



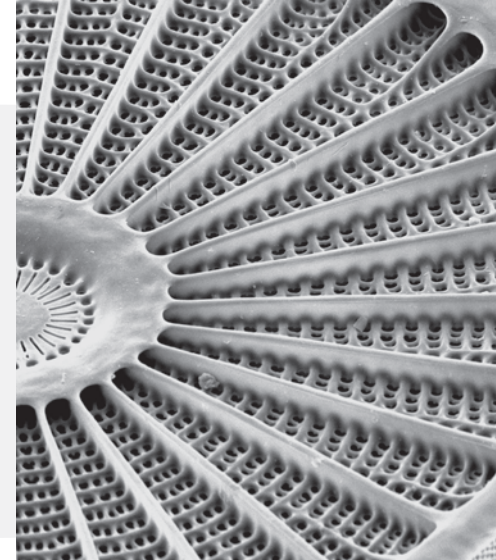
Bionic rim

Reliability is the most important factor for safety components such as car rims. Since rims are unsprung masses it is recommendable to use lightweight components to increase the technical reliability and thus the passengers' safety. Furthermore an aesthetic and interesting exterior leads to an increased driving experience for the customer.

Based on the hull of the marine diatom *Arachnoidicus* our patented Evolutionary Light Structure Engineering-procedure (short: ELiSE) was used to develop a rim, which perfectly meets the economical and aesthetical requirements of the customers and companies. The rim was specifically optimized for the use of fiber-reinforced composites.

Product tests of this innovative developed bionic rim have already certified an excellent power transmission between wheel hub and tire. The novel constructive method using concentric braces which are supported by short braces in the edge regions leads to an effective stress distribution over the entire rim. The alignment of fibers in stress-direction during multiple production-steps further increases the wheels stability. Using ELiSE for an improved usage of material led to a weight reduction of 20 % while still providing the same structural stability.

- > Low weight and effective stress-distribution
- > Aesthetic design
- > Suitable for fiber-reinforced composites
- > Orientation of the fibers along the braces



WEIGHT REDUCTION

20%

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