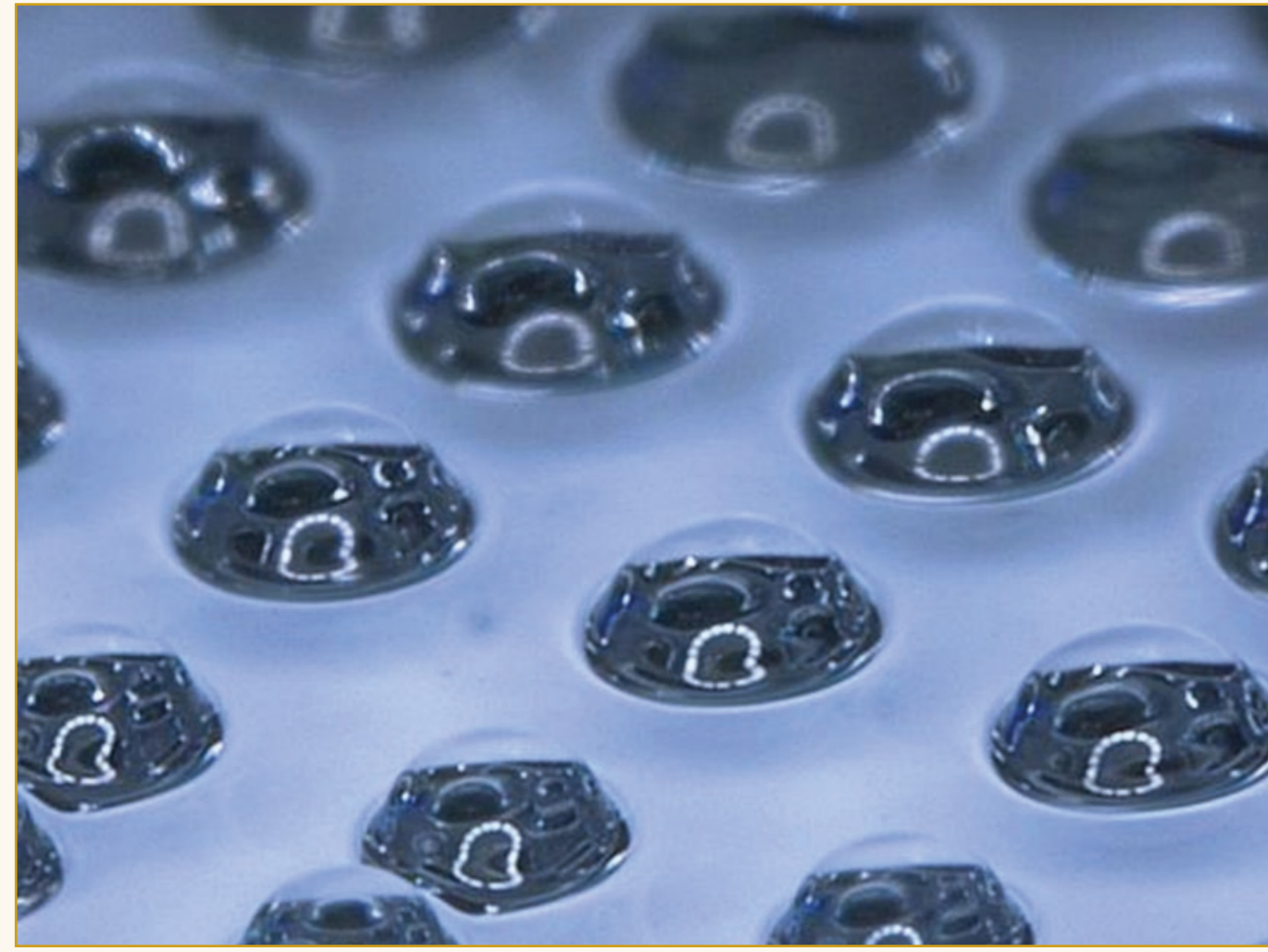
