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PRESS INFORMATION

Smart swimming goggles made possible by Grilamid TR

Smart swimming goggles combine advanced technology with exceptional comfort. The frame, made from Grilamid TR 90 by EMS-GRIVORY, plays a key role in achieving both. This high-performance polyamide reliably protects the integrated electronics from water while solving a major challenge: Its excellent fatigue resistance prevents breakage at the highly stressed nose bridge. It also reduces weight by approximately 40% compared to conventional materials. The result is a lightweight, durable pair of swimming goggles that performs reliably even with intensive use.



Less weight, greater comfort

Swimming goggles must fit comfortably, provide a reliable watertight seal, and withstand frequent putting on and taking off. The nose bridge is particularly exposed to mechanical stress and can be a weak point in conventional designs. Grilamid TR 90 offers excellent fatigue resistance, allowing the frame to withstand repeated bending without breaking. At the same time, its low weight ensures excellent wearing comfort.

The frame also plays an important role in protecting the integrated electronics. The smart swimming goggles play stored music through waterproof headphones and use motion sensors and artificial intelligence (AI) to track training data such as swimming pace, distance, and lap times in real time. Grilamid TR 90 provides a lightweight, robust frame that works together with the sealing elements to protect the sensitive electronics from water.

Another key advantage is its excellent adhesion to liquid silicone rubber (LSR). This allows soft sealing elements to be bonded directly to the rigid polymer frame, improving the fit and ensuring a reliable watertight seal. The simplified manufacturing process also reduces assembly steps and production costs.

With its high transparency and excellent chemical resistance, Grilamid TR 90 also offers great potential for a wide range of other water sports applications. These innovative swimming goggles demonstrate how EMS-GRIVORY uses customized high-performance polyamides to solve technical challenges and open up new possibilities for lightweight, durable sports equipment.



Lightweight and comfortable: Grilamid TR reliably protects the electronics inside the smart swimming goggles from water.



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