

# NovaPED 4D

by **schein**



# NO LIMITS

Scan. Print. Wear.

# Novaped 4D

by **schein**

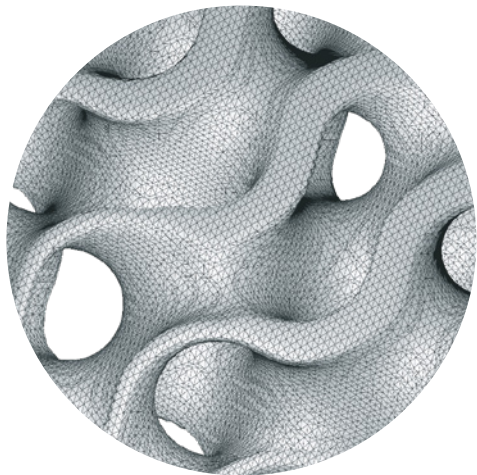
Mission Schein 4D ... start SLS printing technology ...



# Technical perfection – naturally just like your foot

## THE 3D PRINTING PROCESS

The new insole blanks are manufactured from thermoplastic polyurethane by means of a selective laser sintering (SLS) printing process. The fine powder particles are fused (sintered) by a laser and then bound together layer by layer. Through this process, the **stability** and **elasticity** of every single zone within the structure can be adapted. All the while using just one material.



## THE STRUCTURE

The extraordinary thing about the Novaped 4D is its **mesh-like printed structure**, with its 3D surface characterised by 12 million triangles. The gyroid structure is derived from the natural world. It can be seen in butterfly wings, for example – evidence of how high stability and lightness can be optimally combined. The isotropic structure is equally stable/elastic in all spatial directions, meaning that when weight is put on the structure, the pressure distribution on the foot is completely homogeneous. By varying the structure thickness, the gyroid allows for the production of an insole blank that is individual to every foot.

# Next level – just Novaped 4D.

Enter a new world of insole design with our  
Novaped 4D insole blanks

can be ground  
without losing  
function

has an edge for  
gluing covers

lightweight,  
breathable

different degrees  
of hardness  
with just one  
material and fluid  
transitions

