

March 25th, 2021

NTT Advanced Technology Corporation

Developed high-refractive index resins for nanoimprinting to improve the flexibility in optical design

NTT Advanced Technology Corporation (NTT-AT, headquartered in Kawasaki-shi, Kanagawa, Japan; President and CEO George Kimura), has developed the 1.8 and 1.9 refractive index resins for nanoimprinting by taking advantage of the technology cultivated over years of making optical adhesives.

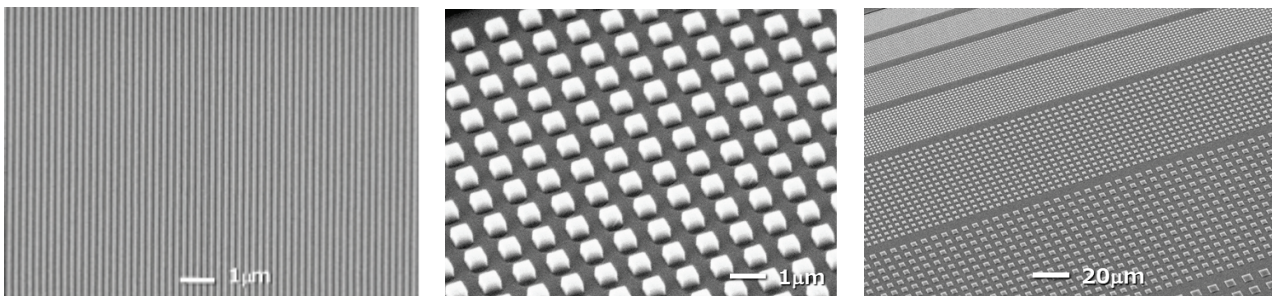
These newly developed resins have high transparency and good nanoimprintability^{*1}, and are able to fabricate a uniform thin film by spin coating. It is expected to contribute to the improvement of the flexibility in optical design because their indices match the high-refractive index glasses that have refractive indices of 1.8 or higher, which the conventional 1.7 high refractive index resins couldn't match.

The details will be announced at the "SPIE AR | VR | MR 2021 Digital Forum" held online from March 28th (Sun) to 31st (Wed) (PDT / Pacific Daylight Time).

These newly developed resins will be available from June 2021.

■Background to the development

With the recent increase in the refractive index of glass for AR / VR aimed at expanding the angle of field of view, the demand for resins to match the refractive index of high-refractive index glass is also increasing. NTT-AT uses high-precision refractive index control technology in the manufacture of optical adhesives to increase the concentration of high-refractive-index inorganic nanofillers^{*2} and achieve high refractive index while optimizing the resin formulation. Achieves good transparency and nanoimprintability.



【Nanoimprint Pattern Fabrication Examples】

■Features

These resins are compatible with high-refractive index glasses and can fabricate nano-patterns with a line width of 50 nm to 10 μm by nanoimprinting. They have high light transmission in the wavelength range from 400 nm to 800 nm.

■Application examples

Nanoimprinting resin, Coating agent

■Exhibition information

Exhibition name: "SPIE AR | VR | MR 2021 Digital Forum"

Date: March 28th to 31st, 2021 PDT / Pacific Daylight Time

Organizer: SPIE (the international society for optics and photonics)

Official site: <https://spie.org/conferences-and-exhibitions/ar-vr-mr>

*1: Technology for fabrication by pressing a nanometer-sized pattern mold against resin

*2: Nanometer-sized inorganic oxide particles used for refractive index adjustment

【contact for the product】

Optical Products Business Unit
Global Business Headquarters
NTT Advanced Technology Corporation
E-mail: adsales@ml.ntt-at.co.jp