

Development of Intelligent Analysis System for Micro-injection Molding Process and PVT & Shear Viscosity Measurements

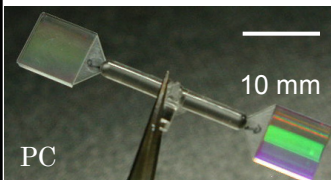


Using ca.50 g materials ⇒ Measuring for
Process-ability and flow-ability
Solidification, Rheology, thermal properties etc.

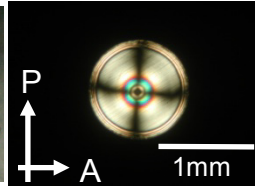


Development of New Thermal and UV-cure imprinting system
Optimum material properties
Optimum process condition
Optimum polymer structure and properties

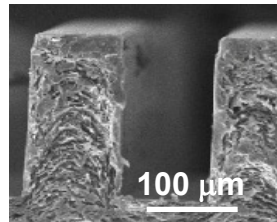
Development of Micro- and Nano- structured Plastics



PC
Nano-pattern Fabrication
(Controlled Interference colors via surface replication)



Small optical disc
(To fabricate for Miniature optical devices)



Micromolding for micro/nano-composites

Content :

Main goal of our research is to clarify and control the development of higher-order structure and properties in polymeric materials through various processing technologies. Our research projects cover various types of polymer processing, such as film processing, hot embossing, injection molding, etc.

Particularly, we have been concentrating our effort on exploring the mechanism of structural formation in the Micro- and Nano-molding, in which polymer materials are produced under high shear stress and high pressure.

We are also conducting researches on plastics device with high functional performance via these molding processes, and on structural analysis of these plastics products.

RESEARCH TOPICS

- ✓ Polymer Micro/Nano-molding
(Injection, Injection-compression, Imprinting, Casting, Self assemble fabrication etc.)
- ✓ Engineering Properties and Structure Development in Polymer Processing
- ✓ Computer Simulation (CAE) Study in Polymer Processing
- ✓ Film Processing (Drawing, Casting, Hybrid, Composites, Optical Control, etc.)
- ✓ Melt Spinning and Electro Spinning
- ✓ Polymer Composites

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Research Interest: Polymer Processing, Engineering Structure and Properties, Polymer Composites

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