

LITHOZ[®]
www.lithoz.com

Additive Manufacturing of High-Performance Ceramics

Your Trusted Partner in Ceramic 3D Printing **LITHOZ**



We offer a full solution of **3D printers, materials, software, and customized solutions.**



120+ employees
5 locations (Austria, USA and China)

Quality management system ISO 9001:2015



140+ machines worldwide
25 % of customers with **2** or more machines



LCM Technology

Lithography-based Ceramic Manufacturing

Let's Follow Our 4-Step Process Chain



CAD DESIGN



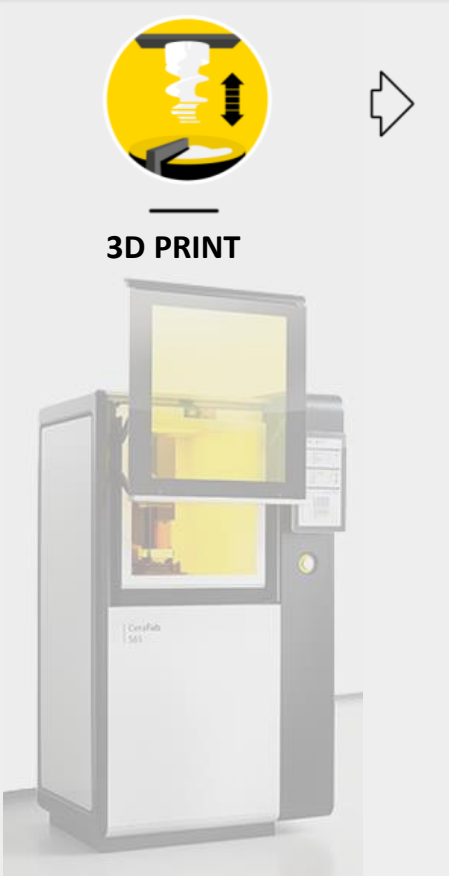
3D PRINT



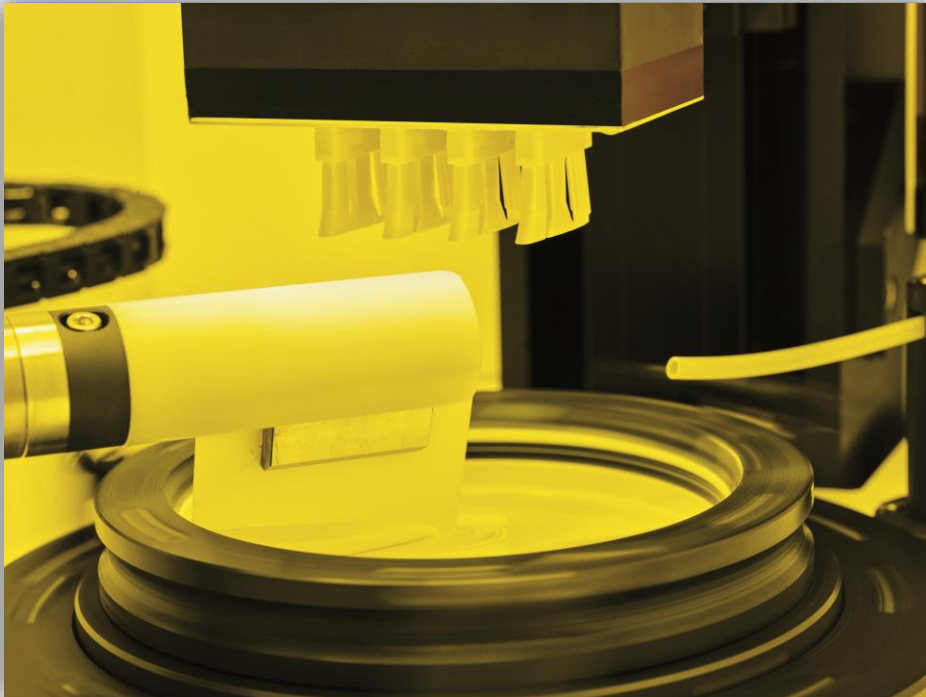
DEBIND, SINTER



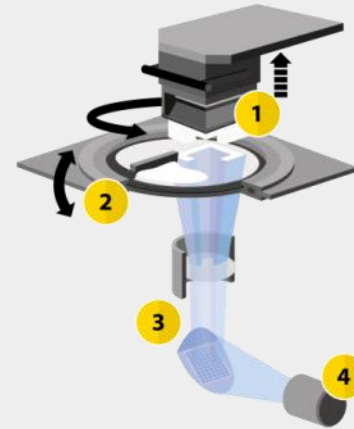
FINAL PRODUCT



A closer look at our LCM Technology



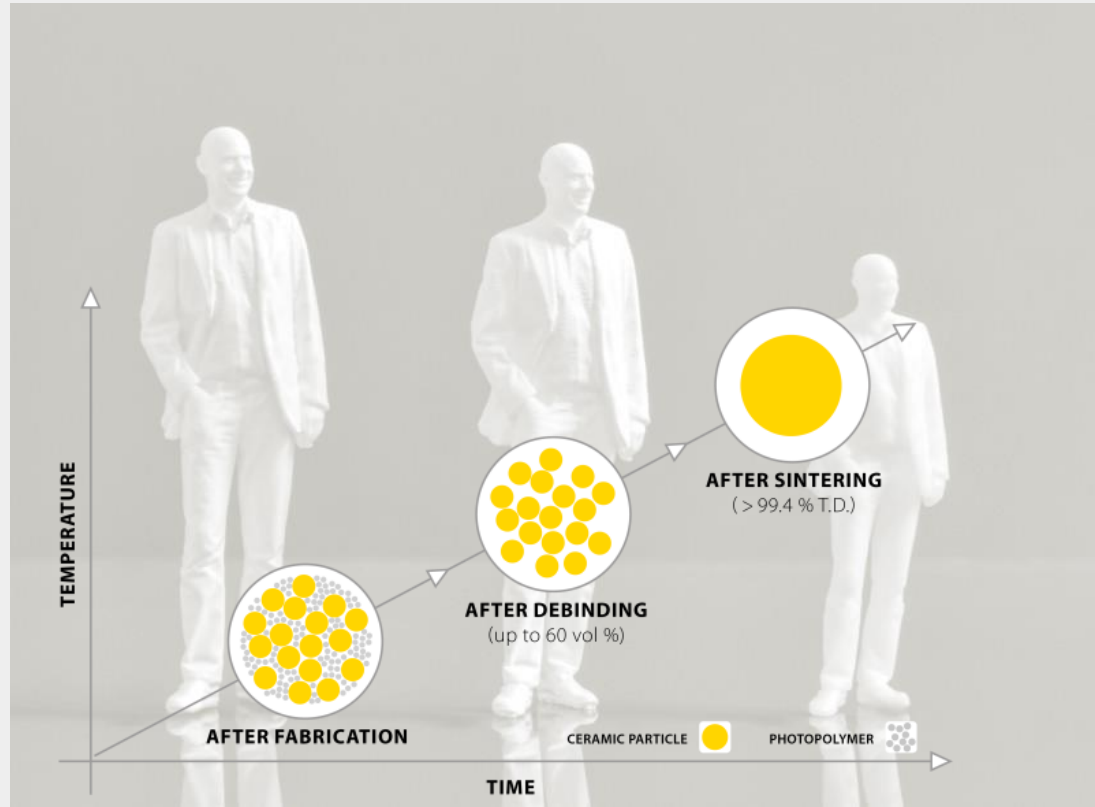
[Click to watch a video about the LCM technology](#)



