

Engineered
for Bike
Components



Innovation

Always in view when cycling - the AHEAD set cap

The background: For many decades, the rotatable connection between the bicycle fork and the bicycle frame - the headset - was a collection of bearing shells and nuts. The preload of the system was ensured by a fine thread on the steerer tube. All rather complicated, expensive and maintenance-unfriendly. The AHEAD system has replaced this technology and is consistently established throughout the cycling world.

An inconspicuous but central part is the AHEAD set cap! The axial preload of the system is carried out via them. This part is available in countless designs - turned parts made of aluminum and titanium, or as milled units made of carbon fiber composite plates. Purists who value weight optimization prefer the light carbon fiber versions. This of course also because of the supplied carbon look. However, this solution has its price. See page two for more information on this system.

An injection-molded all-plastic solution, as a tricky designed component, has not existed until now.

The innovation: NOTHNAGEL Technologie GmbH & Co. KG and Germina Sportartikel were able to develop a completely new and innovative AHEAD set cap in cooperation with the LEHVOSS Group. A long carbon fiber reinforced PA410 is used here: LUVOCOM LFT 14-50542CF10N.

All mechanical requirements are met thanks to the excellent material properties and the design of the component without weld lines. Furthermore, this innovation enables lower manufacturing costs and a reduced carbon footprint. The LUVOCOM LFT 14 product line is based on bio-based polyamide 410 and is the first of its kind in the world.

Germina, as a well-known sporting goods manufacturer with its own bicycle production, among other things, will manufacture the AHEAD set cap on its own and take over distribution. Nothnagel Technologie is responsible for tool construction and production.



AHEAD set cap made from LUVOCOM LFT



Injection molded high-strength AHEAD set cap.

- No weldline
- Reduced costs
- Carbon look
- Lower carbon footprint

An innovation in the bicycle sector was the development of the AHEAD system, which has become established for almost all types of bicycles. Here, a bicycle fork with a smooth shaft (without a thread) is guided through the steerer tube of the bicycle frame. The simply constructed bearing shells are first inserted into the frame. A stem is attached to the steerer tube, which is then "only" fitted with a clamping plate and a fixed claw in the steerer tube which needs to be prestressed. The so-called AHEAD set cap is supported on the stem and allows the system to be preloaded in the axial direction without play. The firm clamping on the fork is only guaranteed by clamping the stem on the steerer tube.

About NOTHNAGEL

NOTHNAGEL Technologie GmbH & Co. KG is a family-run medium-sized company in southern Thuringia. As an innovative contract manufacturer of metal and plastic parts, the name Nothnagel stands for complex, high-precision components from a quantity of 1. A feasibility analysis is already carried out when the offer is submitted.

About Germina

GERMINA is a German manufacturer of sports equipment with a long tradition and a trademark for high-quality sports articles. We have been a reliable supplier for recreational and professional athletes for decades. Whether winter or summer sports products: the best quality and the satisfaction of our customers are our claim.

About LEHVOSS

The LEHVOSS Group under the management of Lehmann&Voss&Co. is a group of companies in the chemical industry that develops, produces and markets chemical and mineral specialties for various industrial customers. Lehmann&Voss&Co., Hamburg, was founded in 1894 as a trading house. Since then, the owner-managed company has developed into a powerful global organization - with long-standing connections to well-known, mostly foreign suppliers and with its own production facilities in Europe, the USA and Asia.

The Customized Polymer Materials (CPM) division has been a partner to industry since 1984 in terms of material development, production and support, from design to part production. LEHVOSS offers customized solutions for challenging applications that are unique and stand out in the market.

LUVOCOM® high-performance compounds, LUVOTECH® and LUVOTECH® eco-technical compounds expand the possible uses of plastics and ensure in many industries that products made from them reliably fulfill their function even under high requirements.



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