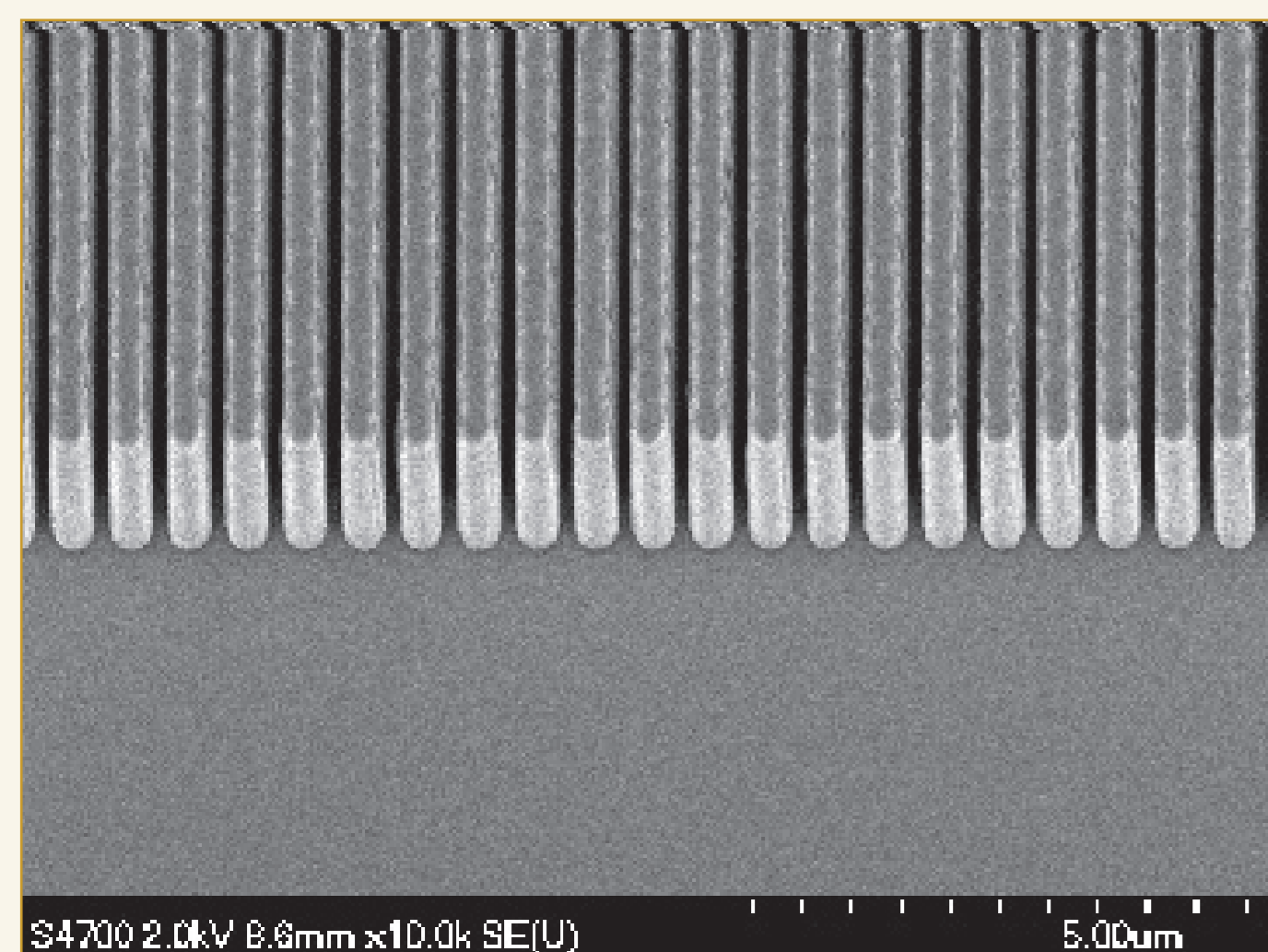
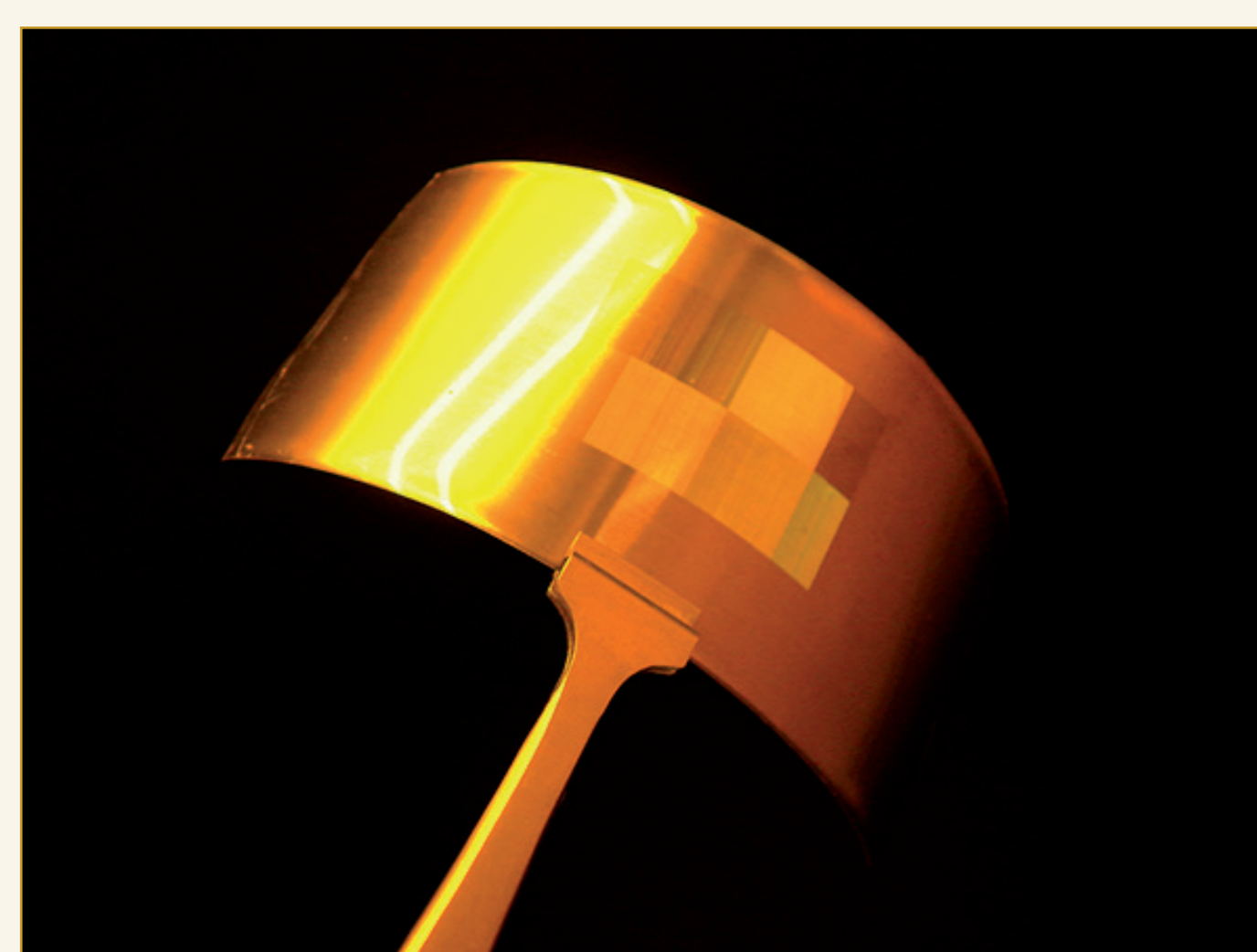


OrmoStamp® for Polymer Working Stamps

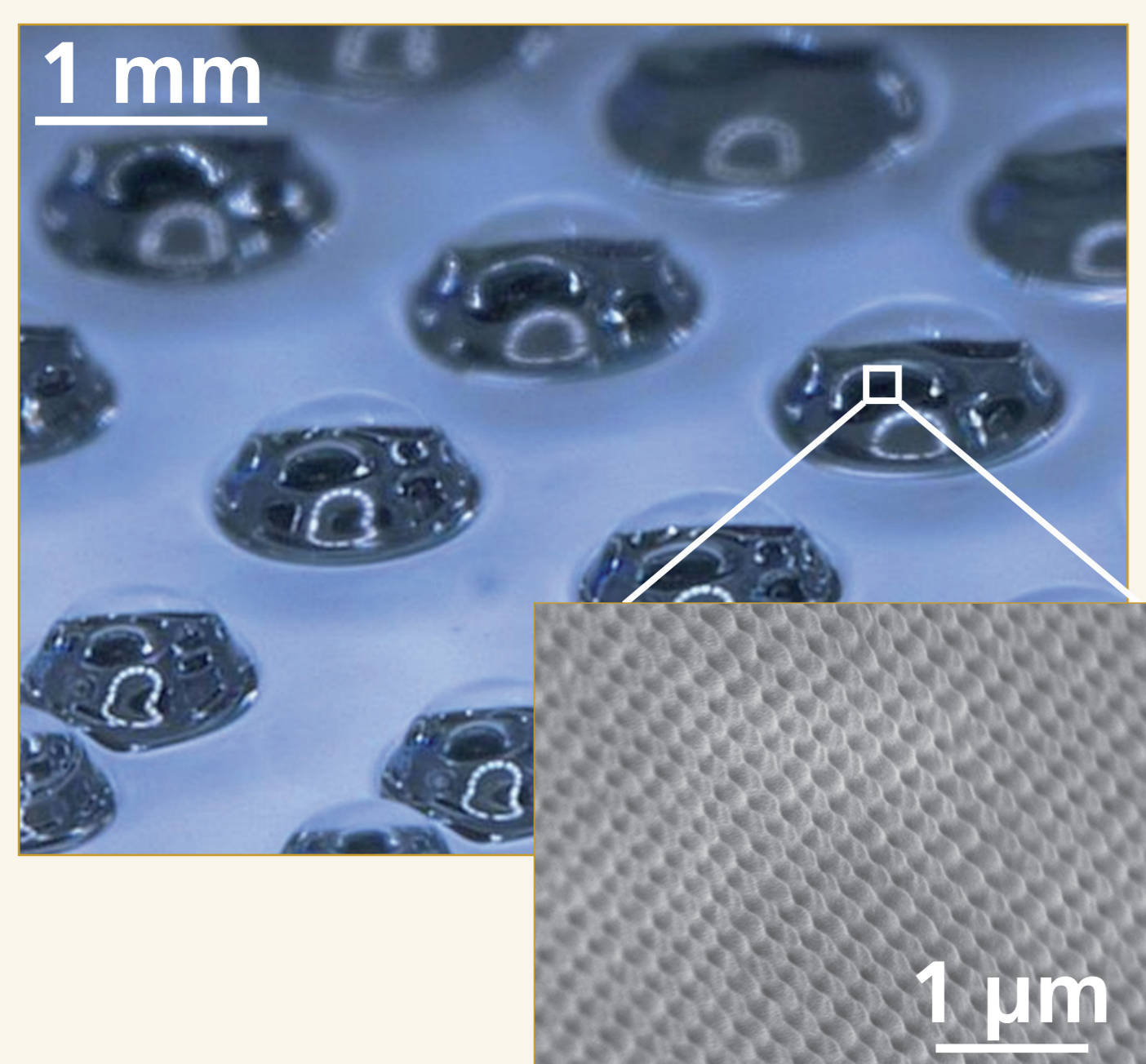
Transparent working stamps for NIL and related techniques



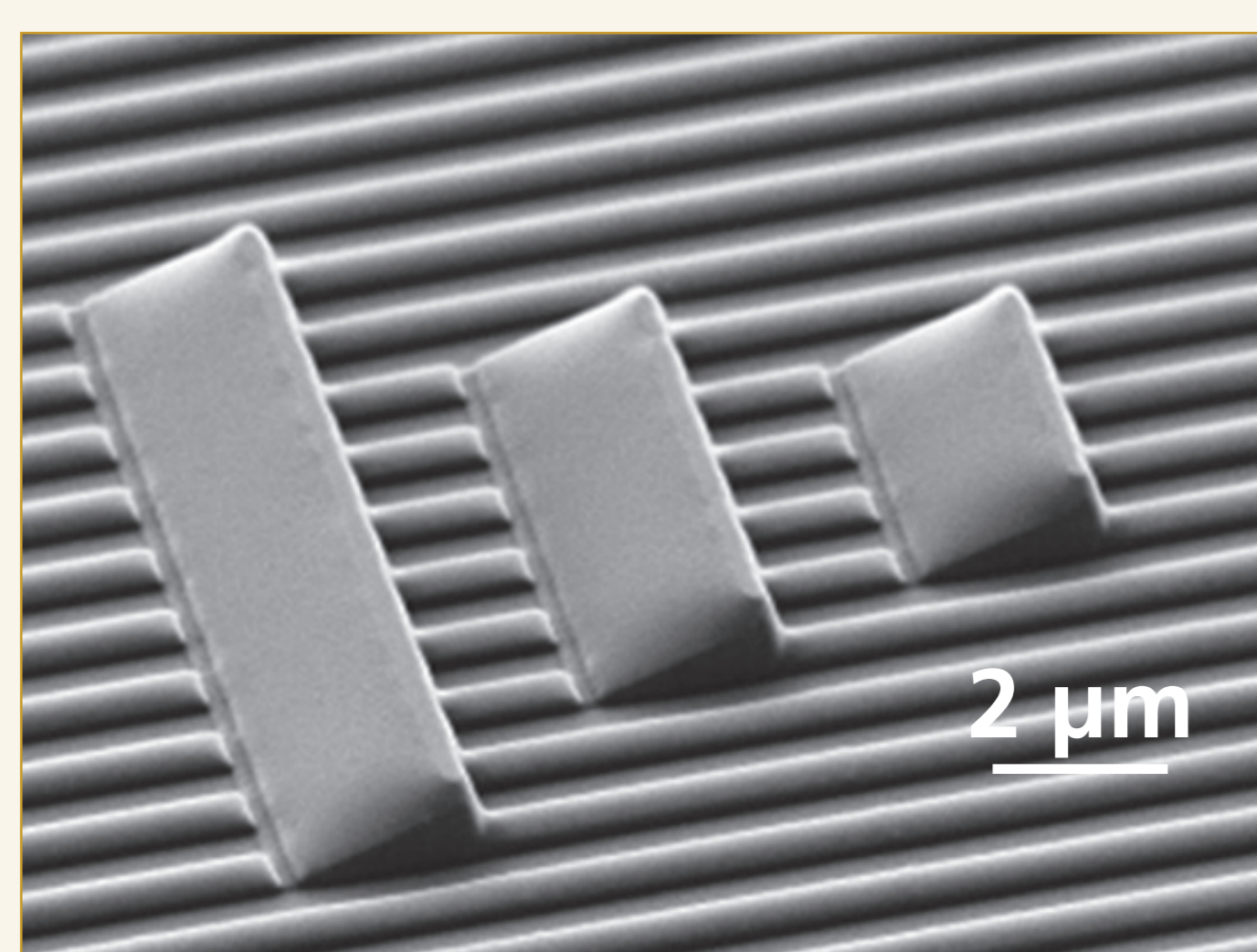
OrmoStamp® mold with high aspect ratio
 (Courtesy of TU Dresden, Germany)



Flexible OrmoStamp® on Nickel backplate
 (Courtesy of PSI, Switzerland)