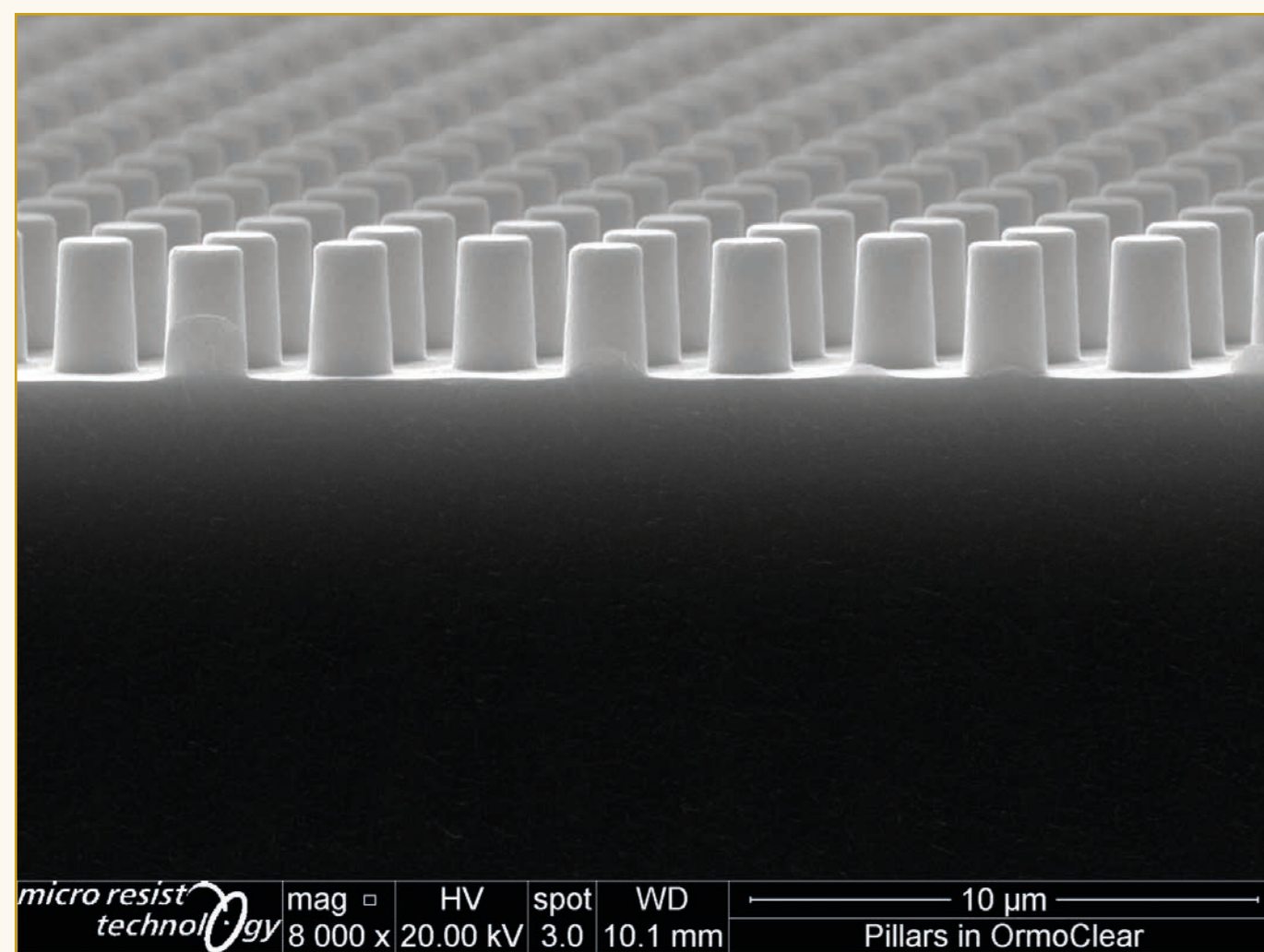


