3D Printed Insoles Provide Custom Comfort

Innovative designs and materials offer scalable footwear solutions for sports, leisure and the workplace

OVERVIEW

Paul Hast has decades of experience in producing insoles and has also developed customizable insoles under their own brand 4Point. Utilizing an in-house printer, they have 3D printed around 1000 pairs of insoles using Ultrasint® TPU 88A Black.

As demand for these customized insoles increased, Paul Hast looked for ways to scale up production. They found their solution with rpm who use Ultrasint® TPU 88A Black on the new Farsoon Dual Flight machine to produce insoles for Paul Hast, starting with a production goal of 50 pairs per week.

QUICK FACTS

Materials:

- Ultrasint® TPU 88A Black

Technology:

- SLS

Partner:

rapid product manufacturing GmbH

PAUL HAST
SEIT 1919

Paul Hast, under their own brand 4Point, offers custom-made insoles which are the result of 100 years of experience. They utilize the latest medical findings and are produced with the finest German craftsmanship. Today, Paul Hast has combined this knowledge with the use of the latest SLS 3D printing technology to further perfect their insoles.

Instead of a standard model, they have worked in meticulous detail to develop individual insole models for different requirements and stress areas. 4Point includes sensorimotor insole models for very narrow footwear, but also insole models that offer the necessary stability in casual shoes and sneakers.

PAUL-HAST.DE

Reduced production time from ten months to two weeks

Ability to create flexible lattices structures

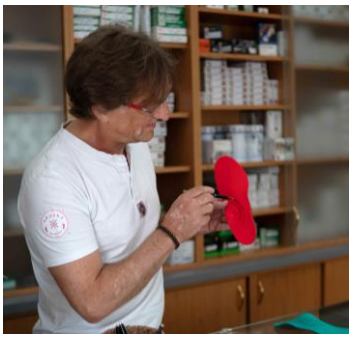
Quickly and easily create new insole concepts in-house

Challenge: Scale up production of insoles to meet customer demand

By collaborating with rpm, Paul Hast found a production partner who brings decades of experience to the table as well as a thorough knowledge of the industrial utilization of 3D printing. Along with being a trusted partner for the outsourcing of the production, rpm offers Ultrasint® TPU 88A Black as part of their portfolio. This innovative material features a wide processing window. It can be used on professional desktop printers, such as the type Paul Hast was currently using, and also on the highly industrial machines that rpm maintains for production. This system enables both parties to focus on their core competences, meaning Paul Hast can continue using their own printers to develop their insoles further while rpm realizes the production volumes.

"We are proud that Paul Hast and 4Point are entrusting rpm with the series production of their customized Orthotics. The team there also benefits from our valued partnership with BASF Forward AM. This triangle constellation of application, material and producer allows direct to consumer businesses to produce their products with low risk, ready to scale and available at the pace they are used to doing business."

-- Dr. Jörg Gerken, Technical Director at rpm



Challenge: Combine their expertise in classical insole manufacturing with 3D printing to expand market share

Paul Hast is currently transitioning their business focus from the orthopedic sector to the lifestyle market by utilizing Additive Manufacturing (AM), This change signifies a broadening of the target audience and the types of products they plan to offer. In place of primarily providing medical aids, Paul Hast aims to make 3D printed insoles appealing to a wider range of consumers, particularly those seeking improved comfort in their footwear. This shift to AM will allow them to tap into the ability to provide mass customization at an affordable price. They therefore will reach a larger and growing market where consumers value individuality and personalization.

Learn more about Ultrasint® TPU 88A Black: