

Perfect-fit 3D Printed Climbing Shoes

Reaching new Summits with the first 3D printed Climbing Shoe



OVERVIEW

Whether amateur or professional, no matter if rock climbing or bouldering – high-quality shoes are essential for both fun and athletic performance. Climbers set themselves apart by requiring footwear with a very tight fit, oftentimes wearing shoes sized 2 to 3 times smaller in order to achieve the required support. So, it doesn't come as a surprise that foot pain, mispositioning, and serious injuries are well-known worries in the climbing community.

QUICK FACTS

Material:

- Ultrasint® TPU01

Finishing:

- Ultracur3D® Coat F

Technology:

- HP Multi Jet Fusion

ATHOS

Spanish start-up ATHOS tackled the challenge of rethinking the concept of climbing shoes, aiming to create individualized shoes that enhance the climber's experience. By combining innovation and technology, the first 3D printed climbing shoes came to life.

How does it work?

1. Climbers scan their feet with the ATHOS app
2. Using the scan, the shoe's design is adapted for a perfect fit
3. Users may customize by skill level, climbing style and design

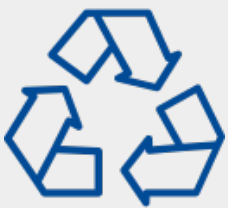
[ATHOS.COM](https://athos.com)



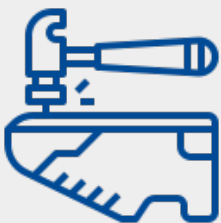
51% CO2 reduction



Uses 92% less water than traditional manufacturing



Eco-friendly, fully recyclable body



Simple assembly of only 6 parts

A high performance material to withstand the toughest environments

Having successfully passed skin sensitization (ISO 10993-10), skin irritation (OECD Guideline), and cytotoxicity (ISO 10993-5), this advanced material is perfectly suited for applications on or close to the body. As an added benefit, [Ultrasint® TPU01](#) shows excellent UV resistance making it a perfect match for outdoor uses like climbing.

Giving the shoes an aesthetic master touch, Forward AM's robust, yet superbly flexible [Ultracur3D® Coat F](#), adds the final protective layer. Its best-in-class adhesion and outstanding elasticity make Ultracur3D® Coat F the perfect coating for applications requiring skin contact. This premier combination used for Athos climbing shoes delivers excellent flexibility, durability and attractive haptics for climbers at every level.



Challenge: Reduce the ecological footprint

By leveraging Additive Manufacturing, ATHOS benefits from one of the technology's key benefits: on-demand production. By producing exactly the quantity that is being ordered, overproduction is eliminated – reducing both material waste and costly warehousing.

In comparison with traditional manufacturing methods, leveraging 3D printing allows for a 50% reduction in the material and manufacturing process. Fewer raw materials and easy assembly allow shoes to be fully recycled to reduce the ecological footprint and support a more circular economy.

[Learn more about Ultrasint® TPU01:](#)