

3D printed technology to manufacture customised dental parts with plant-based resins

Dental labs can benefit from 3D printing technology to produce unique pieces for each patient cost-effectively using sustainable materials and less energy.

Intro and application:

Bridge Dental specialises in pressure formed appliances, whitening trays and retainers, crown and bridge prosthetics, night guards and gumshields offering a full-service dental lab. They are changing patients' lives by using advanced 3D printing technology to provide fast and affordable customised dental pieces.

Providing quality and sustainable products is what Bridge Dental is all about. This 40-year-old family-owned dental laboratory produces appliances of the highest quality with a special focus on the environment. It is Bridge Dental's number one priority to ensure that every patient is 100% happy with their appliance and that the processes and materials used are environmentally friendly.

Challenge:

Each patient has a unique set of requirements. Producing affordable appliances that are suited to each individual without waste is challenging with traditional manufacturing.

The small SLA production batches that Bridge Dental were running were unsuitable for mass manufacture. They needed to scale up production using bigger build volumes.

The digitisation of the dental industry has been driven by the innovation and 3D printing technologies, with Photocentric at the forefront of this development as manufacturers of photopolymer resins, 3D printers and production parts.



Solution:

Bridge are one of the first Dental customers to switch to our new high-performance resin for the printing of clear aligners. Photocentric's rigid 3D printing resin has 50% plant-based raw materials offering a reduction in carbon emissions in comparison with conventional resins.

A key characteristic of DL240 Plant-Based is its translucency, this cuts down its post cure time by over 60% in turn saving vast quantities of energy and making the process much quicker. This fits perfectly into Bridge Dental's workflow preventing downtime.

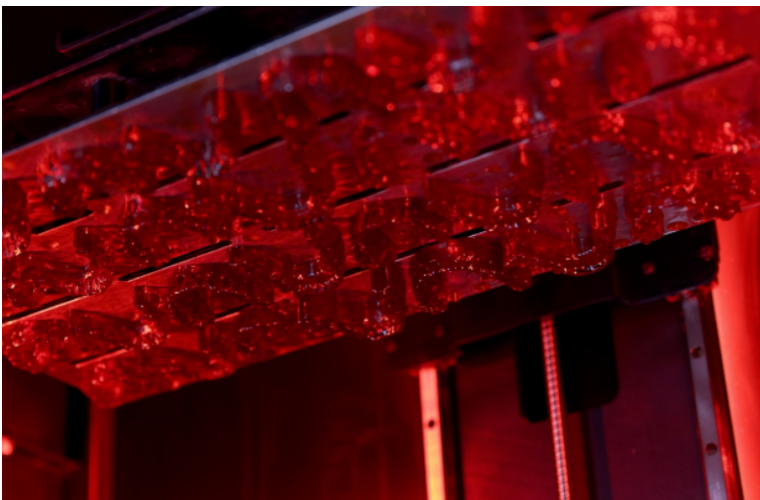
The fleet of Liquid Crystal Magna and Opus printers combined with the multi-printer DL240 Plant-Based resin compatible for both UV and Daylight, enables Bridge Dental to vastly reduce inventory costs and continually reinvest in other areas of their business.



The Benefits:

The Photocentric ecosystem has created a solution tailored to Bridge Dentals needs, offering a scalable solution to increase their yield to 98% allowing a much greater production capacity than before.

The use of Photocentric's environmentally friendly resin has cut down on waste materials and has saved energy.



Equipment list

- Liquid Crystal Magna
- Photocentric Air Wash L
- Photocentric Cure L2
- Rigid DL240 Plant-Based