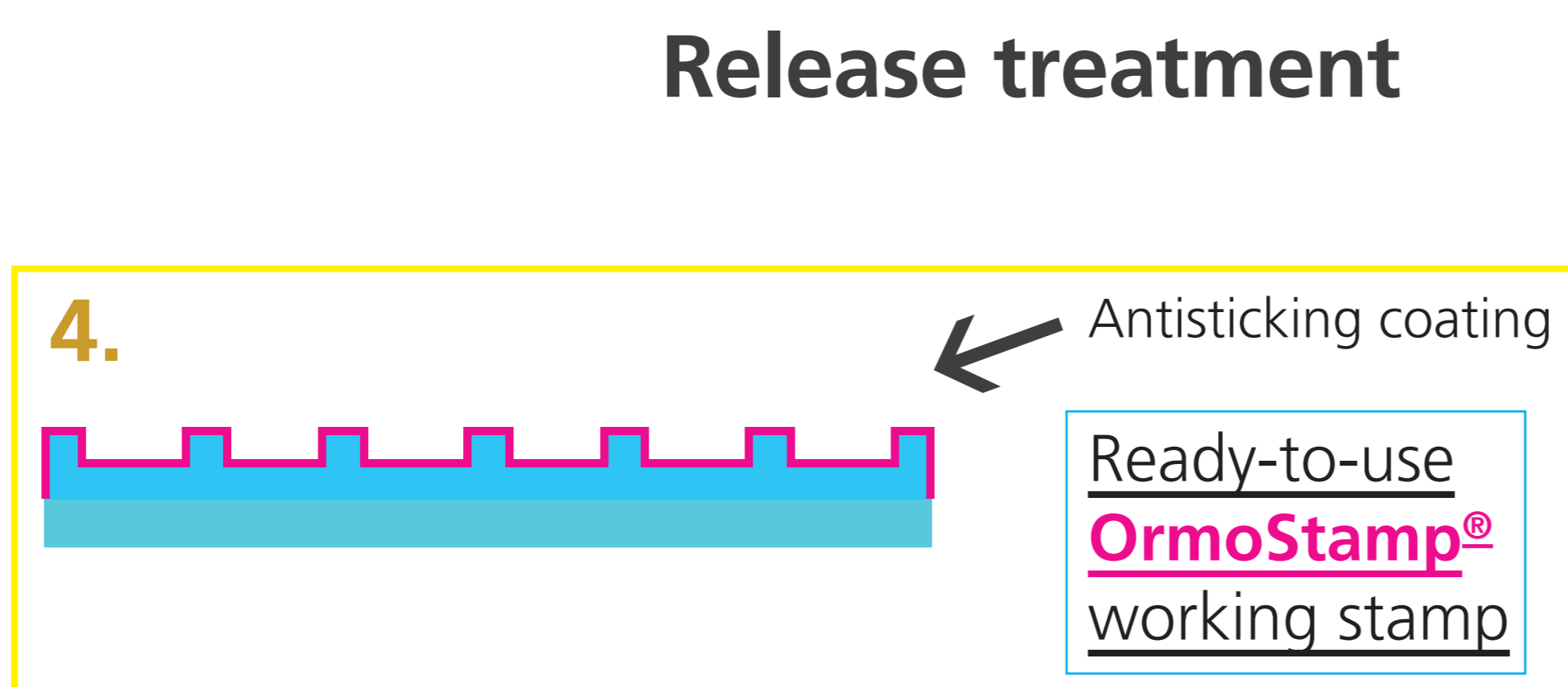
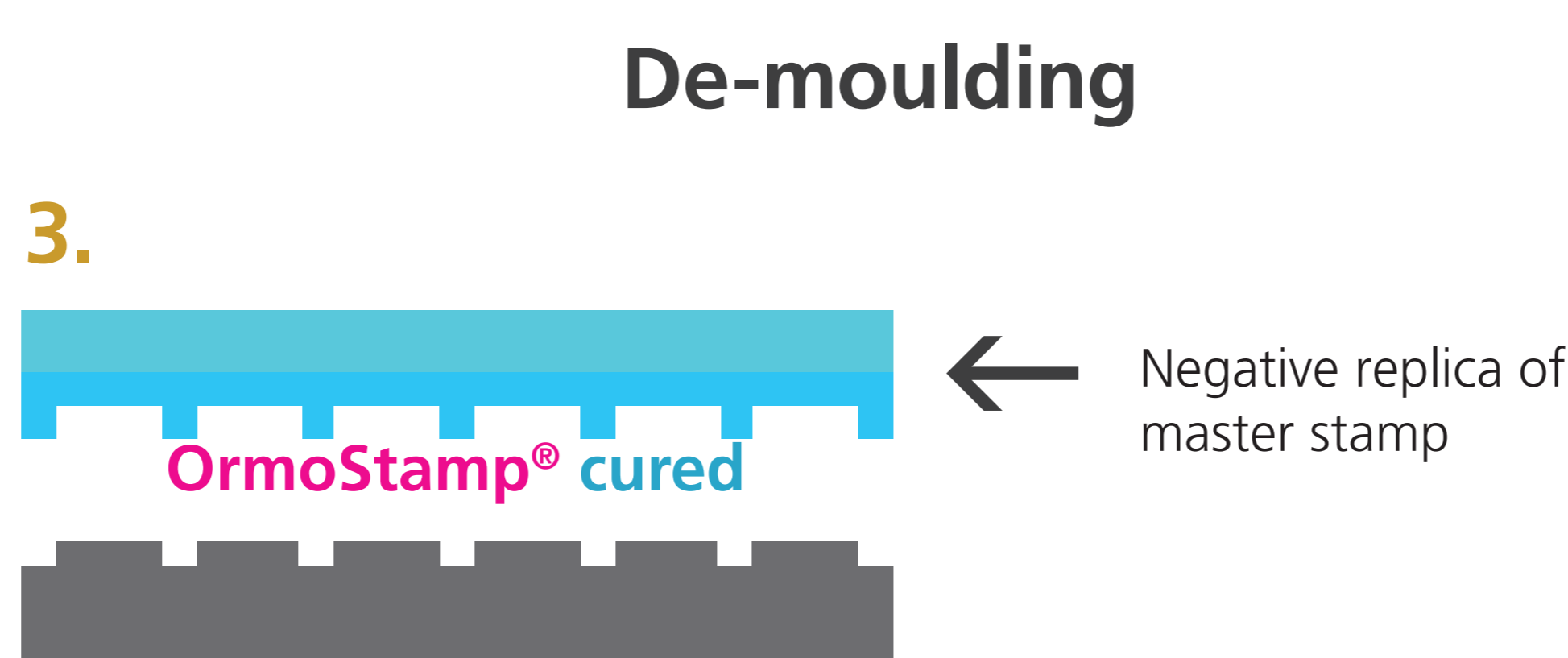
