



Customized 3D Printed Bike Saddles Improve Comfort & Performance

AM solutions provide cost-efficient
production & scalable mass customization

OVERVIEW

With foam having hit a plateau regarding design and functionality, bike saddle manufacturer Posedla turned to Additive Manufacturing with innovative materials from BASF Forward AM to create lightweight, custom saddles which provide cyclists with both improved performance and increased comfort. Beginning with an algorithm based on the individuals needs and preferences along with the “Smiling Butt Kit,” cyclists can purchase uniquely customized saddles created with [Ultrasint® TPU01](#) utilizing complex and intricate lattice structures, which are only possible through 3D printing. This combination of advanced material and tailor-made design ensure higher levels of comfort through multi-pressure zones, as well as an aesthetically pleasing look and feel.

QUICK FACTS

Materials:

- Ultrasint® TPU01

Technology:

- MJF 5200

Partner:



Posedla was founded in the Czech Republic by Martin Ripa and Jiri Duzar, both passionate cyclists, who worked to turn a hobby into a thriving business with the unique goal to create customized bike saddles for every level of cyclist. After hundreds of design iterations and countless hours of discussions while riding, the Joyseat was launched in May of 2022 and is the world’s first custom-made 3D-printed saddle.

[POSEDLA.COM](https://posedla.com)



Reduced
production time
from 10 weeks
to 3 weeks



Lightweight
design of less
than 140g



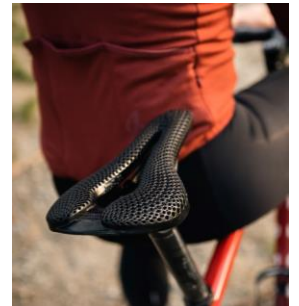
Customization
based on 10
different ride
parameters

Challenge: Design and manufacture a bike saddle with the capacity for scalable mass customization

The custom design and production process begins with an algorithm based on an individual questionnaire about the type of bike, the average time and miles spent riding, the body position on the bike, physical flexibility off the bike as well as age, gender and weight. Using this information, along with the “Smiling Butt Kit,” cyclists can order uniquely customized saddles made with [Ultrasint® TPU01](#) through the utilization of Additive Manufacturing techniques which deliver a fully dimensional production platform. Through this specially developed process, Posedla can manufacture a custom saddle based on the individual athlete’s sit bone width and weigh distribution, with the one-of-a-kind impression generating a pressure map, indicating the precise mass and pressure distribution applied to the saddle by the rider.

“We managed to break the mold of assembly-line production of saddles by taking full advantage of industrial 3D printing. We are driven by positive feedback from our customers who appreciate comfort and welcome the possibility of finally having a fully customized saddle.”

-- Martin Ripa, co-founder of Posedla



Challenge: Produce complex lattice designs for increased comfort and reduced weight

Parts printed with [Ultrasint® TPU01](#) deliver strong, flexible and durable performance, combined with excellent surface quality and level of detail. Along with unlimited design possibilities, it is extremely easy to print, scalable and combines very high process stability. TPU01 is also designed for comfort, high replicability, and has a proven success rate with vapor smoothing methods, thereby creating a perfectly individualized, lightweight and comfortable saddle that optimally distributes bone and muscle pressure minimizing the peak-pressure points. Through the utilization of complex and intricate lattice structures, only made possible through 3D printing of Ultrasint® TPU01, the Posedla Joyseat provides customized features to benefit both the comfort and health of the athlete as well as increase performance.

Learn more about Ultrasint® TPU01: