



3D Printed Canine Orthosis Provides Innovative Solution for Recovery

Lattice structures enable a customized fit and ensure a comfortable healing experience.



OVERVIEW

Wimba, in partnership with BASF Forward AM, has developed and created a 3D printed Elastic Insert for Orthosis specifically designed to provide optimal comfort and support for dogs during their recovery from injuries.

The insert is made from [Ultrasint® TPU01](#), ensuring a lightweight and easily cleanable solution. The additional utilization of lattice structures provides key advantages with the ability to fit perfectly around the dog's limb providing a glove-like fit resulting in a healing experience that is safe, comfortable and secure.

QUICK FACTS

Materials:

- Ultrasint® TPU01

Technology:

- MJF

Partner:



WIMBA®

Wimba is an innovative startup located in Krakow, Poland that is changing the veterinary industry. Their mission is to create and deliver innovative orthopedic solutions that restore pets' mobility. They specialize in providing a holistic V-OP system with orthopedic products that are 3D printed for pets to provide them with the best care possible. Wimba aims to revolutionize the field of customized orthopedic supplies for canines with a constant focus on the happiness of animals in mind.

WIMBA.VET



Reduced production time from six weeks to seven days



Over 500 customized orthotics have already been produced



Smooth surface finish for easy cleaning

Challenge: Redesign a traditional orthotic device for canines to improve functionality, fit and comfort.

Through the utilization of Additive Manufacturing technologies, Wimba and Forward AM designed and produced an orthotic which would fit precisely around a dog's limb, ensuring a healing experience that is both comfortable and secure. Creating an innovative design using Ultrasint® TPU01, this lightweight material offers flexibility and breathability therefore enhancing the overall comfort for the dog. The lattice structures used also reduce pressure points and allow for better airflow, preventing excessive sweating and potential skin irritations.

“Additive manufacturing was the right decision for our project as it allowed us to create highly customized, lightweight, and comfortable elastic inserts using Forward AMs Ultrasint® TPU01, ensuring optimal support and a tailored fit for dogs during their recovery. By leveraging Forward AMs Ultrasint® TPU01 in combination with the MJF technology, we have achieved a completely new level of comfort for canine recovery.” - Franek Kosch, Co-Founder and Managing Director



Challenge: Develop a process that saves both time and costs while utilizing a material that is easy to clean.

A key advantage of using MJF technology to print lattices with Ultrasint® TPU01 is the easy maintenance and hygiene it provides. The material's smooth surface makes it simple to clean and sterilize reducing the risk of infection or complications during the recovery period. This feature is particularly crucial as dogs must spend time in outdoor environments and can easily encounter dirt and bacteria. It also offers customization and agility of production, ensuring a timely delivery of the inserts needed to support the dog's recovery. The lattice structures utilized also reduce the overall weight of the insert while enabling rapid prototyping allowing for quick iterations and adjustments based on specific dog requirements.

Learn more about TPU01:

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