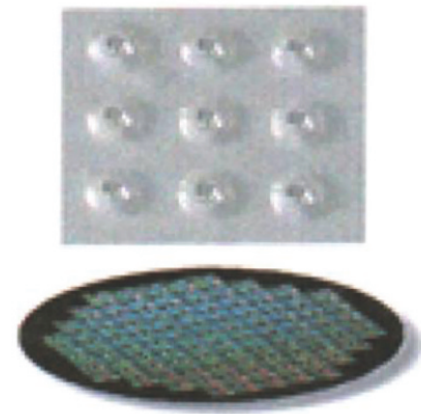


UV imprinting Resins

Optical materials, Devices & Technical services



Description

The Exfine™ CO series are photoactive UV curable resins based on various multifunctional acrylate. In particular, they are very useful for UV imprinted optical components applications such as micro lens array, DOE and lenticular lens with UV imprinting technology. UV imprinting technology using the Exfine™ CO series has the advantage of simple fabrication and wide selection of optical properties for optical elements. These resins have high transparency at visible wavelength, a wide range of refractive index, small birefringence, and excellent environmental stability.

Model Number

- Exfine™ : CO series

Features

- High transparency at visible region
- Wide range of refractive index
- Environmental stability
- Low shrinkage
- Solvent free
- Low viscose for UV imprinting

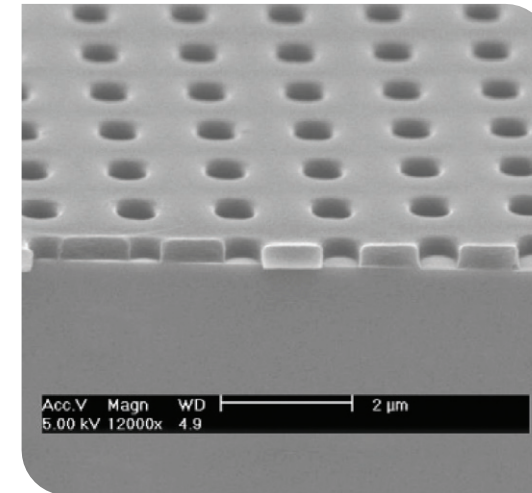
Applications

- Micro optical elements
- Micro lens array
- Surface relief gating pattern
- DOE and lenticular lens
- Polymer optical bench

Performance Specifications

Exfine™		CO150	CO153	CO156	CO157
Liquide	Viscosity (cps @ 25°C)	50 ~ 300			
	UV-exposure (under N2)	> 2,500 mJ/cm ² (160 ~ 200 °C/30 min, post baking)			
Film	Refractive Index (nd, @ 589nm)	1.514	1.548	1.579	1.590
	Abbe number (vd)	48.5	40	34.9	35.0
	Birefringence (n _{TE} - n _{TM})	0.001 ± 0.0005			
	Linear shrinkage (solid to solid)	< 5%			
	Glass Transition Temp. (T _g)	Not Detectable			
	Degradation Temp. (1 wt%)	300 ± 20°C			

- Refractive index is precisely tunable from 1.514 to 1.590 by request.



Description

The Expattern™ series has been developed for nano size pattern fabrications using UV nano imprinting technology. It is very useful for fabrication of nano size structures such as nano imprint lithography, DVD and grating patterns. Nano imprinting technology using the Expattern™ series has the advantage of minimized residual layers, excellent oxygen dry etching resistance, and easy releasing from the master.

Model Number

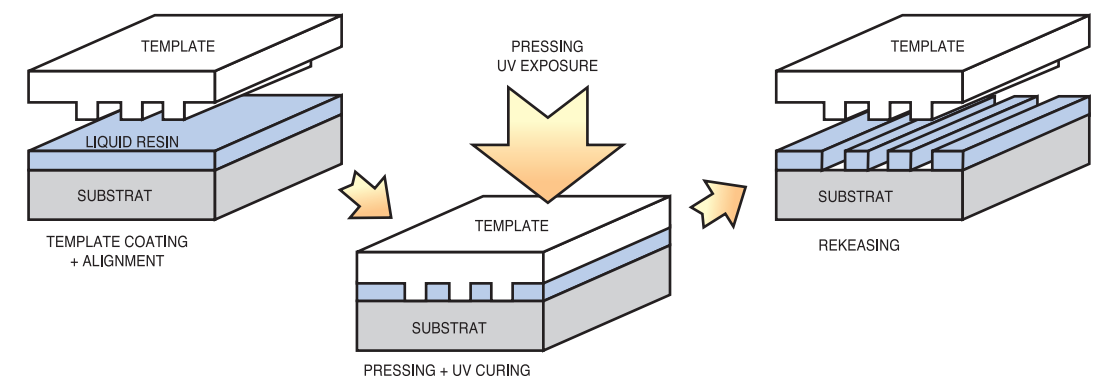
- Expattern™ : NIP series

Features

- UV curing type
- Extremely low viscosity
- Excellent process ability
- Excellent dry etching resistance
- Anti-adhesion to master

Applications

- Nano imprinting lithography
- Nano-scale pattern fabrication



Performance Specifications

Expattern™	NIP-K28	NIP-K40	NIP-SC58	NIP-SC58LV100
Appearance	Colorless clear liquid			
UV-exposure	> 1,400mJ/cm ²			
Viscosity (cps @ 25°C)	8	11	15	< 3
Dispensing	Drop wise	Drop wise	Spin coating	Spin coating
Adhesion promoter	ZAP-1020			
Remover	None			