BIONTEC

BIONIC COMPOSITE TECHNOLOGIES

Composite serial production in a new dimension

MPT - Multi Parallel Technology®

Serial Production of High Performance Composite Components for the Mechanical Engineering Industry

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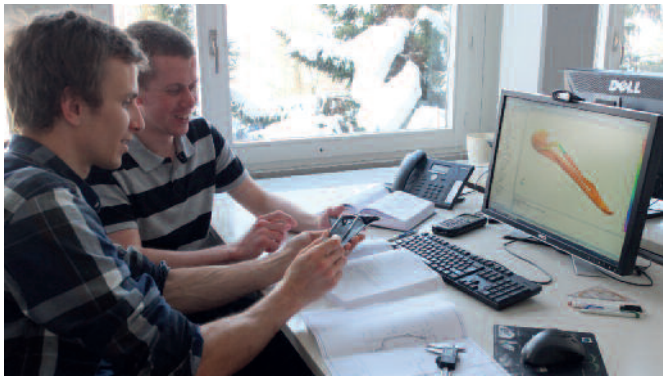
Company Profile

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.

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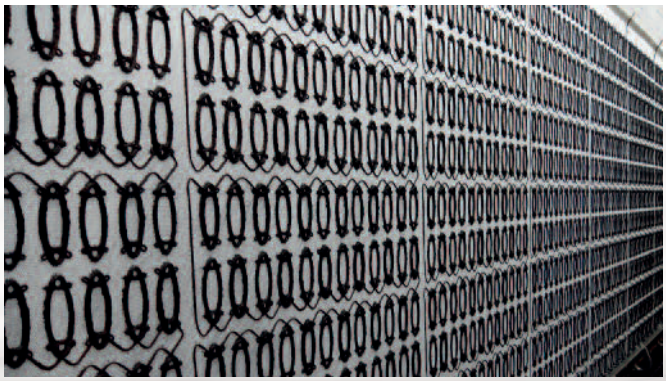

Bionic fibre placement

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® on large embroidery machines

Structure for insulant saw

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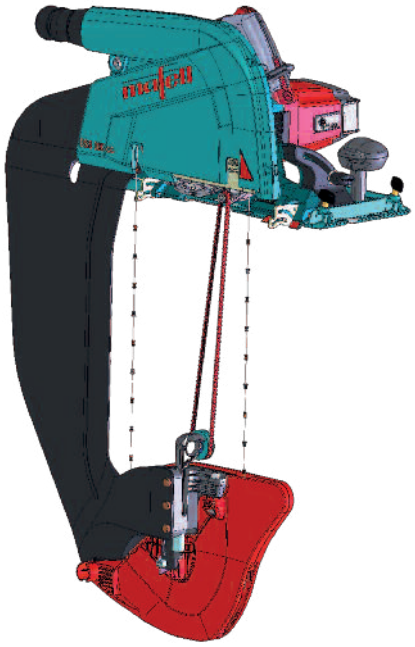
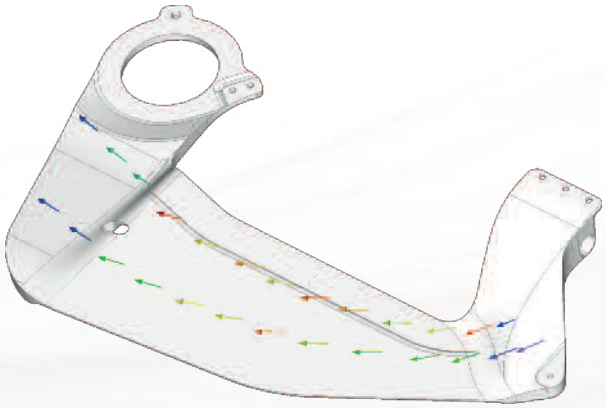
The structure of the insulant saw holds the motor and the saw band which is guided between two rollers. The structure has to be very stiff so that the saw works reliably in every position. At the same time the weight should be as low as possible in order to guarantee a good user-friendliness. BIONTEC offers the perfect solution by using carbon fibres!



- 60 % stiffer compared to steel
- High surface quality directly out of the mould
- Large quantities
- Oustanding reproducibility even for complex geometries



Challenge stiffness

Thanks to our detailed material knowledge and to using modern calculation methods, the optimal fibre orientation can be defined already in an early development phase. Conventional manufacturing methods for CFRP fail here due to the very complex stress flow. Only by using high modulus fibres and by placing them load optimized, the required stiffness is achieved.

Reproducibility and integration of functions

The automated production of the preforms guarantees a perfect layup of the laminate which leads to parts with constantly high quality.
The technologies used by BIONTEC allow a very high degree of integration of functions. All the boreholes are modelled in the tool and even metal inserts can be integrated.
Thanks to the optimized RTM processes the surfaces do not need additional machining, which is very cost-effective.

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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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