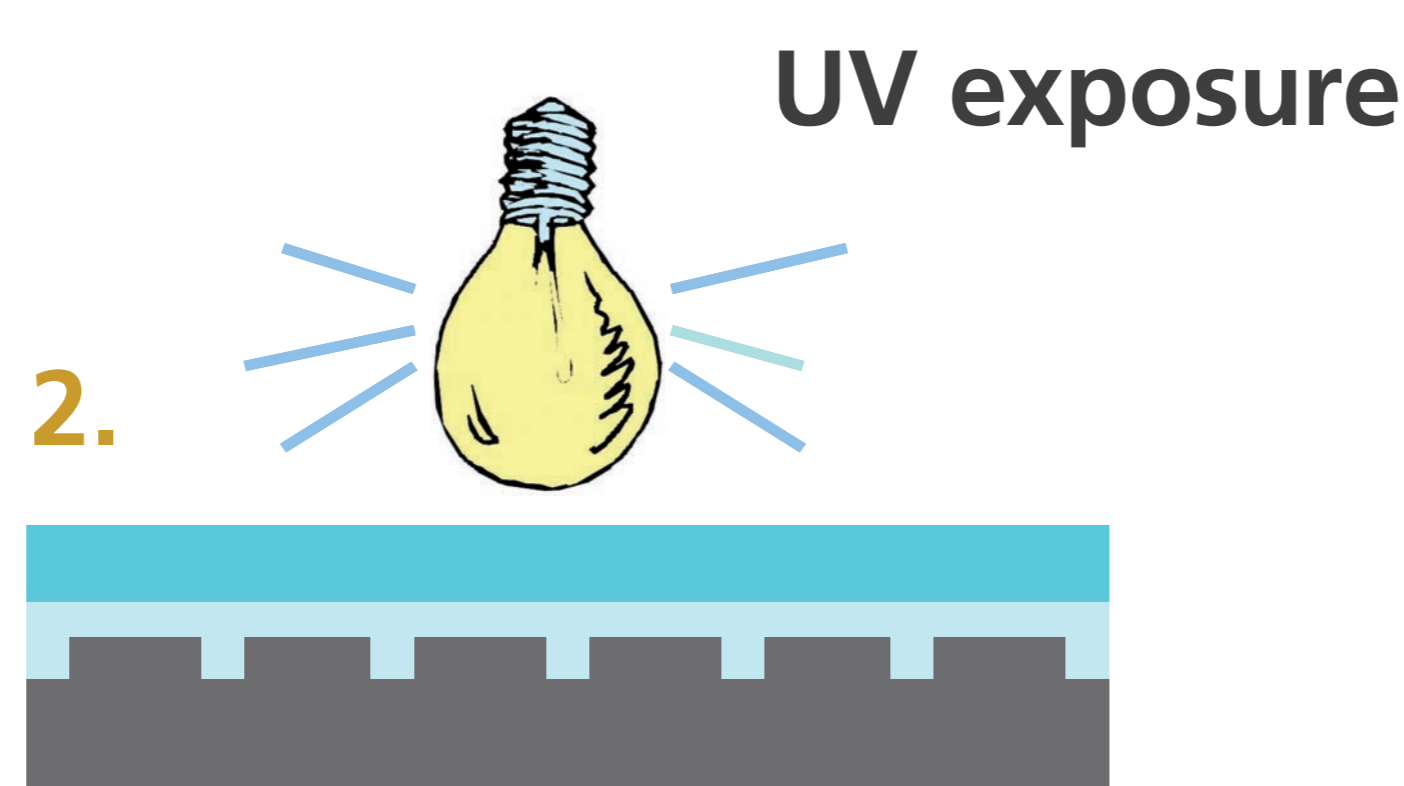


