



3D Printed Large Dimensional Housings Offer Multiple Benefits

Lattice infill structures offer seamless compatibility with injection molded parts

OVERVIEW

Utilizing our [Ultrasim® 3D](#) Simulation software and [Ultracur3D® EPD 2006](#) printed on the Photocentric LC Titan, Photocentric and BASF Forward AM developed a method to print large dimensional housings, without warpage, which enable manufacturers to rapidly prototype, test and manufacture production parts.

QUICK FACTS

Materials:

- Ultracur3D® EPD 2006

Technology:

- LCD

Partner:

Photocentric

Photocentric

Photocentric was formed in 2002 and now operates from 66,000 square-foot premises located in Peterborough, UK. The company has placed innovation at its heart, with a dedicated engineering team supported by specialist chemists, designers and software developers. This team builds 3D printing solutions with the potential to forever change the way companies manufacture. Collaboration with partners such as BASF Forward AM is a crucial element to supporting their innovation in the manufacturing space, enabling .

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AM offers accelerated time to market



Competitive production pricing

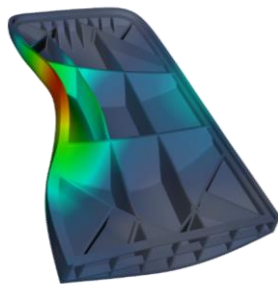


Innovative process ensures warp-free printing

Challenge: Print a large, flat part without warpage which would meet both load and end-use requirements.

Beginning with [Ultrasim® 3D Simulation](#), BASF Forward AM created a method to speed up the engineering process, shorten the testing phase, and increase confidence in part performance using a digital twin of the needed part. As the housings also had to meet both load and end-use requirements, the team developed a solution by implementing design guidelines for gyroid infill structures, along with lattice designs, in conjunction with running part simulations with our [Ultrasim3D® software](#). This ensured that all housings were compatible with injection molded parts.

Photocentric's cutting edge technology allowed such large parts to be printed. Their new LC Titan, combined with the [Ultracur3D® EPD 2006](#) resin, was able to print large format prints reliably, at speed and at a far reduced cost compared to traditional manufacturing methods.



Structural optimization with Ultrasim® 3D Simulation



3D printed housing on Photocentric LC Titan with Ultracur3D® EPD 2006

Challenge: Create housings compatible with injection molded parts while reducing production time and keeping costs low.

In offering this joint service with Photocentric, we can provide the ability to both design and redesign resulting in a process which is both simpler and quicker when compared to timelines for traditional injection molds. It also ensures that parts are fully optimized to meet the requirements of customers across multiple industries while additionally extending into material sales.

High-quality and durable housing parts that meet or exceed load case requirements, are cost-effective regarding part count, and offer reduced weight, a feature which is very useful for battery and electrical projects.

Learn more about Ultracur3D® EPD 2006: