

Professional Skate Rollers: A New Dimension in Performance, Enabled by High-Performance Thermoplastics - Made in Europe

What's New:

- Multi-material molding tools for optimized LUVOCOM® materials, tailored to application conditions
- First-time use of technical and high-performance plastics in skate rollers. Metal and CF composite replacement at the highest level!
- Material production, component manufacturing, finishing, and assembly made in Europe
- Showcase for the wide range of applications of structural compounds in technical applications

Biathlon: A Sport of Precision and Endurance

Biathlon is a highly popular sport, drawing significant media attention and large audiences during competitions. Athletes excel in speed, endurance, and shooting precision. Achieving this level of performance requires sophisticated training plans and countless training sessions on skis, even in summer. Summer training lays the foundation for winter success.

Summer Training with Skate Rollers

For summer training, athletes use skate rollers on asphalt tracks. Ideally, these rollers should mimic the behavior of real skis. Until now, this has been challenging. Available skate rollers are typically made from aluminum extrusions or CFRP laminates, mostly produced in the Far East. Both materials result in sports equipment with consistent bending stiffness (commonly referred to as flex). Offering lightweight skiers or athletes with higher body weight a comfortable skate roller with ski-like flexibility has not been possible.



Materializing
Ideas

Introducing the Germina Skate Roller

This skate roller represents a completely new approach. The standout innovation is realized through the specific selection of LUVOCOM compounds. To achieve optimal running comfort for different weight classes of skiers, the roller deflection is determined solely by the material selection, specifically the bending modulus of the material used.

Maximized Functionality Integration

The high integration of functionalities allows for the production of a nearly finished part with minimal post-processing. Only the holes for the binding and roller axles need to be added. The surface finish is achieved through painting, which is easily implemented with the plastics used.

Beyond a Training Tool

The skate roller is not just a piece of equipment for endurance and recreational sports. It also demonstrates the range of LEHVOSS construction materials with various fiber reinforcements, whether GF, CF, XCF, or long fiber reinforcement in glass or carbon fiber.

