

Preliminary Clinical Case Experience with 3D-Printed Lithium Disilicate



Lithium disilicate is widely used for the manufacturing of crowns and veneers in the aesthetically relevant region. To date, such constructions are made either using pressing technique or subtractive manufacturing. As 3D printing is constantly evolving, it became possible to produce ceramic restorations in an additive way using IPS e.max lithium disilicate based material, which is jointly developed with Ivoclar.

Dr. Unkovskiy from Charité Universitätsmedizin Berlin and his coauthors report in their most recent publication about the preliminary technical and clinical case experience of 3D-printed lithium disilicate veneers. They describe the limitation of conventional manufacturing processes and demonstrate the design and manufacturing process for 3D-printed dental restorations.



The LCM-manufactured lithium disilicate veneers in situ (only for try in) demonstrate aesthetically pleasing results and good marginal fit. In situ image shown has been produced within the scope of a preliminary case experience¹.

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“I am impressed by the aesthetically pleasing result and the perfect marginal fit of the additively manufactured lithium disilicate crowns that have been printed with Lithoz CeraFab S65 3D printer!”

Dr. Alexey Unkovskiy | Dentist, Specialist in Prosthodontics (DGPro) | Charité Berlin, Department of Prosthodontics, Geriatric Dentistry and Craniomandibular Disorders | Chairman: Prof. Dr. F. Beuer MME

The results of this study¹ conclude the technical feasibility of additively manufacturing thin ceramic classical and non-prep veneers. The authors conclude that the technology described is “a viable option for the chairside manufacturing of lithium disilicate restorations” and “may offer a game-changing alternative to subtractive and heat-press technologies in the future”.

¹ A. Unkovskiy; Materials, 2022, 15, 6034-6040.
The solutions presented here did not yet have FDA clearance at the time of this folder's printing.

Sales Contact

Team Medical Solutions
Mollardgasse 85a / 2 / 64 – 69 | 1060 Vienna • Austria
Email: sales@lithoz.com | Phone: +43 1 9346612 200



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