OrmoClear® series

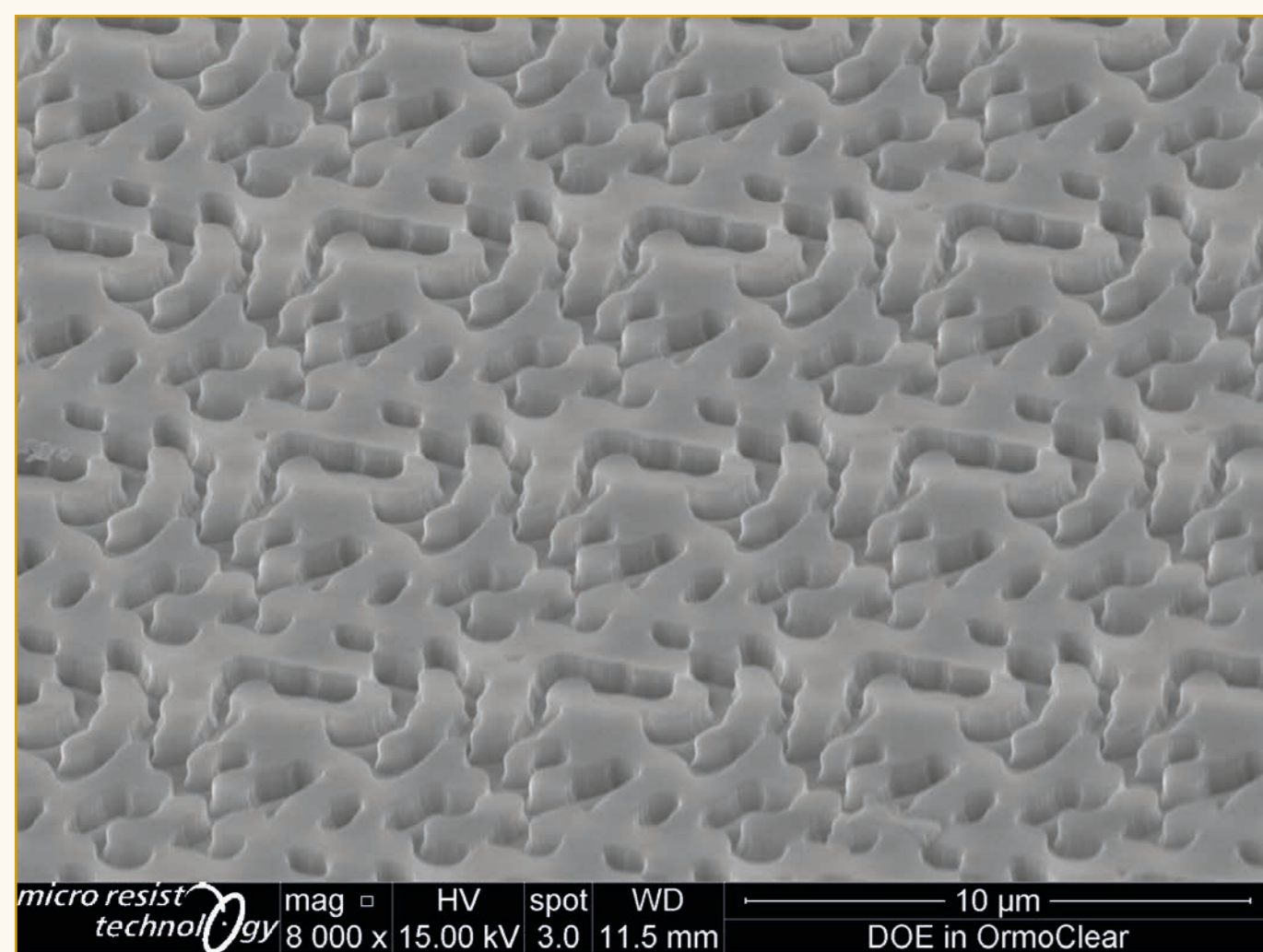
UV-curable Hybrid Polymers for Micro Optical Components