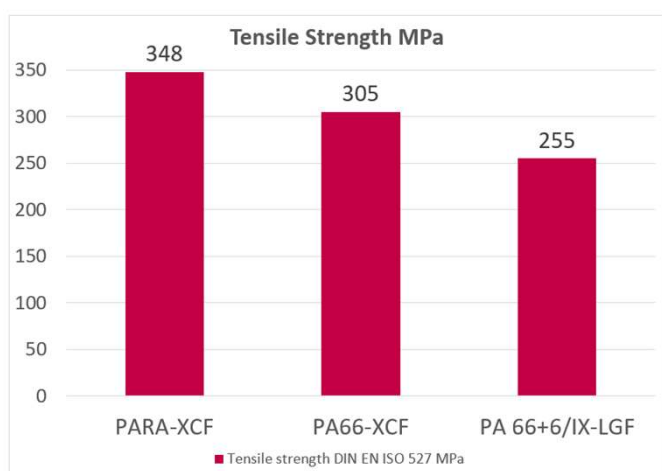


Diagram 1: Tensile strength

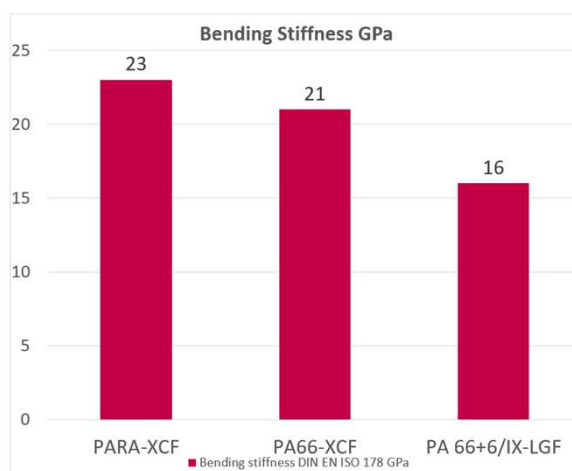


Diagram 2: Bending stiffness

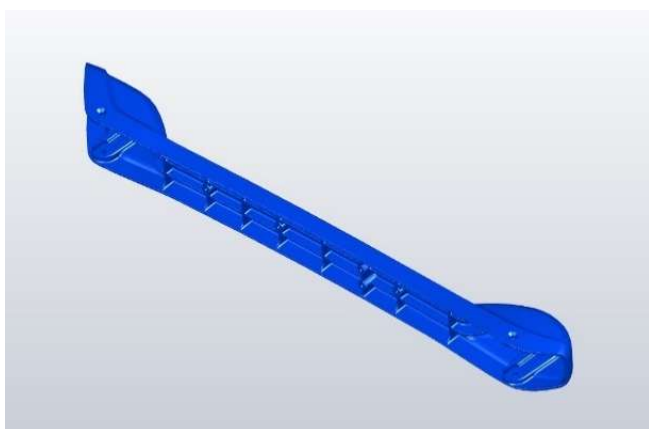


Image 1: Detailed view with ribbing

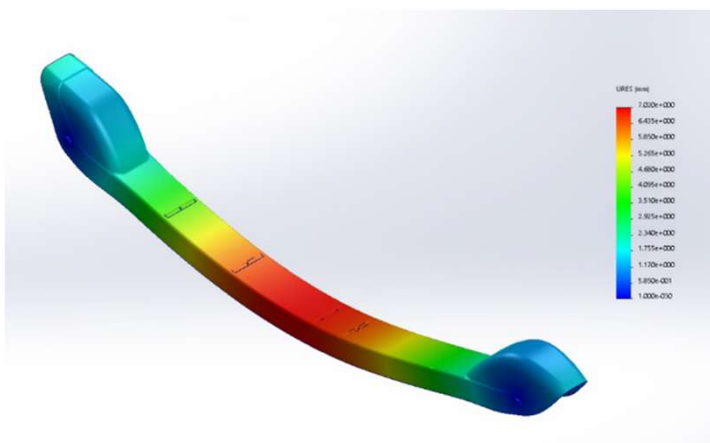


Image 2: Simulation of deformation

Want to know more? Simply contact our experts!

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Skate Roller Project Partners



ARBURG is one of the world's leading manufacturers of injection moulding machines. The product portfolio encompasses ALLROUNDERS with clamping forces of between 125 and 6,500 kN, robotic systems, customer and industry-specific turnkey solutions, and further peripheral equipment.



cleo design is a studio specialising in product design and development based in Cologne and founded in 2009. Strategically, carefully considered and at the highest level of design, creating new products, technologies and identities to remember. We are enthusiasts – cooperative, interdisciplinary and independent.



COLORprofi is a Czech hi-end injection and painting company delivering turnkey solutions for premium clients in automotive, railway, aerospace and sport industries. With more than 30 years of experience, we combine innovation, precision and flexibility. Our unique advantage is providing the full process under one roof – from moulding and post-production to world-class painting (wet&powder).



Germina is a leading German manufacturer of winter sports and sporting goods. Germina offers a wide range of skis (primarily cross-country skis), sportswear, and outdoor accessories, emphasizing "Made in Germany" quality and combining traditional craftsmanship with modern technologies.



Hufschmied Zerspanungssysteme GmbH is a leading European manufacturer of specialised tools for machining plastics, fibreglass and carbon materials used in the automotive, aerospace and medical technology industries.



Meusbürger is the market leader in the field of high-precision standard parts. Customers all over the world make use of the advantages of standardization and benefit from 60 years of experience in working with steel. The product portfolio ranges from high-precision standard parts and selected products for workshop equipment to hot runner and control systems.



Nothnagel Technologie GmbH & Co. KG is a family-run company that has specialized in high-precision contract manufacturing and machining of mechanical components since 2005. Its high level of vertical integration, modern machinery, and highly specialized personnel are the foundations of its success. It primarily processes alloyed steels, stainless steels, and aluminum.



From the initial idea to the finished product, the LEHVOSS Compounds division has been setting outstanding records in the industry since 1983. The specialty of this agile unit is the development of specialized materials that perform far beyond the usual market standards. The interdisciplinary development team uses a wide range of polymers, reinforcing materials and additives, state-of-the-art laboratory and application technology and a huge pool of experience, intuition and passion for the perfect solution.