- 1 BUILDING PLATFORM**
- 2 VAT**
- 3 OPTICAL SYSTEM**
- 4 LED**

i Blue light cures the photosensitive formulation

Debind and Sinter Process



Industrial LCM-based 3D Printers

DATA SHEETS 

MODULAR DESIGN SUPPORTING UP TO 4 PRODUCTION UNITS

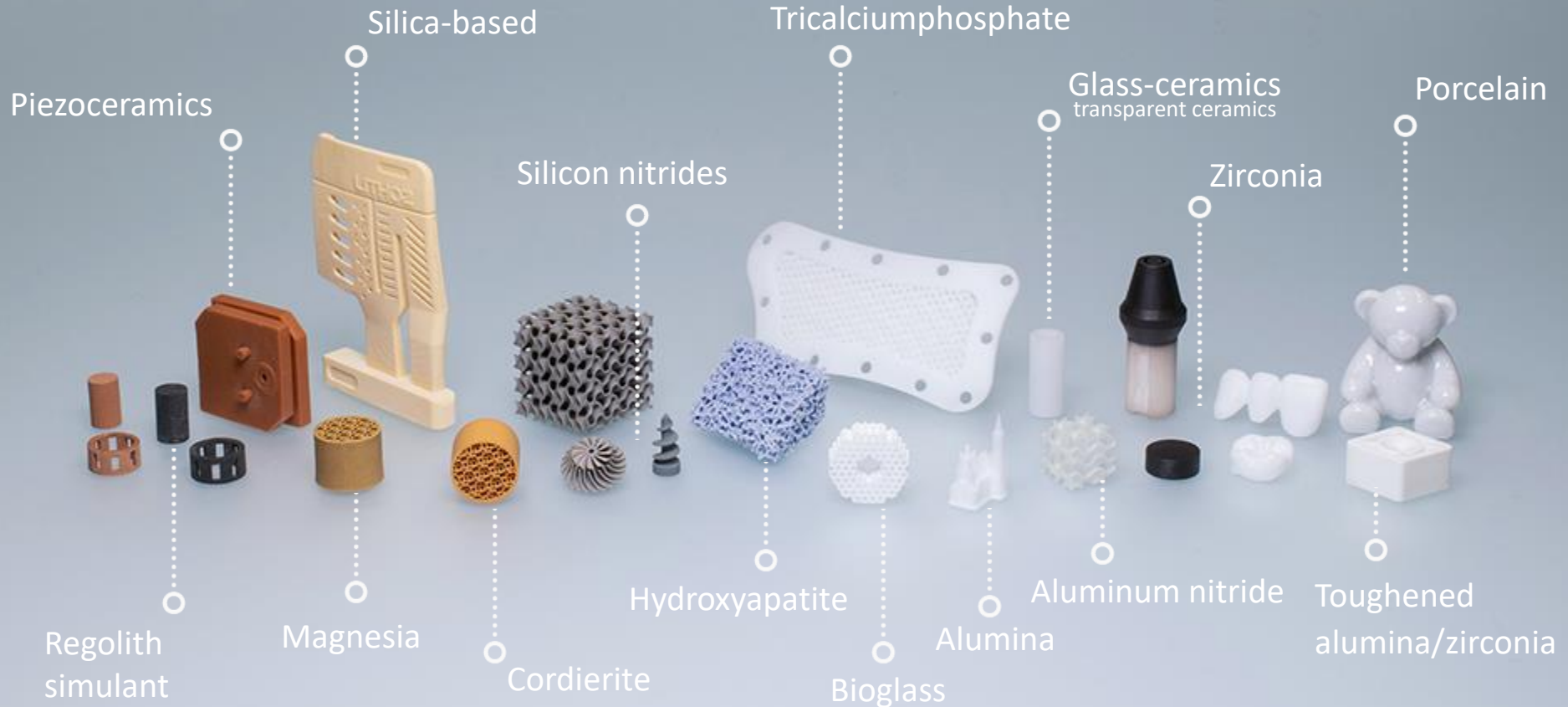


Technical Properties	CF Lab L30	CF System S25	CF System S65	CF System S230	CF Multi 2M30
Lateral resolution μm	50	25	40	75	40
Layer thickness μm	25 – 100	10 – 100	10 – 100	25 – 200	10 – 100
Build volume (X,Y,Z) mm^3	76 × 43 × 170	64 × 40 × 320	102 × 64 × 320	192 × 120 × up to 500	76 × 43 × 170
Build speed <i>layers/h</i>	Up to 100	Up to 150	Up to 150	Up to 150	Up to 100




