

UV curing materials for Wafer Level Optics

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Wafer level imprinting using transparent UV cure materials can be a cost efficient way to realize a large variety of nano and micro optical elements. It offers high flexibility in design, scalability and low total cost of ownership. Development of such material requires to carefully balance all relevant properties including optical function (e.g. refractive index, transmission), process constraints (e.g. flow behavior, curing speed), (thermo-) mechanical properties and stability under reliability test.

We have developed a modular system of materials which can be modified for the application on various substrates, under different processing conditions and that cover a broad range of mechanical as well as optical properties. These materials include highly transparent, nano imprintable materials with refractive indices starting at below 1.4 and stretching to above 1.7. But materials with tuned light blocking or light dispersing properties are also feasible. Combined with a set of UV curable stamp materials we can offer a full process solution for a wide variety of applications.