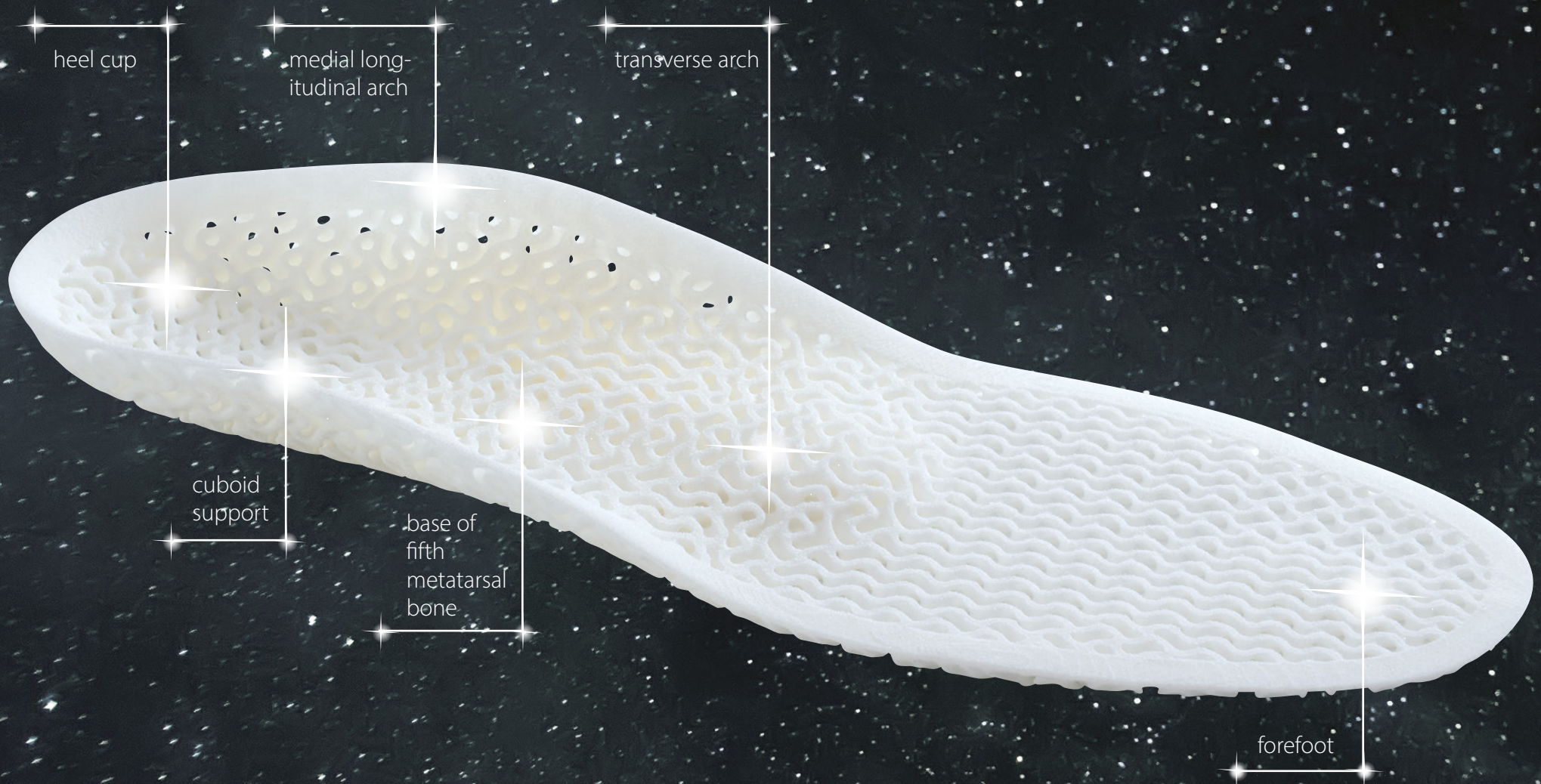
100%  
anatomically  
adapted and  
customisable