Materials

Portfolio



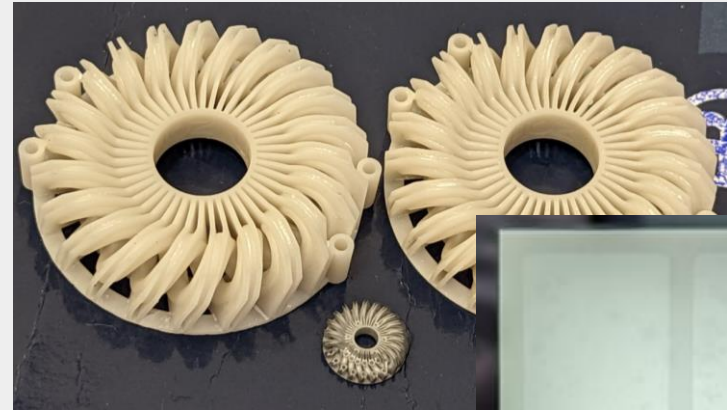
Material Properties



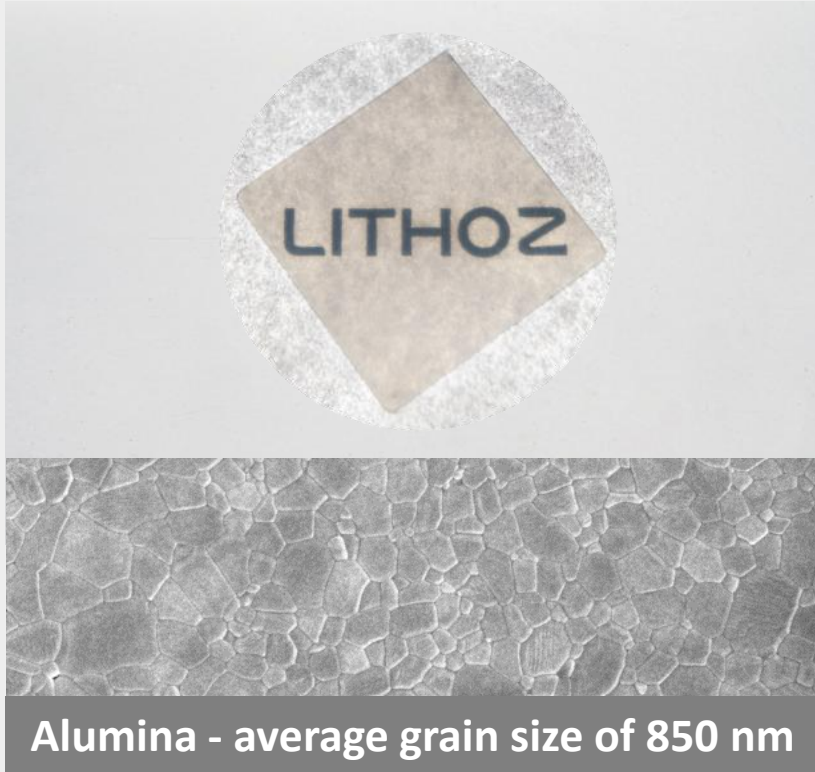
DATASHEETS FOR MORE
MATERIALS 

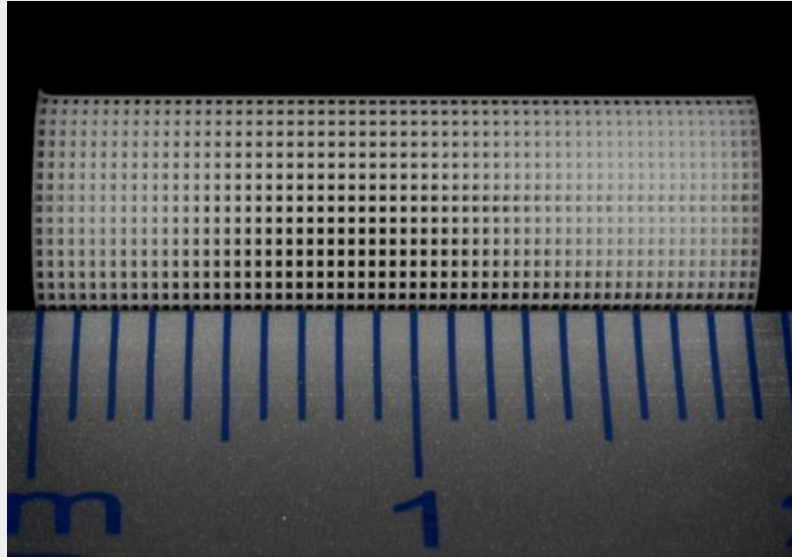
Standard material	LithaLox HP 500	LithaCon 3Y 210	LithaNit 770
Powder composition	99.95 % Al_2O_3	3 Mol % Y_2O_3 stabilized ZrO_2	> 90 % Si_3N_4
4-point bending strength	430 MPa	940 MPa	760 MPa
Density	> 99.4 % T.D.	> 99.8 % T.D.	99.8 % T.D.
Surface roughness (R_a)	$\approx 0.4 \mu\text{m}$	< $1.0 \mu\text{m}$	$\approx 0.6 \mu\text{m}$

