



3D Printing Dental Models for Clear Aligners in Half the Time.

INTRO AND APPLICATION:

The digital transformation of the world of Dentistry is well underway and the orthodontic sector is at the vanguard of this. Clear Aligners make treatment available to a much wider market, allowing adults to improve their smile discretely and at a much lower cost than previously possible.

K Line Europe GMBH use 3D printing technology to manufacture dental models as part of the clear Aligner treatment process for their clients. Dental models are produced before the Aligner is thermoformed around it, almost invisible in the mouth and fully removable, they are some of the most innovative products available.

// CHALLENGE:

K Line are established users of 3D printing technology, but as the demand has increased, so too has the need for a more reliable and faster process. The challenge to create high volumes of dental models for multiple patients with a fast turnaround is a difficult one. Unlike other manufacturing processes each dental model produced is unique to facilitate each individual Aligner, with patients typically requiring between 30-40 clear Aligners for one course of treatment, each one slightly different to move teeth step by step to the final desired position.

Finding a suitable solution that can deliver high speed, accuracy and above all else reliability involves careful consideration and proven expertise.

// SOLUTION

TRUSTING IN INNOVATIVE TECHNOLOGY

Seeking a faster and more efficient way of producing substantial volumes of Aligners, K Line approached Photocentric. The natural choice for the business was the Liquid Crystal Magna printer, a powerhouse for production, LC Magna is ideally equipped to handle high volumes of parts, and with a generous build volume of 510 x 280 x 350mm, plus a print platform accommodating up to 48 dental models, a patient's entire treatment course can be printed in a single run.

LC MAGNA REDUCES MANUFACTURING TIME BY 50%

So confident are K Line with the success of the technology, they are now producing sizeable volumes of aligners, working towards their ultimate goal of 20,000 aligners per day, with 14 Liquid Crystal Magna printers. Chosen because of the reliability (99%) and speed, these LCD daylight 3D printers are producing finished dental models in half the time compared to moulding by hand with traditional production methods, plus minimising costs with each model costing only €1.12. Models produced on LC Magna are also highly accurate with over 90% of models being +/- 100 microns across the entire platform. The result in reducing production times by a staggering 50% enables K Line to offer a more competitive service to their clients.



CLEAR X ALIGNERS



The latest development in clear aligners! Using 60% less plastic during production and proving to be up to 50% more effective for treatment, K Line are producing the next generation of dental aligners today.

www.clearxaligners.com

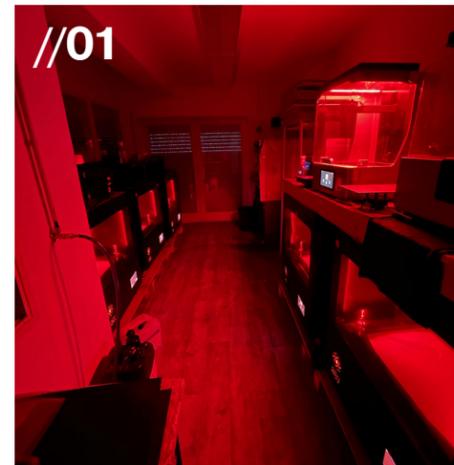
PARTS INFO

Dental models up to 48 per platform with LC Magna

EQUIPMENT LIST

- 14 x Liquid Crystal Magna
- Wash 99
- Cure L
- Dental Model White Resin

Images of parts being printed on LC Magna



PHOTOCENTRIC'S LC MAGNA LARGE CAPACITY HAS FACILITATED OUR MASS MANUFACTURE OF ALIGNERS, BRINGING US CLOSER TO OUR GOAL OF BECOMING THE LEADING ALIGNER MANUFACTURER IN EUROPE"

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