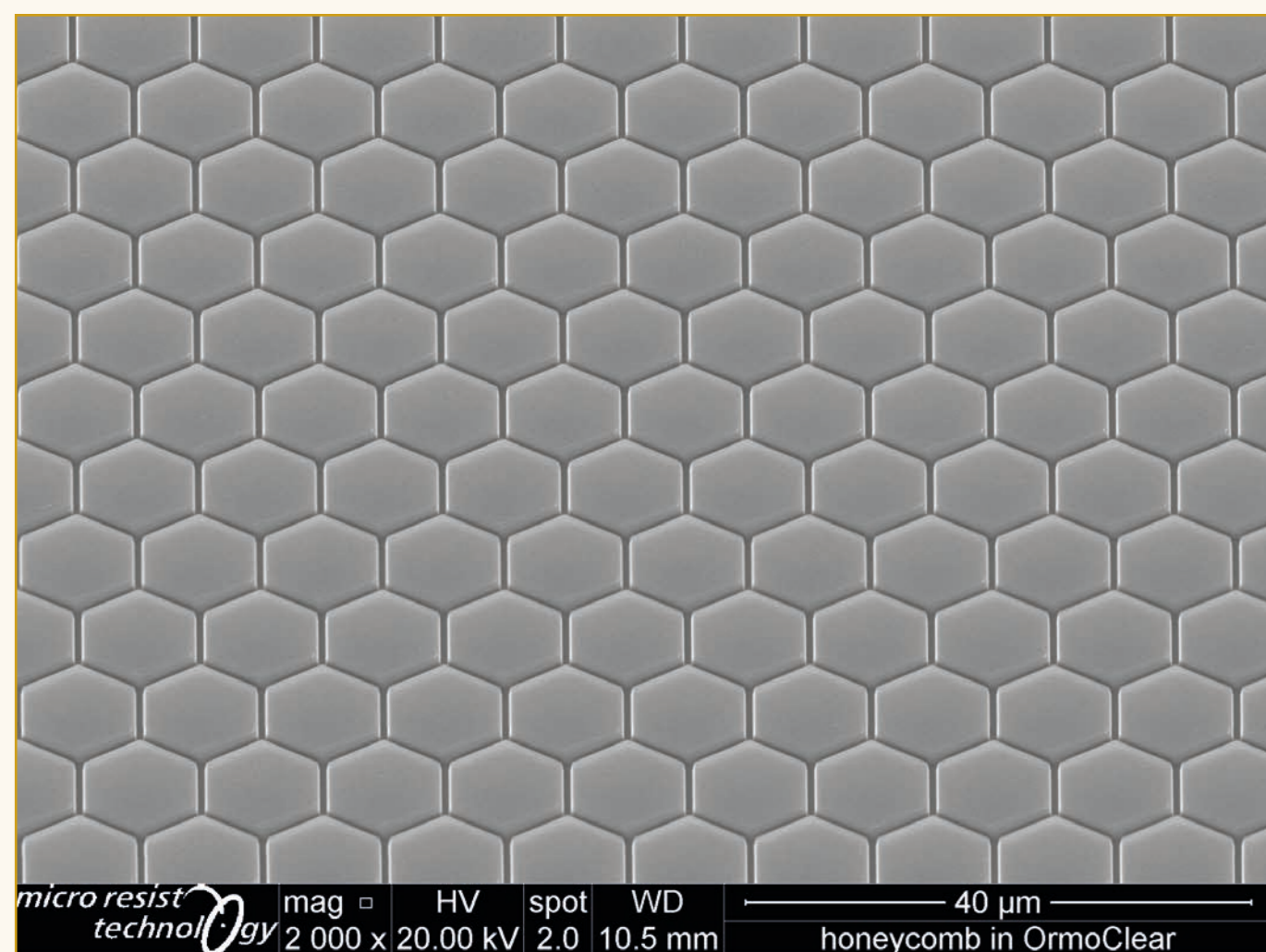
Replicated OrmoClear® macrolenses (courtesy of HZB).