- Tailoring of formulation
- Optimization of sintering
 - density of 3.35 g/cm^3
 - Thermal conductivity: 212 W/m.K (preliminary)
 - Maximum wall thickness: 4 mm
 - Minimum wall thickness: 0.2 mm
 - Maximum aspect ratio: 10
 - Bending strength: 360 mPa ($m = 10$)

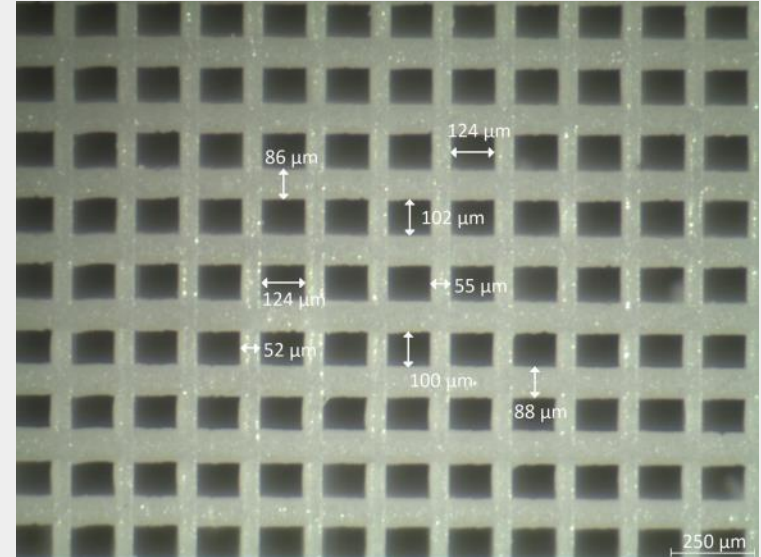


200µm thin plate





Alumina Lattice Cylinder



Struts 50 μm and 85 μm
Openings 100 μm and 120 μm

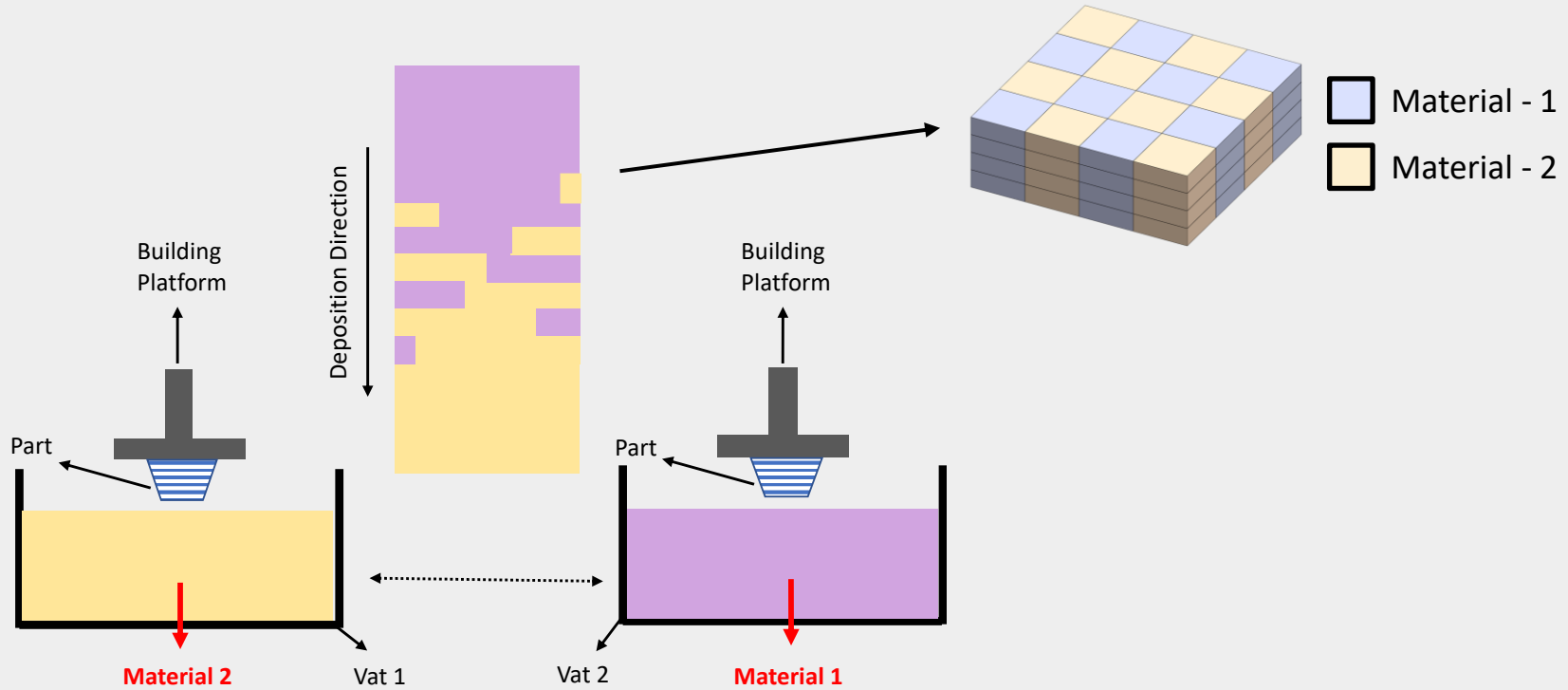


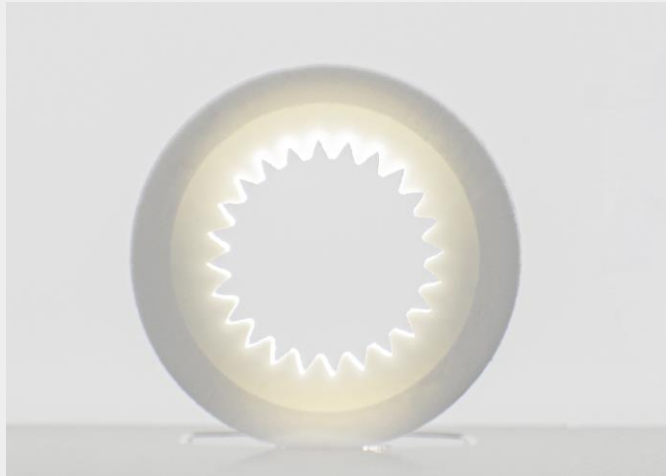
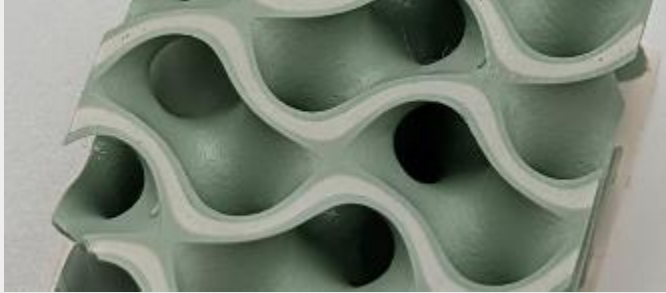
Multi-Material 3D Printing