OrmoStamp® replication at different length scales
 (Courtesy of HZB, Germany)



3D structures copied into OrmoStamp®
 (Courtesy of PSI, Switzerland)

Process flow

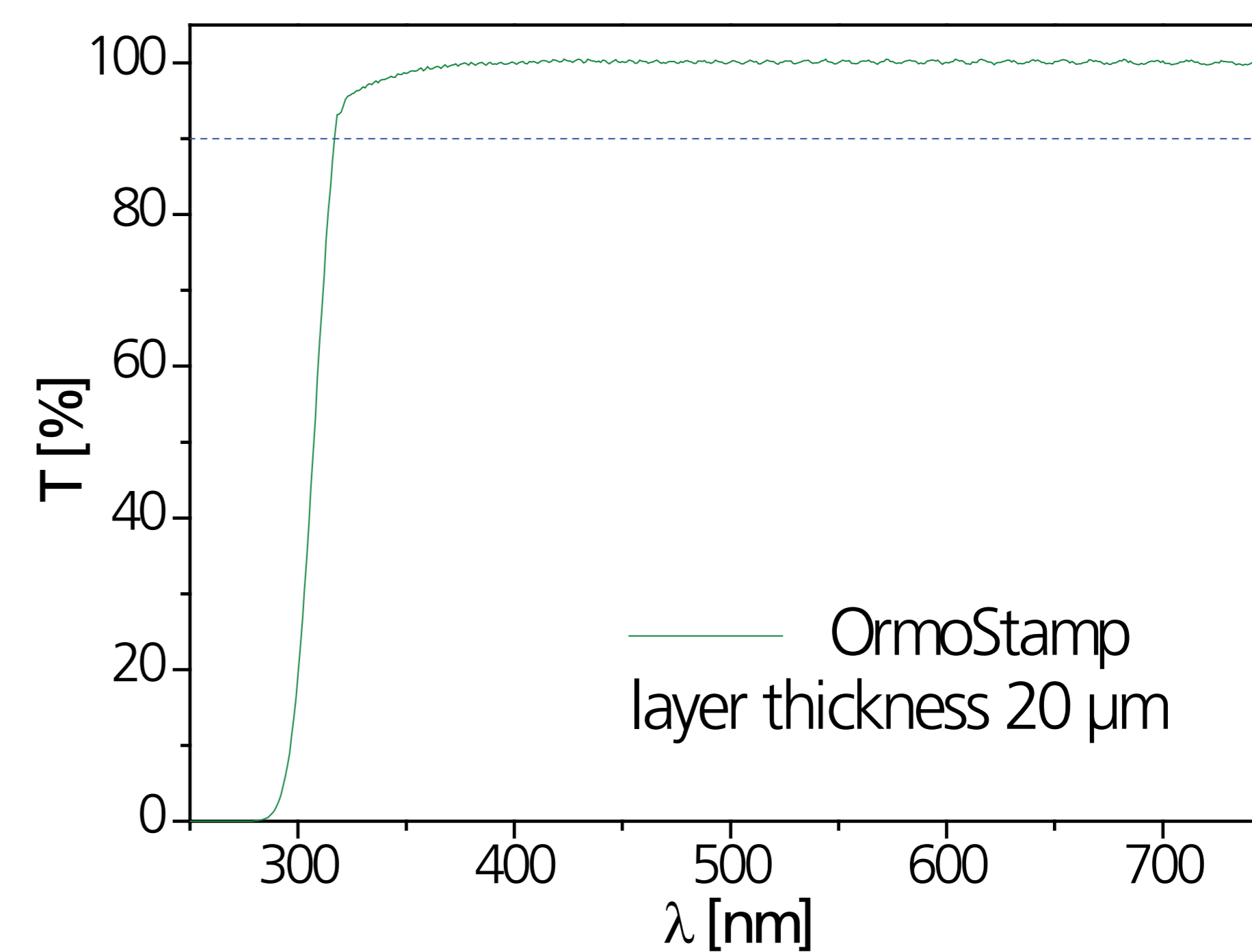


Next steps:

IMPRINT
 UV-based or/and thermal

Unique features

- Mechanically and thermally stable
- Excellent pattern replication
- Processing with standard lithography equipment
- Enhanced anti-adhesive properties for low release forces
- Highly transparent for UV and visible light

