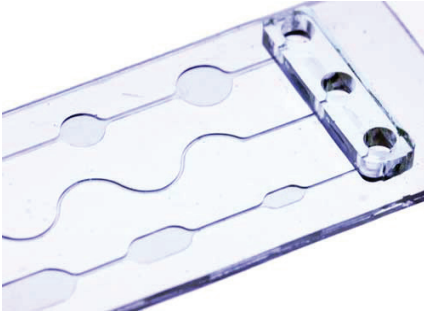


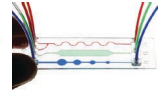
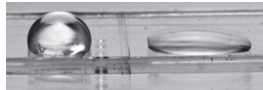
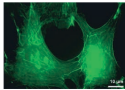
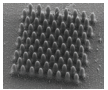
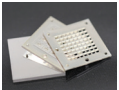
ostemer 322 - Crystal Clear

A polymer resin made specifically for the requirements of microfluidics and lab-on-chips



Key features

- ▶ Stiff, transparent and chemically inert
- ▶ Excellent replication and low shrinkage
- ▶ Compatible with cells and microscopy
- ▶ Easy to surface modify
- ▶ Direct dry bonding/sealing



Recommended applications: microfluidic cartridges, high pressure microfluidics, cell studies, metallised polymer MEMS, and hybrid material integration

Material specifications

Curing	Two-stage cure
First cure	UV (i-line, 365 nm)
Second cure	Thermal (110 °C)
Young's modulus	1 GPa (full cure)
Shrinkage	< 1% (volume)
Solvent resistance	Acetone, EtOH, MetOH, DMSO
Acid resistance	10% H2SO > 1 month
Optical properties	> 99% transmittance 370-1200 nm

Processing options



UV Casting on soft and hard molds for rapid prototyping



UV Reaction Injection Molding for larger batches



Nano Imprint Lithography for nanometer precision



Machine and mill after full cure

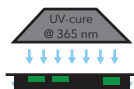
Example casting process



Pour mixed resin on open mold



Apply a release liner or lid



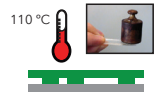
UV-cure



Remove soft replica from mold



Transfer to substrate



Final heat cure to stiffen and bond