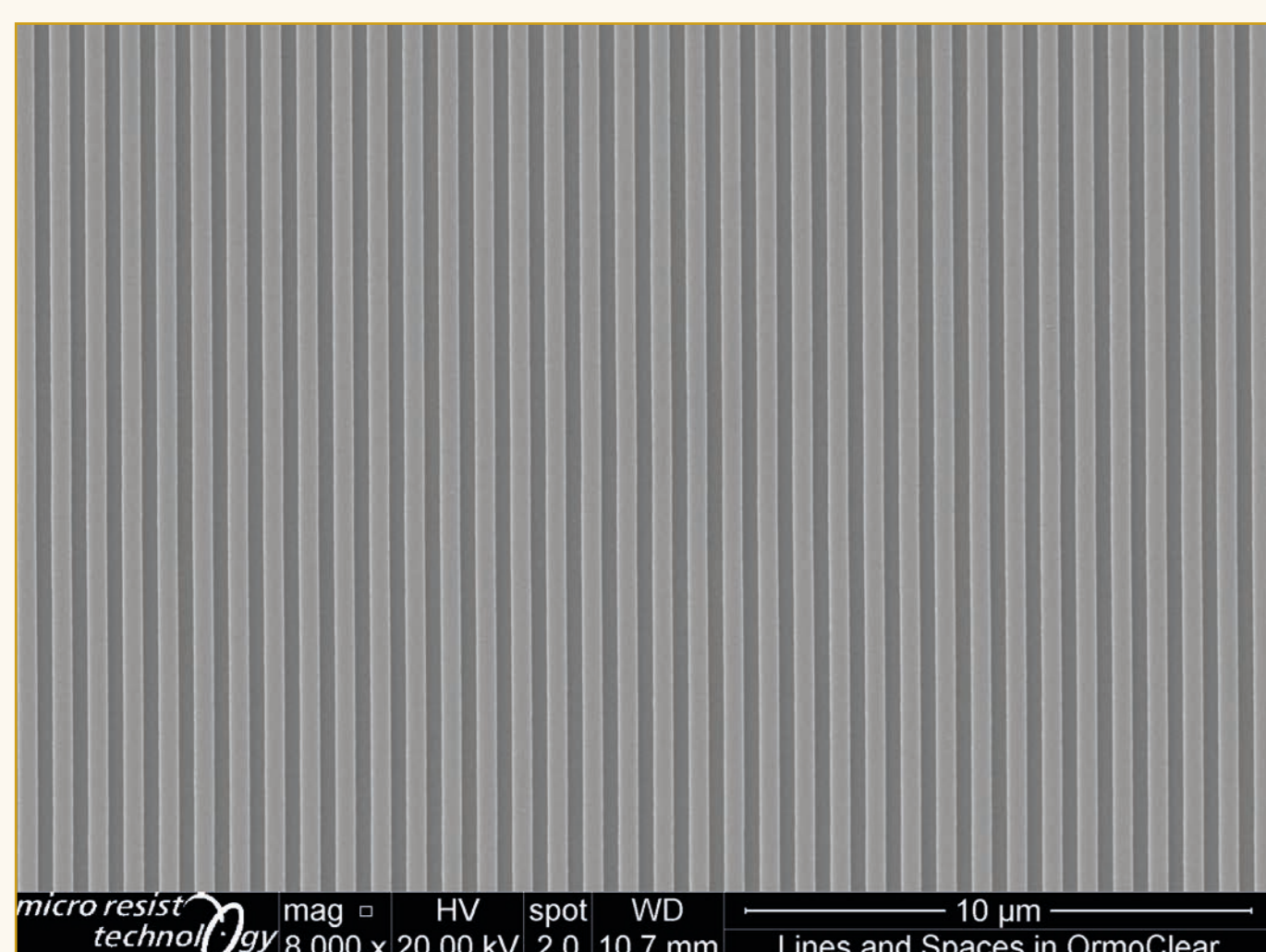
OrmoClear® micropillars, fabricated via UV imprint.



Diffractive optical element (DOE) in OrmoClear®, fabricated via UV imprint.



OrmoClear® honeycomb structures, fabricated via UV imprint.



OrmoClear® line and space pattern, fabricated via UV imprint.

Unique features

- Compatible to UV imprint, UV moulding and UV lithography
- Suitable for optical components with dimensions > 100 µm due to very low volume shrinkage during UV exposure
- Excellent thermal stability of cured patterns up to 270 °C (short term)
- High mechanical and chemical stability of cured patterns
- Highly transparent for VIS and near UV down to 350 nm
- Solvent free
- Ready-to-use solutions, solvent-free formulations

Properties

Parameter	OrmoClear®	OrmoClear®30
Viscosity [Pa·s]	2.9 ± 0.4	30 ± 3
Spectral sensitivity [nm]	300 – 410	300 – 410
Volume shrinkage [%]	3 – 5	<<2
Refractive index (589 nm, cured)	1.555	1.561
CTE (20-150 °C) [ppm/K]	150	160
Hardness (by indentation) [MPa]	61 ± 1	92 ± 3
Film thickness upon spin coating [µm]	3000 rpm 6000 – 1000	30 20 - 95
		100 50 - 270

Applications

- Micro lenses and micro lens arrays
- Moulded gratings and prisms
- Optical couplers and connectors
- Microfluidic systems
- Single elements or wafer scale

Process flow - UV imprint