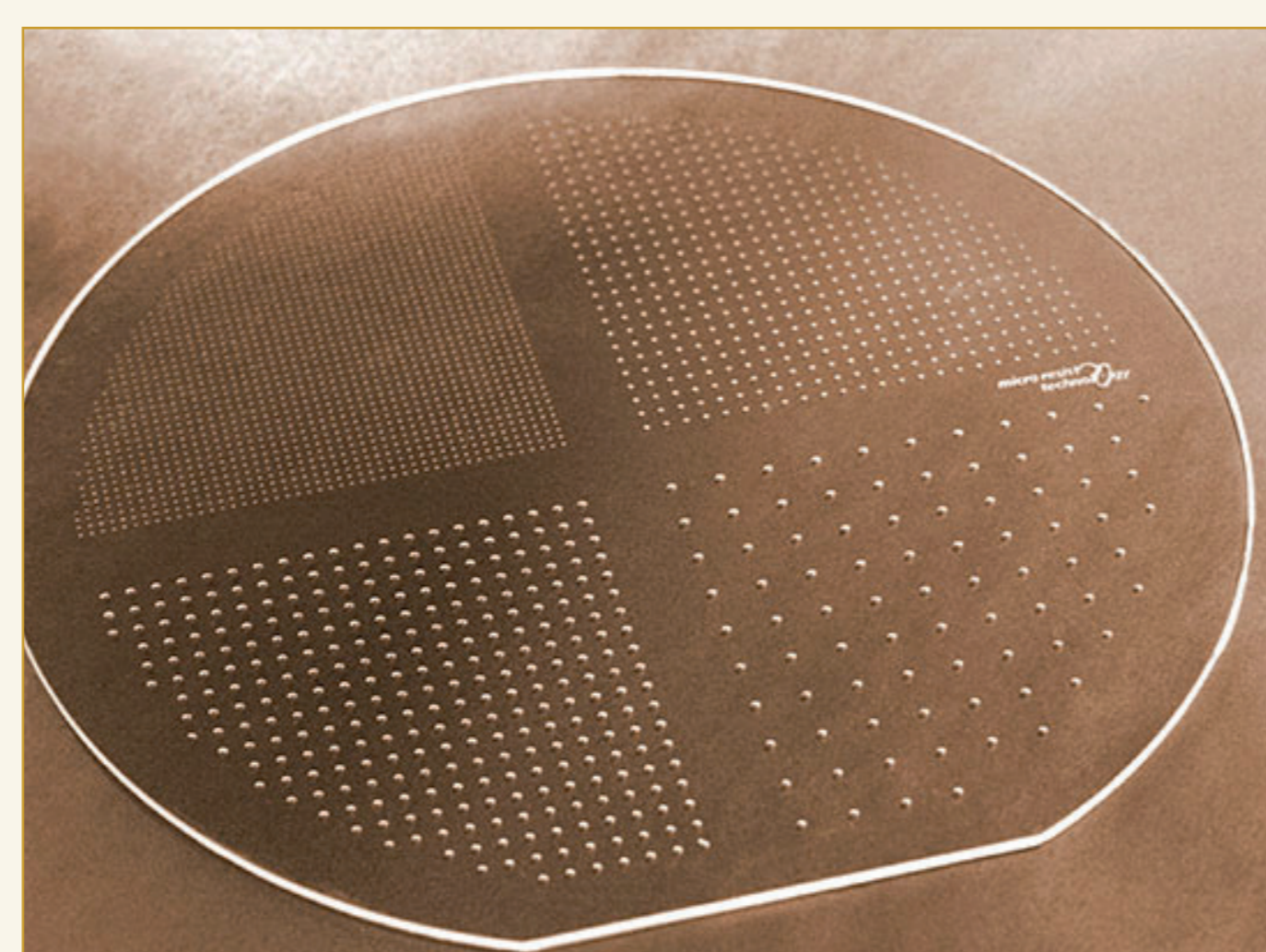


Applications

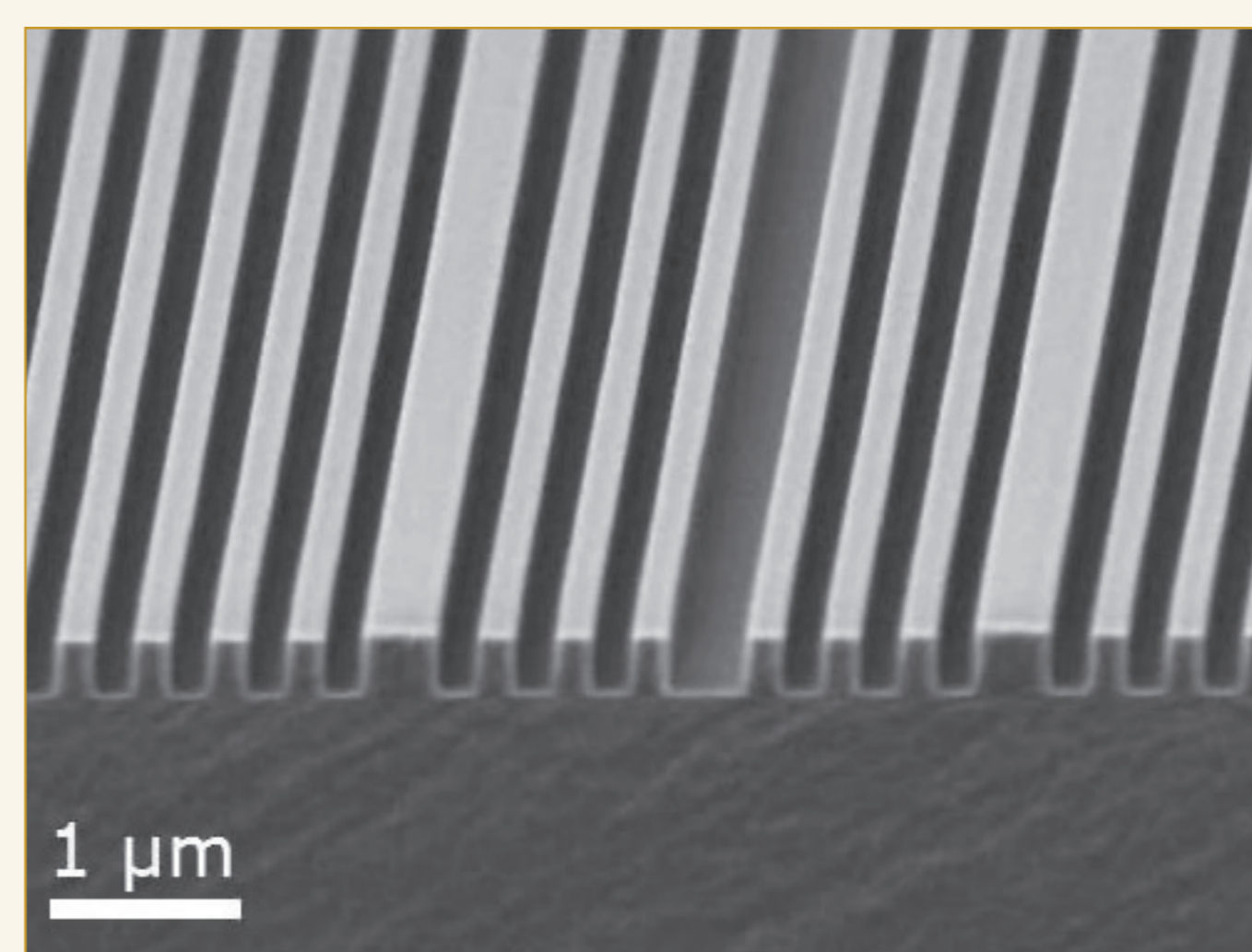
- Working stamp fabrication
- Cost efficient alternative to quartz stamps
- For UV-based and thermal imprinting

