium and large series. Our technologies allow new approaches of composite components mainly in industries such as sport and leisure, mechanical engineering, medical and measurement industries. We develop the ideal fibre architecture and produce the net shape textile preforms in an automated manufacturing process. These preforms are processed by resin transfer moulding (RTM) to finally become custom-made components according to detailed specifications.



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