no material  
waste during  
production

reproducible  
thanks to  
state-of-the-art  
technology



# The base

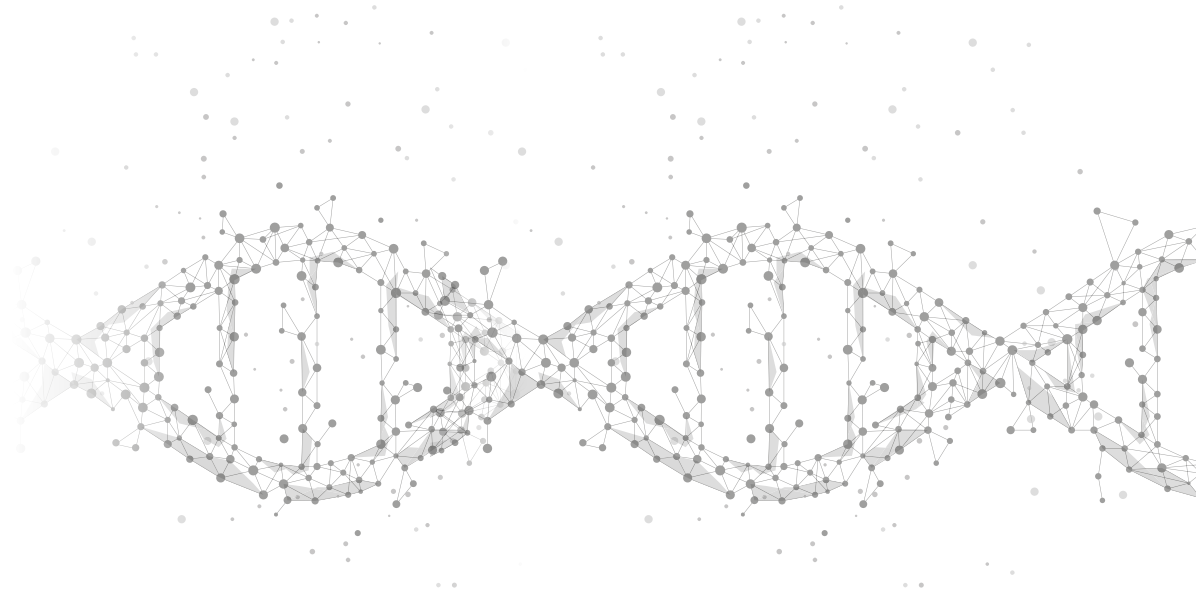


# Anatomy of the insole blank:

This process offers infinite possibilities for designing the insole. To reduce the complexity of such a huge range of options, we have created a selection of blanks that optimally suit different types of feet.

You can choose between these types:

- neutral with pad
- neutral without pad
- adductus
- cavus
- planovalgus



Each of the five variants has its own topologies that match the respective foot types. Every single insole blank is the result of a wealth of experience and expertise – but that alone is not enough to create a perfect, precise and individual foot care product: now you have to define the DNA of the insole using the fourth dimension, the pressure map.

# 4D – a new dimension

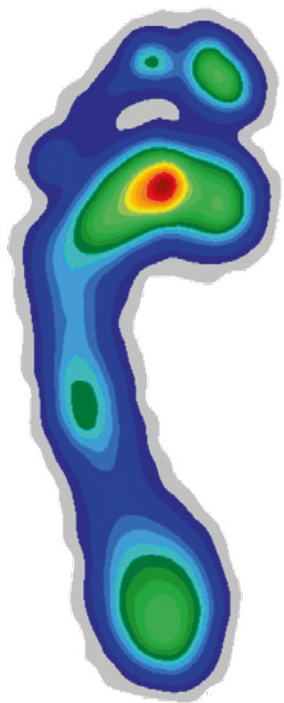
length × width × height × Shore





# Pressure map Tradition meets perfection

Our software lets you upload your patient data – whether in the form of **foam foot impressions, blueprints, foot scans or printed images**. You then get an individual pressure map and unique 3D printed insole for each of your patients.



printed image  
or blueprint



calculated  
pressure map



individual pressure map  
with drawings



anatomically adapted  
insole blank



The structure thickness are automatically calculated through the placement of different shades of grey, which allows for the desired degrees of hardness to be selectively defined.

You customise the blank by either drawing in your own zones on the image or in our digital painting tool. A pressure map is automatically generated from this.

# 4D pressure map

## Now you define the DNA!



neutral  
(with/without pad)



planovalgus



cavus



adductus

### 'NO LIMITS' to perfection

Mission Alpha: select and order one of the five insole blanks

Mission Beta: select one of the five insole blanks, customise the hardness zones and order

55°  
circa Shore A

45°  
circa Shore A

35°  
circa Shore A

25°  
circa Shore A

15°  
circa Shore A

**'NO LIMITS' –**  
you define what that means!





The background of the slide is a deep space scene. On the left, the blue and white horizon of the Earth is visible, with a bright sun or star just behind it, creating a lens flare effect. The rest of the background is a dark field filled with numerous small, bright stars and some faint nebulae.

Novaped 4D  
by **schein**

environmentally  
friendly



# CHOOSE YOUR MISSION – register now!

## Mission Alpha

Insole blank based on a foot type, with a pressure map defined by **us**

## Mission Beta

Basic insole blank based on a foot type, with a pressure map defined by **you**



<https://schein.de/4D>



MISSION COMPLETED

**PATENT®  
PENDING**

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