Technical data

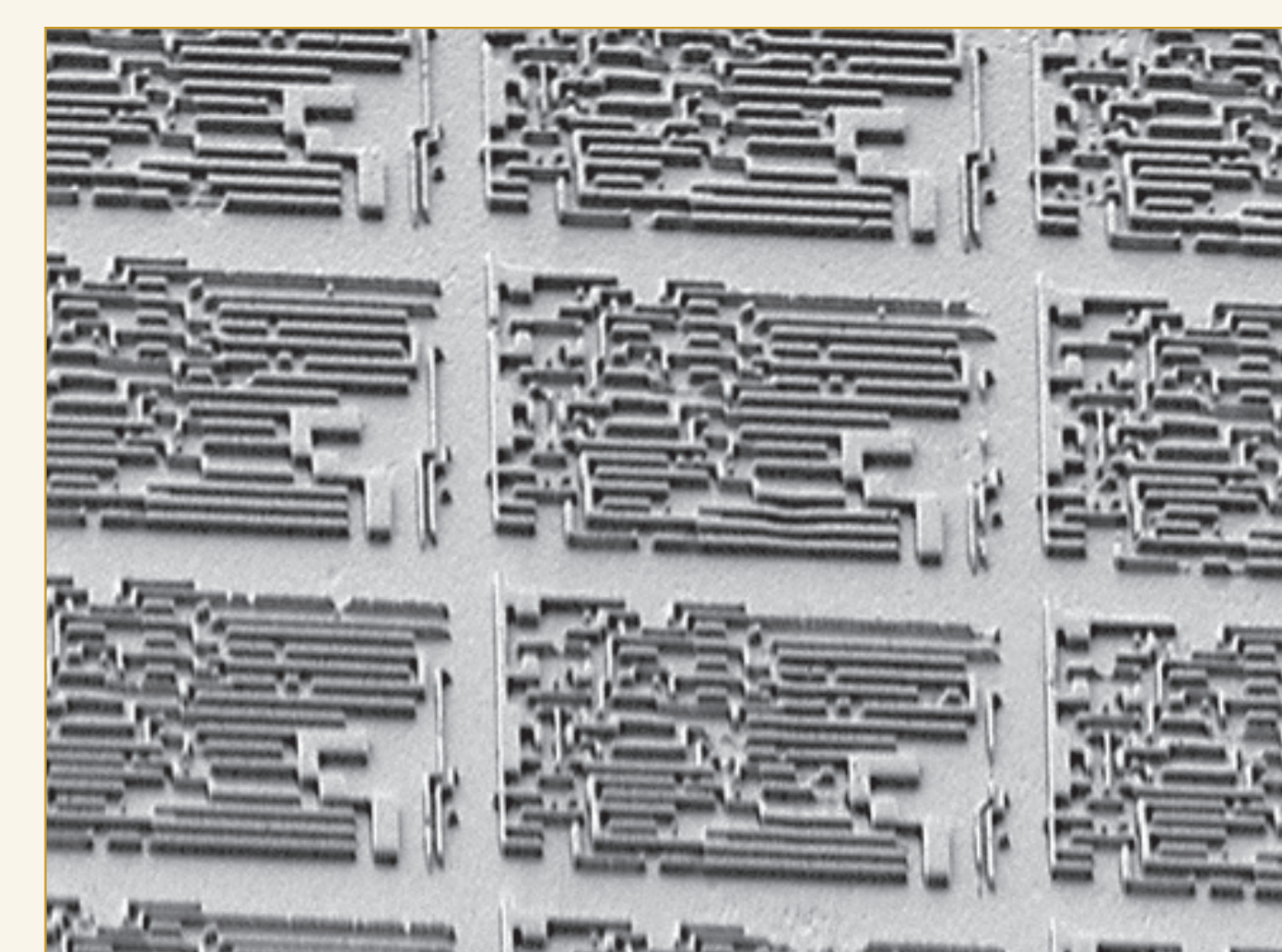
Thermal stability	up to 270 °C (short term)
CTE (20 – 100 °C)	105 ppm K ⁻¹
Hardness (nanoindentation)	36 ± 1 MPa
Shrinkage (during curing)	~ 6%
Young's modulus	650 MPa



Large area replication of OrmoStamp® using 6 inch glass substrate



Aperiodic gratings copied into OrmoStamp®
 (Courtesy of PSI Switzerland)



OrmoStamp® stamp for SFIL,
 (Courtesy of University of Cardiff, UK)