Ceramics, metals and polymers



Multi-material printing



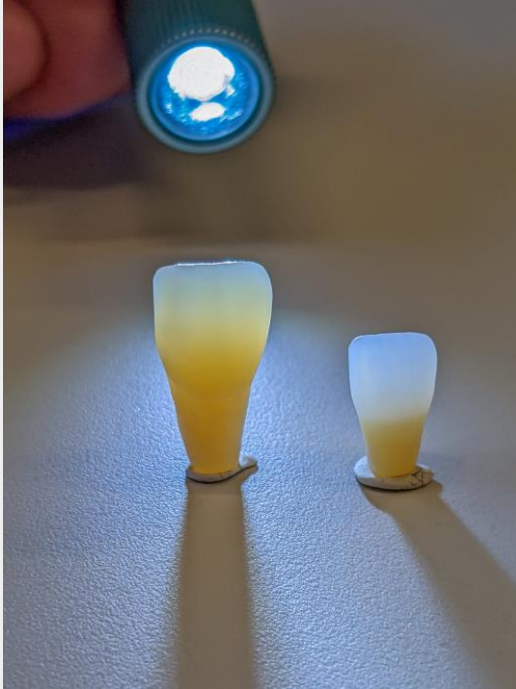


Combining 2 different grades of alumina

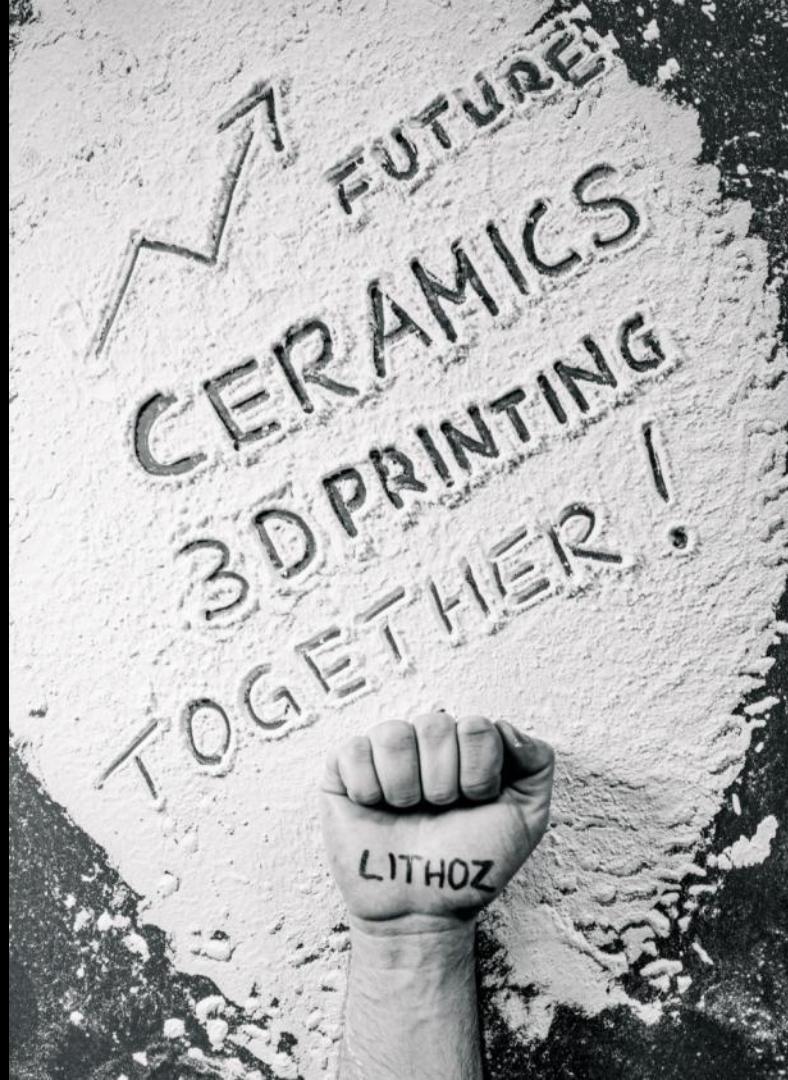


1 cm
↔

- Lithium disilicate with different dental colours



Design by Josef Schweiger, Poliklinik für Zahnärztliche Prothetik, Klinikum der Ludwig-Maximilians-Universität München



LITHOZ®

Manufacture the Future.

LITHOZ GmbH

Mollardgasse 85a/2/64-69

1060 Vienna/AUSTRIA

Phone: +43 1 9346612-200

mschwentenwein@lithoz.com

WWW.LITHOZ.COM